

British Columbia (BC) Influenza Surveillance Bulletin

Influenza Season 2019-20, Number 5, Week 7

February 9 to February 15, 2020

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Influenza activity remains elevated in BC; Mix of influenza A and B viruses

In week 7, clinical and laboratory indicators of influenza illness remained elevated. However, cautious interpretation is required. Recent concerns related to the 2019 novel coronavirus (SARS-CoV-2) may 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 is provided on [page 11](#).

During week 7, 23% of specimens in BC tested positive for influenza virus of which 57% were influenza A and 43% were influenza B. Early season influenza B contribution continues to disproportionately affect children, with 52% of influenza B viruses typed at the BCCDC being from patients under 20 years of age, whereas they comprise <20% of the BC population.

Since week 40, 38 laboratory-confirmed influenza outbreaks have been reported from long term care facilities, higher than for the same period during the 2018-19 season (n=22) but lower than for the same period of 2017-18 (n=114) and 2016-17 (n=143).

Interim estimates from Canada for the 2019-20 influenza season indicate vaccine effectiveness of 58% (95% confidence interval: 47-66%) against influenza illness. Results indicate that the 2019-20 influenza vaccine has provided substantial protection against medically-attended influenza illness in the early part of the season, especially for children. The full report can be accessed at the following link:

<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.7.2000103>

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

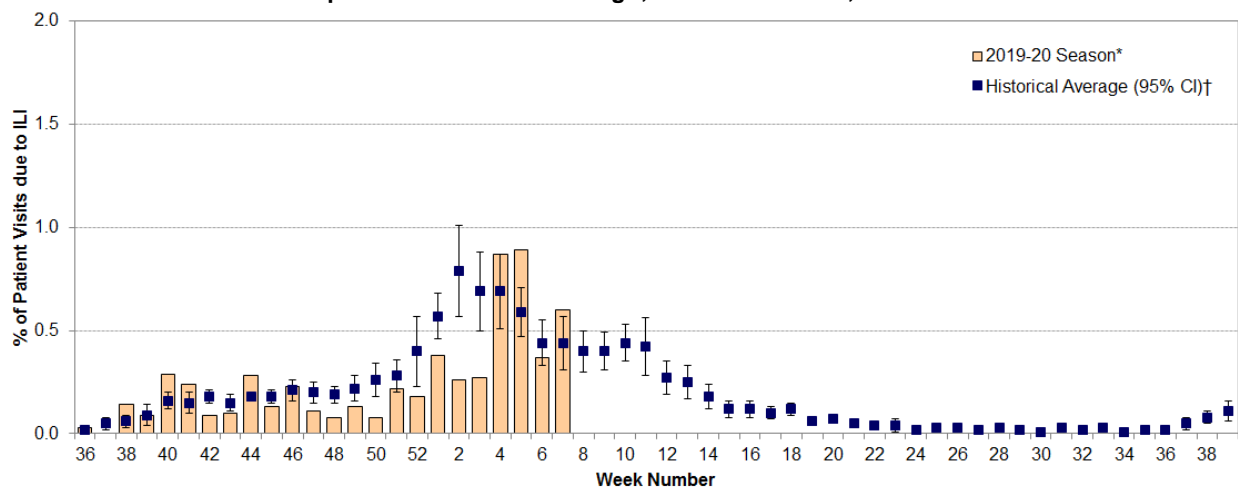
Report Disseminated: February 20, 2020

British Columbia

Sentinel Physicians

In week 7, clinical influenza-like illness rates among patients presenting to sentinel sites have slightly exceeded the 10-year historical average (**Figure 1**). Nine out of 19 (47%) sentinel ILI monitoring sites have reported data for week 7. Fluctuating trends seen in recent weeks may require cautious interpretation following broad public messaging around the 2019 novel coronavirus (COVID-19). Rates may also 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



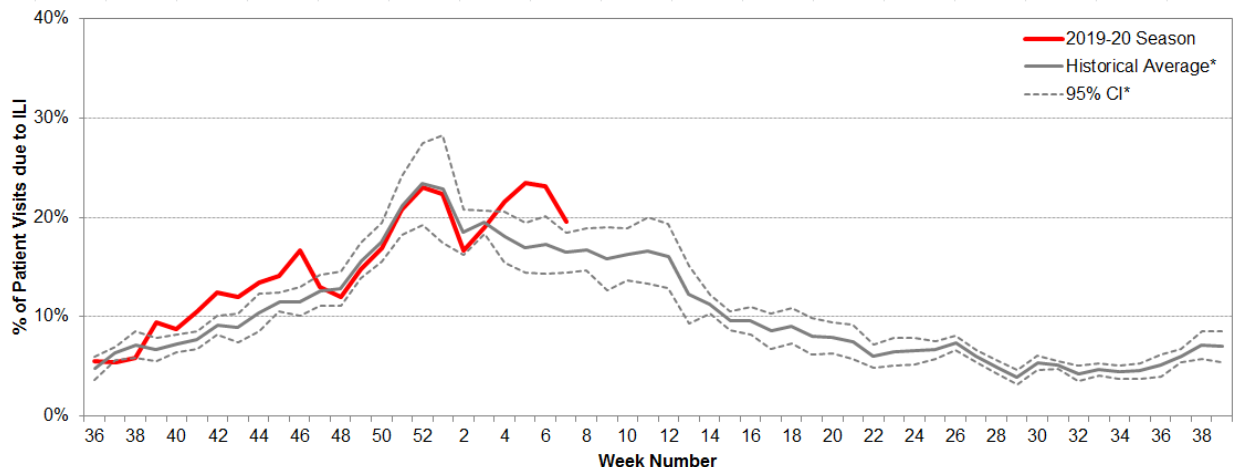
* Data are subject to change as reporting becomes more complete.

† 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

In week 7, the proportion of visits to BC Children’s Hospital Emergency Room (ER) attributed to influenza-like illness (ILI) decreased to 20% from 23% in week 6. Despite the decline, this proportion remains slightly above the 5-year historical average levels for this time of year (**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[§] exceeded historical averages in BC overall (**Figure 3**) and in four of the five health regions (**Figure 4**). Northern Health Authority showed a sharp increase in MSP claims above the 10 year maximum starting week 5. Recent trends require cautious interpretation following broad public messaging around the 2019 novel coronavirus (COVID-19).

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

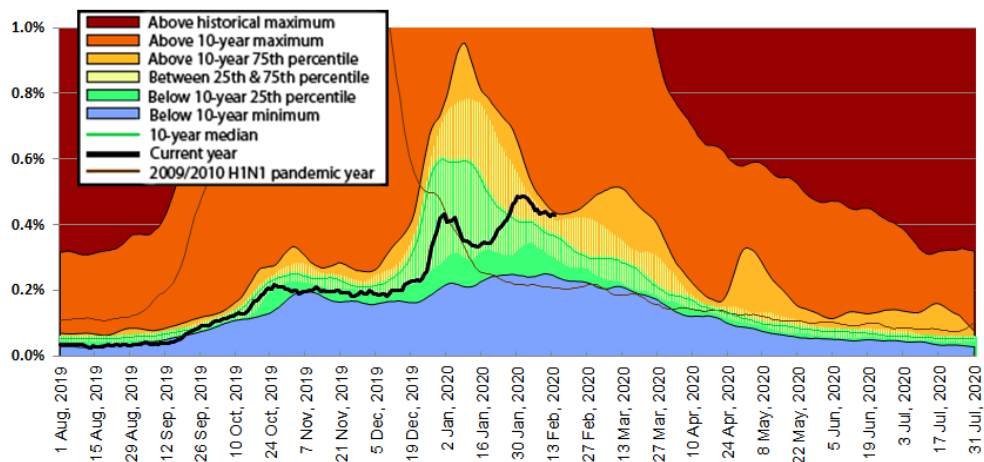
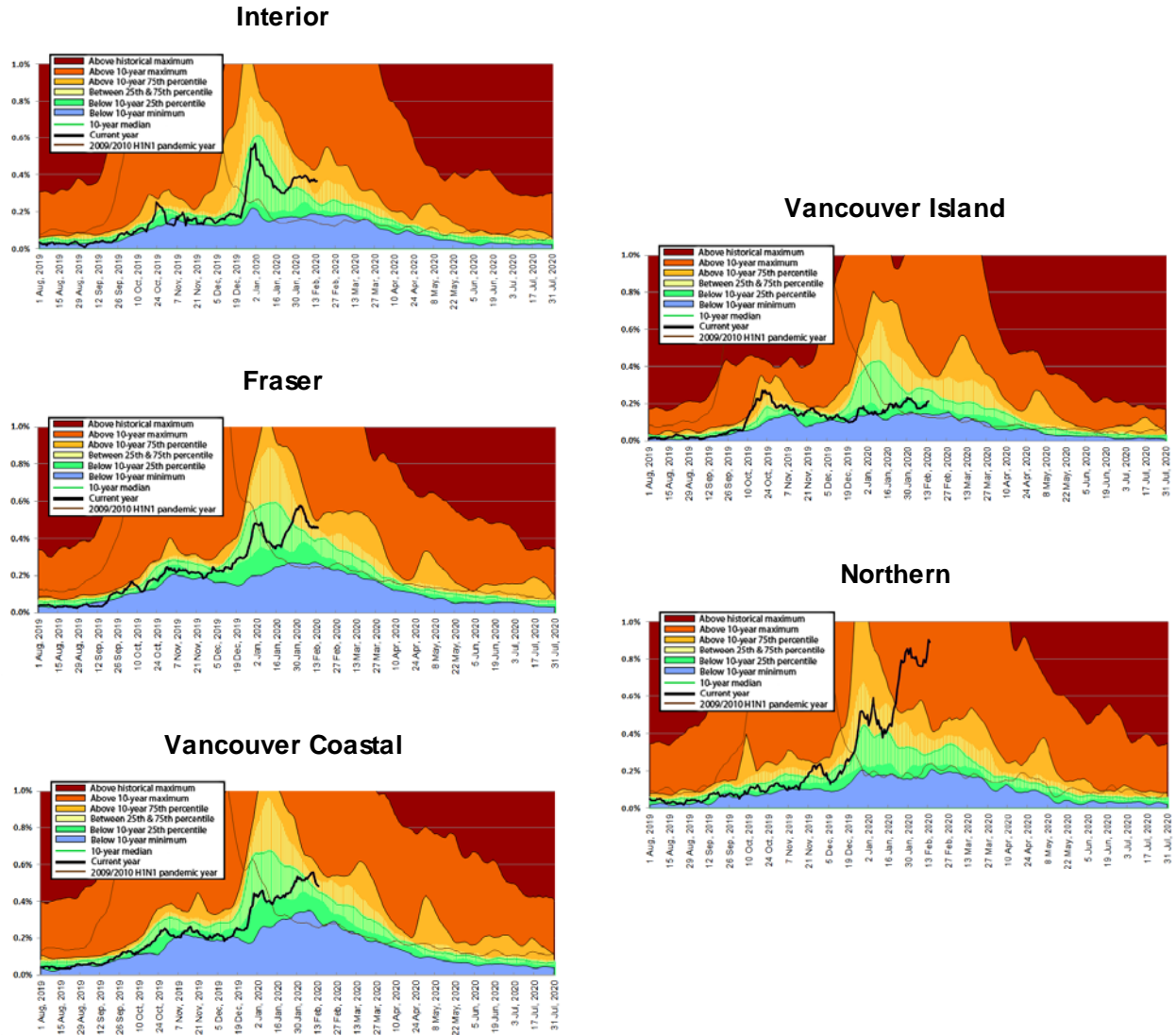


Figure 4



³ Data provided by Population Health Surveillance and Epidemiology, BC Ministry of Health Services. Influenza illness (ILI) 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 February 14, 2020.

British Columbia Laboratory Reports

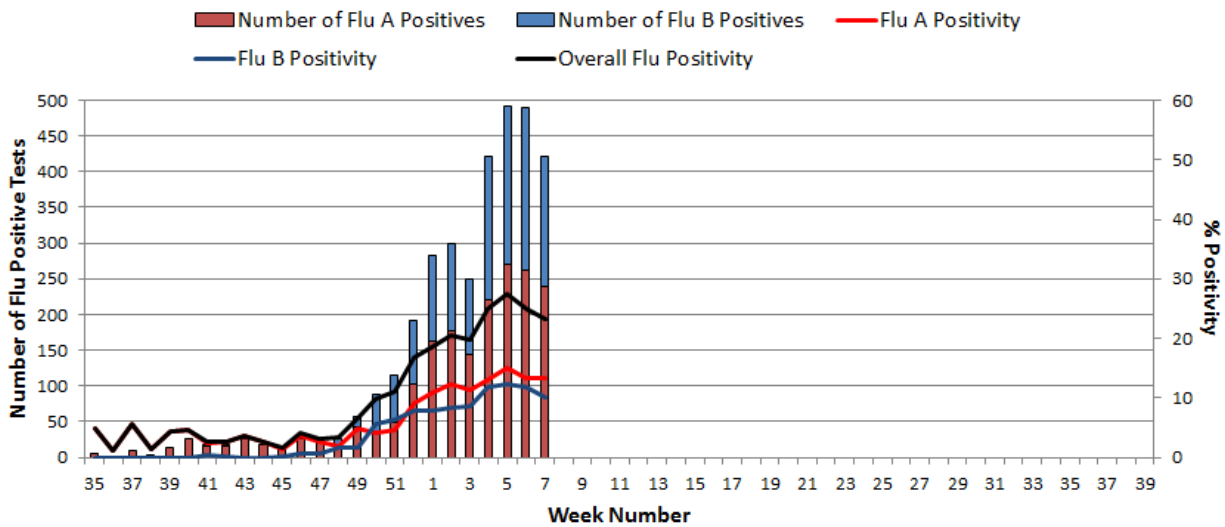
Increased testing of patients with febrile respiratory illness more generally following emergence of SARS-CoV-2 may be influencing recent influenza trend analysis, requiring cautious interpretation.

Influenza virus test-positivity

For the current reporting week 7 of 2020, 422/1807 (23%) of specimens tested at laboratories across BC¹ were positive for influenza virus, including 240/1807 (13%) positive for influenza A and 182/1807 (10%) positive for influenza B. Accordingly, influenza A viruses comprised 57% (i.e. 240/422) and influenza B viruses comprised 43% (i.e. 182/422) of influenza virus detections in week 7. Overall both influenza A and B positivity have reached a peak during week 5 and have shown decreasing trend thereafter (**Figure 5**).

Cumulatively since week 40 (starting September 29, 2019), of the 21,628 specimens tested for influenza at laboratories across BC, 1879 (9%) tested positive for influenza A and 1426 (7%) tested positive for influenza B. Throughout the season, influenza A has comprised 57% and influenza B has comprised 43% of total influenza virus detections.

Figure 5: Influenza virus positivity among respiratory specimens tested by participating laboratories¹ across BC, 2019-2020 season^{*2}



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.

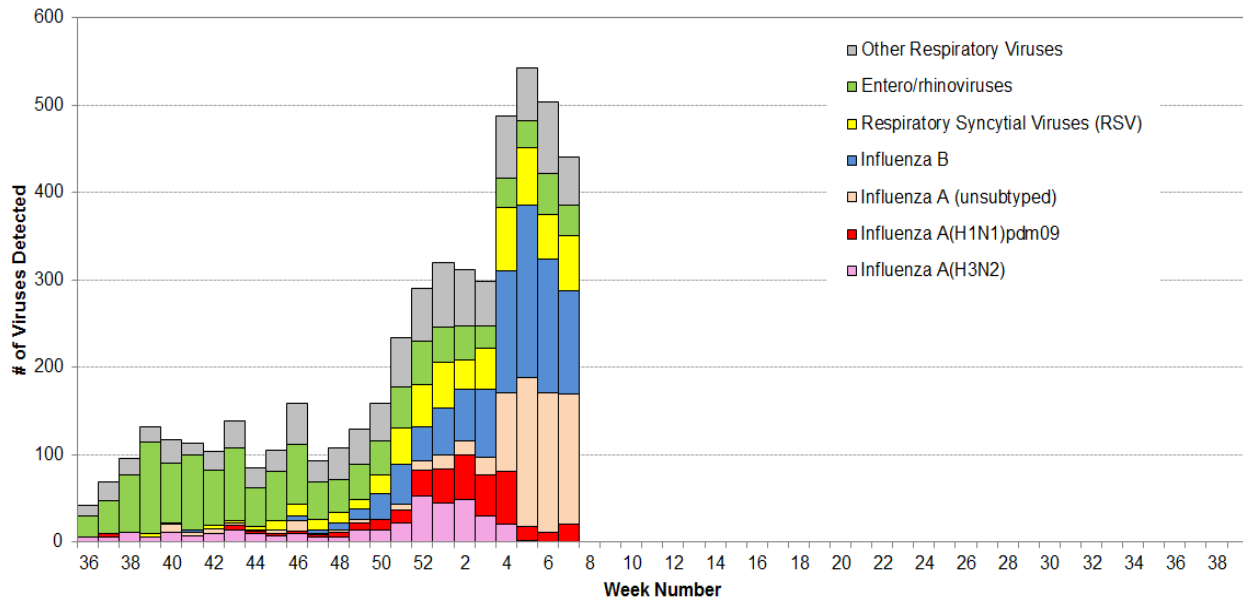
Influenza virus type/subtype characterization

Due to the high volume of respiratory testing and workload involved around SARS-CoV-2 requests, the BCCDC PHL has temporarily halted influenza A subtyping. As a result, the influenza and other virus detection graph (**Figure 6**) will have an increase in the number of influenza A(subtype unknown) samples, starting week 4.

In week 7, among influenza viruses subjected to further characterization*, 59% (169/287) were influenza A and 41% (119/287) were influenza B and of those that underwent further subtype characterization*, 12% (20/169) were A(H1N1)pdm09, 0% (0/169) were A(H3N2), and 88% (149/169) remained subtype unknown. Since week 40, 28% (577/2079) 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 7, RSV (n=63) was the most commonly detected virus, followed by entero/rhinoviruses viruses (n=34).

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

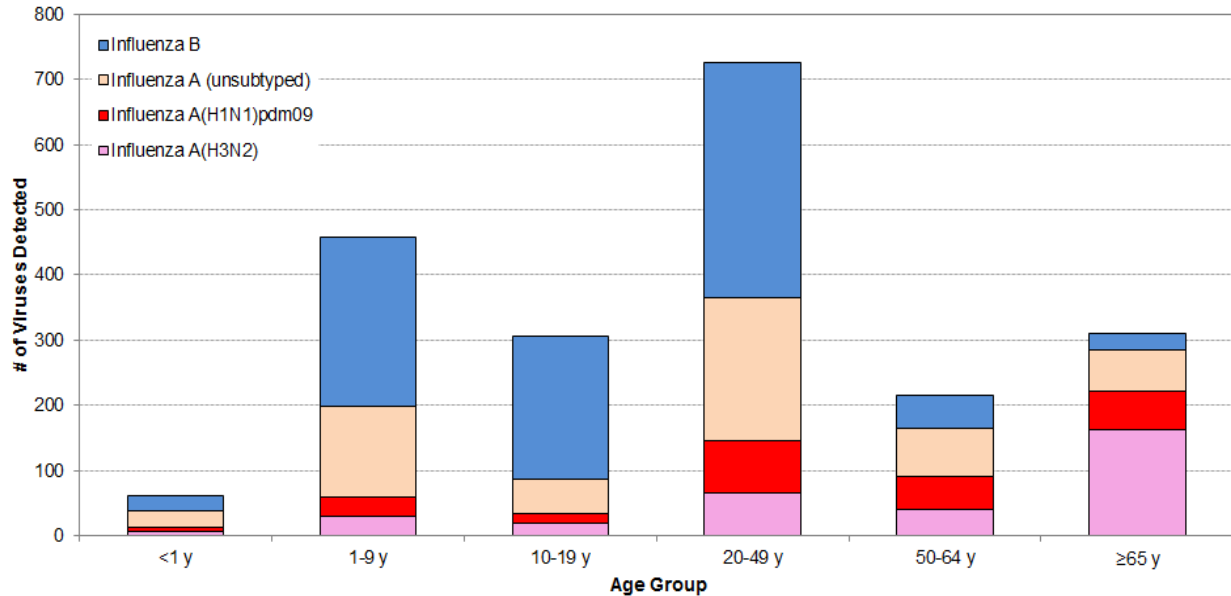


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to February 20, 2020.

* 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.

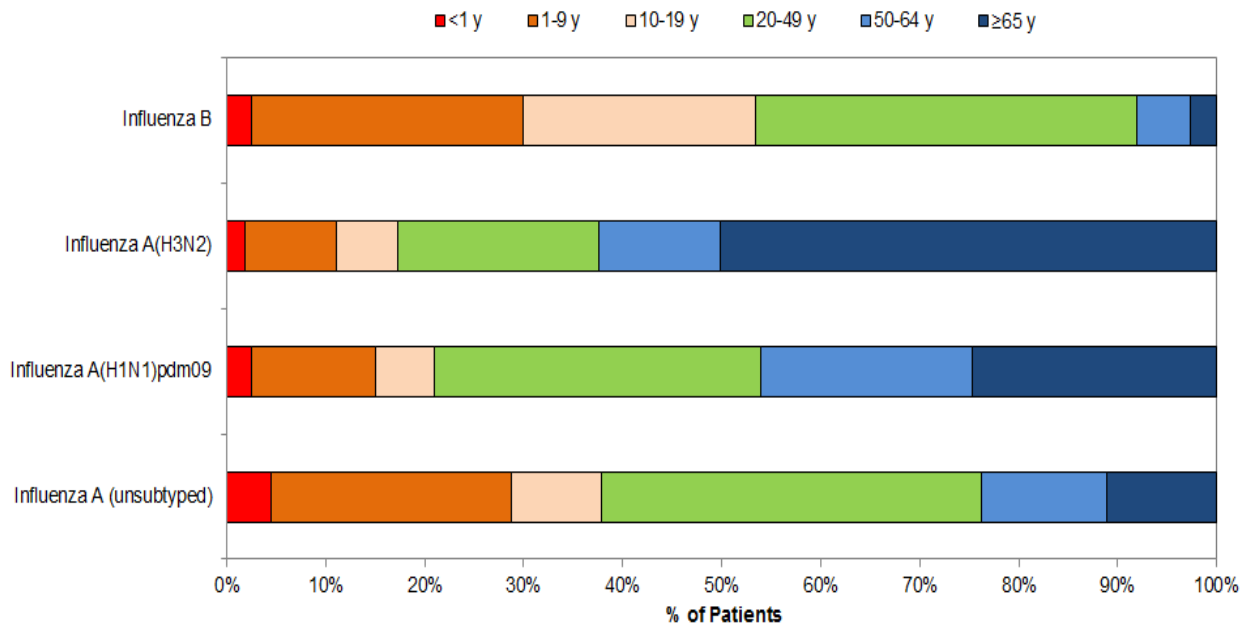
Among typed/subtyped viruses with age information since week 40, median age of A(H1N1)pdm09 cases was 46 years of age and of A(H3N2) detections was 65 years of age. Median age was substantially younger for influenza B at 17 years (**Figures 7 and 8**). Overall, 501/938 (53%) influenza B detections have 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 February 20, 2020; figure includes cumulative influenza detections for specimens collected from weeks 40-1. *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*

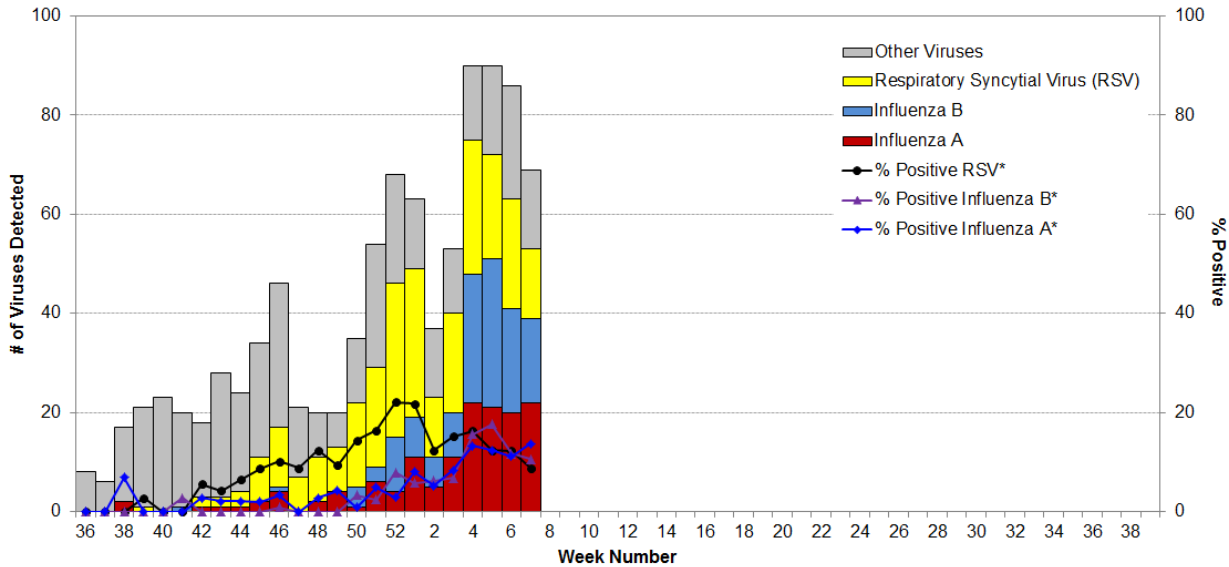


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to February 20, 2020; figure includes cumulative influenza detections for specimens collected from weeks 40-1. *Influenza A(H1N1)pdm09 and influenza A(subtype unknown) weekly case counts as directly typed/subtyped on primary specimens by 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 7, among 160 specimens tested at the BC Children’s and Women’s Health Centre laboratory, 22 (14%) were positive for influenza A (not subtyped), 17 (11%) were positive for influenza B, and 14 (9%) 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 7, 4 laboratory-confirmed influenza outbreaks (3 influenza A(subtype pending) 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. This 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 7 (**Figures 10 and 11**).

Since week 40, a total of 43 laboratory-confirmed LTCF influenza outbreaks have been reported. This tally of LTCF outbreaks for the 2019-2020 season from week 40 to date (n=43) is higher than the tally reported to the BCCDC for the same period during the 2018-19 season (n=26) but substantially lower than across the same period during the predominant A(H3N2) epidemics in 2017-18 (n=127) and 2016-17 (n=169).

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

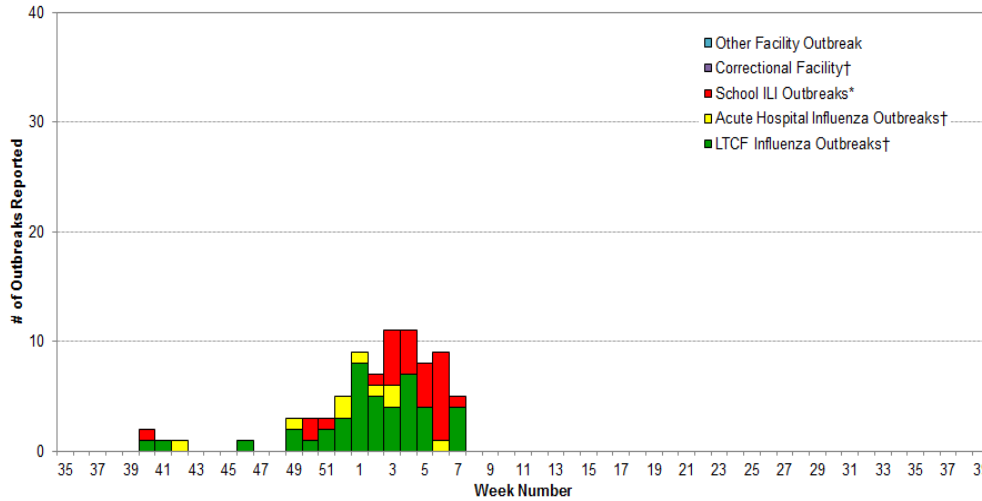
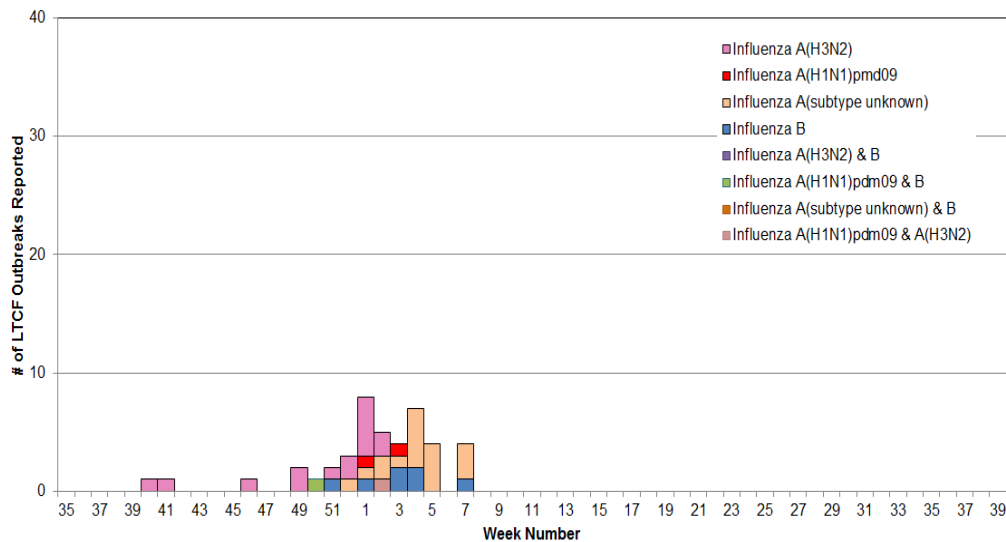


Figure 11: Number of influenza outbreaks by type/subtype in long-term care facilities (LTCF), British Columbia 2019-20†



* 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 Vaccine Effectiveness Estimates

Canadian Mid-Season 2019/20 Vaccine Effectiveness Estimates

On February 20th, 2020, the Canadian Sentinel Practitioner Surveillance Network (SPSN) published mid-season estimates of influenza vaccine effectiveness (VE) for the 2019/20 season, showing the vaccine has provided substantial protection against medically-attended febrile respiratory illness due to influenza. 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).

VE against A(H1N1)pdm09 was 44% (95% CI: 47 to 66%): 63% (95% CI: 25 to 81) in children 1–19 years old and 39% (95% CI: 14 to 56) in adults 20–64 years old. About half of the A(H1N1)pdm09 viruses characterized were antigenically mismatched to the vaccine.

VE against influenza B was 69% (95% CI: 57 to 77): 77% (95% CI: 59 to 87) in children 1–19 years old and 68% (95% CI: 51 to 79) in adults 20–64 years old. Virtually all influenza B viruses characterized belonged to the B/Victoria lineage and virtually all were antigenically mismatched to the vaccine.

VE against influenza A(H3N2) was 62% (95% CI: 37 to 77). To date in Canada, most A(H3N2) viruses have also been mismatched to the vaccine. This interim VE estimate requires cautious interpretation pending further end-of-season evaluation given the limited number of A(H3N2) cases to date.

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. Such substantial protection despite vaccine mismatch suggests that factors beyond vaccine match contribute to vaccine performance.

United States Mid-Season 2019/20 Vaccine Effectiveness Estimates

The Canadian interim estimate for 2019/20 is comparable to preliminary estimates of VE also reported today from the United States (US). The US Center for Disease Control (CDC) reported 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”

The number of confirmed COVID-19 cases reported globally has increased substantially in the past few weeks. As of this morning, there have been 75,780 confirmed cases reported in total globally, of which 98% (n= 74,579) are from mainland China, and among these 83% (n=62,031) are from Hubei province (**Figure 12**). Elsewhere, Hong Kong SAR, Macau SAR, Taiwan and 26 other countries have together reported 1200 confirmed cases, most recently newly including Iran (5 cases). Global deaths have reached 2,130 of which all but 11 have been reported from mainland China.

Outside mainland China, Japan (n=94), Singapore (n=85), and Hong Kong (n=67) have reported the highest number of confirmed cases (**Figures 12 and 13**). The largest cluster of cases outside mainland China has been associated with the Diamond Princess cruise ship docked in Japanese waters (n=634). Other countries have also reported established clusters. Recently, South Korea showed a large increase in case counts, jumping from 31 cases on February 18th to 104 today, February 20th. This outbreak has been traced to church services mainly in the city of Daegu.

The [travel notice for Canada](#) remains at level 3 as applied to China (avoid non-essential travel). Some countries have also drawn attention to other regions of potential concern related to COVID-19. For example, the [US CDC has applied a Level 1](#) watch to Hong Kong and Japan, also noting other destinations with apparent community spread including Singapore, South Korea, Taiwan, Thailand and Vietnam.

As of today, there are 9 confirmed COVID-19 cases in Canada. The first six confirmed cases in Canada (3 confirmed in British Columbia and 3 in Ontario) had direct travel link with Wuhan City in Hubei Province, with one additional BC case being an associated household transmission. The 8th case in Canada (5th in BC) had travel history to China, but outside Hubei province. The 9th case in Canada was reported today as a presumptive confirmed case (6th in BC), with travel history to Iran.

The Public Health Agency of Canada has updated the national surveillance case definitions <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/national-case-definition.html> for 2019-nCoV to now include mainland China among designated affected areas.

Check the [BCCDC website](#) and/or the [Public Health Agency of Canada](#) for periodic updates.

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: Geographic distribution of novel coronavirus, COVID-19 (Asia)

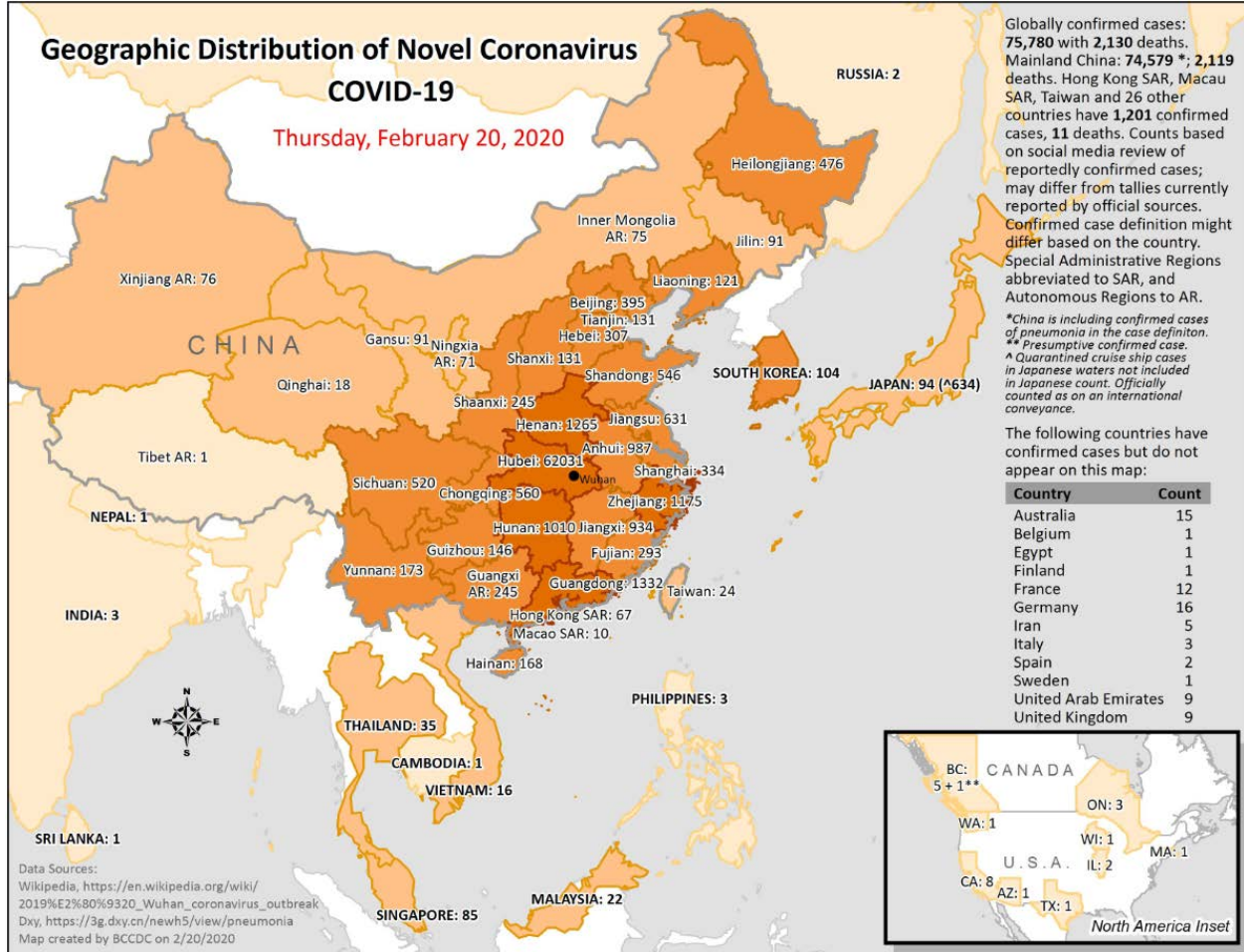
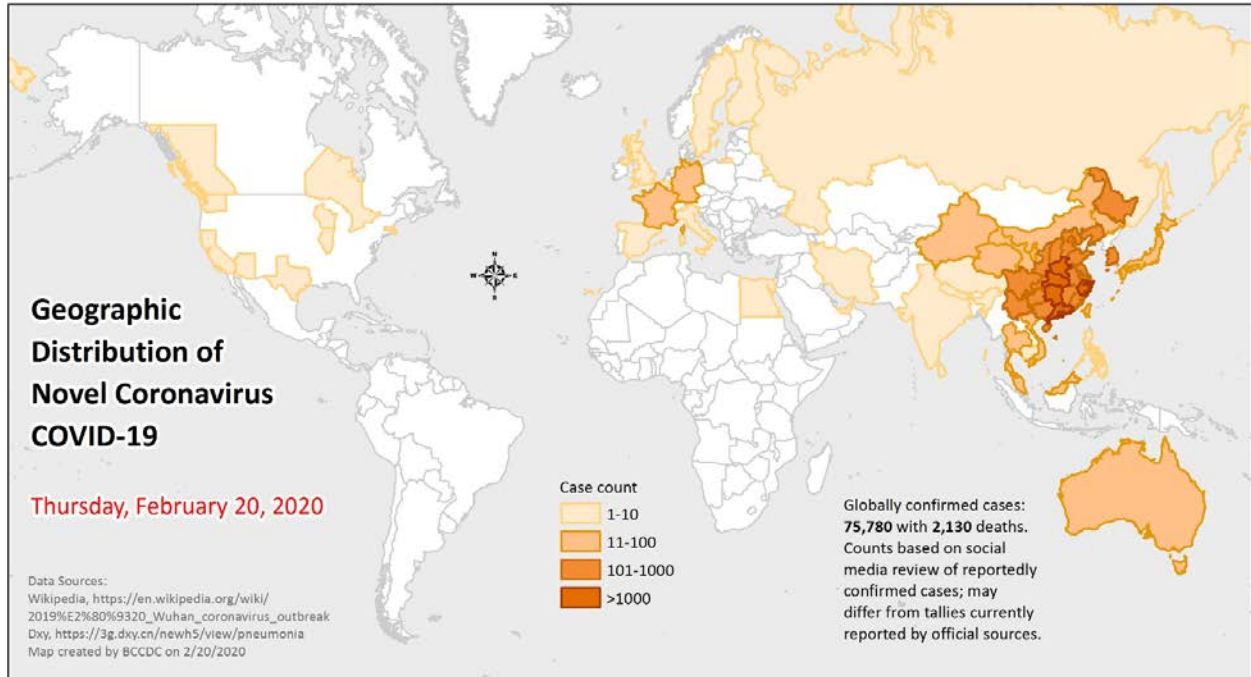


Figure 13: Geographic distribution of novel coronavirus, COVID-19 (World)



National

FluWatch (week 6, February 2 to February 8, 2020)

In week 6, the percentage of laboratory tests positive for any influenza in Canada was similar to the previous week at 30%. Influenza A and B continue to co-circulate in almost equal proportions. The percent positivity for influenza A in week 6 was 15%, average for this time of year. However, the percent positivity of influenza B at 14% was three times greater than the average (4.6%) for this time of year. Among subtyped influenza A detections, influenza A(H1N1) accounted for 85% of detections, up from 83% in week 5. Since week 35, a total of 33,615 laboratory detections of influenza were reported, of which 57% (19,189) were influenza A. Among subtyped influenza A detections (4,871), A(H1N1) remains the predominant subtype this season (63%) since week 3. Among the regions that reported influenza activity in week 6, half reported sporadic (50%) activity and the remaining reported localized (48%) or widespread (2%) activity. As of week 3, influenza A(H1N1) became the predominant influenza A circulating in Canada.

FluWatch report (week 6) 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 20, 2020, the NML has characterized 692 influenza viruses [155 A(H3N2), 355 A(H1N1) and 182 influenza B] that were received from Canadian laboratories.

Influenza A(H3N2): Ten influenza A(H3N2) viruses were antigenically characterized as A/Kansas/14/2017-like, whereas 41 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: 201 A(H1N1) viruses characterized were antigenically similar to A/Brisbane/02/2018. 154 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 20, 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 486 influenza viruses [140 H3N2, 164 H1N1 and 182 B] tested against oseltamivir. All 140 H3N2 and 182 B viruses were sensitive to oseltamivir. Of the 164 H1N1 viruses tested, 163 were sensitive to oseltamivir and one virus was resistant to oseltamivir with H275Y mutation.

Zanamivir: Of the 486 influenza viruses [140 H3N2, 164 H1N1 and 182 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 6, February 2 to February 8, 2020)

After decreasing in week 1 and 2, key indicators of influenza activity increased over the past 4 weeks. The proportion of outpatient visits for ILI remained above the national baseline (2.4%) in week 6 at 6.8%. The proportion of deaths attributed to pneumonia and influenza during week 6 (6.8%) was below the epidemic threshold of 7.3%. Total of 92 influenza-associated pediatric deaths were reported to the US CDC in the current influenza season, 14 of which were reported in week 6.

Since week 40, a total of 51,930 specimens were tested for influenza in the US and of the 51% (28,040) positive specimens, 49% were influenza A and 51% were influenza B viruses. Among subtyped influenza A specimens (n=13,437), 90% were A(H1N1)pdm09 and 10% were A(H3N2). Among lineage characterized influenza B specimens (n=11,258), almost all were Victoria (98%). Also since week 40, the US CDC genetically characterized 484 influenza A(H1N1)pdm09 viruses and 339 influenza A(H3N2) viruses. All A(H1N1)pdm09 viruses belonged to 6B.1A clade and most (96%) of the A(H3N2) viruses as belonged to the 3C.2a1 subclade.

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 (February 17, 2020, based on data up to February 2, 2020)

In the temperate zone of the northern hemisphere, influenza activity remains elevated overall. In Europe, influenza activity continued to increase across the region but appeared to have peaked in some countries of Northern Europe. Influenza A detections predominated in most reporting countries. In Central Asia, influenza activity increased with 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 and East Asia, influenza activity remained elevated overall. Influenza activity increased in Armenia, and remained elevated in Israel, Lebanon and Turkey, with influenza A(H1N1)pdm09 and B viruses co-circulating. In China, ILI activity increased once again after a slight decrease reported in recent weeks and was at a greater level than the activity recorded during the same time period in the three previous seasons. Influenza activity, however, decreased, with influenza A(H3N2) and B/Victoria lineage viruses co-circulating.

From January 20, 2020 to February 2, 2020, the WHO GISRS laboratories tested more than 204,655 specimens. Of these, 59,702 were positive for influenza viruses including 35,359 (59%) typed as influenza A and 24,343 (41%) as influenza B. Of subtyped influenza A viruses, 7,321 (76%) were influenza A(H1N1)pdm09 and 2,333 (24%) were influenza A(H3N2). Of the characterized B viruses, 26 (1.5%) belonged to the B(Yamagata) lineage and 1,746 (98.5%) 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 continued to increase with influenza A(H1N1)pdm09 viruses most frequently detected and Afghanistan, where influenza activity remained elevated over the past few weeks, 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 Δ2, 162-163 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 Southern Hemisphere Influenza Vaccine

On September 27, 2019, the WHO announced recommended strain components for the 2020 southern hemisphere trivalent influenza vaccine (TIV):*

- an A/Brisbane/02/2018 (H1N1)pdm09-like virus [a clade 6B.1A1 virus]; †
- an A/South Australia/34/2019 (H3N2)-like virus [a clade 3C.2a1b virus]; ‡
- a B/Washington/02/2019-like (B/Victoria lineage) virus [a Δ3, 162-164 virus]. §

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

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

† Recommended strain represents a change from the 2019 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 2019 season vaccine which contained an A/Switzerland/8060/2017 (H3N2)-like virus [a clade 3C.2a2 virus]

§ Recommended strain represents a change from the 2019 season vaccine which contained a B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage) [a Δ2, 162-163 virus]

For further details: http://www.who.int/influenza/vaccines/virus/recommendations/2020_south/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%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Numbers to date</th> <th style="width: 50%;">Residents</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Total</td> <td></td> </tr> <tr> <td style="text-align: center;">With ILI</td> <td></td> </tr> <tr> <td style="text-align: center;">Hospitalized*</td> <td></td> </tr> <tr> <td style="text-align: center;">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:		