

October 6 to 12, 2019 (Week 41)

Overall Summary

- Influenza activity remains at interseasonal levels at the national level.
- The number of regions in Canada reporting influenza activity increased in week 41.
- Influenza A(H3N2) is the most common influenza virus circulating in Canada.
- Weekly reporting of laboratory detections of respiratory viruses continues via our [Respiratory Virus Detections Surveillance System](#).

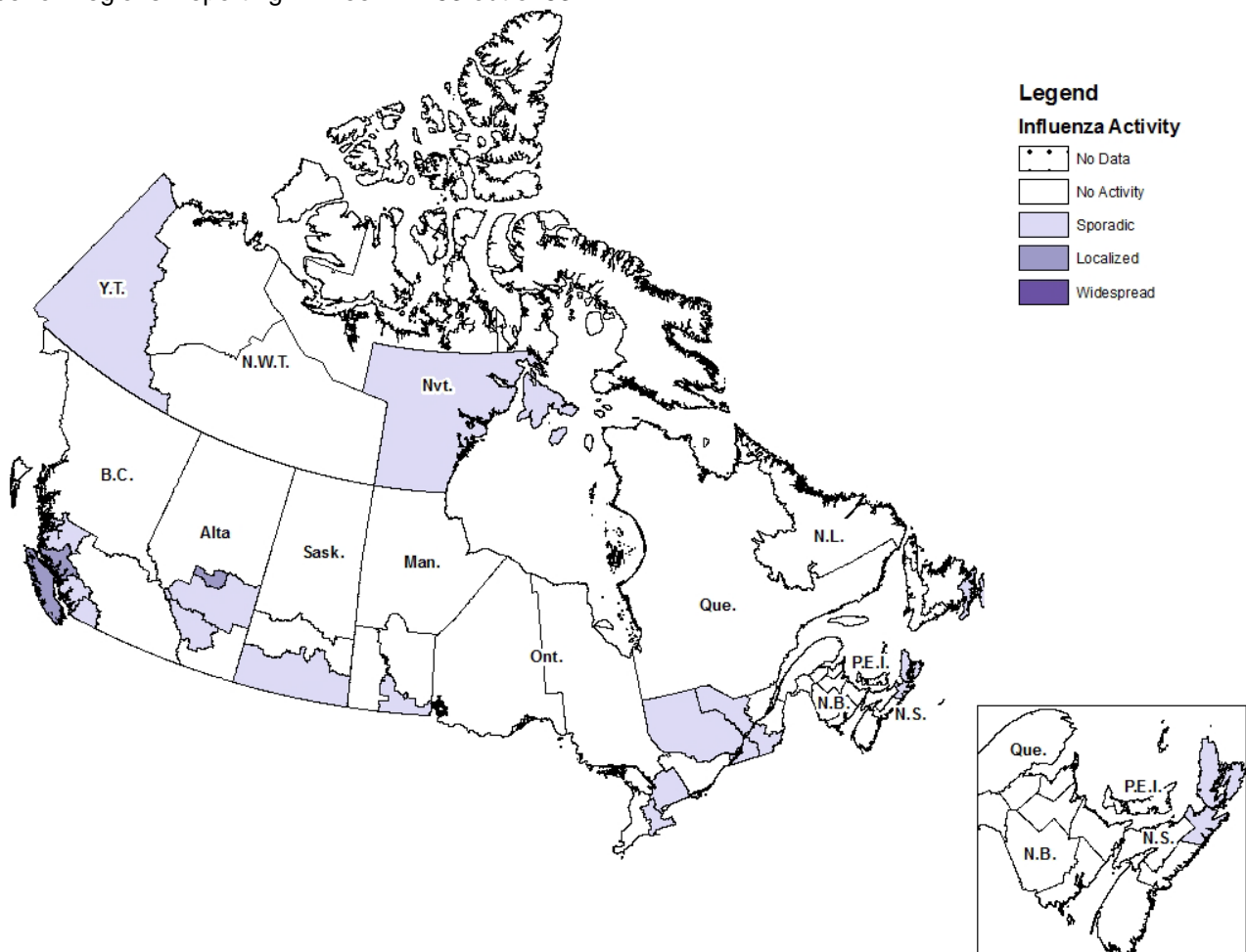
Influenza/Influenza-like Illness (ILI) Activity (geographic spread)

During week 41, the number of regions reporting influenza activity increased. The following influenza activity levels were reported (Figure 1):

- 2 regions (4%) reported localized activity, within BC and AB.
- 17 regions (32%) reported sporadic activity, within 10 provinces and territories.

Figure 1 – Map of influenza/ILI activity by province and territory, Canada, week 2019-41

Number of Regions Reporting in Week 41: 53 out of 53



Laboratory-Confirmed Influenza Detections

In week 41, the following results were reported from sentinel laboratories across Canada (Figures 2 and 3):

- A total of 71 laboratory detections of influenza were reported, of which 96% (68) were influenza A.
- The percentage of tests positive for influenza remains at interseasonal levels, at 1.7%.
- All subtyped influenza A detections were influenza A(H3N2).

To date this season (weeks 35 to 41), detailed information on age and type/subtype has been received for 181 laboratory-confirmed influenza cases: 161 (89%) influenza A and 20 (11%) influenza B. Among the 86 subtyped influenza A detections, 92% of cases were A(H3N2). The majority of cases reported to date were in adults; 37% of cases were 20-64 years of age, and 46% were over 65 years of age.

For more detailed weekly and cumulative influenza data, see the text descriptions for [Figures 2 and 3](#) or the [Respiratory Virus Detections in Canada Report](#).

Figure 2 – Number of positive influenza tests and percentage of tests positive, by type, subtype and report week, Canada, weeks 2019-35 to 2019-41

Number of Laboratories Reporting in Week 41: 32 out of 34

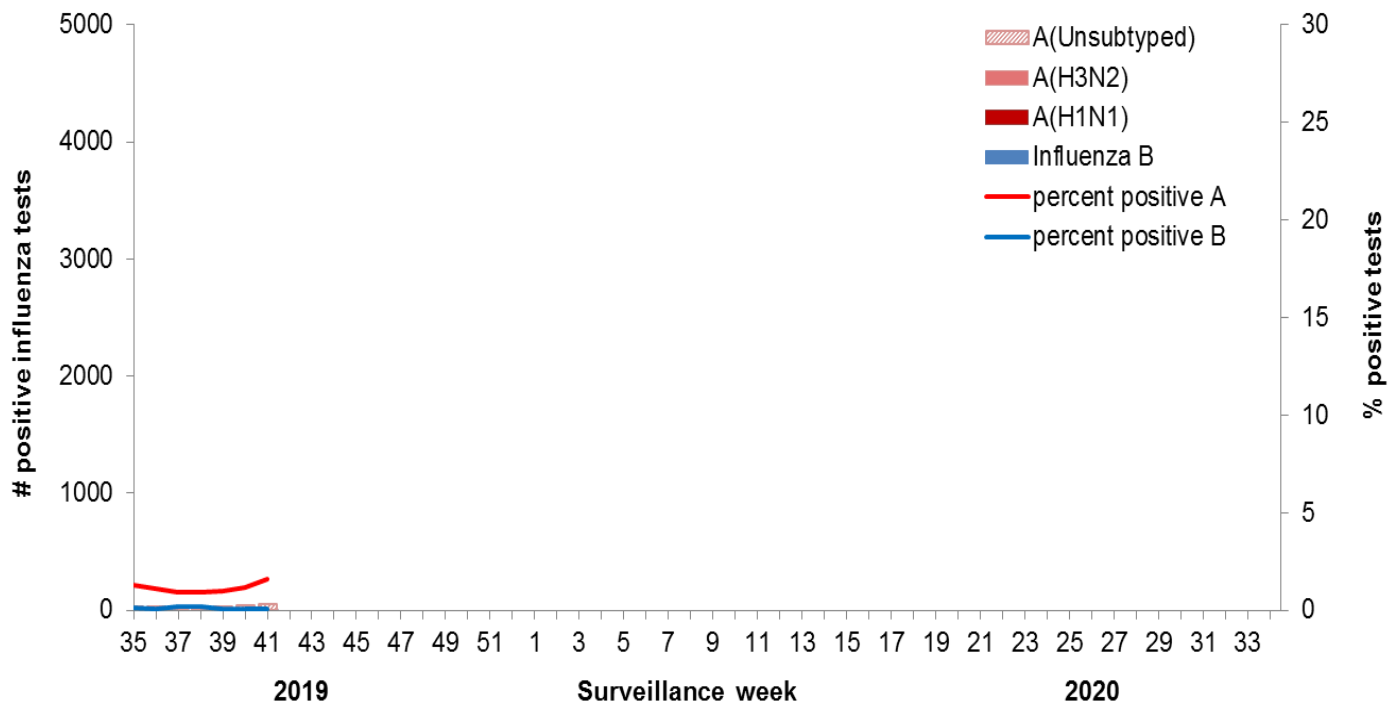
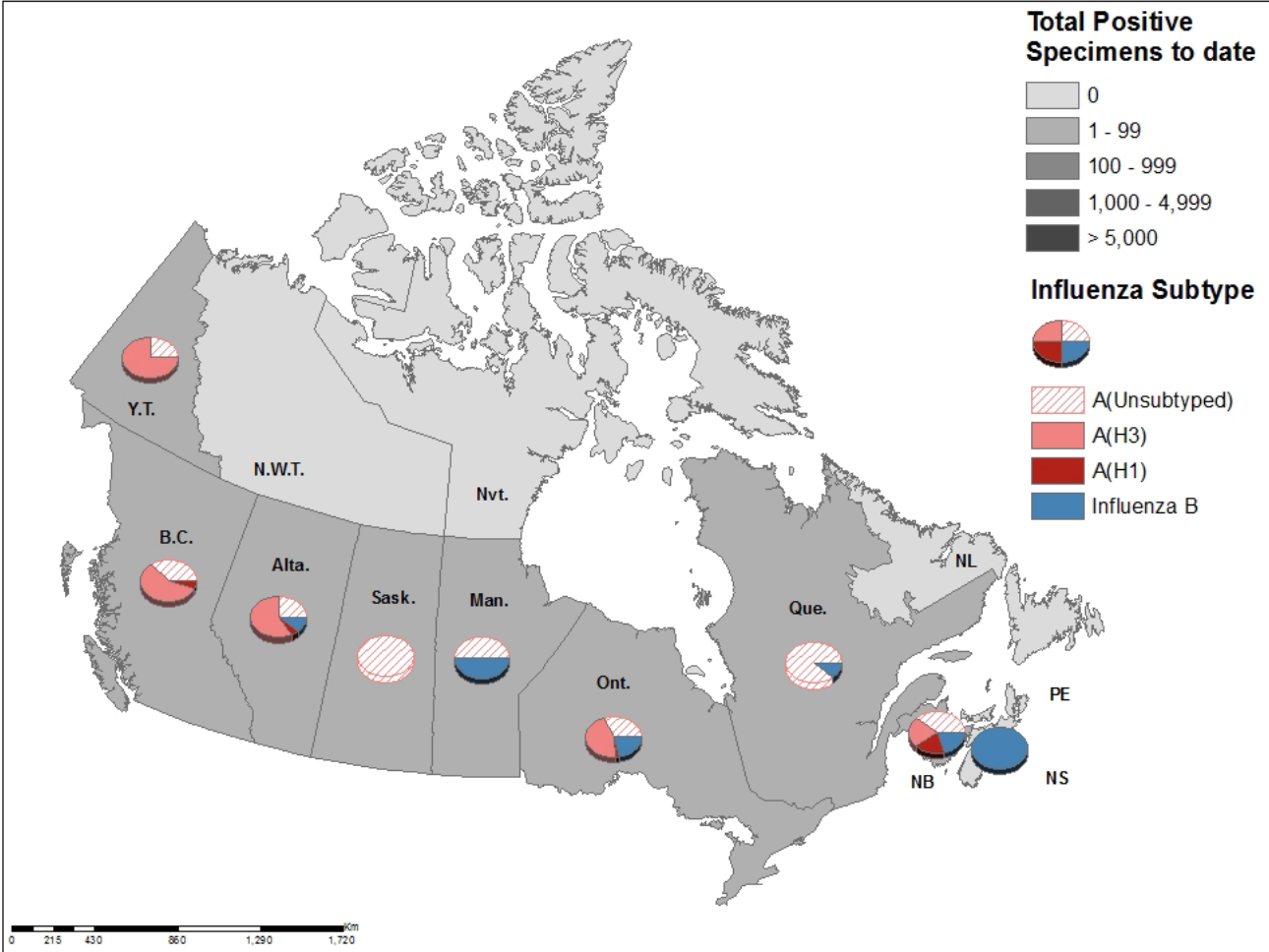


Figure 3 – Distribution of positive influenza specimens by type/subtype and province/territory*, Canada, weeks 2019-35 to 2019-41



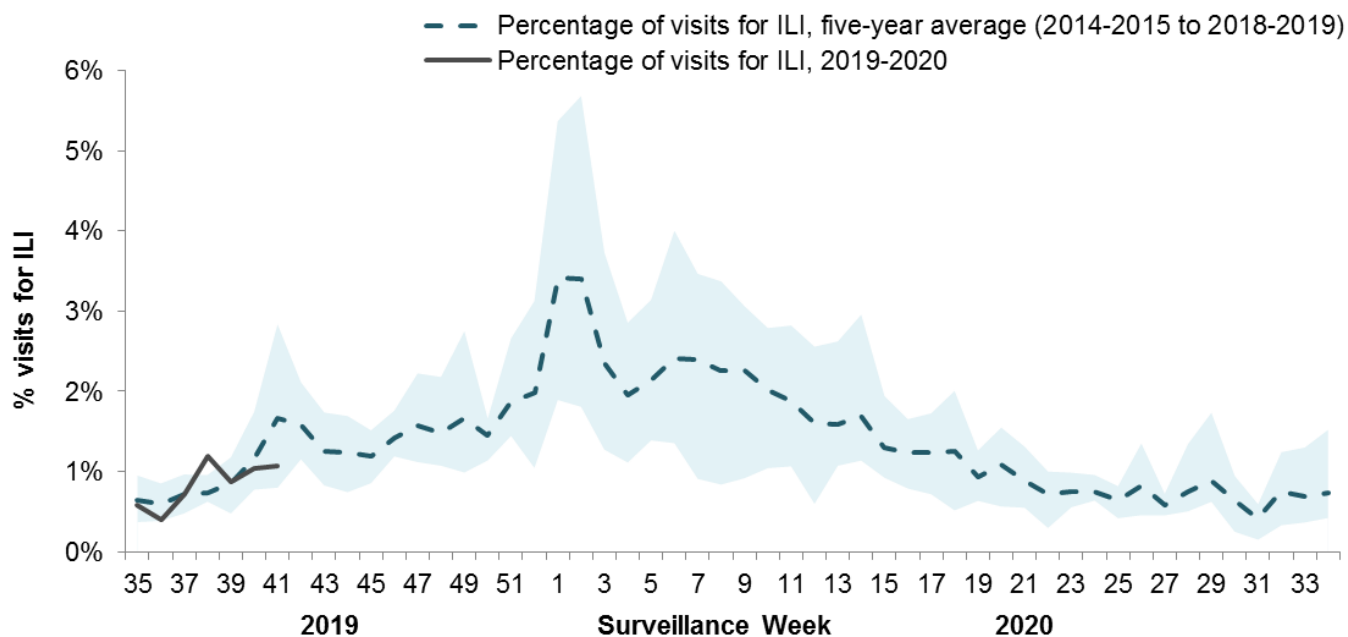
Syndromic / Influenza-like Illness Surveillance

Healthcare Practitioners Sentinel Syndromic Surveillance

In week 41, 1.1%, of visits to healthcare professionals were due to influenza-like illness (ILI) which is slightly below the average for this time of year (Figure 4).

Figure 4 – Percentage of visits for ILI reported by sentinels by report week, Canada, weeks 2019-35 to 2019-41

Number of Sentinels Reporting in Week 41: 82



The shaded area represents the maximum and minimum percentage of visits for ILI reported by week from seasons 2014-2015 to 2018-2019

FluWatchers

FluWatchers reporting for the 2019-20 season began on October 7th, 2019.

In week 41, 2,762 participants reported to FluWatchers, of which 46 (1.7%) reported symptoms of cough and fever (Figure 5).

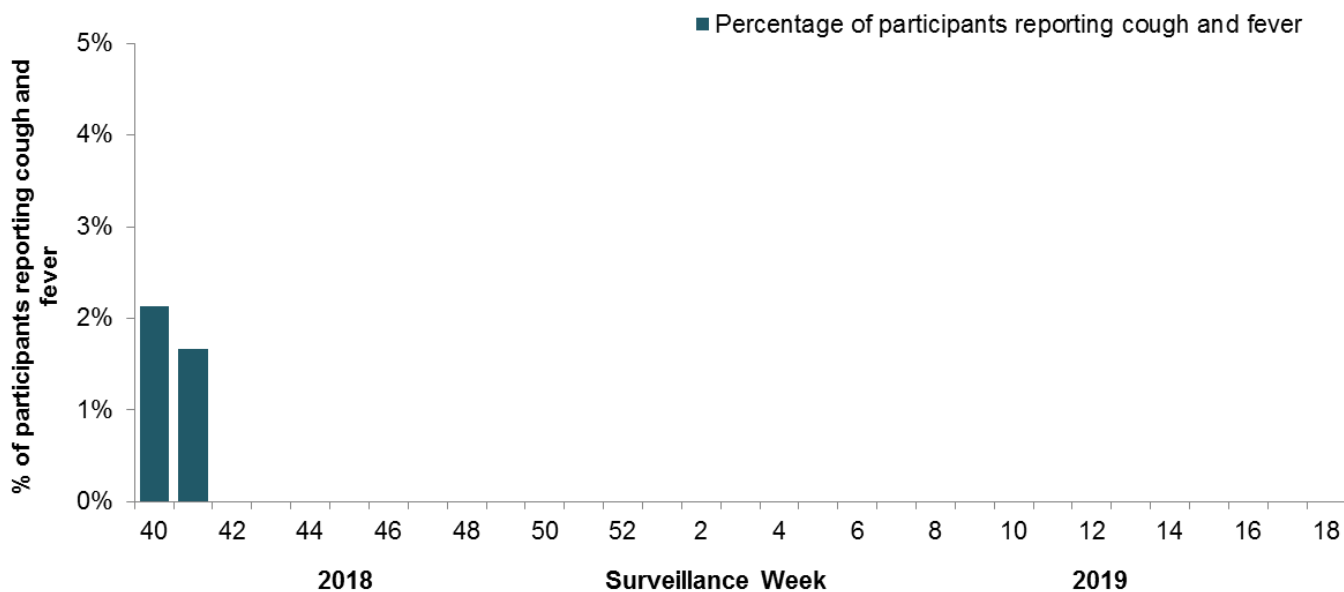
Among the 46 participants who reported cough and fever:

- 20% consulted a healthcare professional;
- 63% reported days missed from work or school, resulting in a combined total of 72 missed days of work or school.

If you are interested in becoming a [FluWatcher](#), [sign up today](#).

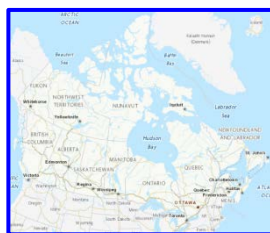
Figure 5 – Percentage of FluWatchers participants reporting cough and fever, Canada, weeks 2019-40 to 2019-41

Number of Participants Reporting in Week 41: 2,762



Online Figure – Geographic distribution of FluWatchers participants reporting cough and fever, Canada, week 2019-41

Click on the map to access the link



[Influenza Outbreak Surveillance](#)

In week 41, two laboratory-confirmed influenza A outbreaks were reported; one in a long-term care facility and one in another type of facility. No ILI outbreaks were reported.

To date this season, a total of 6 laboratory-confirmed influenza outbreaks have been reported; five in long-term care facilities and one in another type of facility. Two ILI outbreaks in schools and daycares have also been reported.

Number of provinces and territories reporting in week 41: 13 out of 13

Severe Outcomes Influenza Surveillance

Provincial/Territorial Influenza Hospitalizations and Deaths

In week 41, less than five influenza-associated hospitalizations were reported by participating provinces and territories¹.

To date this season, 17 influenza-associated hospitalizations were reported by participating provinces and territories¹.

- 76% of the cases were influenza A.
- Of the cases for which subtype was reported (11), 82% were associated with influenza A(H3N2).
- The majority of cases (64%) were ≥ 45 years of age.

Less than five ICU admissions and no deaths have been reported.

Number of provinces and territories reporting in week 41: 9 out of 9

¹Influenza-associated hospitalizations are reported by Alberta, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Prince Edward Island and Yukon. Only hospitalizations that require intensive medical care are reported by Saskatchewan.

Pediatric Influenza Hospitalizations and Deaths

In week 41, two pediatric (≤16 years of age) laboratory-confirmed influenza-associated hospitalizations were reported by the Immunization Monitoring Program Active (IMPACT) network.

To date this season, five pediatric hospitalizations have been reported by the IMPACT network; three cases associated with influenza A and two with influenza B.

Adult Influenza Hospitalizations and Deaths

Surveillance of laboratory-confirmed influenza-associated adult (≥16 years of age) hospitalizations by the Canadian Immunization Research Network (CIRN) Serious Outcomes Surveillance (SOS) network has not yet begun for the 2019-20 season.

Influenza Strain Characterizations

From September 1 to October 17, 2019, the National Microbiology Laboratory (NML) has characterized 8 influenza viruses (5 A(H3N2), 1 A(H1N1) and 2 influenza B) that were received from Canadian laboratories.

Influenza A(H3N2)

Over recent years, circulating strains of A(H3N2) have evolved, and are increasingly difficult to characterize by hemagglutination inhibition (HI) assay. Genetic characterization is established by sequencing the hemagglutinin (HA) gene of the influenza viruses to compare their genetic properties.

Antigenic Characterization:

- Four influenza A(H3N2) viruses were antigenically characterized as A/Kansas/14/2017-like by HI assay using antiserum raised against cell culture-propagated A Kansas/14/2017.

Genetic Characterization:

All five A(H3N2) viruses this season have been genetically characterized, based on sequence analysis of the HA gene.

- Among the four A(H3N2) viruses antigenically characterized as A/Kansas/14/2017-like by HI testing.
 - Three viruses belonged to genetic group 3C.2a1b.
 - Sequence data is pending for one virus.
- The one A(H3N2) virus which did not grow to sufficient hemagglutination titer for antigenic characterization by HI assay belonged to genetic subclade 3C.2a1b.

A/Kansas/14/2017 belongs to genetic group 3C.3a and is the influenza A(H3N2) component of the 2019-20 Northern Hemisphere influenza vaccine.

Influenza A(H1N1)

- One A(H1N1) virus characterized was antigenically similar to A/Brisbane/02/2018 by HI testing using antiserum raised against egg-propagated A/Brisbane/02/2018.

A/Brisbane/02/2018 is the influenza A(H1N1) component of the 2019-20 Northern Hemisphere influenza vaccine.

Influenza B

- Two influenza B viruses showed reduced titer by HI assay using antiserum raised against cell culture-propagated B/Colorado/06/2017.
- Sequence analysis showed that both of these viruses had a three amino acid deletion (162-164) in the HA gene.

The recommended influenza B components for the 2019-20 Northern Hemisphere influenza vaccine are B/Colorado/06/2017 (Victoria lineage) and B/Phuket/3073/2013 (Yamagata lineage). B/Phuket/3073/2013 is included in the quadrivalent influenza vaccine.

Antiviral Resistance

The National Microbiology Laboratory (NML) also tests influenza viruses received from Canadian laboratories for antiviral resistance.

Oseltamivir:

Fourteen influenza viruses (9 H3N2, 2 H1N1 and 3 B) were tested for resistance to oseltamivir:

- All influenza viruses tested were sensitive to oseltamivir.

Zanamivir:

Fourteen influenza viruses (9 H3N2, 2 H1N1 and 3 B) were tested for resistance to zanamivir:

- All influenza viruses tested were sensitive to zanamivir.

Amantadine:

High levels of resistance to amantadine persist among influenza A(H1N1) and influenza A(H3N2) viruses, therefore amantadine resistance results are not presented.

Vaccine Monitoring

Vaccine monitoring refers to activities related to the monitoring of influenza vaccine coverage and effectiveness.

Vaccine Coverage

Influenza vaccine coverage estimates for the 2019-20 season are anticipated to be available in February or March 2020.

Vaccine Effectiveness

Influenza vaccine effectiveness estimates for the 2019-20 season are anticipated to be available in February or March 2020.

Provincial and International Surveillance Links

- British Columbia – [Influenza Surveillance; Vaccine Effectiveness Monitoring](#)
- Alberta – [Influenza surveillance](#)
- Saskatchewan – [Influenza Reports](#)
- Manitoba – [Seasonal Influenza Reports](#)
- Ontario – [Ontario Respiratory Pathogen Bulletin](#)
- Québec – [Système de surveillance de la grippe](#) (available in French only)
- New Brunswick – [Influenza Surveillance Reports](#)
- Prince Edward Island – [Influenza Summary](#)
- Nova Scotia – [Respiratory Watch Report](#)
- Newfoundland and Labrador – [Surveillance and Disease Reports](#)
- Yukon – [Information on Pandemic, Influenza, Seasonal Flu, Avian Flu and H1N1](#)
- Northwest Territories – [Influenza/ Flu Information](#)
- Nunavut – [Influenza Information](#)
- World Health Organization – [FluNet \(Global Influenza Surveillance Network\)](#)
- Pan American Health Organization – [Influenza situation report](#)
- U.S. Centers for Disease Prevention & Control (CDC) - [Weekly Influenza Summary Update](#)
- ECDC – [Surveillance reports and disease data on seasonal influenza](#)
- United Kingdom – [Weekly Influenza Activity Reports](#)
- Hong Kong Centre for Health Protection - [Flu Express](#)
- Australia – [Influenza Surveillance Report and Activity Updates](#)
- New Zealand – [Influenza Weekly Update](#)

Notes

The data in the FluWatch report represent surveillance data available at the time of writing. All data are preliminary and may change as more reports are received.

To learn more about the FluWatch program, see the [Overview of influenza monitoring in Canada](#) page.

For more information on the flu, see our [Flu \(influenza\)](#) web page.

We would like to thank all the Fluwatch surveillance partners participating in this year's influenza surveillance program.

This [report](#) is available on the Government of Canada Influenza webpage.

Ce [rapport](#) est disponible dans les deux langues officielles.