BC Centre for Disease Control
An agency of the Provincial Health Services Authority

British Columbia Influenza Surveillance Bulletin

Influenza Season 2019-2020, Number 2, Week 1
December 29, 2019 to January 4, 2020

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Sharp increase in influenza activity over the holiday period: mix of influenza A and B viruses

This is the second bulletin of the 2019-2020 season, delayed compared to usual owing to staffing shortage.

Multiple surveillance indicators show that influenza activity increased sharply over the recent holiday period. Overall, however, clinical indicators of influenza illness (e.g. sentinel practitioner reports, BC Children's Hospital emergency room visits, Medical Service Plan claims) are within expected historical averages for this stage of the season.

During the current (Week 1, 2020) reporting period, 18% of specimens tested in BC were positive for influenza virus overall, of which 60% were influenza A and 40% were influenza B. Both influenza A(H3N2) and A(H1N1)pdm09 subtypes have been contributing, with the former predominating overall since week 40. Unusually early co-circulation of influenza B this season in Canada has been comprised almost exclusively of B(Victoria) lineage viruses with children disproportionately affected.

Since week 40, 16 laboratory-confirmed influenza outbreaks have been reported in long term care facilities, similar to 2018-19 (n=12) but substantially lower than 2017-18 (n=61) or 2016-17 (n=93).

Following reports of a cluster of atypical pneumonia cases in Wuhan, China, local experts are suspecting the emergence of a novel coronavirus. A current situation report is provided on page 10.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

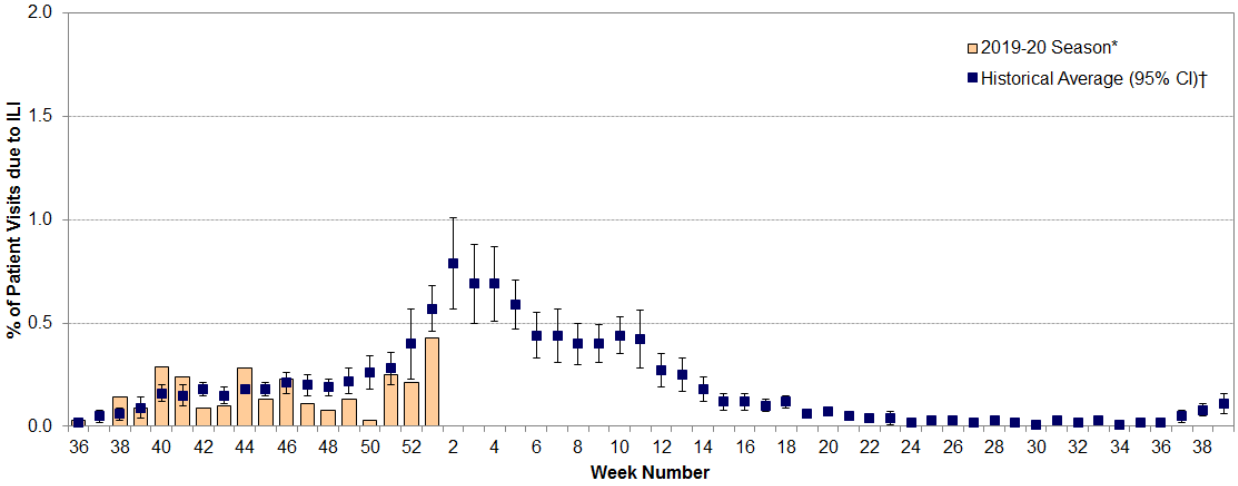
Report Disseminated: January 9, 2020

British Columbia

Sentinel Physicians

Influenza-like illness (ILI) rates among patients presenting to sentinel sites have been within or below 10-year historical average rates, with recent increase over the holiday period consistent with other clinical surveillance indicators (**Figure 1**). Recent trends may reflect differences in health care seeking behaviours during the holiday period. Twelve (60%) of sentinel sites have reported data for week 1 and 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

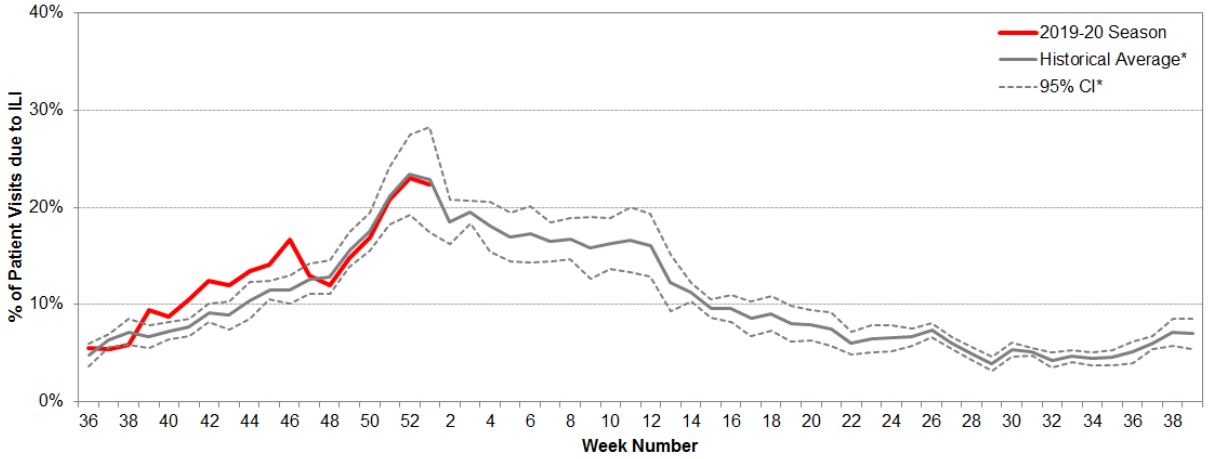


* Data are subject to change as reporting becomes more complete.
† 10-year historical average for 2019-20 season based on 2006-07 to 2018-2019 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children's Hospital Emergency Room

The proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to influenza-like illness (ILI) also showed increase over the holiday period, closely tracking 5-year historical average levels (**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 (II) as a proportion of all submitted MSP claims[§] also increased sharply over the holiday period but remained below the 10-year historical median (**Figure 3**) for this time of the year in BC overall and in 4 of 5 health regions (**Figure 4**).

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

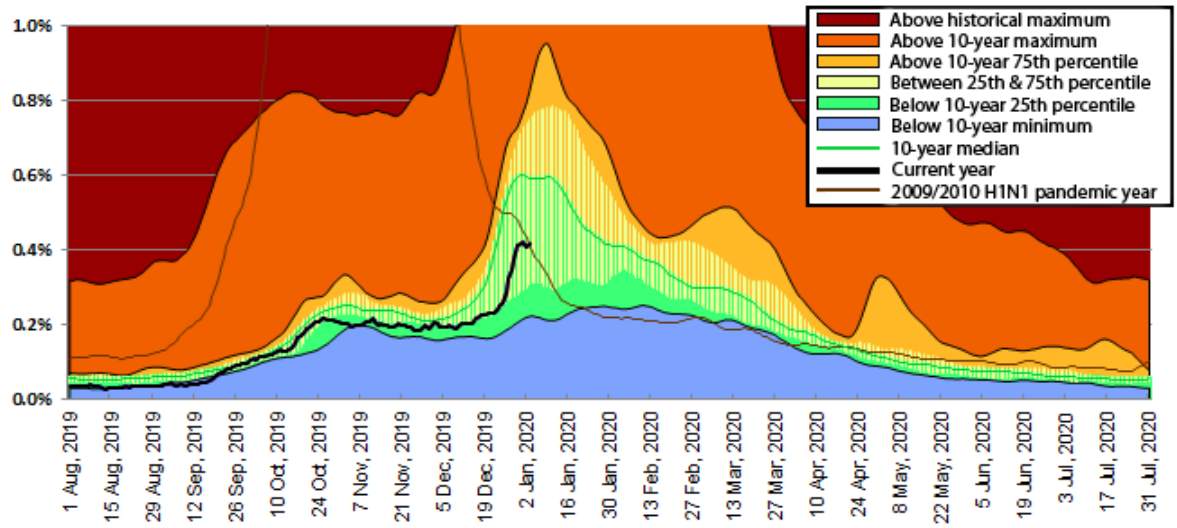
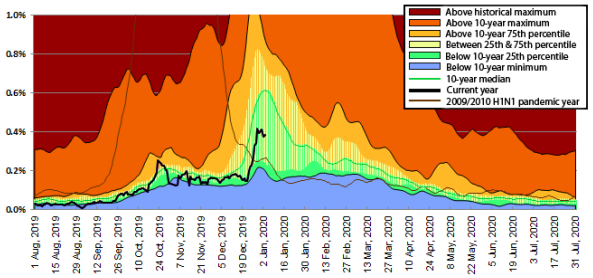
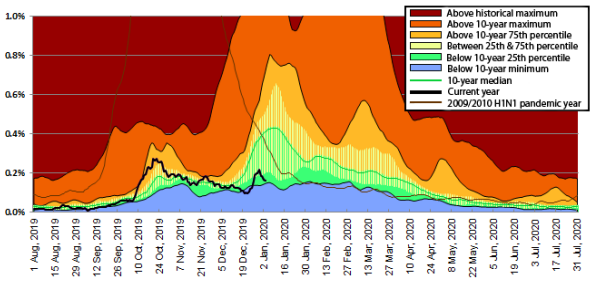


Figure 4

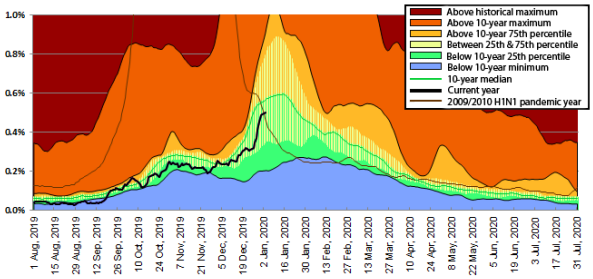
Interior



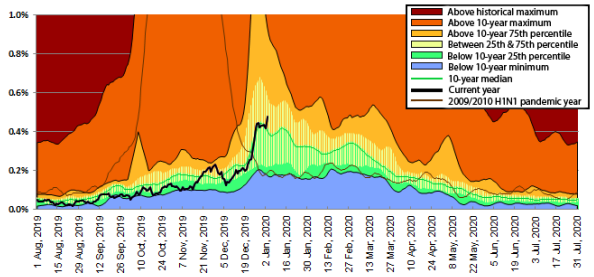
Vancouver Island



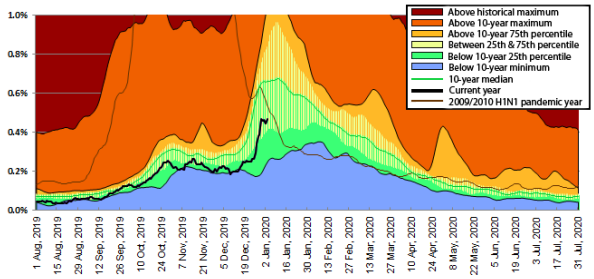
Fraser



Northern



Vancouver Coastal



§ 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 January 3, 2020.

British Columbia Laboratory Reports

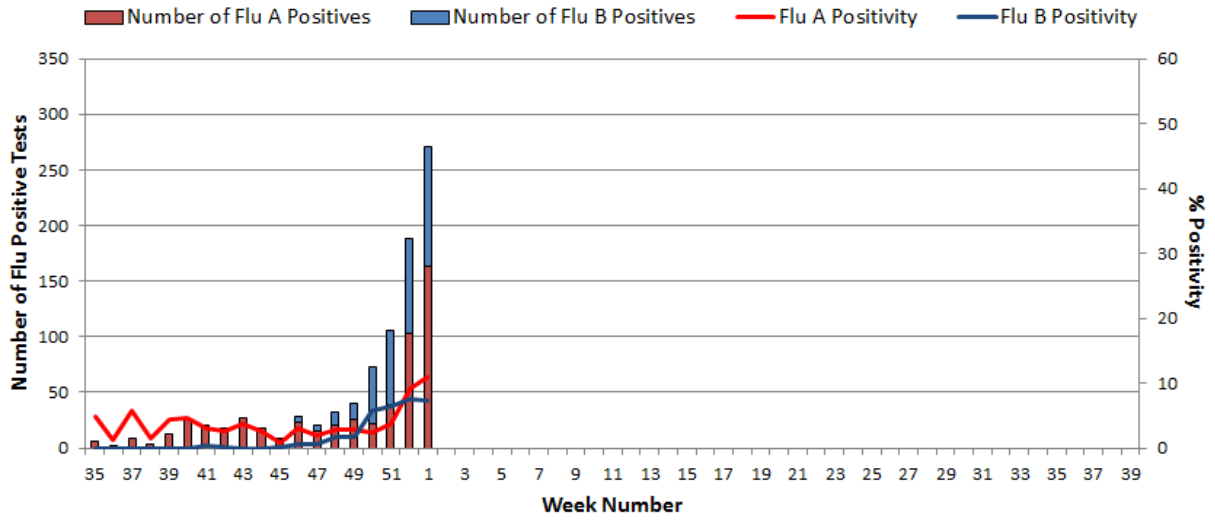
Influenza virus test-positivity

Both the number and proportion of respiratory specimens tested for influenza across the province also increased over the holiday period. Although influenza A has predominated overall, influenza B has shown unusual early co-circulation with influenza A.

In the most recent reporting week 1 of 2020, 271/1479 (18%) of specimens tested at laboratories across BC[1] were positive for influenza virus, including 163/1479 (11.0%) positive for influenza A and 108/1479 (7.3%) positive for influenza B. Accordingly, influenza A viruses comprised 60% (i.e. 163/271) and influenza B viruses comprised 40% (i.e. 108/271) of influenza virus detections in week 1. In week 1 of 2020 compared to week 52 of 2019, influenza positivity increased for influenza A (11.0% vs. 9.2%) but remained relatively stable for influenza B (7.3% vs. 7.6%) (**Figure 5**).

Cumulatively since week 40 (starting September 29, 2019), of the 12,569 specimens tested for influenza at laboratories across BC, 555 (4.4%) tested positive for influenza A and 351 (2.8%) tested positive for influenza B. Throughout the season, influenza A virus detections have slightly predominated (61%; 555/906) but such early co-circulation and contribution by influenza B viruses (39%; 351/906) is somewhat unusual.

Figure 5: Influenza virus positivity among respiratory specimens tested by participating laboratories[1] across BC, 2019-2020 season*[2]



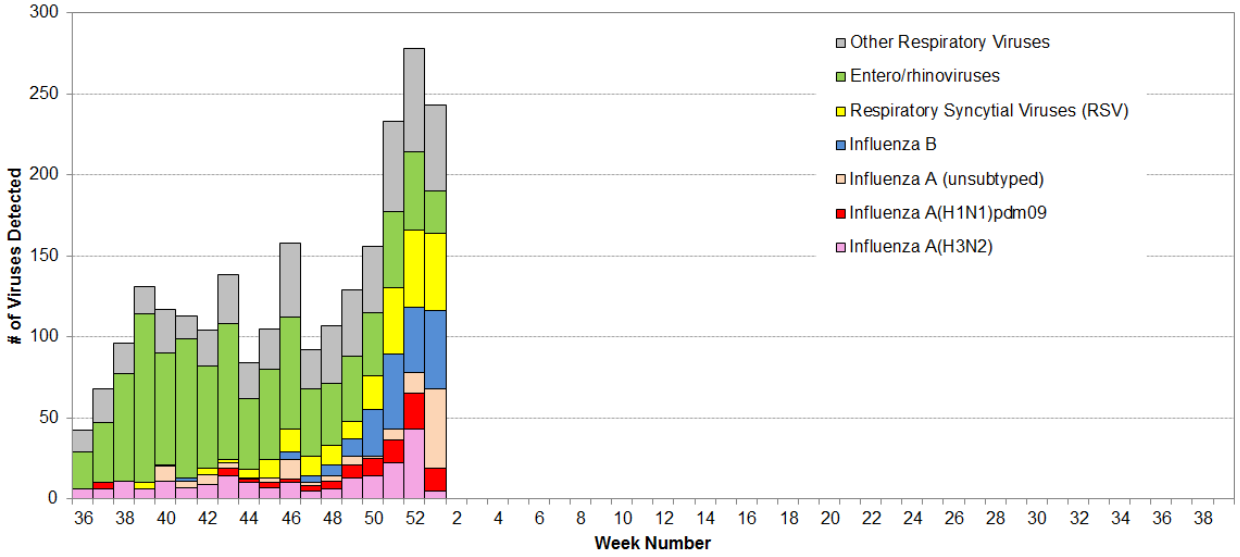
[1] The percentage influenza positivity is presented by influenza type based on primary specimens submitted for influenza testing at the BCCDC Public Health Laboratory (PHL) and other external sites that share complete testing data with the BCCDC PHL. From week 40, reporting sites include: BC Children's 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

Since week 40, among influenza viruses that underwent further type/subtype characterization*, 89/564 (16%) were A(H1N1)pdm09, 175/564 (31%) were A(H3N2) and 110/564 (20%) remained A(subtype pending). Among successfully subtyped influenza A viruses therefore, about two-thirds (66%; 175/264) have been A(H3N2) across the season. There were also 191/564 (34%) influenza B viruses included in that subset (**Figure 6**).

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 1, RSV viruses (n=48) were the most commonly detected virus, then followed by entero/rhinoviruses (n=26) (**Figure 6**).

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

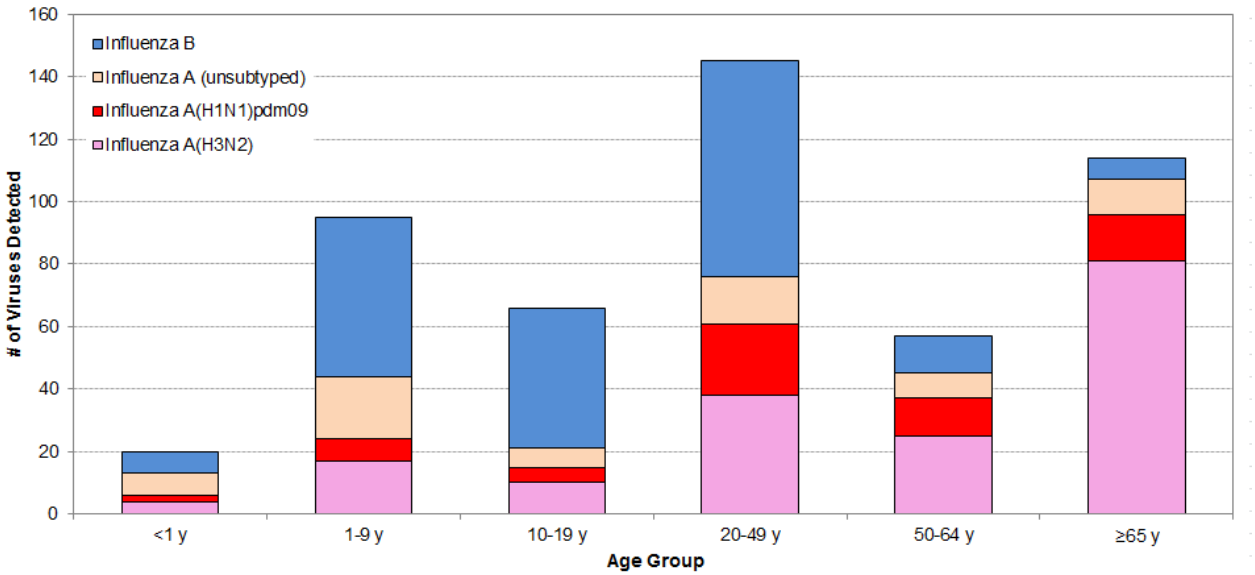


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to January 9, 2020.

* 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.

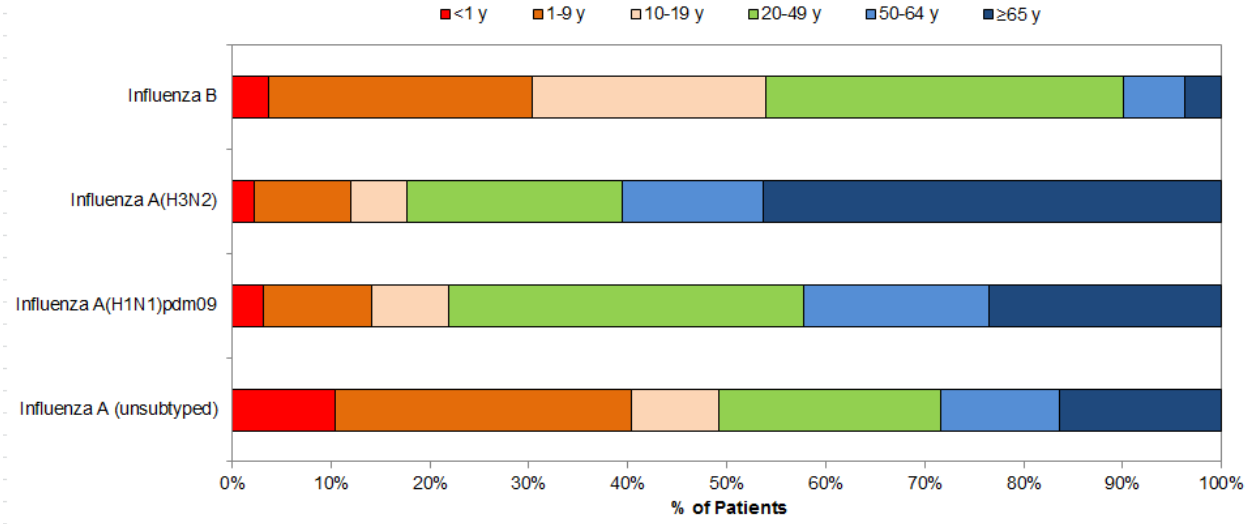
Among typed/subtyped viruses with age information since week 40, 27/64 (42%) A(H1N1)pdm09 and 106/175 (61%) A(H3N2) detections have been adults over the age of 50 years, including 81/175 (49%) of A(H3N2) detections that were over the age of 65 years. Conversely, 103/191 (54%) influenza B detections have been children under the age of 19 years although this age group comprises <20% of the population of BC [source: PEOPLE 2019 Population Projections] (**Figures 7 and 8**).

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 January 9, 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 36), BCCDC Public Health Laboratory, 2019-2020*

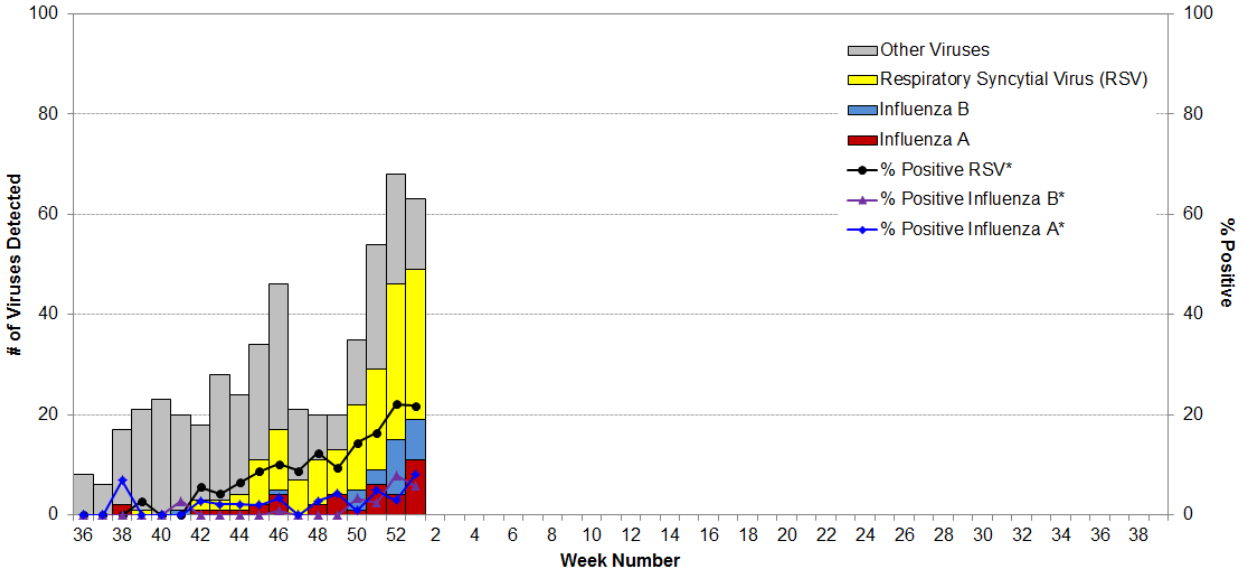


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to January 9, 2020; figure includes cumulative influenza detections for specimens collected from weeks 40-1.
*Influenza A(H1N1)pdm09 and influenza A(subtype unknown) weekly case counts as directly typed/subtyped on primary specimens by 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 1 of 2020, 138 tests for influenza and 138 tests for respiratory syncytial virus (RSV) were conducted at the BC Children's and Women's Health Centre laboratory. Of these, 11 (8%) were positive for influenza A (not subtyped), 8 (6%) were positive for influenza B, and 30 (22%) 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 1 of 2020, 5 laboratory-confirmed influenza outbreak (1 influenza A(H3N2) and 4 influenza A(subtype pending)) were reported in long-term care facilities (LTCF).

Since week 40, a total of 16 laboratory-confirmed LTCF influenza outbreaks have been reported (8 with influenza A(H3N2), 1 with influenza B, 6 with influenza A(subtype pending), and 1 with influenza A(H1N1)pdm09 and influenza B). This tally of LTCF outbreaks for the 2019-2020 season to date (n=16) is comparable to the tally reported to the BCCDC for the same period during the 2018-19 season (n=12) but substantially lower than during the predominant A(H3N2) epidemics in 2017-18 (n=61) and 2016-17 (n=93).

Additionally in 2019-2020 there have been 5 laboratory-confirmed acute care facility outbreaks reported to the BCCDC (1 with influenza A(H3N2), 3 with influenza A(subtype unknown), and 1 with influenza B). Four school ILI outbreaks have been reported (**Figures 10 and 11**).

Figure 10: Number of influenza-like illness (ILI) outbreaks reported, British Columbia 2019-2020

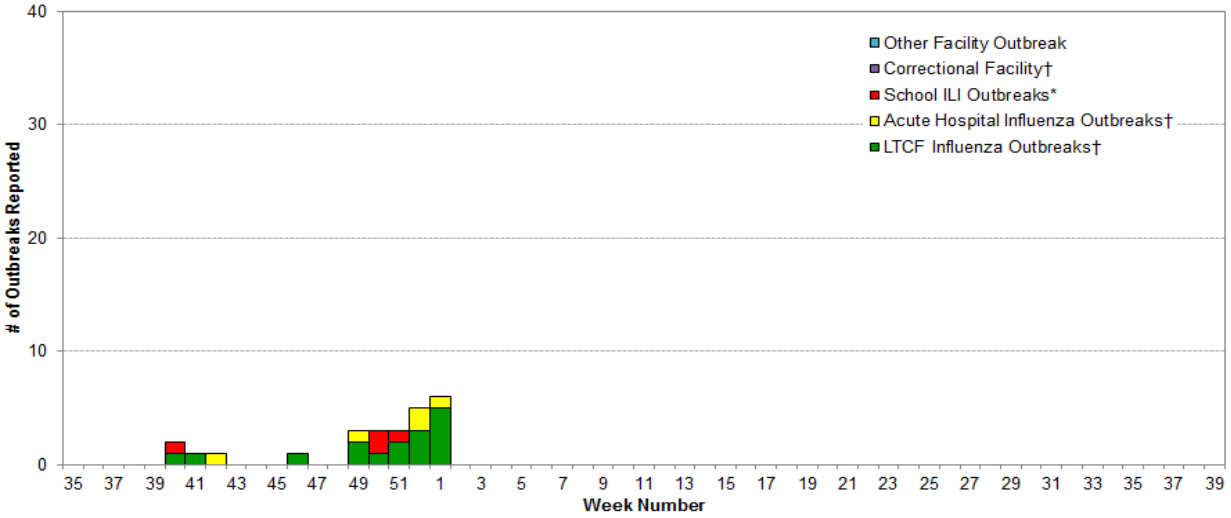
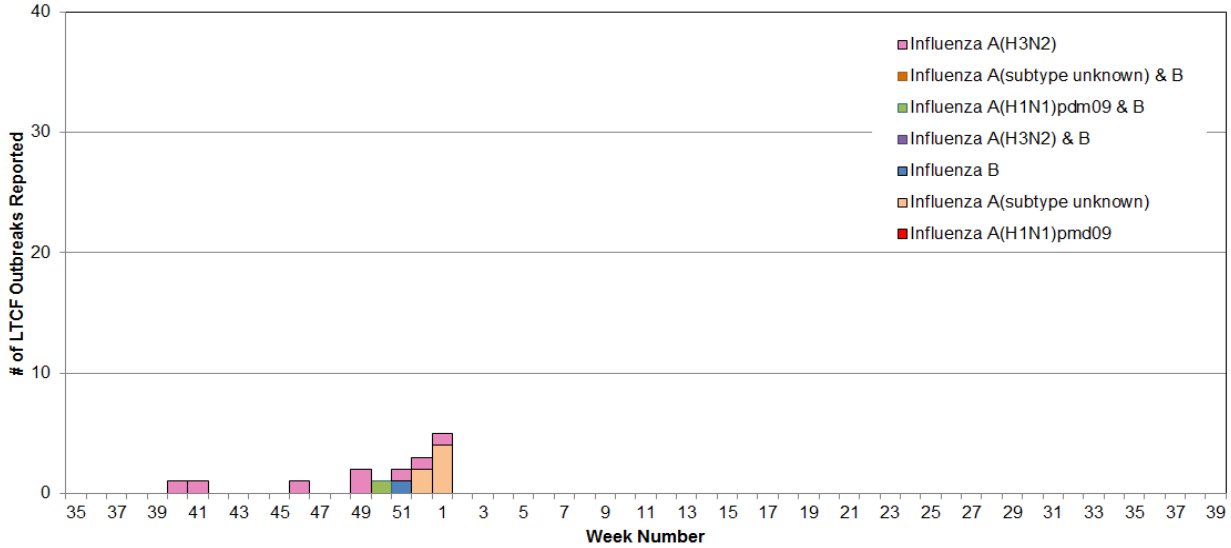


Figure 11: Number of influenza outbreaks by type/subtype in long-term care facilities (LTCF), British Columbia 2019-2020†



* 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.

Emerging Respiratory Viruses

Atypical pneumonia in central China

On December 31, 2019, health authorities in Wuhan, the capital city of Hubei province, China, reported a cluster of 27 atypical viral pneumonia cases including 7 in critical condition [1-2]. The cluster notably involved stallholders at the Wuhan South China Seafood City (also called the South China Seafood Wholesale Market and the Hua Nan Seafood Market), reported to have sold live animals (e.g. birds, bats, snakes and rabbits) in addition to seafood. The market was closed on January 1st for cleaning and disinfection. As of January 5, 2020, the reported case count increased to 59, with dates of onset ranging between December 12 and 29, 2019 [3]. Clinical presentation included fever, fatigue, dry cough (little sputum) and in a subset, difficulty breathing with bilateral lung infiltrates on chest radiograph. There have been no reports of death, and no clear evidence of spread from person to person, or of affected health care workers. Further epidemiological information (e.g. age distribution, epidemic curve) is still pending.

As of January 5, influenza viruses (seasonal and avian), adenovirus, Severe Acute Respiratory Syndrome coronavirus (SARS-CoV) and Middle East Respiratory Syndrome coronavirus (MERS-CoV) had been excluded as etiologic agents [3]. Today (January 9, 2020), the World Health Organization Western Pacific Regional Office (WHO WPRO) confirmed that Chinese authorities have made a preliminary determination of a novel coronavirus in one case [4]. Media sources have further indicated that this coronavirus is different from other known human coronaviruses and that samples from 15 associated patients were also positive for the novel coronavirus on nucleic acid testing [5-6].

Both Canada and the United States have posted Level 1 travel advisories, recommending good general practices and precautions (including avoidance of any live animal or animal market contact) but no travel restrictions to the affected area [7-9]. As always, clinicians should ask all patients presenting with severe acute respiratory illness about any travel in the two weeks prior to illness onset and should apply appropriate infection control precautions in their clinical investigation and management. Given this unfolding cluster of atypical pneumonia in Wuhan, patients presenting with severe respiratory illness should be specifically queried for that possibly related travel. Clinicians should consult their local Medical Health Officer, Infection Control Practitioner and/or Medical Microbiologist for guidance in the investigation and management of patients with compatible symptoms and travel history.

Sources:

1. Center for Infectious Disease Research and Policy (CIDRAP). Chinese officials probe unidentified pneumonia outbreak in Wuhan [Internet]. December 31, 2019 [cited January 9, 2020]. Available from: http://www.cidrap.umn.edu/news-perspective/2019/12/news-scan-dec-31-2019.
2. World Health Organization. Pneumonia of unknown cause - China [Internet]. January 5, 2020 [cited January 9, 2020]. Available from: https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/.
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5. ProMED International Society for Infectious Diseases. UNDIAGNOSED PNEUMONIA - CHINA (HUBEI) (05): NOVEL CORONAVIRUS IDENTIFIED [Internet]. January 8, 2020 [cited January 9, 2020]. Available from: https://promedmail.org/promed-post/?id=6877694.
6. Center for Infectious Disease Research and Policy (CIDRAP). More details emerge on new coronavirus in Wuhan cluster [Internet]. January 9, 2020 [cited January 9, 2020]. Available from: http://www.cidrap.umn.edu/news-perspective/2020/01/more-details-emerge-new-coronavirus-wuhan-cluster
7. Government of Canada. Pneumonia of Unknown Cause in China [Internet]. January 7, 2020 [cited January 9, 2020]. Available from: https://travel.gc.ca/travelling/advisories/pneumonia-china?_ga=2.26094.
8. Centers for Disease Control and Prevention (US CDC). Pneumonia of Unknown Cause in China [Internet]. January 6, 2020 [cited January 9, 2020]. Available from: https://wwwnc.cdc.gov/travel/notices/watch/pneumonia-china.
9. Centers for Disease Control and Prevention (US CDC). Outbreak of Pneumonia of Unknown Etiology (PUE) in Wuhan, China. Health Alert Network (HAN) [Internet]. January 8, 2020 [cited January 9, 2020]. Available from: https://emergency.cdc.gov/han/han00424.asp

National

FluWatch (weeks 50, December 8 to December 14, 2019)

Influenza activity continued to increase as shown across multiple indicators. Among the regions that reported influenza activity in week 50, most reported sporadic (72%) and the rest reported localized (28%) levels. The number of influenza detections continued to increase in week 50, with an equal proportion of influenza A and B detected. A total of 1,272 laboratory detections of influenza were reported, of which 50.2% (638) were influenza A and 49.8% (634) were influenza B. Among subtyped influenza A detections from sentinel laboratories, 60% (week 50) and 68% (week 35 to 50) of cases were identified as A(H3N2). The percentage of laboratory tests positive for influenza in week 50 was 15.6%, which is similar to the average (15.3%) for week 50 over the past 5 seasons. However, the proportion of influenza B detection increased in week 50 and influenza B positivity (7.8%) is reported to be much higher than the average (1.5%) for this time of the year. The current influenza B activity level is usually observed between February and March.

FluWatch report (week 50) is available at:

https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/diseases-conditions/fluwatch/2019-2020/week50/pub1-eng.pdf

National Microbiology Laboratory (NML): Strain Characterization

From September 1 to January 9, 2020, the National Microbiology Laboratory (NML) has characterized 287 influenza viruses [127 A(H3N2), 62 A(H1N1) and 98 influenza B] that were received from Canadian laboratories.

Influenza A(H3N2): Three influenza A(H3N2) viruses were antigenically characterized as A/Kansas/14/2017-like by HI testing using antiserum raised against egg-propagated A/Kansas/14/2017. 25 viruses showed reduced titer with ferret antisera raised against egg-propagated A/Kansas/14/2017. A/ Kansas/14/2017 (clade 3C.3a) is the influenza A/H3N2 component of the 2019-20 Northern Hemisphere influenza vaccine.

Influenza A(H1N1)pdm09: Fifty-nine A(H1N1) viruses characterized were antigenically similar to A/Brisbane/02/2018. Three viruses showed reduced titer with ferret antisera raised against egg-propagated A/Brisbane/02/2018. A/Brisbane/02/2018 is the WHO-recommended influenza A(H1N1) component of the 2019-20 northern hemisphere influenza vaccine

Influenza B: Eleven viruses characterized were antigenically similar to B/Colorado/06/2017, whereas 86 viruses showed reduced titer with ferret antisera raised against cell culture-propagated B/Colorado/06/2017. Sequence analysis showed that the 86 reduced-titre viruses had a three amino acid deletion (162-164) in the HA gene. B/Colorado/06/2017 belongs to the B(Victoria) lineage, recommended by the WHO as the influenza B component for the 2019-2020 Northern Hemisphere *trivalent* influenza vaccine. One virus characterized was antigenically similar to B/Phuket/3073/2013 which is the WHO recommended influenza B component of the *quadrivalent* vaccine belonging to the B(Yamagata) lineage.

National Microbiology Laboratory (NML): Antiviral Resistance

From September 1, 2019, to January 9, 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 188 influenza viruses [86 H3N2, 45 H1N1 and 57 B] tested against oseltamivir, all were sensitive.

Zanamivir: Of the 187 influenza viruses [86 H3N2, 45 H1N1 and 56 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 52, December 22 to December 28, 2019)

During week 52, influenza activity continued to increase and had been elevated for 8 weeks in the United States. Since week 40, a total of 24,350 specimens were tested for influenza by public health laboratories nationwide. Out of the 10,034 (41.2%) positive specimens, 4,090 (40.8%) influenza A and 5,944 (59.2%) influenza B viruses were detected by public health laboratories. From the 4,090 positive influenza A specimens, 3,028 (78.1%) were A(H1N1)pdm09, 849 (21.9%) were A(H3N2), and 213 were unsubtyped. From the 5,944 positive influenza B specimens, 95 (2.1%) belonged to the Yamagata lineage, 4,342 (97.9%) to the Victoria lineage, and 1,507 were not characterized as to lineage. Since September 29, 2019, the US CDC genetically characterized 189 influenza A(H3N2) viruses and 100% of this sample belonged to the 3C.2a1 subclade.

The proportion of deaths attributed to pneumonia and influenza (P&I) during week 51 (5.5%) was below the epidemic threshold (6.8%) for this time of the year. Since the beginning of the 2019-2020 season, 27 influenza-associated pediatric deaths were reported to the CDC. Out of the 27 deaths, 9 and 18 were associated with influenza A and B respectively. The proportion of outpatient visits for ILI in week 52 was 6.9%, which is above the national baseline of 2.4%. 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 (December 20, 2019, based on data up to December 8, 2019)

In the temperate zone of the northern hemisphere, influenza activity continued to increase in most regions (North America, Europe, Central Asia, Western Asia, and East Asia). Co-circulation of seasonal influenza subtypes was present in most regions of Northern Africa, but with higher proportion of influenza B viruses for this time of the season. In Europe, influenza A predominated in most countries with the exception of Eastern Europe countries and Portugal. Worldwide, seasonal influenza A(H3N2) viruses accounted for the majority of detections. However, in certain northern hemisphere countries (Saudi Arabia, Bahrain, Iraq, Israel, Jordan, and Republic of Korea) detection of influenza A(H1N1)pdm09 predominated. Increased SARI levels continued to be reported in Saudi Arabia.

From November 25 to December 8, 2019, the WHO GISRS laboratories tested more than 86,210 specimens. Of these, 9,438 were positive for influenza viruses including 7,067 (74.9%) typed as influenza A and 2,371 (25.1%) as influenza B. Of the subtyped influenza A viruses, 1,216 (30.2%) were influenza A(H1N1)pdm09 and 2,809 (69.8%) were influenza A(H3N2). Of the characterized B viruses, 25 (5.2%) belonged to the B(Yamagata) lineage and 458 (94.8%) to the B(Victoria) lineage.

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

In countries in the tropical zone, overall influenza activity was low, but with increased detection of influenza A (predominating subtype varied by country) and influenza B/Victoria lineage viruses in various countries. Multiple countries (Ghana, Niger, Togo, Lao PDR) reported co-circulation of influenza A(H3N2) and B in this period. The predominating influenza A subtype was A(H3N2) in most countries, but with some exceptions (Iran, Ethiopia, Cote d'ivoire) where influenza A(H1N1)pdm09 predominated. Severe acute respiratory infection (SARI) cases in the Democratic Republic of Congo increased.

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

Communicable Diseases & Immunization Service
655 W. 12th Ave. Vancouver BC V5Z 4R4
Phone: (604) 707-2510; Fax: (604) 707-2516

Reset Form

Submit By Email

Version: 30 Jul 2018

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 — Reporting Information

Person Reporting: Title:
Contact Phone: Email:
Health Authority: HSDA:
Full Facility Name:

Is this report: ☐ First Notification *(complete section **B** below; section **D** if available)*
☐ Outbreak Over *(complete section **C** and section **D** below)*

Report Date (dd/mm/yyyy):

B — First Notification

Type of facility*: ☐ Long Term Care Facilities, Nursing Homes ☐ Acute Care Facility
☐ Other Setting:

If ward or wing, please specify name/number:

Date of onset of first case of ILI (dd/mm/yyyy):
Date outbreak declared (dd/mm/yyyy):

***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).

C — Outbreak Declared Over

Date of onset for last case of ILI (dd/mm/yyyy):
Date outbreak declared over (dd/mm/yyyy):

Numbers to date	Residents
Total	
With ILI	
Hospitalized*	
Died*	

*suspected to be linked to case of ILI

D — Laboratory Information

Specimen(s) submitted? ☐ Yes (location:) ☐ No ☐ Don't know
If yes, organism identified? ☐ Yes ☐ No ☐ Don't know

Please specify organism/subtype: ☐ Influenza A (subtype:) ☐ Influenza B
☐ Parainfluenza ☐ Entero/rhinovirus ☐ Coronavirus ☐ RSV
☐ HMPV ☐ Adenovirus ☐ Other: