

British Columbia (BC) Influenza Surveillance Bulletin

Influenza Season 2019-20, Number 7, Week 9

February 23 to February 29, 2020

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Influenza activity remains elevated in BC

Clinical and laboratory indicators of influenza illness remain elevated in BC.

During week 9, 30% of specimens in BC tested positive for influenza virus of which 65% were influenza A and 35% were influenza B. Influenza A positivity continued to increase, while influenza B positivity remained relatively stable.

Medical Service Plan (MSP) claims for influenza illness remained above historical averages overall, but showed a decreasing trend.

Since week 40, 51 laboratory-confirmed influenza outbreaks have been reported from long term care facilities, higher than for the same period during the 2018-19 season (n=42) but lower than for the same period of 2017-18 (n=148) and 2016-17 (n=180).

The World Health Organization has announced updated vaccine components for the 2020-21 northern hemisphere season, changing three of four quadrivalent vaccine strains. See [page 15](#).

Recent concerns related to the 2019 novel coronavirus (SARS-CoV-2) may also be influencing influenza and other respiratory virus surveillance owing to increased awareness and testing of patients with febrile respiratory illness. An updated situation report related to the coronavirus disease (COVID-19) epidemic, as of March 5th, is provided on [page 11](#).

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

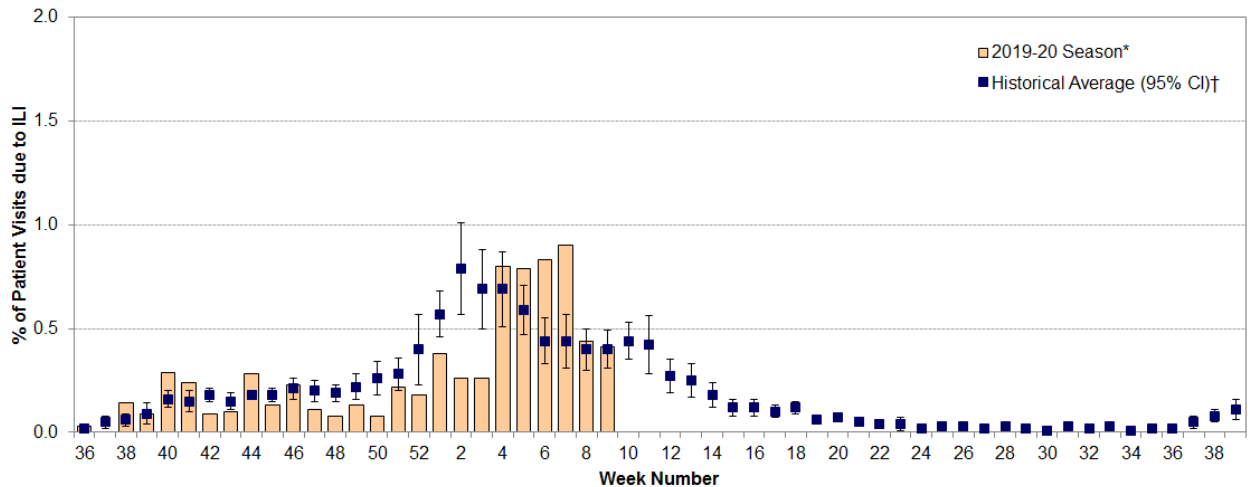
Report Disseminated: March 5, 2020

British Columbia

Sentinel Physicians

In week 9, clinical influenza-like illness (ILI) rates among patients presenting to sentinel sites remained similar to week 8 and within expected levels for this time of year (**Figure 1**). Fourteen out of 19 (74%) sentinel ILI monitoring sites have reported data for week 9. Rates may change as reporting becomes more complete.

Figure 1: Percent of patient visits to sentinel physicians due to influenza-like illness (ILI) compared to historical average, British Columbia, 2019-2020



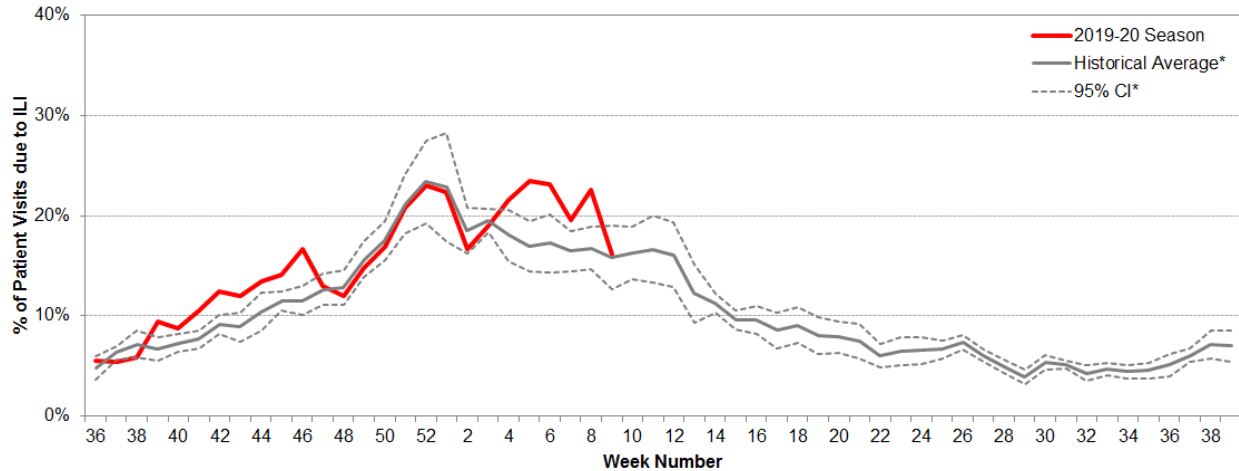
* Data are subject to change as reporting becomes more complete.

† 10-year historical average for 2019-20 season based on 2006-07 to 2018-2019 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality, CI=confidence interval.

BC Children’s Hospital Emergency Room

The proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to ILI was above the 5-year historical average for the last 5 weeks but returned to expected levels in week 9 (16%) (Figure 2).

Figure 2: Percent of patients presenting to BC Children’s Hospital ER attributed to influenza-like illness (ILI), British Columbia, 2019-2020



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 2019-20 season based on 2014-15 to 2018-19 seasons; CI=confidence interval.

Medical Services Plan

BC Medical Services Plan (MSP) general practitioner claims for influenza illness as a proportion of all submitted MSP claims[§] show an overall decreasing trend, but still exceeding historical averages in BC (Figure 3). A similar decreasing pattern was observed at the regional levels, with four of five regions exceeding historical averages. Recent trends require cautious interpretation following broad public messaging around the 2019 novel coronavirus (COVID-19). Northern Health Authority MSP claims remain above the 10-year maximum but smaller population size in this area make trends particularly susceptible to behavioral changes as a potential explanation.

Figure 3: Service claims submitted to MSP for influenza illness as a proportion of all submitted general practitioner service claims[§], British Columbia, 2019-2020 season

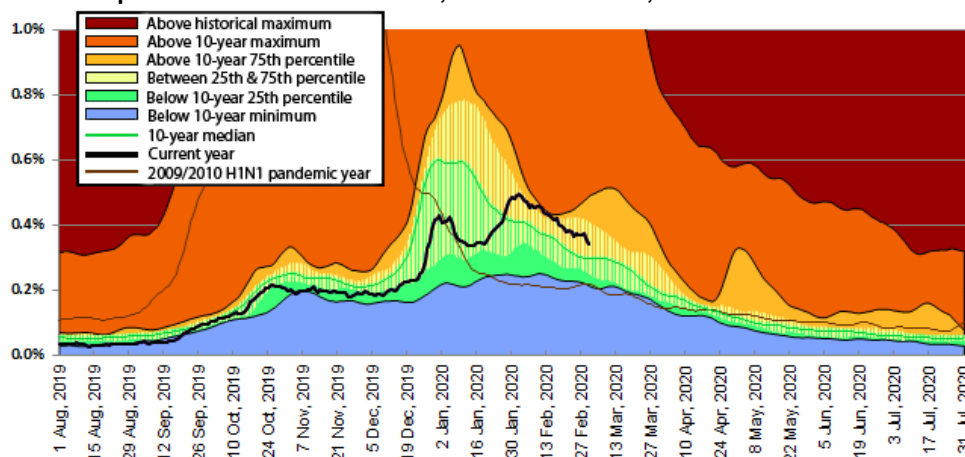
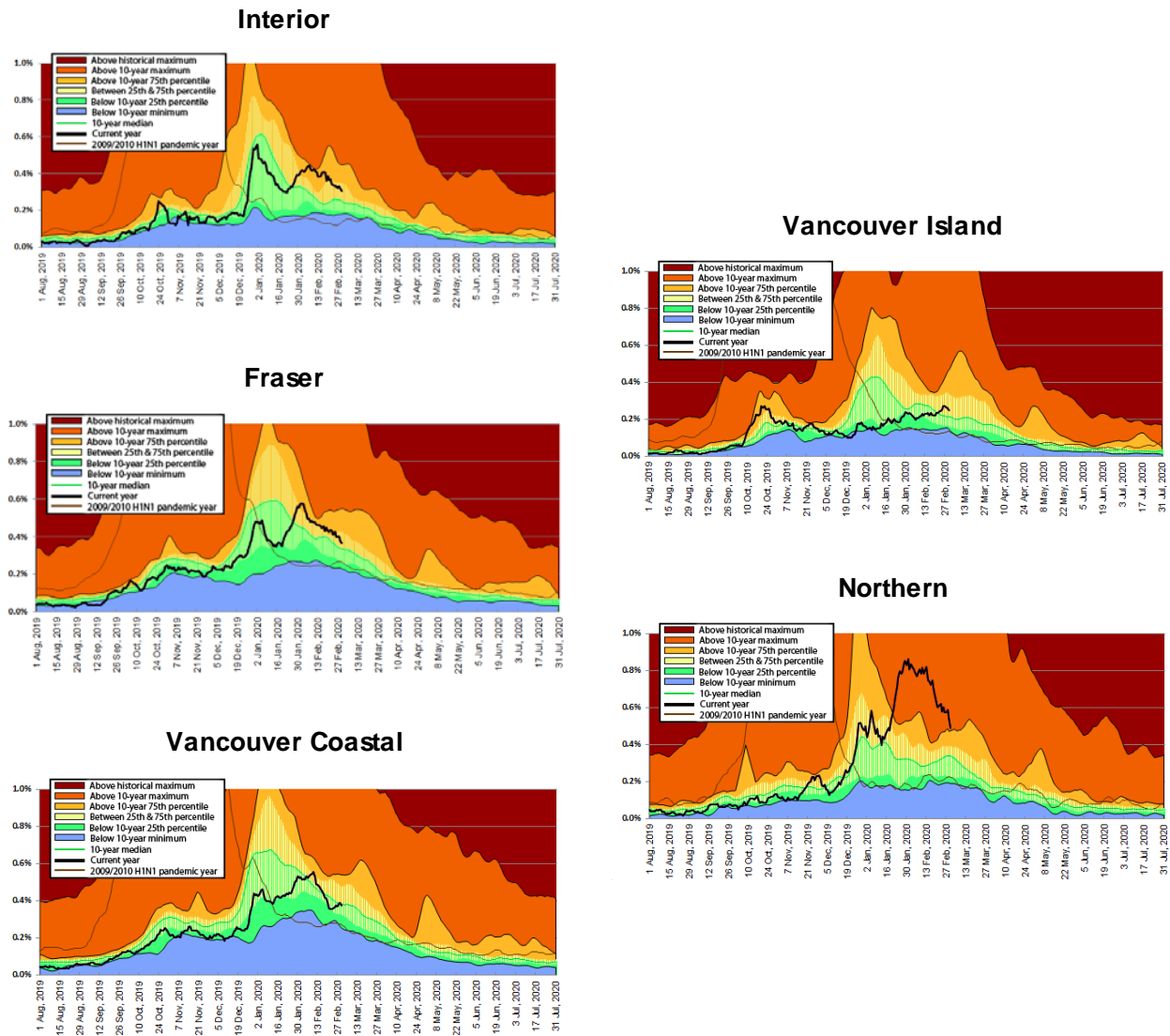


Figure 4



^S Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services. Influenza illness (II) is tracked as the percentage of all submitted MSP general practitioner claims with ICD-9 code 487 (influenza). Data for the period August 1, 2009 to July 31, 2010 have been excluded from the 10-year median calculation due to atypical seasonality during the 2009/2010 H1N1 pandemic year. MSP data beginning August 1, 2019 corresponds to sentinel ILI week 31; data are current to March 2, 2020.

British Columbia Laboratory Reports

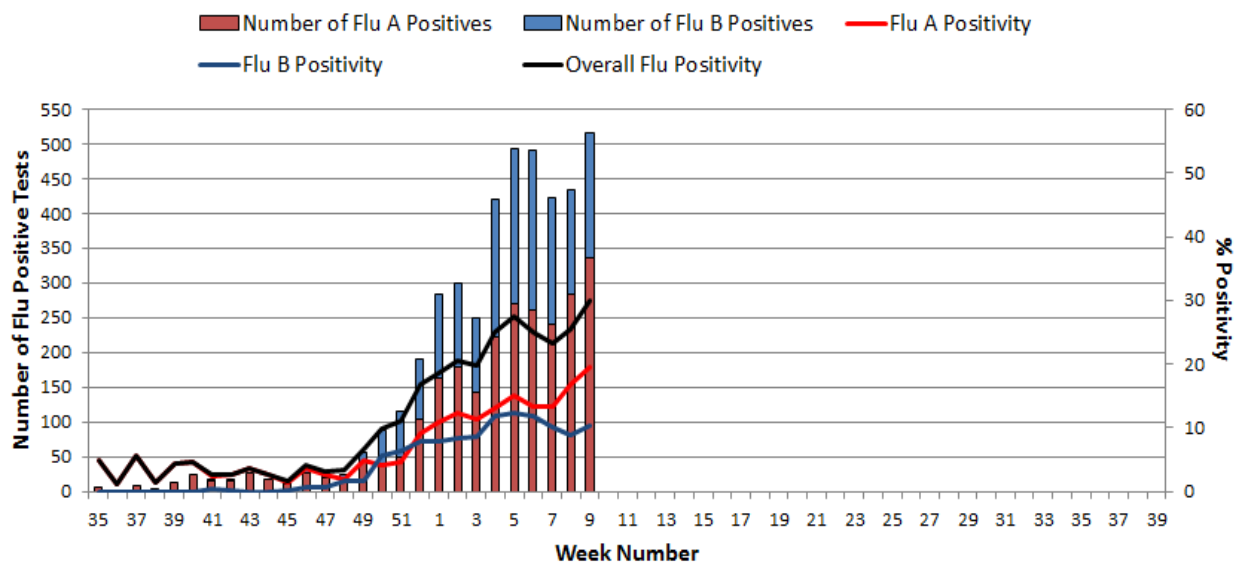
Increased testing of patients with febrile respiratory illness more generally following emergence of SARS-CoV-2 may be influencing recent influenza trend analysis, requiring cautious interpretation.

Influenza virus test-positivity

For the current reporting week 9 of 2020, 515/1724 (30%) of specimens tested for influenza at laboratories across BC¹ were positive, including 336/1724 (19%) positive for influenza A and 179/1724 (10%) positive for influenza B. Similar to the prior week 8, influenza A viruses comprised 65% (i.e. 336/515) and influenza B viruses comprised 35% (i.e. 179/515) of detections in week 9. After a brief dip in influenza positivity from week 5-7, overall influenza and influenza A positivity have again shown recent increase. Influenza B positivity has remained around 10% for the past 3 weeks (**Figure 5**).

Cumulatively since week 40 (starting September 29, 2019), of the 25,050 specimens tested for influenza at laboratories across BC, 2499 (10%) tested positive for influenza A and 1754 (7%) tested positive for influenza B. Throughout the season, influenza A has comprised 59% and influenza B has comprised 41% of total influenza virus detections.

Figure 5: Influenza virus positivity among respiratory specimens tested by participating laboratories¹ across BC, 2019-2020 season²



¹ 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. From week 40, 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 Public Health Laboratory, Interior Health Authority sites and Northern Health Authority sites.

² Rates are subject to change with subsequent data reconciliation. Findings support trend analysis but note data for week 35-39 do not include all testing sites in BC. Data from week 35-38 were derived manually from weekly FluWatch's Respiratory Virus Detection Surveillance System (RVDSS) report data and the Flu Data Mart. Influenza positivity data for week 39 came exclusively from the FluWatch's RVDSS Week 39 Report. Source: Summary provided by the BCCDC Public Health Laboratory.

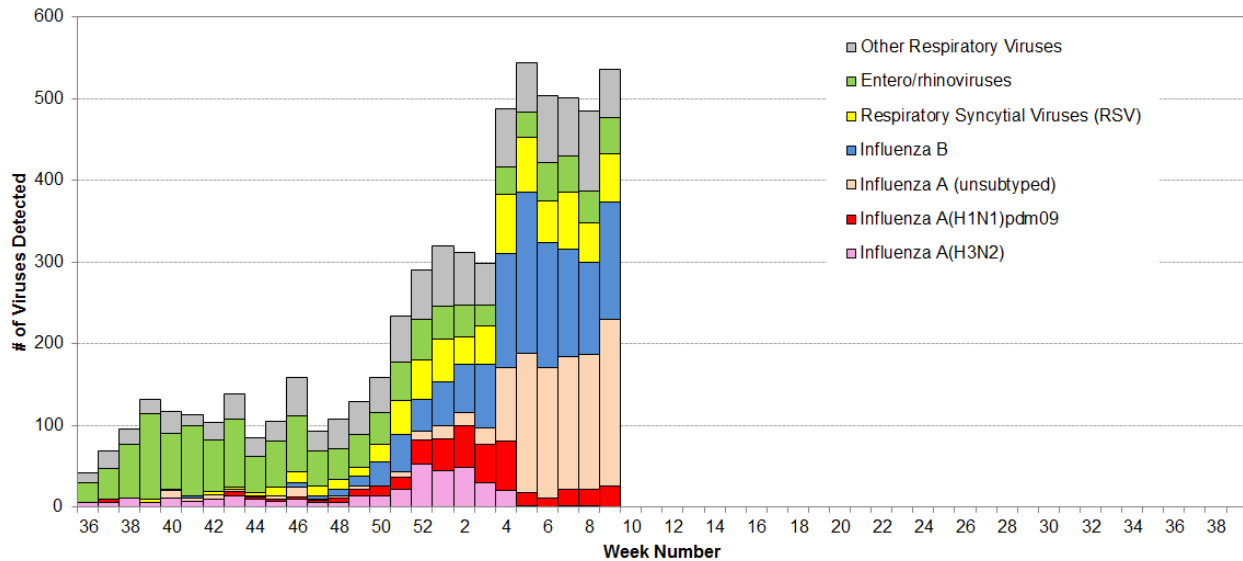
Influenza virus type/subtype characterization

Due to the high volume of respiratory testing related to SARS-CoV-2 requests, the BCCDC PHL has temporarily suspended influenza A subtyping. As a result, the influenza and other virus detection graph (**Figure 6**) has an increased number of influenza A(subtype unknown), starting week 4.

In week 9, among influenza viruses subjected to further characterization*, 62% (230/373) were influenza A and 38% (143/373) were influenza B and of those that underwent further subtype characterization*, 11% (25/230) were A(H1N1)pdm09 and 89% (205/230) remained subtype unknown. Since week 40, 35% (943/2713) from the BCCDC PHL remain influenza A(subtype unknown).

The BCCDC PHL also conducts testing for other respiratory viruses (ORV) among specimens from select sites across the province. Other external sites perform their own ORV testing and this report does not include data from all sites across the province. Among ORV testing at the BCCDC PHL during week 9, RSV (n=59) was the most commonly detected virus, followed by entero/rhinoviruses viruses (n=44).

Figure 6: Influenza and other virus detections among respiratory specimens submitted to BCCDC Public Health Laboratory, 2019-2020*

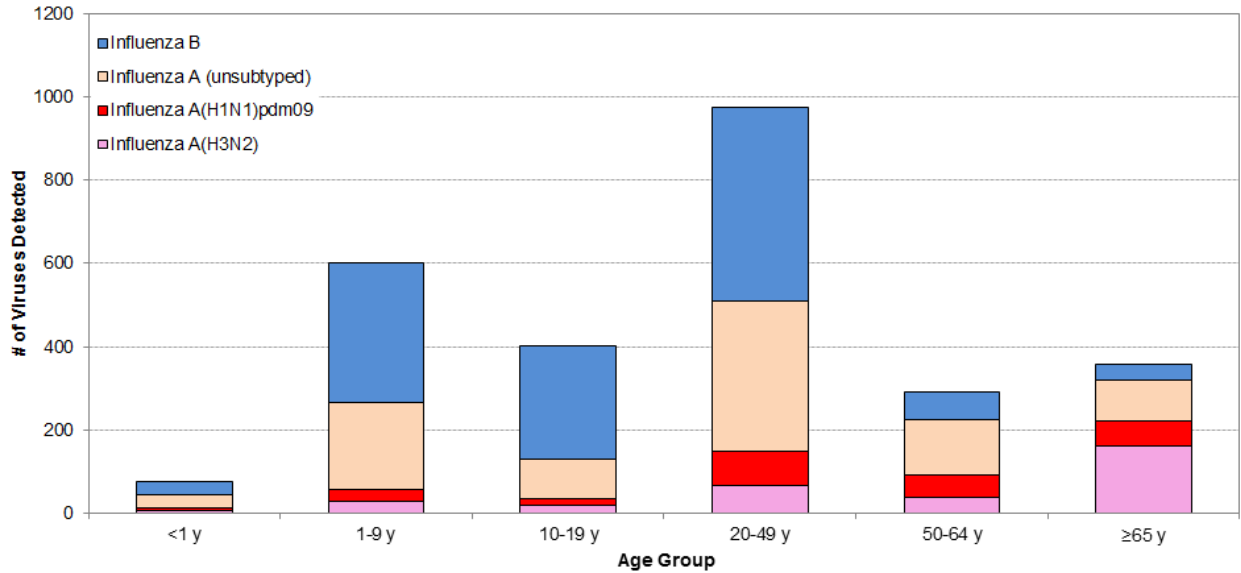


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to March 5th, 2020.

* 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.

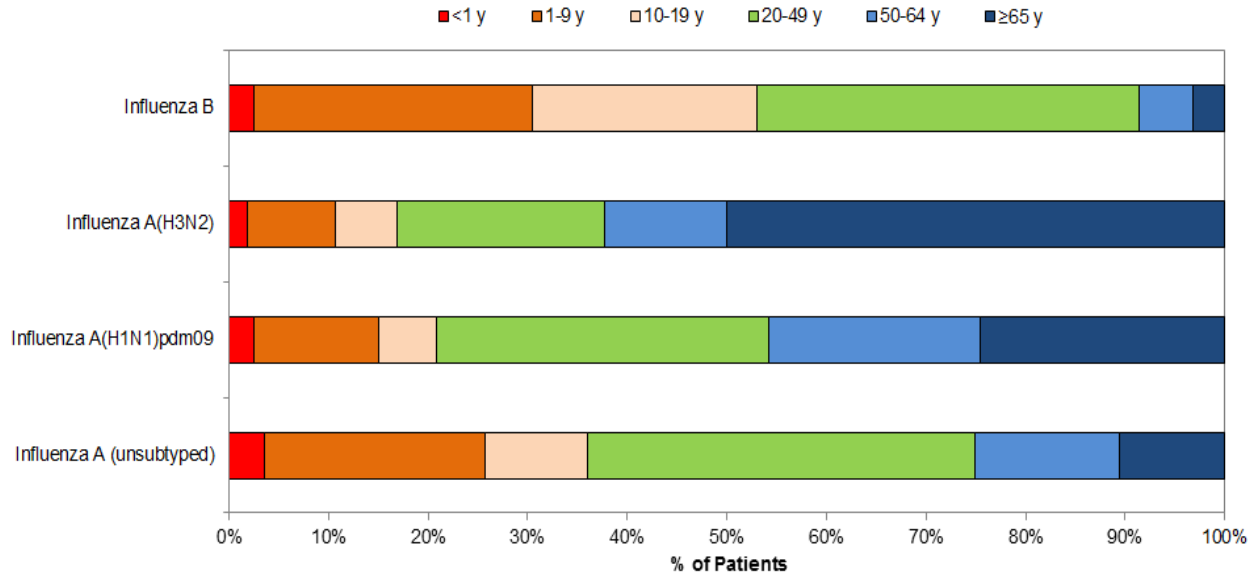
Among typed/subtyped viruses with age information since week 40, median age of A(H1N1)pdm09 cases was 46 years of age and of A(H3N2) detections was 64 years of age. Median age was substantially younger for influenza B at 17 years (**Figures 7 and 8**). Overall, 640/1207 (53%) influenza B detections have been children <20 years of age whereas that age group comprises <20% of the population of British Columbia (source: PEOPLE 2019 Population Projections).

Figure 7: Cumulative number (since week 40) of influenza detections by type, subtype, and age group, BCCDC Public Health Laboratory, 2019-2020*



Source: BCCDC Public Health Laboratory (PHDRW); Data are current to March 5th, 2020; figure includes cumulative influenza detections for specimens collected from weeks 40-9. *Influenza A(H1N1)pdm09 and influenza A(subtype unknown) weekly case counts as directly typed/subtyped on primary specimens by Island Health Authority, are not incorporated into Figure 7 and 8 because age information is not available.

Figure 8: Age distribution of influenza detections (cumulative since week 40), BCCDC Public Health Laboratory, 2019-2020*

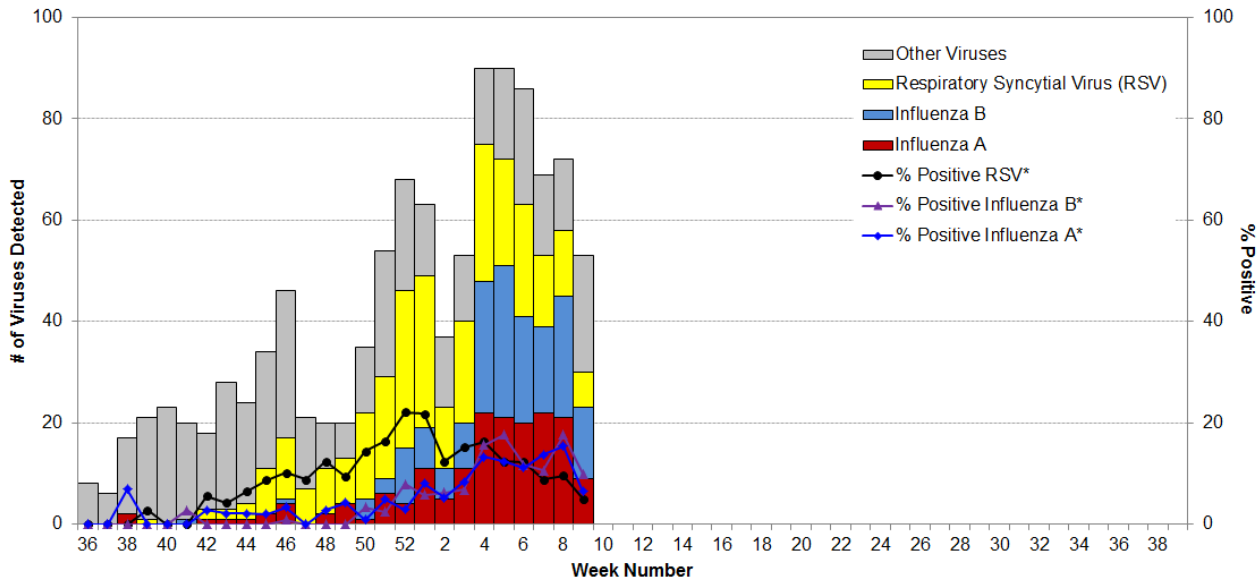


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to March 5th, 2020; figure includes cumulative influenza detections for specimens collected from weeks 40-9. *Influenza A(H1N1)pdm09 and influenza A(subtype unknown) weekly case counts as directly typed/subtyped on primary specimens by Island Health Authority, are not incorporated into Figure 7 and 8 because age information is not available.

BC Children’s and Women’s Health Centre Laboratory

In week 9, among 141 specimens tested for influenza at the BC Children’s and Women’s Health Centre laboratory, 9 (6%) were positive for influenza A (not subtyped), 14 (10%) were positive for influenza B, and 7 (5%) were positive for RSV (Figure 9).

Figure 9: Influenza and other virus detections among respiratory specimens submitted to BC Children’s and Women’s Health Centre Laboratory, 2019-2020*



* 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.

Influenza-like Illness (ILI) Outbreaks

In week 9, 4 laboratory-confirmed influenza outbreaks (2 influenza A(subtype pending), 1 influenza A(H3N2), and 1 influenza B) were reported from long-term care facilities (LTCF). One school ILI outbreak, with unknown etiology, was also reported for this period. The outbreak occurred in IHA, currently the only health authority routinely reporting school ILI outbreaks to BCCDC. No acute care facility outbreaks were reported to the BCCDC in week 9 (Figures 10 and 11).

Since week 40, a total of 51 laboratory-confirmed LTCF influenza outbreaks have been reported. This tally of LTCF outbreaks for the 2019-2020 season from week 40 to date (n=51) is higher than the tally reported to the BCCDC for the same period during the 2018-19 season (n=42) but substantially lower than across the same period during the predominant A(H3N2) epidemics in 2017-18 (n=148) and 2016-17 (n=180).

Figure 10: Number of influenza-like illness (ILI) outbreaks reported, British Columbia 2019-20

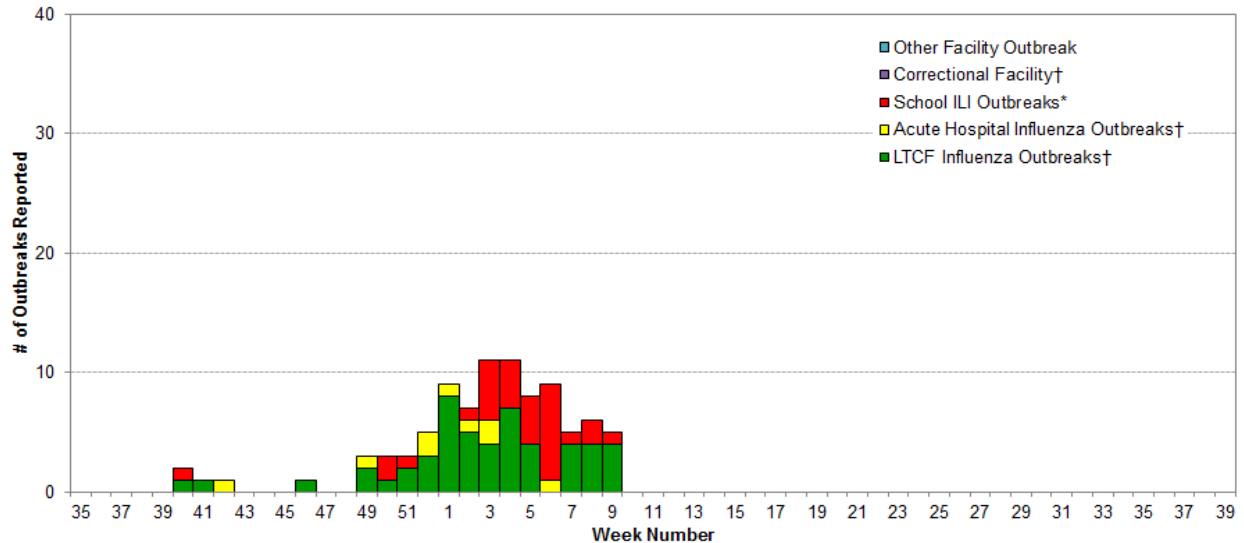
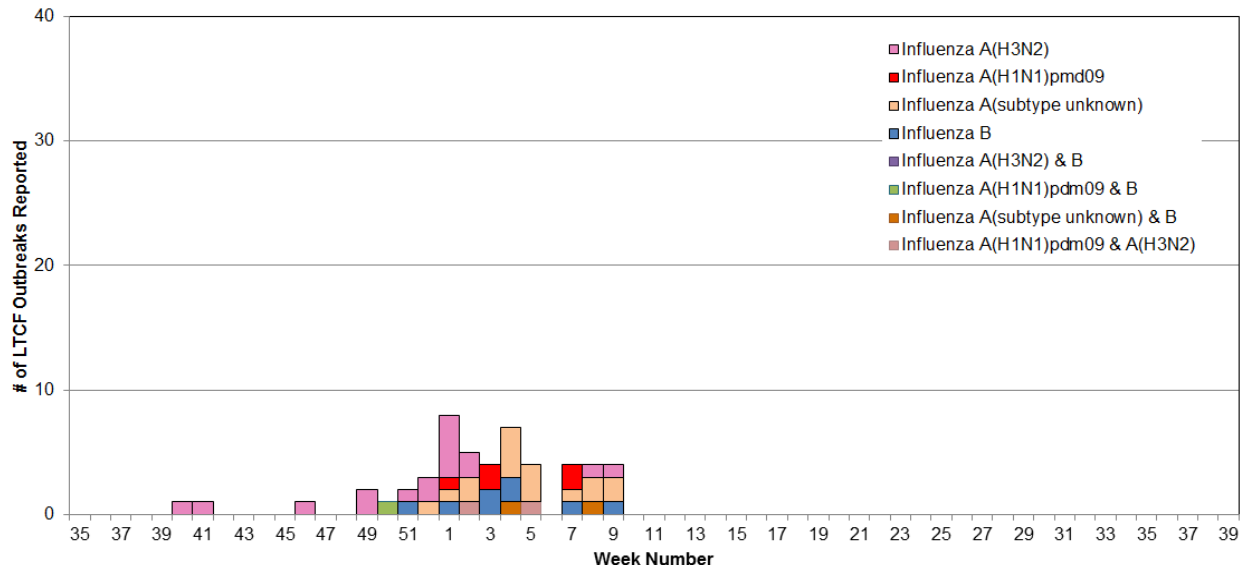


Figure 11: Number of influenza outbreaks by type/subtype in long-term care facilities (LTCF), British Columbia 2019-20†



* School-based ILI outbreak defined as >10% absenteeism on any day, most likely due to ILI onset.

† Facility-based influenza outbreaks defined as 2 or more ILI cases within 7-day period, with at least one laboratory-confirmed case of influenza.

2019/20 influenza vaccine effectiveness estimates

Canadian Mid-Season 2019/20 Vaccine Effectiveness Estimates

On February 20th, 2020, the Canadian Sentinel Practitioner Surveillance Network (SPSN) published midseason estimates of influenza vaccine effectiveness (VE) for the 2019/20 season, showing the vaccine provided substantial protection against medically-attended febrile respiratory illness due to influenza during the period spanning November 1 to February 1, 2020. The full report is available as an open-access publication in the online journal Eurosurveillance: <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.7.2000103>

A total of 2,808 participants contributed, of which half were influenza test-positive, including a roughly equal mix of influenza A and B viruses. Among the subtyped influenza A specimens, about three quarters were influenza A(H1N1)pdm09. The majority (about 60%) of participants contributing to VE analyses were working-age adults 20-64 years-old. VE overall was 58% (95% confidence interval (CI): 47 to 66), reflecting the preponderance of contributing adults 20–64 years old (55%; 95% CI: 41 to 66), with higher point estimates among children 1–19 years (74%; 95% CI: 59 to 84), but lower among adults aged ≥65 years (18%; 95% CI: –59 to 58).

Overall, the 2019/20 VE reported by the Canadian SPSN indicates that among non-elderly individuals, about six of 10 cases of medically-attended febrile respiratory illness due to influenza were prevented by vaccination.

United States Mid-Season 2019/20 Vaccine Effectiveness Estimates

On February 20, the US Center for Disease Control (CDC) also reported interim VE estimates, including VE of 45% (95% CI: 36 to 53) overall against medically-attended acute respiratory illness, 50% (95% CI: 39 to 59) for influenza B/Victoria, and 37% (95% CI: 19 to 52) for influenza A(H1N1)pdm09. Influenza A(H3N2) sample size was insufficient to calculate VE. The full report by the US CDC is available in the Morbidity and Mortality Weekly Report: <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6907a1-H.pdf>

Emerging Respiratory Viruses: 2019 Novel Coronavirus, “COVID-19”

As of today, March 5, 2020, there have been 97,867 confirmed COVID-19 cases reported globally, of which 82% (n= 80,422) are from mainland China, and among these 84% (n= 67,466) are from Hubei province. Associated deaths globally have reached 3,353 of which all but 340 have been reported from mainland China.

Outside of mainland China, 85 other countries/territories have now reported 17,445 cases. Of these countries, South Korea (n=6,088), Iran (n=3,513), Italy (n=3,858), and Germany (n=482) have reported the most cases. As of today, the United States has the ninth highest number of reported cases among countries globally (**Figure 12**).

In Canada, 46 laboratory-confirmed COVID-19 cases have been reported to date (21 in BC, 23 in Ontario, and two in Quebec). In BC, 13/21 confirmed cases had recent international travel history: seven from Iran, four from China, one from the United States and one for which the likely source country abroad is still being clarified. Six of the confirmed cases are attributed to household contact within BC: 5 associated with confirmed cases among travelers from Iran and one with China. One of the cases has been attributed to other local close contact with a travel case from Iran. Finally, one of the cases has no history of travel or close contact with a recognized case and may represent local community transmission; investigation is still underway. Four BC cases have been released from isolation and three others are no longer symptomatic but are still being monitored for viral clearance.

Canadian travel health notices have been updated once more this week. Level 3 (avoid non-essential travel) advisories now apply not only to China but also to Iran and Northern Italy; Level 2 (practise special precautions) advisories apply to Japan and South Korea. Level 1 (practise usual precautions) travel advisories remain in place for Hong Kong and Singapore. As the situation is rapidly evolving, please regularly consult the Government of Canada travel health recommendations, available here: <https://travel.gc.ca/travelling/health-safety/travel-health-notices>

A final report on the WHO-China 16-24 February 2020 Joint Mission on COVID-19 is found here: <https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf>

Check the BCCDC website <http://www.bccdc.ca/about/news-stories/stories/2020/information-on-novel-coronavirus> and/or the Public Health Agency of Canada for periodic updates <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html>.

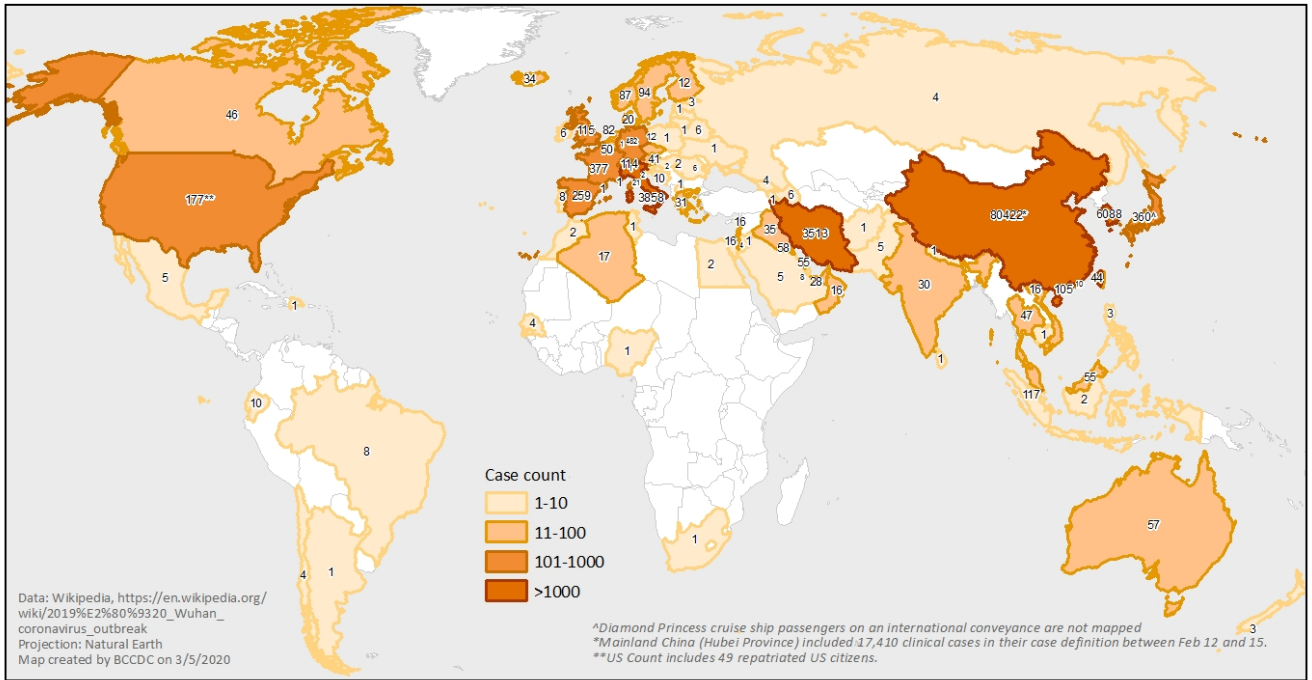
Daily situation reports and technical guidance (public health and infection control measures) are also now available on the WHO website at www.who.int/emergencies/diseases/novel-coronavirus-2019/.

Figure 12: Global geographic distribution of novel coronavirus, COVID-19

Global Distribution of Novel Coronavirus COVID-19 as of Thursday, March 05, 2020

Globally confirmed cases: **97,867** with **3,353** deaths in **86** territories. Counts based on social media review of reportedly confirmed cases; may differ from tallies currently reported by official sources. Cases counted by country/territory of diagnosis.

Country or territory	Cases	Deaths	Country or territory	Cases	Deaths	Country or territory	Cases	Deaths	Country or territory	Cases	Deaths	Country or territory	Cases	Deaths	Country or territory	Cases	Deaths
Afghanistan	1	0	Chile	4	0	Hungary	2	0	Lithuania	1	0	Philippines	3	1	Sri Lanka	1	0
Algeria	17	0	China (mainland)*	80422	3013	Iceland	34	0	Luxembourg	1	0	Poland	1	0	Sweden	94	0
Andorra	1	0	Croatia	10	0	India	30	0	Macau	10	0	Portugal	8	0	Switzerland	114	1
Argentina	1	0	Czech Republic	12	0	Indonesia	2	0	Malaysia	55	0	Qatar	8	0	Taiwan	44	1
Armenia	1	0	Denmark	20	0	International conveyance*	706	6	Mexico	5	0	Ireland	6	0	Thailand	47	1
Australia	57	2	Dominican Republic	1	0	Iran	3513	107	Monaco	1	0	Romania	6	0	Tunisia	1	0
Austria	41	0	Ecuador	10	0	Iraq	35	2	Morocco	2	0	Russia	4	0	Ukraine	1	0
Azerbaijan	6	0	Egypt	2	0	Israel	16	0	Nepal	1	0	San Marino	21	1	United Arab Emirates	28	0
Bahrain	59	0	Estonia	3	0	Italy	3858	149	Netherlands	82	0	Saudi Arabia	5	0	United Kingdom	115	1
Belarus	6	0	Finland	12	0	Japan	360	6	New Zealand	3	0	Senegal	4	0	United States**	177	11
Belgium	50	0	France	377	6	Jordan	1	0	Nigeria	1	0	Singapore	117	0	Vietnam	16	0
Bosnia & Herzegovina	2	0	Georgia	4	0	Kuwait	58	0	Macedonia	1	0	Slovenia	2	0	West Bank	4	0
Brazil	8	0	Germany	482	0	Latvia	1	0	Norway	87	0	South Africa	1	0			
Cambodia	1	0	Greece	31	0	Lebanon	16	0	Oman	16	0	South Korea	6088	40			
Canada	46	0	Hong Kong	105	2	Liechtenstein	1	0	Pakistan	5	0	Spain	259	3			



National

FluWatch (week 8, February 16 to February 22, 2020)

In week 8, influenza activity remained high and influenza A and B continued to co-circulate. The percentage of laboratory tests positive for any influenza in Canada was similar to the previous three weeks at 29%. The percent positivity for influenza A in week 8 was 17%, similar to prior 6 weeks and below average for this time of year. However, the percent positivity of influenza B continued to be two times greater than the average for this time of year, at 12%. Since week 35, a total of 42,291 laboratory detections of influenza were reported, of which 57% (24,139) were influenza A. Among subtyped influenza A detections (5,610), A(H1N1) remained the predominant subtype this season (65%) and also represented 78% of subtyped influenza A specimens in week 8. When assessing influenza detections by type, subtype, and age group, among cases of influenza A(H3N2), the largest proportion was in adults 65 years of age and older (46%). Cases of influenza B were primarily in younger age groups with 57% of cases were under 19 years of age and 30% between 20 and 44 years of age. Among cases of influenza A(H1N1), 30% of cases were in adults 65 years of age and older, with approximately equal proportions in adults 20-44 years and 45-64 years of age (~25%).

FluWatch report (week 8) 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 to February 27, 2020, the NML has characterized 1157 influenza viruses [159 A(H3N2), 406 A(H1N1) and 433 influenza B] that were received from Canadian laboratories.

Influenza A(H3N2): Eleven influenza A(H3N2) viruses were antigenically characterized as A/Kansas/14/2017-like, whereas 44 viruses showed reduced titer with ferret antisera raised against egg-propagated A/Kansas/14/2017. Three influenza A (H3N2) viruses characterized belonged to clade 3C.3a and 28 viruses belonged to genetic subclade 3C.2a1b. Sequencing is pending for the remaining isolates.

Influenza A(H1N1)pdm09: 211 A(H1N1) viruses characterized were antigenically similar to A/Brisbane/02/2018. 195 viruses showed reduced titer with ferret antisera raised against egg-propagated A/Brisbane/02/2018.

Influenza B: 19 viruses characterized were antigenically similar to B/Colorado/06/2017, whereas 161 viruses showed reduced titer with ferret antisera raised against cell culture-propagated B/Colorado/06/2017. Sequence analysis showed that 150 of the reduced viruses had a three amino acid deletion (162-164) in the HA gene. Two viruses characterized were antigenically similar to B/Phuket/3073/2013.

National Microbiology Laboratory (NML): Antiviral Resistance

From September 1, 2019, to February 27, 2020, the NML received influenza viruses from Canadian laboratories for drug susceptibility testing.

Amantadine: High levels of resistance to amantadine persist among influenza A(H1N1) and influenza A(H3N2) viruses. Resistance results not presented.

Oseltamivir: Of the 554 influenza viruses [148 H3N2, 192 H1N1 and 214 B] tested against oseltamivir. All 148 H3N2 and 214 B viruses were sensitive to oseltamivir. Of the 192 H1N1 viruses tested, 191 were sensitive to oseltamivir and one virus was resistant to oseltamivir with H275Y mutation.

Zanamivir: Of the 553 influenza viruses [147 H3N2, 192 H1N1 and 214 B] tested against zanamivir, all were sensitive.

Updated Antiviral Guidelines

The Association of Medical Microbiology and Infectious Disease Canada (AMMI Canada) have released updated guidance on the use of antiviral for the 2019-2020 influenza season. These guidelines are available at:

<https://www.ammi.ca/Content/AC-%20Guidance%20of%20Antiviral%20Agents%2019-20.pdf>.

International

USA (week 8, February 16 to February 22, 2020)

In week 8, influenza activity remained high in the US but decreased for the second week in a row. The proportion of outpatient visits for ILI decreased from 6.1% last week to 5.5% this week but remained above the national baseline (2.4%). The proportion of deaths attributed to pneumonia and influenza during week 8 (6.9%) was similar to the prior week and below the epidemic threshold of 7.3%. A total of 125 influenza-associated pediatric deaths were reported to the US CDC in the current influenza season, 20 of which were reported in week 8.

In week 8, a total of 42,587 specimens were tested for influenza in the US and of the 26% (11,249) positive specimens, 68% (7,633) were influenza A and 32% (3,616) were influenza B viruses. Among influenza specimens with subtype and lineage information, 95% were A(H1N1)pdm09 and almost all were Victoria lineage (99%) in week 8. There has been a decrease in overall influenza positivity since week 6. Since week 40, 20% (190,362) of all tested specimens in the US were positive for influenza, of which 48% (90,382) were influenza A and 53% (99,980) were influenza B. Among influenza specimens with subtype and lineage information since week 40 (n=30,782), 92% were A(H1N1)pdm09 and almost all were Victoria (98%)

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 2, 2020, based on data up to February 16, 2020)

In the temperate zone of the northern hemisphere, respiratory illness indicators and influenza activity remained elevated overall. In Europe, influenza activity continued to increase across the region but appeared to have peaked in some countries. Influenza A detections predominated in most reporting European countries, though influenza B detections increased in recent weeks. In Central Asia, influenza activity appeared to have peaked in Kazakhstan and Kyrgyzstan, all seasonal influenza subtypes co-circulating. In Northern Africa, influenza activity continued to increase in Algeria and Tunisia with influenza A(H1N1)pdm09 most frequently detected followed by influenza B viruses. In Western Asia, influenza activity remained elevated overall, though the levels returned to low in some countries. In East Asia, influenza illness indicators and influenza activity appeared to decrease in general, with all seasonal influenza virus subtypes co-circulating in the region.

From February 3 to February 16, 2020, the WHO GISRS laboratories tested more than 201,954 specimens. Of these, 58,268 were positive for influenza viruses including 36,580 (63%) typed as influenza A and 21,688 (37%) as influenza B. Of subtyped influenza A viruses, 7,897 (67%) were influenza A(H1N1)pdm09 and 3,978 (34%) were influenza A(H3N2). Of the characterized B viruses, 21 (1%) belonged to the B(Yamagata) lineage and 2,177 (99%) to the B(Victoria) lineage.

In countries in the temperate zone of the southern hemisphere, influenza activity remains at inter-seasonal levels.

In countries in the tropical zone, majority reported low influenza activity. Some exceptions include Mexico, where influenza activity appeared to have peaked in week 4 and decreased detections of influenza A(H1N1)pdm09 and B/Victoria viruses were reported in recent weeks, and French territories of Guadelupe, Martinique, Saint-Martin and Saint-Barthélemy, where increased ILI activity was reported. As well, in Afghanistan and Lao People's Democratic Republic, influenza activity remained elevated, with all seasonal subtypes detected.

Details are available

at: https://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/.

WHO Recommendations for Influenza Vaccines

WHO Recommendations for 2019-2020 Northern Hemisphere Influenza Vaccine

On February 21, 2019, the WHO announced the recommended strain components for the 2019-2020 northern hemisphere trivalent influenza vaccine (TIV)*:

- an A/Brisbane/02/2018 (H1N1)pdm09-like virus [a clade 6B.1A1 virus]; †
- an A/Kansas/14/2017 (H3N2)-like virus [a clade 3C.3a virus]; ‡
- a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage) [a clade V1A.1, Δ2 virus].

It is recommended that quadrivalent influenza vaccines (QIV) for the 2019-2020 northern hemisphere season contain the above three viruses and a B/Phuket/3073/2013-like virus (B/Yamagata/16/88 lineage) [a clade 3 virus].

* Recommended strains represent a change for two of the three components used for the 2018-19 northern hemisphere TIV

† Recommended strain represents a change from the 2018-19 season vaccine which contained an A/Michigan/45/2015 (H1N1)pdm09-like virus [a clade 6B.1 virus]

‡ Recommended strain represents a change from the 2018-19 season vaccine which contained an A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus [a clade 3C.2a1 virus]

For further details: https://www.who.int/influenza/vaccines/virus/recommendations/2019_20_north/en/

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.1A5 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/Haw aii/70/2019 (H1N1)pdm09-like representative virus [also clade 6B.1A5] 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/

Additional Information

Explanatory Note:

The surveillance period for the 2019-20 influenza season is defined starting in week 40. Weeks 36-39 of the 2018-19 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

Current AMMI Canada Guidelines on the Use of Antiviral Drugs for Influenza: www.ammi.ca/?ID=122&Language=ENG

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

Influenza-Like Illness (ILI) Outbreak Summary Report Form

Please complete and email to ilioutbreak@bccdc.ca

**Note: This form is for provincial surveillance purposes.
 Please notify your local health unit per local guidelines/requirements.**

ILI: Acute onset of respiratory illness with fever and cough and with one or more of the following: sore throat, arthralgia, myalgia, or prostration which *could* be due to influenza virus. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.
Schools and work site outbreak: greater than 10% absenteeism on any day, most likely due to ILI.
Residential institutions (facilities) outbreak: two or more cases of ILI within a seven-day period.

A	<u>Reporting Information</u>	
	Person Reporting:	Title:
	Contact Phone:	Email:
	Health Authority:	HSDA:
	Full Facility Name:	
	Is this report:	First Notification (<i>complete section B below; section D if available</i>) Outbreak Over (<i>complete section C and section D below</i>)
	Report Date (dd/mm/yyyy):	

B	<u>First Notification</u>	
	Type of facility*:	Long Term Care Facilities, Nursing Homes Acute Care Facility Other Setting:
	<i>If ward or wing, please specify name/number:</i>	
	Date of onset of first case of ILI (dd/mm/yyyy):	
	Date outbreak declared (dd/mm/yyyy):	
	<small>*Long Term Care Facilities, Nursing Homes: Facilities that provide living accommodation for people who require on-site delivery of 24 hour, 7 days a week supervised care, including professional health services, personal care and services such as meals, laundry and housekeeping or other residential care facilities where provincial/territorial public health is responsible for outbreak management under provincial legislation; Acute Care Facility: Publicly funded facilities providing medical and/or surgical treatment and acute nursing care for sick or injured people, through inpatient services. (i.e. hospitals including inpatient rehabilitation and mental facilities); Other Setting: Any locations not otherwise specified here in which outbreaks of influenza or ILI may occur (e.g. retirement homes, assisted living or hospice settings, private hospitals/clinics, correctional facilities, colleges/universities, adult education centres, shelters, group homes, and workplaces).</small>	

C	<u>Outbreak Declared Over</u>										
	Date of onset for last case of ILI (dd/mm/yyyy):										
	Date outbreak declared over (dd/mm/yyyy):										
	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th style="width: 50%;">Numbers to date</th> <th style="width: 50%;">Residents</th> </tr> </thead> <tbody> <tr> <td>Total</td> <td></td> </tr> <tr> <td>With ILI</td> <td></td> </tr> <tr> <td>Hospitalized*</td> <td></td> </tr> <tr> <td>Died*</td> <td></td> </tr> </tbody> </table>		Numbers to date	Residents	Total		With ILI		Hospitalized*		Died*
Numbers to date	Residents										
Total											
With ILI											
Hospitalized*											
Died*											
<small>*suspected to be linked to case of ILI</small>											

D	<u>Laboratory Information</u>			
	Specimen(s) submitted?	<input type="checkbox"/> Yes (location: _____)	No	<input type="checkbox"/> Don't know
	If yes, organism identified?	Yes	No	Don't know
	Please specify organism/subtype:	Influenza A (subtype: _____)	Influenza B	
		Parainfluenza Enterovirus Coronavirus RSV HMPV Adenovirus Other:		