

FLUWATCH

October 16 to October 29, 2022
(Weeks 42-43)



Weekly Highlights

- At the national level, influenza activity is increasing steeply and has crossed the seasonal threshold of 5% positivity; if percent positivity remains above this threshold next week, the start of an influenza epidemic will be declared.

Virologic

- In weeks 42 to 43, a total of 1,508 laboratory detections (1,493 influenza A and 26 influenza B) were reported.
- Influenza A(H3N2) is the dominant subtype, representing 90% of sub-typed influenza A detections this season (August 28, 2022 to October 29, 2022).
- Among detections with detailed age information to date (August 28, 2022 to October 29, 2022), more than half (54%) were in children and teenagers (ages 0 to 19 years).

Syndromic

- The percentage of visits for influenza-like illness (ILI) was 1.6% in week 43. The percentage visits for ILI is above the seasonal average.
- The percentage of FluWatchers reporting fever and cough was 2.3% in week 43. The percentage of FluWatchers reporting cough and fever is above levels typical of this time of year.

Outbreaks

- From August 28, 2022 to October 29, 2022 (weeks 35 to 43), 17 laboratory-confirmed influenza outbreaks have been reported.

Severe Outcomes

- From August 28, 2022 to October 29, 2022 (weeks 35 to 43), 72 influenza-associated hospitalizations and 8 ICU admissions have been reported from participating provinces and territories.

Other Notes

- The next scheduled FluWatch report (week 44) will be published November 14, 2022.
- Weekly reporting of laboratory detections of influenza and other seasonal respiratory viruses will continue via our [Respiratory Virus Detections Surveillance System](#).

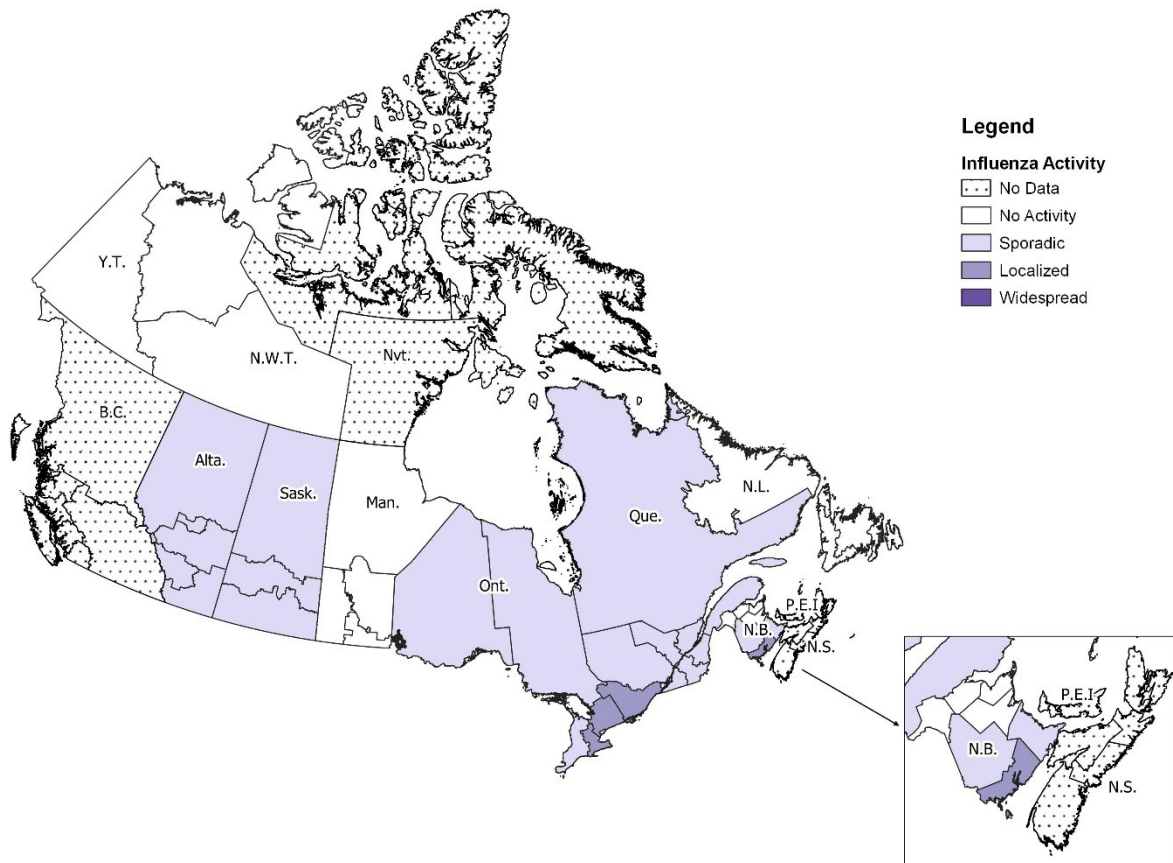


Influenza/Influenza-like Illness Activity – Geographic Spread

In week 43, 4 regions in Ontario and New Brunswick reported localized activity and 20 regions in five provinces reported sporadic influenza activity (N.B., Que., Ont., Sask. and Alta.) (Figure 1).

Figure 1 – Map of influenza/ILI activity by province and territory, Canada, week 2022-43

Number of Regions Reporting in Week 43: 40 out of 53



Laboratory-Confirmed Influenza Detections

In week 43, a total of 1,040 laboratory detections (1,034 influenza A and 6 influenza B) were reported. Influenza activity crossed the seasonal threshold of 5% positivity; if percent positivity remains above this threshold next week, the start of an influenza epidemic will be declared at the national level.

The following results were reported from sentinel laboratories across Canada in week 43 (Figures 2 and 3):

- The weekly percentage of tests positive for influenza increased from 1.5% in week 41 to 6.4% in week 43 and is above expected pre-pandemic levels.
- Among subtyped influenza A detections, 97% (524) were influenza A(H3N2) and 3% (15) were influenza A(H1N1).
- Among detections for which age information was reported (497), 288 (58%) of detections were in individuals aged 0-19 years old.

To date this season (August 28, 2022 to October 29, 2022):

- 2,203 influenza detections were reported, of which 98% (2,205) were influenza A and among subtyped influenza A detections (1,122), influenza A(H3N2) accounted for 90% of detections.
- 1,142 laboratory-confirmed influenza detections with age information were reported, of which 615 (54%) were in individuals aged 0-19 years old.

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, week 2022-35 to 2022-43

Number of Laboratories Reporting in Week 43: 32 out of 34

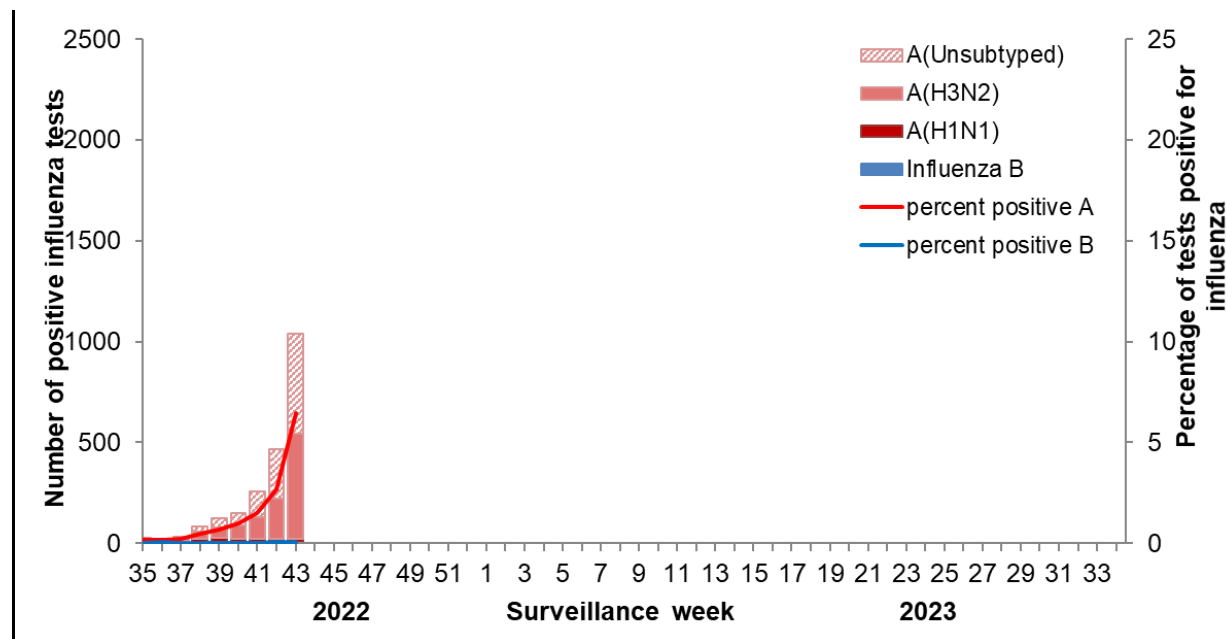
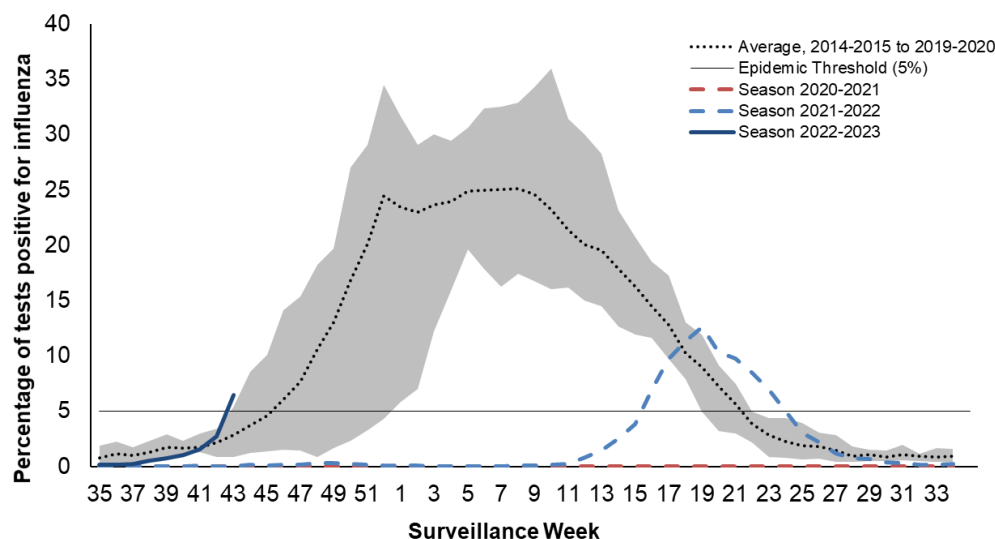


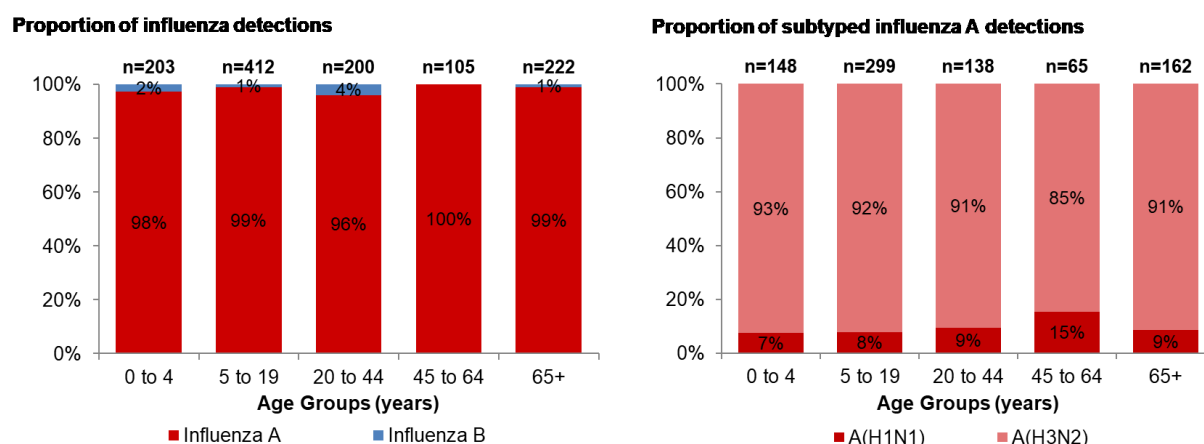
Figure 3 –Percentage of tests positive in Canada compared to previous seasons, week 2022-35 to 2022-43



The shaded area represents the maximum and minimum number of influenza tests or percentage of tests positive reported by week from seasons 2014-2015 to 2019-2020. Data from week 11 of the 2019-2020 season onwards are excluded from the historical comparison due to the COVID-19 pandemic.

The epidemic threshold is 5% tests positive for influenza. When it is exceeded, and a minimum of 15 weekly influenza detections are reported, a seasonal influenza epidemic is declared.

Figure 4 –Proportion of positive influenza specimens by type or subtype and age-group reported through case-based laboratory reporting, Canada, week 2022-35 to 2022-43



Laboratory data notes:

Testing for influenza and other respiratory viruses has been influenced by the current COVID-19 pandemic. Changes in laboratory testing practices may affect the comparability of data to previous seasons.

Due to different testing protocols of laboratories across Canada, some influenza A subtype detection counts may not be included in total influenza A detection counts and percent positivity calculations.

Syndromic / Influenza-like Illness Surveillance

Healthcare Practitioners Sentinel Surveillance

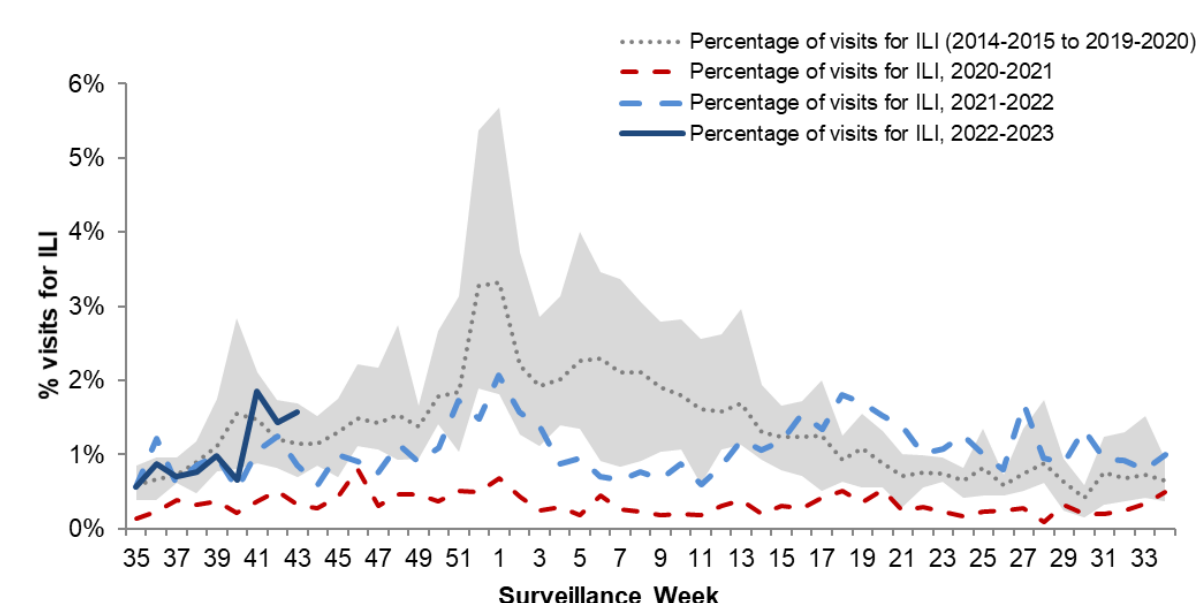
In week 43, 1.6% of visits to healthcare professionals were due to influenza-like illness (ILI). The percentage of visits for ILI is above average but within levels typical of this time of year.

Since the beginning of the surveillance season, the percentage of visits for ILI has been within or near expected pre-pandemic levels (Figure 5). ILI symptoms are not specific to any one respiratory pathogen and can be due to influenza, or other respiratory viruses, including respiratory syncytial virus and even SARS-CoV-2, the virus that causes COVID-19.

This indicator should be interpreted with caution as there have been changes in healthcare seeking behavior of individuals and a smaller number of sentinels reporting compared to previous seasons.

Figure 5 – Percentage of visits for ILI reported by sentinels by report week, Canada, weeks 2022-35 to 2022-43

Number of Sentinels Reporting in Week 43: 51



The shaded area represents the maximum and minimum percentage of visits for ILI reported by week from seasons 2014-2015 to 2019-2020. Data from week 11 of the 2019-2020 season onwards are excluded from the historical comparison due to the COVID-19 pandemic.

FluWatchers

In week 43, 10,701 participants reported to FluWatchers, of which 2.3% reported symptoms of cough and fever (Figure 6). The percentage of FluWatchers who have reported cough and fever has slightly increased since week 41 and is above levels typical of this time of year.

The reports of cough and fever are not specific to any one respiratory pathogen and can be due to influenza, or other respiratory viruses, including respiratory syncytial virus, rhinovirus, and even SARS-CoV-2, the virus that causes COVID-19. FluWatchers reporting is not impacted by changes in health services or health seeking behaviours.

Among the 244 participants who reported cough and fever:

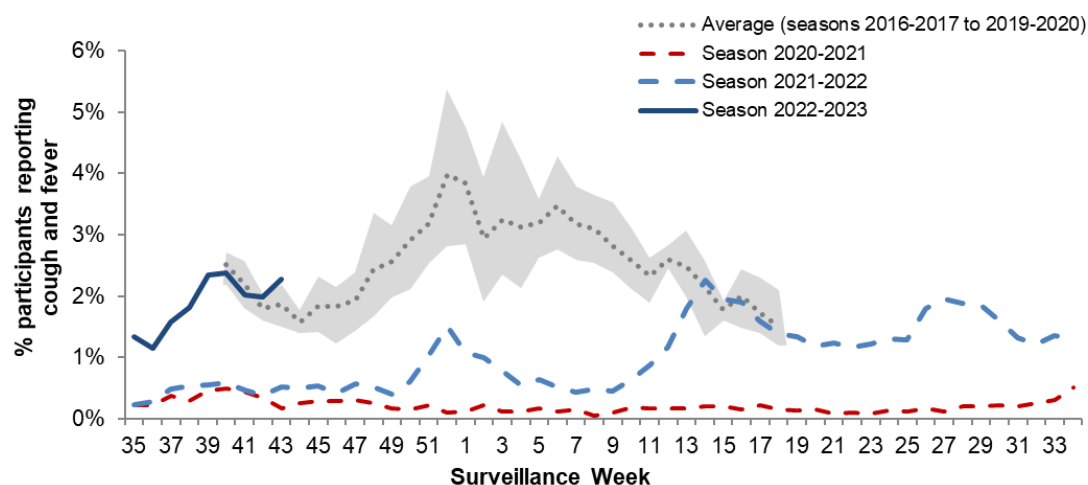
- 20% consulted a healthcare professional;
- 80% reported days missed from work or school, resulting in an average of 3.1 missed days from work or school among those 196 participants.

The Northwest Territories had the highest participation rate this week (58 participants per 100,000 population) and the neighbourhood with postal code, KOA had the highest number of participants (147). See what is happening in your [neighbourhood](#)! Downloadable datasets are also available on [Open Maps](#).

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

Figure 6 – Percentage of FluWatchers reporting cough and fever, Canada, week 2022-35 to 2022-43

Number of Participants Reporting in Week 43: 10,701



The shaded area represents the maximum and minimum percentage of participants reporting cough and fever by week, from seasons 2014-2015 to 2019-2020. Data from week 11 of the 2019-2020 season onwards are excluded from the historical comparison due to the COVID-19 pandemic.

Influenza Outbreak Surveillance

In week 43, 5 laboratory-confirmed influenza outbreaks were reported in Canada (2 in long-term care facilities, 1 in a school/daycare, and 2 in facilities categorized as 'other'). All outbreaks were due to influenza A (unsubtyped).

To date this season (August 28, 2022 to October 29, 2022):

- 17 laboratory-confirmed influenza outbreaks have been reported
 - 7 were in facilities categorized as 'other'
 - 6 were in long-term care facilities
 - 3 were in acute care facilities
 - 1 was in a school/daycare
 - All but one outbreak were due to influenza A, of which 6 were due to influenza A(H3N2), and the remaining were due to influenza A (unsubtyped).
- 3 ILI outbreaks have been reported
 - All ILI outbreaks have been reported in schools and/or daycares.

Outbreaks of ILI are not specific to any one respiratory pathogen and can be due influenza, or other respiratory viruses, including respiratory syncytial virus, rhinovirus, and even COVID-19. Many respiratory viruses in addition to the flu commonly circulate during the fall and winter, and can cause clusters of cases with respiratory illness which could be captured as ILI.

Number of provinces and territories¹ reporting in week 43: 9 out of 13

¹All Provinces and Territories (PTs) participate in the FluWatch outbreak surveillance system. This outbreak system monitors influenza and ILI outbreaks in long-term care facilities (LTCF), acute care facilities, schools and daycares, remote and/or isolated communities, and facilities categorized as 'other'. Not all reporting PTs report outbreaks in all these settings. All PTs report laboratory confirmed outbreaks in LTCF. Four PTs (NB, NL, NS and YK) report ILI outbreaks in schools and/or daycares and other facilities.

Influenza Severe Outcomes Surveillance

Provincial/Territorial Influenza Hospitalizations and Deaths

In week 43, 38 influenza-associated hospitalizations and less than five ICU admissions were reported by participating provinces and territories². Less than five influenza-associated deaths were reported.

To date this season (August 28, 2022 to October 29, 2022) among participating provinces and territories:

- 72 influenza-associated hospitalizations were reported.
- 8 influenza-associated ICU admissions and less than five influenza-associated deaths were reported.

Number of provinces and territories reporting in week 43: 7 out of 9

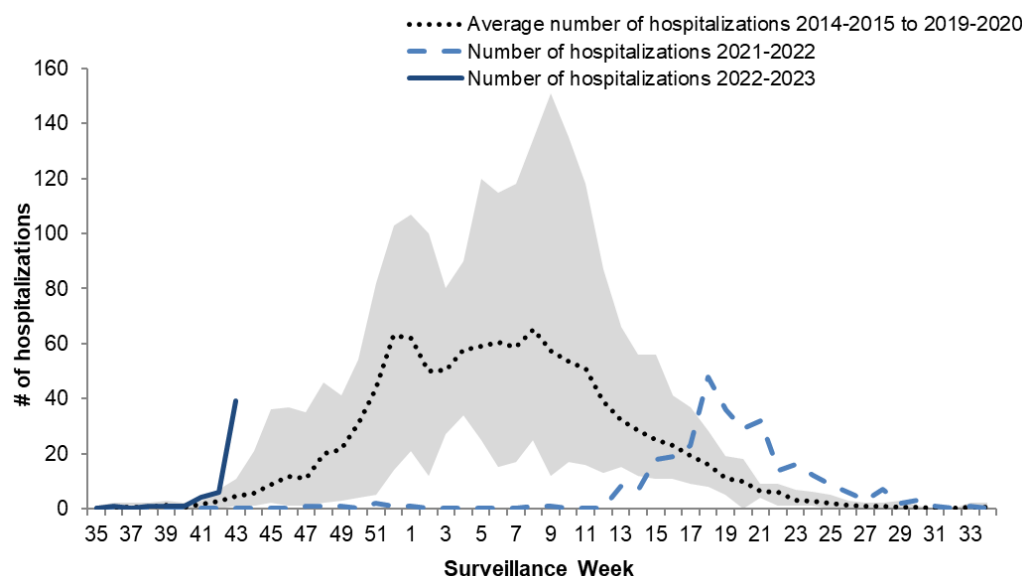
²Influenza-associated hospitalizations are reported by Alberta, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Prince Edward Island and Yukon. Only hospitalizations that require intensive medical are reported by Saskatchewan.

Pediatric Influenza Hospitalizations and Deaths

In week 43, 39 influenza-associated pediatric (≤ 16 years of age) hospitalizations were reported by the Immunization Monitoring Program Active (IMPACT) network, well above levels typical of this time of year (Figure 7).

To date this season (August 28, 2022 to October 29, 2022), 53 pediatric influenza-associated hospitalizations and less than 5 ICU admissions have been reported.

Figure 7 – Number of pediatric (≤16 years of age) hospitalizations reported by the IMPACT network, by week, Canada, week 2022-35 to 2022-43



Influenza Strain Characterization

Since September 1, 2022, the National Microbiology Laboratory (NML) has characterized 9 influenza viruses (8 A(H3N2), 1 A(H1N1)) received from Canadian laboratories.

Genetic Characterization of Influenza A(H3N2)

One influenza A(H3N2) virus did not grow to sufficient hemagglutination titers for an antigenic characterization by hemagglutination inhibition (HI) assays. Therefore, NML has performed genetic characterization to determine the genetic group identity of this virus.

Sequence analysis of the HA gene of the virus showed that it belonged to genetic group 3C.2a1b.2a2.

A/Darwyn/6/2021 (H3N2)-like virus is an influenza A/H3N2 component of the 2022-23 Northern Hemisphere influenza vaccine and belongs to genetic group 3C.2a1b.2a2.

Antigenic Characterization

Influenza A(H3N2)

- 7 influenza A (H3N2) viruses were characterized as antigenically similar to A/Darwyn/6/2021 (H3N2)-like virus with antisera raised against cell-grown A/Darwyn/6/2021 (H3N2)-like virus.
- A/Darwyn/6/2021 (H3N2)-like virus is an influenza A/H3N2 component of the 2022-23 Northern Hemisphere influenza vaccine.
- Of the 7 influenza A (H3N2) viruses characterized, 1 virus belonged to genetic group 3C.2a1b.2a2. Sequencing is pending for the remaining 6 viruses.

Influenza A(H1N1)

- One A(H1N1) virus was characterized as antigenically similar to A/Wisconsin/588/2019-like with ferret antisera produced against cell-propagated A/Wisconsin/588/2019.
- A/Wisconsin/588/2019 is the influenza A/H1N1 component of the 2022-23 Northern Hemisphere influenza vaccine.

Antiviral Resistance

The NML also tests influenza viruses received from Canadian laboratories for antiviral resistance.

Oseltamivir

8 influenza viruses (7 A(H3N2) and 1 A(H1N1)) were tested for resistance to oseltamivir and it was found that:

- All influenza viruses were sensitive to oseltamivir.

Zanamivir

8 influenza viruses (7 A(H3N2) and 1 A(H1N1)) were tested for resistance to zanamivir and it was found that:

- All influenza viruses were sensitive to zanamivir.

Influenza 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 2022-2023 season are anticipated to be available in February or March 2023.

Vaccine Effectiveness

Influenza vaccine effectiveness estimates for the 2022-2023 season are anticipated to be available in February or March 2023.

Provincial and International Surveillance Links

- British Columbia – [Influenza Surveillance; Vaccine Effectiveness Monitoring](#)
- Alberta – [Respiratory Virus 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 – [Influenza \(the Flu\)](#)
- Northwest Territories – [Influenza/ Flu Information](#)
- Nunavut – [Influenza Information](#)
- World Health Organization – [Global Influenza Programme](#)
- Pan American Health Organization – [Influenza situation report](#)
- U.S. Centers for Disease Prevention & Control (CDC) - [Weekly Influenza Summary Update](#)
- European Centre for Disease Prevention and Control – [Surveillance reports and disease data on seasonal influenza](#)
- United Kingdom – [National influenza surveillance reports](#)
- Hong Kong Centre for Health Protection - [Flu Express](#)
- Australia – [Influenza Surveillance Report and Activity Updates](#)
- New Zealand – [Influenza Dashboard](#)

Notes

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