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

British Columbia (BC) Influenza Surveillance Bulletin

Influenza Season 2019-20, Number 3, Week 2
January 5 to January 11, 2020

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Influenza detection remains elevated in BC: Mix of influenza A and B viruses

During week 2, influenza test positivity remained elevated in BC with continued co-circulation of both influenza A and B viruses.

Recent decline in clinical indicators otherwise (e.g. sentinel practitioner reports, BC Children's Hospital emergency room visits, Medical Service Plan claims) may reflect differences in health care seeking behaviours during the holiday period and should be interpreted cautiously.

In week 2, 21% of specimens in BC tested positive for influenza virus of which 60% were influenza A and 40% were influenza B. Of successfully subtyped influenza A viruses in week 2, slightly more than half were A(H3N2). Since week 40, median age of A(H1N1)pdm09, A(H3N2) and influenza B cases is 46 years, 65 years and 17 years, respectively. Children have been disproportionately affected by influenza B.

Since week 40, 23 laboratory-confirmed influenza outbreaks have been reported from long term care facilities, slightly exceeding the tally for the same period of 2018-19 (n=14) but substantially lower than 2017-18 (n=79) and 2016-17 (n=120).

An updated situation report and recommendations related to the atypical pneumonia outbreak in Wuhan, China (now confirmed to be due to a novel coronavirus), is provided on page 10.

Prepared by BCCDC Influenza & Emerging Respiratory Pathogens Team

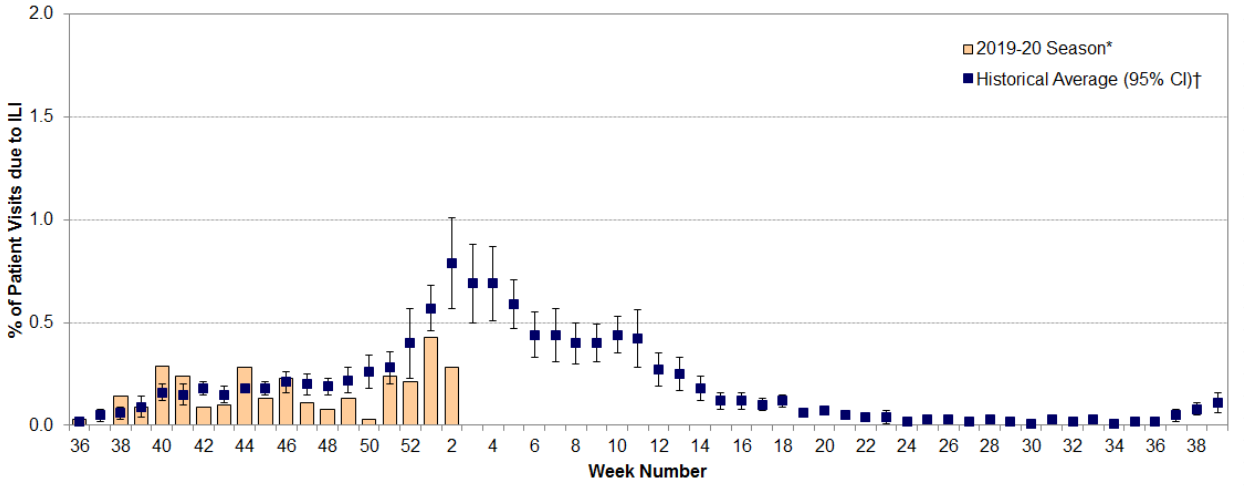
Report Disseminated: January 16, 2020

British Columbia

Sentinel Physicians

In week 2, influenza-like illness (ILI) rates among patients presenting to sentinel sites remained within or below 10-year historical average rates (**Figure 1**). Recent decline may reflect differences in health care seeking behaviours compared to the holiday period and should be interpreted cautiously. Ten (53%) of sentinel sites have reported data for week 2 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

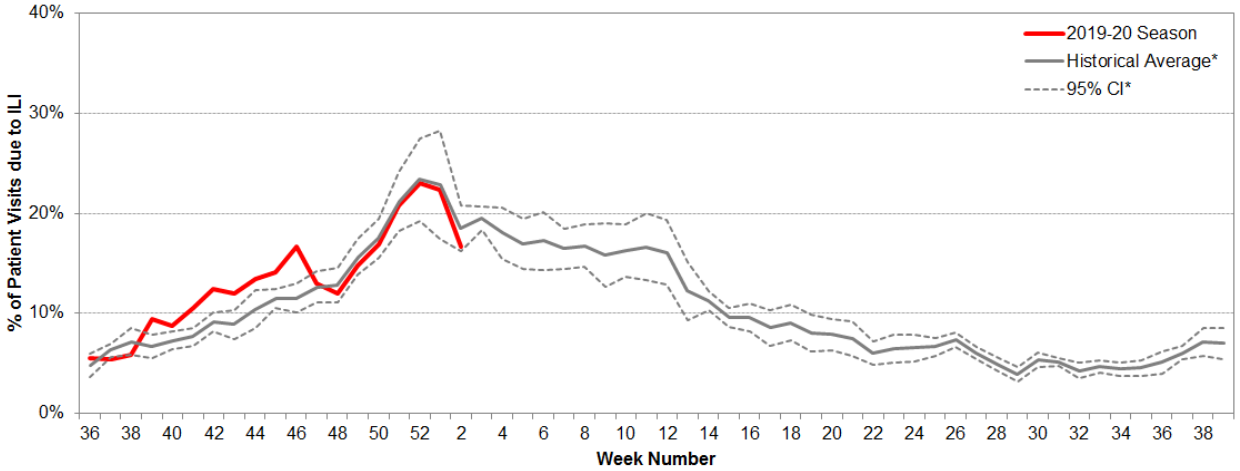


* Data are subject to change as reporting becomes more complete.
† 10-year historical average for 2019-20 season based on 2006-07 to 2018-2019 seasons, excluding 2008-09 and 2009-10 due to atypical seasonality; CI=confidence interval.

BC Children's Hospital Emergency Room

In week 2, the proportion of visits to BC Children's Hospital Emergency Room (ER) attributed to influenza-like illness (ILI) also remained within or below the 5-year historical average levels for this time of the year (**Figure 2**). Recent signal of decline may reflect differences in health care seeking behaviours compared to the holiday period and should be interpreted cautiously.

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[§] 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**). Recent decline may reflect differences in health care seeking behaviours compared to the holiday period and should be interpreted cautiously.

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

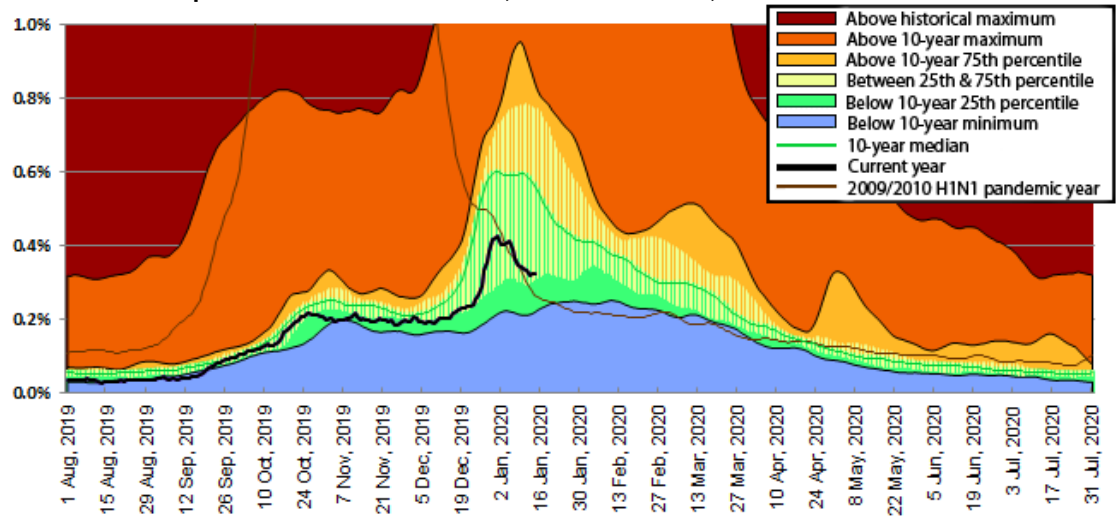
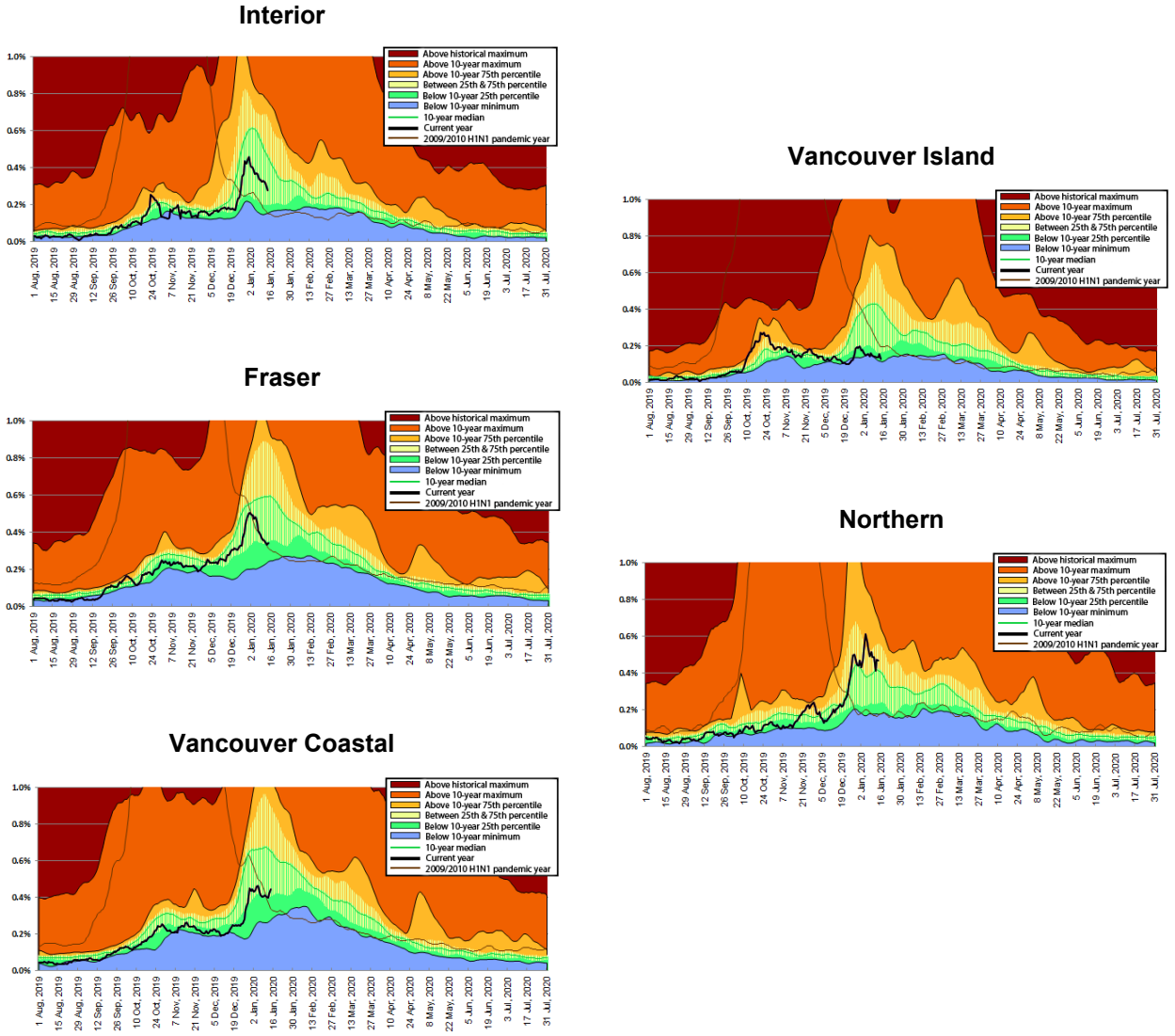


Figure 4



§ 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 14, 2020.

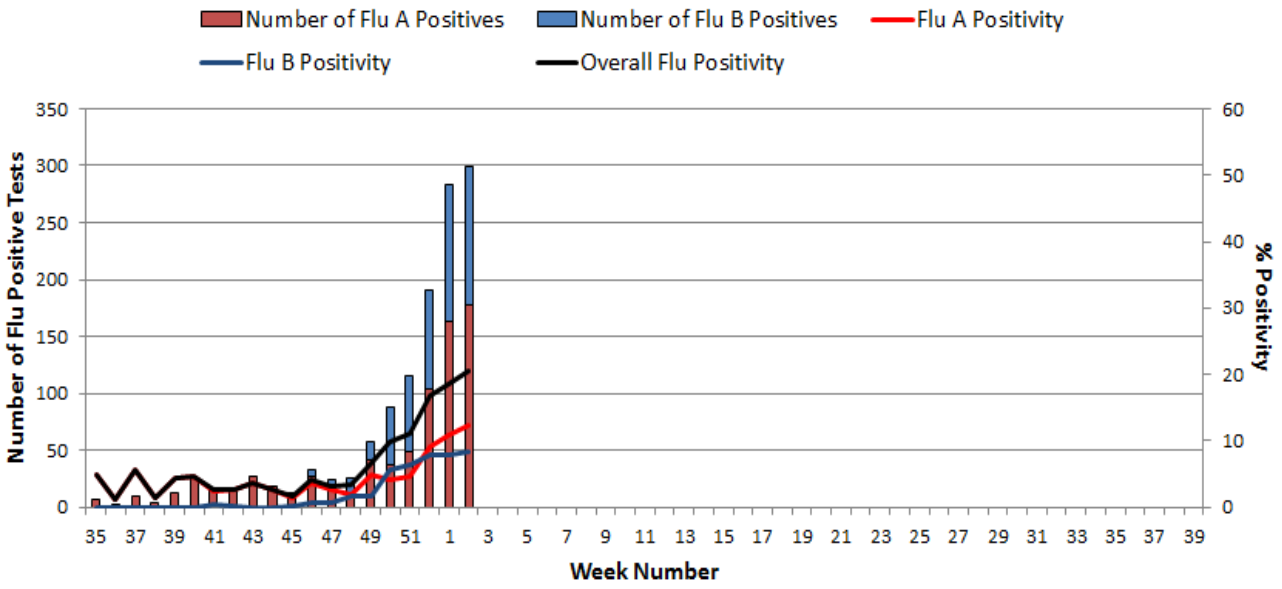
British Columbia Laboratory Reports

Influenza virus test-positivity

For the current reporting week 2 of 2020, 299/1458 (21%) of specimens tested at laboratories across BC[1] were positive for influenza virus, including 178/1458 (12.2%) positive for influenza A and 121/1458 (8.3%) positive for influenza B. Accordingly, influenza A viruses comprised 60% (i.e. 178/299) and influenza B viruses comprised 40% (i.e. 121/299) of influenza virus detections in week 2. In week 2 compared to week 1 of 2020, influenza positivity increased slightly for influenza A (12.2% vs. 10.7%) but remained relatively stable for influenza B (8.3% vs. 7.9%) (**Figure 5**).

Cumulatively since week 40 (starting September 29, 2019), of the 14,083 specimens tested for influenza at laboratories across BC, 776 (5.5%) tested positive for influenza A and 487 (3.5%) tested positive for influenza B. Throughout the season, influenza A virus detections have slightly predominated (61%; 776/1263); however, such early co-circulation and contribution by influenza B viruses (39%; 487/1263) is somewhat unusual.

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



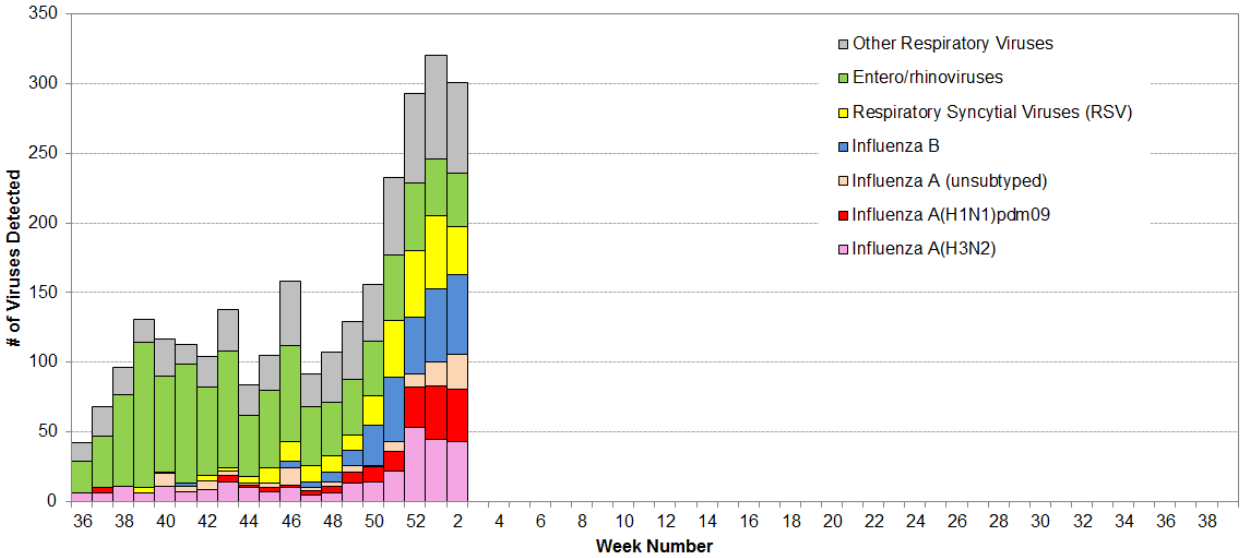
[1] The percentage influenza positivity is presented by influenza type based on primary specimens submitted for influenza testing at the BCCDC Public Health Laboratory (PHL) and other external sites that share complete testing data with the BCCDC PHL. From week 40, reporting sites include: BC Children's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

In week 2, among influenza viruses that underwent further type/subtype characterization*, 23% (38/162) were A(H1N1)pdm09, 27% (43/162) were A(H3N2) and 15% (24/162) remained subtype pending; 35% (57/162) were influenza B. Accordingly, of successfully subtyped influenza A viruses in week 2, slightly more than half (43/81; 53%) were A(H3N2). Since week 40 overall, among typed/subtyped* viruses, 20% (158/776) were A(H1N1)pdm09, 35% (268/776) were A(H3N2), and 13% (98/776) remain subtype pending; 253/776 (33%) were influenza B (**Figure 6**). Among successfully subtyped influenza A viruses across the season, 63% (268/426) have thus been A(H3N2).

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 2, entero/rhinoviruses viruses (n=39) were the most commonly detected virus, followed by RSV (n=34) (**Figure 6**).

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



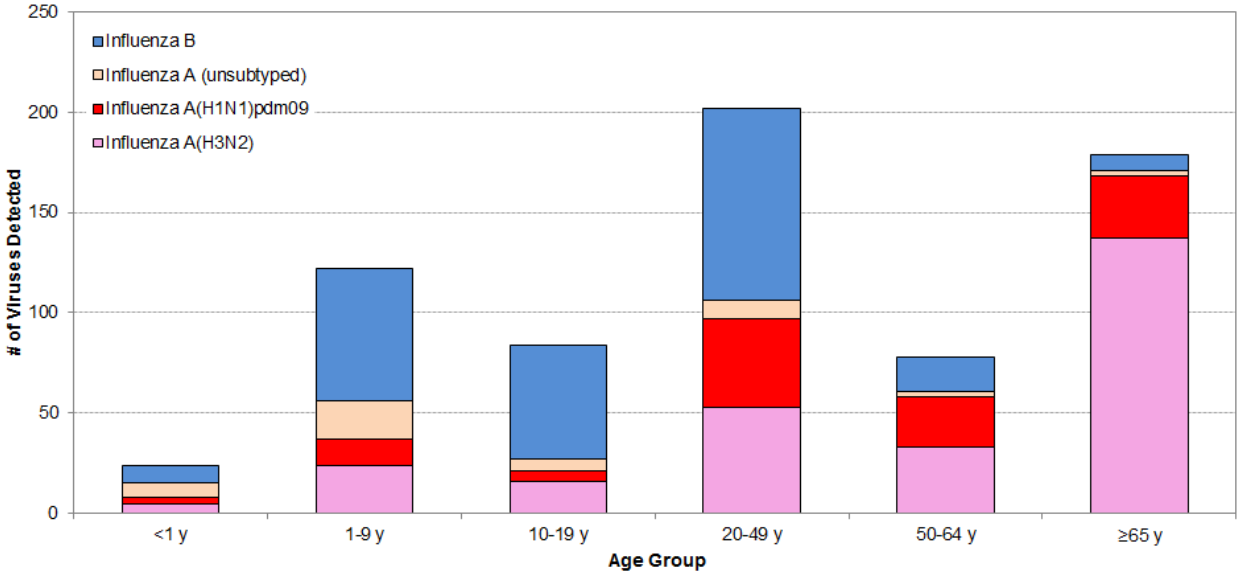
Source: BCCDC Public Health Laboratory (PHDRW); Data are current to January 16, 2020.

* 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, 56/121 (46%) A(H1N1)pdm09 and 170/268 (63%) A(H3N2) detections have been adults over the age of 50 years, including 137/268 (51%) of A(H3N2) detections that were over the age of 65 years. In contrast, only 25/253 (10%) influenza B detections have been adults over the age of 50 years. Nearly half of all influenza B cases were children under 20 years of age (52%; 132/253) whereas they comprised less than 20% of A(H1N1)pdm09 (21/121; 17%) or A(H3N2) (45/268; 17%) cases and make up <20% of the BC population overall (source: PEOPLE 2019 Population Projections)(**Figures 7 and 8**).

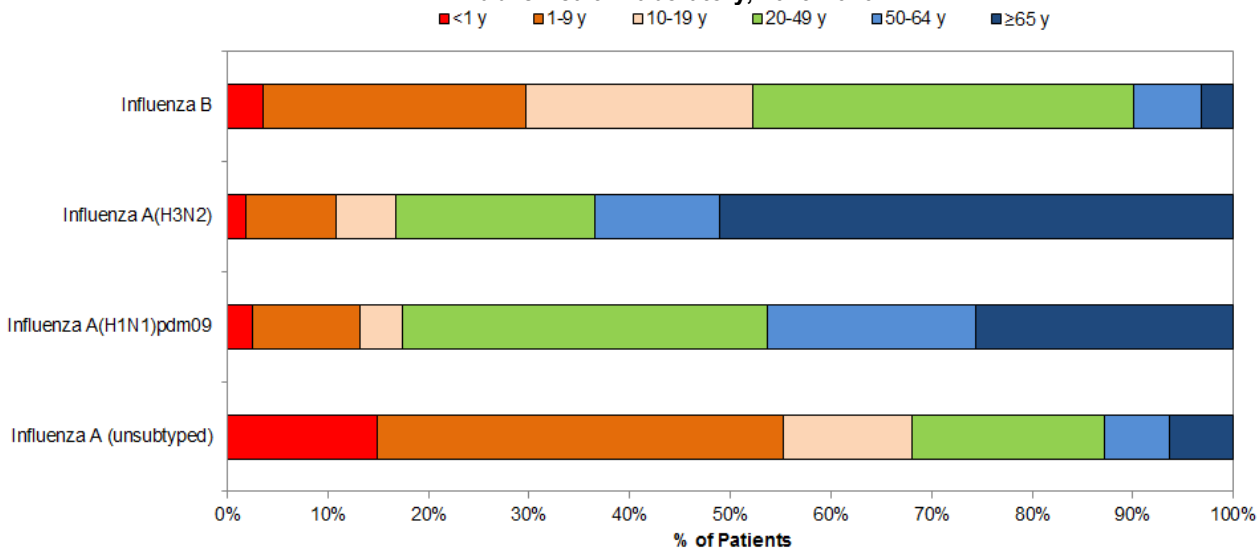
Since week 40, median age of A(H1N1)pdm09, A(H3N2) and influenza B cases is 46 years, 65 years and 17 years, respectively. Overall, children have been disproportionately affected by influenza B.

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 16, 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*

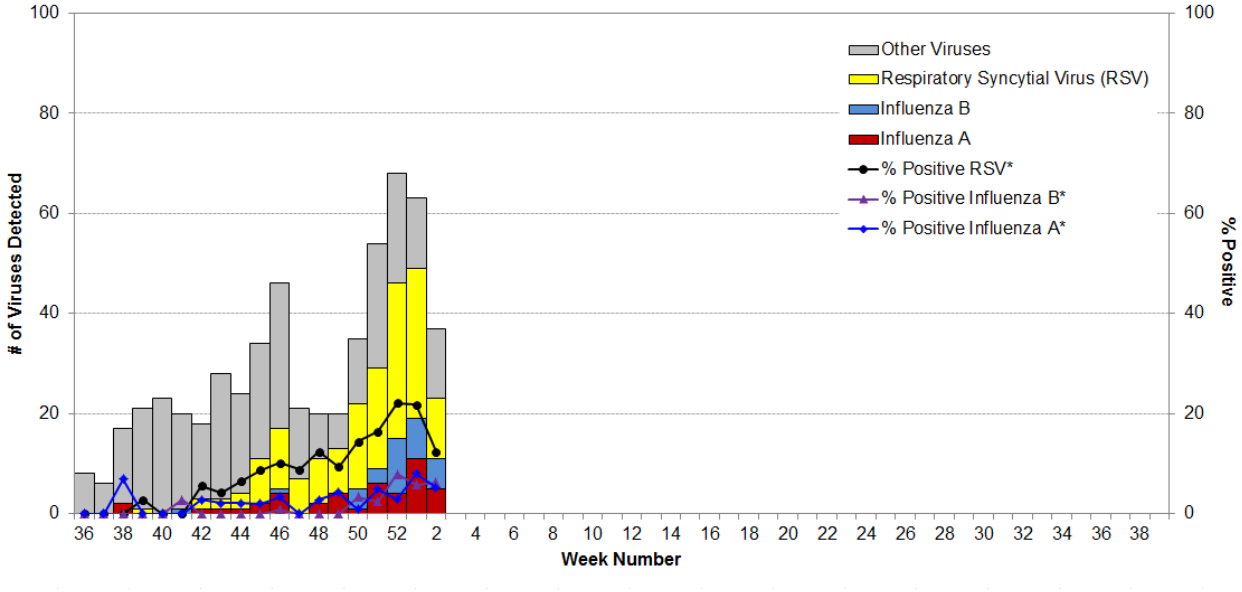


Source: BCCDC Public Health Laboratory (PHDRW); Data are current to January 16, 2020; figure includes cumulative influenza detections for specimens collected from weeks 40-1.
*Influenza A(H1N1)pdm09 and influenza A(subtype unknown) weekly case counts as directly typed/subtyped on primary specimens by 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 2 of 2020, among 97 specimens tested at the BC Children's and Women's Health Centre laboratory, 5 (5%) were positive for influenza A (not subtyped), 6 (6%) were positive for influenza B, and 12 (12%) 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 2, 4 laboratory-confirmed influenza outbreaks (1 influenza A(H3N2), 1 influenza A(H1N1)pdm09, and 2 influenza A(subtype pending)) were reported from long-term care facilities (LTCF).

Since week 40, a total of 23 laboratory-confirmed LTCF influenza outbreaks have been reported (13 with influenza A(H3N2), 2 with influenza A(H1N1)pdm09, 2 with influenza B, 5 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 from week 40 to date (n=23) is higher than the tally reported to the BCCDC for the same period during the 2018-19 season (n=14) but substantially lower than across the same period during the predominant A(H3N2) epidemics in 2017-18 (n=79) and 2016-17 (n=120).

Additionally in 2019-2020 there have been 6 laboratory-confirmed acute care facility outbreaks reported to the BCCDC (1 with influenza A(H3N2), 4 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 2019-20

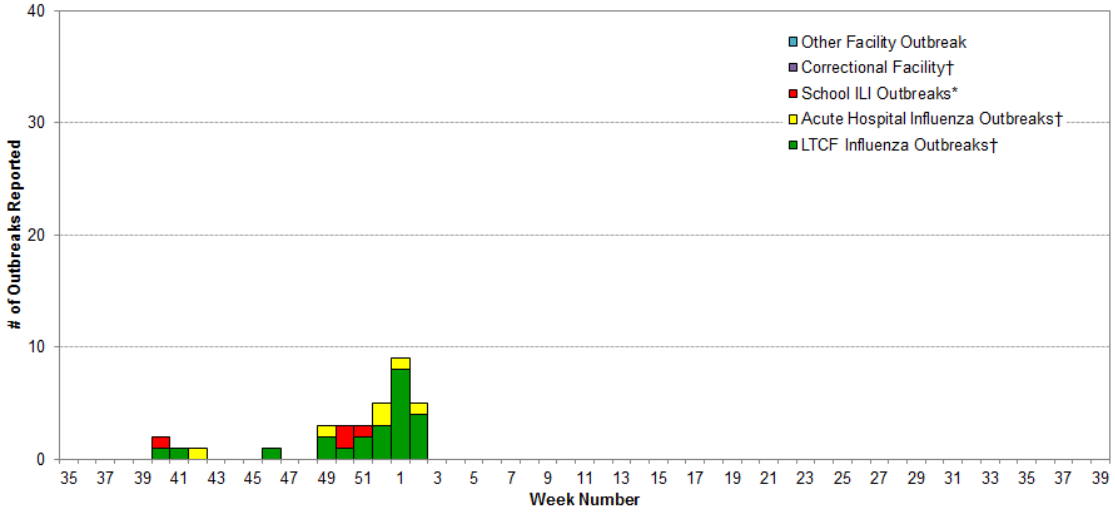
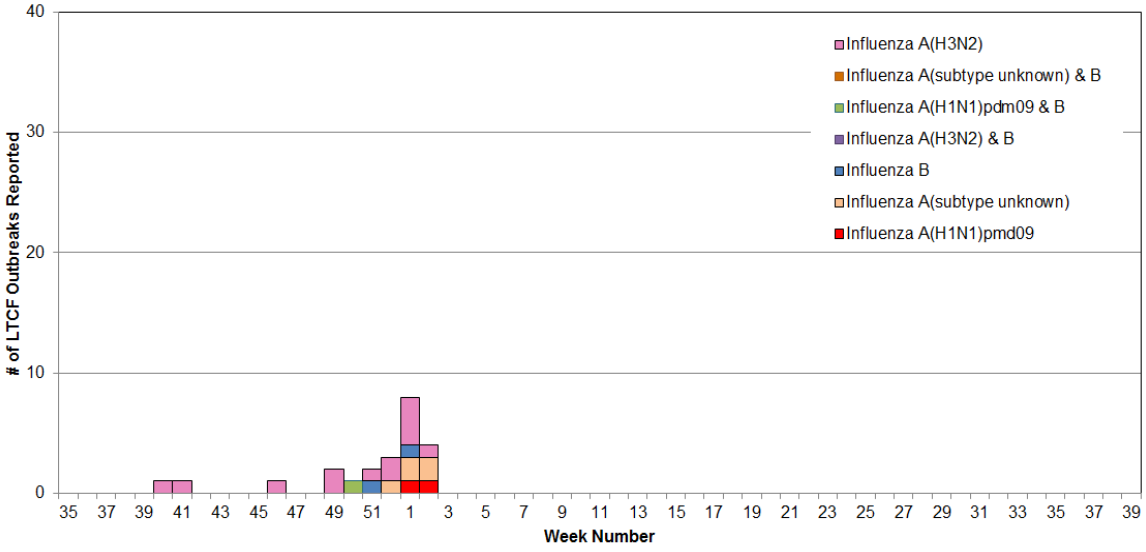


Figure 11: Number of influenza outbreaks by type/subtype in long-term care facilities (LTCF), British Columbia 2019-20†



* 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.

Emerging Respiratory Viruses

2019 Novel Coronavirus, "2019-nCoV"

Situation update:

Since the last influenza bulletin on January 9, 2020, the reported cluster of atypical pneumonia in Wuhan, central China, has been confirmed to be due to a novel coronavirus, now called "2019 novel coronavirus" ("2019-nCoV") [1]. The 2019-nCoV is a new coronavirus belonging to the same coronavirus family as SARS-CoV but its particular clinical and epidemiological features require specific investigation [2].

As of January 16, 2020, a total of 43 cases of 2019-nCoV infection have been identified in China (n=41), Thailand (n=1), and Japan (n=1) [1, 3-5]. Among the 41 confirmed cases from China, symptom onset dates range December 8, 2019 to January 2, 2020. About 15-20% were in critical condition, and two, both men in their sixties, have died.

The imported case to Thailand is a woman in her sixties, a resident of Wuhan with symptom onset on January 5th who flew to Thailand on January 8th with her family as a part of a tour group. She was identified during thermal surveillance by airport health officers and was transferred to hospital the same day [4]. The imported case to Japan is a man in his thirties with onset of febrile respiratory illness on January 3rd; he returned to Japan from Wuhan on January 6th and visited a medical institution in Japan that day [3].

Neither of the two imported cases reported visiting the Huanan Wholesale Seafood Market, the large market that sells seafood and other live animals otherwise reported to have been associated with most of the cases in Wuhan [5]. The confirmed case in Thailand did give a history of other regular fresh market visits while in Wuhan; the case in Japan reportedly had "potential close contact with unspecified pneumonia patients in China".

Hundreds of close contacts of cases have been placed under surveillance. Currently there is no evidence for easy or sustained human-to-human transmission, but limited human-to-human transmission cannot be ruled out.

Recommendations:

Further technical guidance (e.g. infection control and public health measures) are being developed nationally and will be shared once available.

Although the risk to Canadians is considered low, to facilitate early detection and containment clinicians in British Columbia are asked to remain alert for possible importation by identifying patients with fever and acute respiratory illness (with/without pneumonia) who have a history of travel to Wuhan City, China within 14 days of symptom onset or another potentially relevant exposure (e.g. close contact with someone ill who recently travelled to Wuhan). Clinicians should notify their Medical Health Officer as soon as possible about such patients.

The BCCDC PHL has developed laboratory guidance for 2019-nCoV diagnostic testing [6]. Such testing requires advance consultation with the local Medical Health Officer and the BCCDC Public Health Laboratory Medical Microbiologist on-call (604-661-7033). Contact and droplet precautions (including eye protection) should be applied to patients under investigation and additionally, N95 masks with eye protection should be donned during aerosol-generating procedures, including specimen collection.

Stay alert for further updates and in the meantime, consult your local Medical Health Officer, Infection Control Practitioner and/or Medical Microbiologist for further guidance or with any questions or concerns.

Sources:

1. World Health Organization. Novel Coronavirus – China [Internet]. January 12, 2020 [cited January 16, 2020]. Available from: https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/.
2. Center for Infectious Disease Research and Policy (CIDRAP). China releases genetic data on new coronavirus, now deadly [Internet]. January 11, 2019 [cited January 16, 2020]. Available from: http://www.cidrap.umn.edu/news-perspective/2020/01/china-releases-genetic-data-new-coronavirus-now-deadly.
3. STAT News. Novel virus tied to Chinese outbreak found in Japan, as second death is reported [Internet]. January 16, 2020 [cited January 16, 2020]. Available from: https://www.statnews.com/2020/01/16/health-authorities-confirm-novel-virus-case-tied-to-chinese-outbreak-in-japan/.
4. World Health Organization. Novel Coronavirus – Thailand (ex-China) [Internet]. January 14, 2020 [cited January 16, 2020]. Available from: https://www.who.int/csr/don/14-january-2020-novel-coronavirus-thailand-ex-china/en/.
5. ProMED International Society for Infectious Diseases. NOVEL CORONAVIRUS (05): CHINA (HU), JAPAN ex CHINA [Internet]. January 15, 2020 [cited January 16, 2020]. Available from: https://promedmail.org/promed-post/?id=6891515.
6. PHSA Laboratories. Laboratory guidance for the diagnosis of patients suspected of being infected with the novel coronavirus which originated in Wuhan, China (2019-nCoV). January 14, 2020. Available: http://www.bccdc.ca/resource-gallery/Documents/Statistics%20and%20Research/Statistics%20and%20Reports/Epid/Influenza%20and%20Respiratory/ERV/2019_Novel_Coronavirus_Testing_Guidelines_BCCDC_PHL_Jan_14_2020_v3.pdf.

National

FluWatch (weeks 51 to 1, December 15 to January 4, 2020)

Influenza activity continued to increase during the holiday period across Canada. Among the regions that reported influenza activity in week 1, most reported sporadic (56%) and the rest reported localized (41%) or widespread (2%) levels. Influenza A(H3N2), A(H1N1), and B continue to co-circulate. Although influenza A remains the predominant circulating type, influenza B continues to circulate at higher levels than usual. In addition, while A(H3N2) remains the predominant subtype for the season to date, the proportion of A(H1N1) appears to be increasing. Since week 35, a total of 12,547 laboratory detections of influenza were reported, of which 57% (7,184) were influenza A. Among subtyped influenza A detections from sentinel laboratories, a mix of A(H1N1) and A(H3N2) continued to be detected over the 3 week period. The proportion of A(H1N1) increased from 53% in week 51 to 66% in week 01. Influenza A(H3N2), A(H1N1) and B continue to co-circulate. Although influenza A remains the predominant circulating type, influenza B continues to circulate at higher levels than usual. In addition, while A(H3N2) remains the predominant subtype for the season to date, the proportion of A(H1N1) appears to be increasing.

FluWatch report (week 51 to 1) 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 January 16, 2020, the National Microbiology Laboratory (NML) has characterized 384 influenza viruses [139 A(H3N2), 140 A(H1N1) and 105 influenza B] that were received from Canadian laboratories.

Influenza A(H3N2): Four 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. 31 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 2019-2020 Northern Hemisphere influenza vaccine. 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: Ninety-nine A(H1N1) viruses characterized were antigenically similar to A/Brisbane/02/2018. 41 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 2019-2020 northern hemisphere influenza vaccine

Influenza B: Thirteen viruses characterized were antigenically similar to B/Colorado/06/2017, whereas 90 viruses showed reduced titer with ferret antisera raised against cell culture-propagated B/Colorado/06/2017. Sequence analysis showed that 87 of the reduced 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 16, 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 228 influenza viruses [104 H3N2, 52 H1N1 and 72 B] tested against oseltamivir, all were sensitive.

Zanamivir: Of the 228 influenza viruses [104 H3N2, 52 H1N1 and 72 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 1, December 29 to January 4, 2020)

During week 1, key indicators (influenza positivity, ILI activity, ILI outpatient surveillance, etc) that track influenza activity remain high. The most frequently reported influenza nationally is influenza B/Victoria, followed by A(H1N1)pdm09. Since week 40, a total of 28,292 specimens were tested for influenza by public health laboratories nationwide. Out of the 12,530 (44.3%) positive specimens, 5,267 (42%) influenza A and 7,263 (58%) influenza B viruses were detected. From the 5,267 positive influenza A specimens, 4,127 (82%) were A(H1N1)pdm09, 927 (18%) were A(H3N2), and 213 were unsubtyped. From the 7,263 positive influenza B specimens, 116 (2.2%) belonged to the Yamagata lineage, 5,204 (97.8%) to the Victoria lineage, and 1,943 were not characterized as to lineage. Since September 29, 2019, the US CDC genetically characterized 231 influenza A(H3N2) viruses and 98.7% of this sample belonged to the 3C.2a1 subclade.

The proportion of deaths attributed to pneumonia and influenza (P&I) during week 52 (5.8%) was below the epidemic threshold (6.9%) for this time of the year. Since the beginning of the 2019-2020 season, 32 influenza-associated pediatric deaths were reported to the CDC. Out of the 32 deaths, 11 and 21 were associated with influenza A and B respectively. The proportion of outpatient visits for ILI in week 1 was 5.8%, 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 (January 6, 2020, based on data up to December 22, 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 A and B were detected in some regions in North America, Central Asia, and Western Asia. In Europe, influenza A predominated in most countries (United Kingdom, Ireland, Finland, Iceland) with majority of detections being influenza A(H3N2). Worldwide, seasonal influenza A(H3N2) viruses accounted for the majority of detections. However, some countries in Western Asia (Iraq, Israel, Jordan, Turkey, Yeman) continued to report influenza A(H1N1)pdm09 as the predominate subtype.

From December 9, 2019 to December 22, 2019, the WHO GISRS laboratories tested more than 96,024 specimens. Of these, 20,706 were positive for influenza viruses including 14,225 (68.7%) typed as influenza A and 6,481 (31.3%) as influenza B. Of the subtyped influenza A viruses, 3,210 (28.9%) were influenza A(H1N1)pdm09 and 7,890 (71.1%) were influenza A(H3N2). Of the characterized B viruses, 45 (1.5%) belonged to the B(Yamagata) lineage and 2,962 (98.5%) 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, majority of the regions reported low influenza activity. However, some countries have reported increased influenza activity in recent weeks (Ecuador, Colombia, Demorcratic Republic of Congo, United Republic of Tanzania, Islamic Republic of Iran, Malaysia) with influenza A(H1N1)pdm09 most frequently detected. Severe acute respiratory infection (SARI) cases in the Democratic Republic of Congo continued to increase.

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: