

# FLUWATCH

December 10 to December 30, 2023  
(Weeks 50-52)



## Weekly Highlights

At the national level, influenza activity has continued to increase. Most surveillance indicators are increasing but remain within expected levels typical of this time of year.

### Virologic

- In week 52, the percentage of tests positive for influenza was 18.9% and a total of 7,587 laboratory detections (7,373 influenza A and 214 influenza B) were reported.

### Syndromic

- The percentage of visits for influenza-like illness (ILI) was 1.8% in week 52. The percentage of visits for ILI is within levels typical of this time of year.
- The percentage of FluWatchers reporting cough and fever was 3.0% in week 52. The percentage of FluWatchers reporting cough and fever is within levels typical of this time of year.

### Outbreaks

- From August 27, 2023 to December 30, 2023 (weeks 35 to 52), 254 laboratory-confirmed influenza outbreaks have been reported (39 laboratory-confirmed influenza outbreaks were reported in week 52).

### Severe Outcomes

- From August 27, 2023 to December 30, 2023 (weeks 35 to 52), 2,522 influenza-associated hospitalizations were reported by participating provinces and territories.
- Adults aged 65 years of age and older accounted for 45% of reported hospitalizations. The highest cumulative hospitalization rates were among adults 65 years of age and older (77/100,000) and children under 5 years of age (56/100,000).
- From October 1, 2023 to December 30, 2023 (weeks 40 to 52), 248 influenza-associated pediatric hospitalizations were reported from a total of 858 positive influenza tests across seven sentinel hospital sites.

### Other Notes

- Weekly reporting of laboratory detections of influenza, SARS-CoV-2, and other seasonal respiratory viruses will continue via our [Respiratory Virus Detections Surveillance System](#).

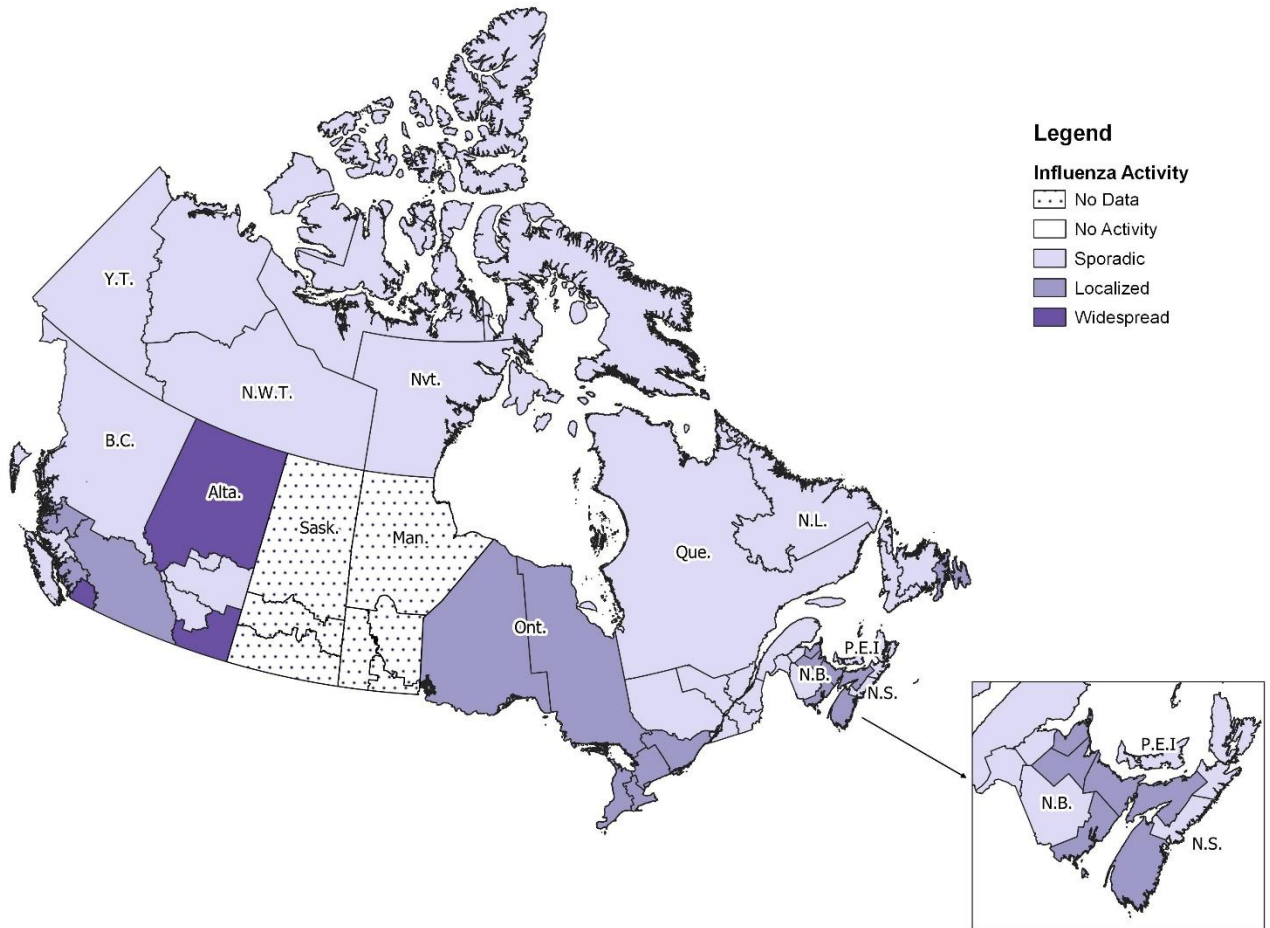


# Influenza/Influenza-like Illness Activity – Geographic Spread

In week 52, 26 regions across Canada reported sporadic influenza activity, 16 regions in five provinces reported localized influenza activity (N.L., N.S., N.B., Ont., and B.C.), and three regions reported widespread activity (Alta. And B.C.) (Figure 1). The proportion of regions reporting influenza activity and the intensity of reported activity is increasing. No regions in Canada reported no activity this week.

**Figure 1 – Map of influenza/ILI activity by province and territory, Canada, week 2023-52**

Number of Regions Reporting in week 52: 45 out of 53



## Laboratory-Confirmed Influenza Detections

The weekly percentage of tests positive for influenza (18.9% in week 52) continues to increase but is within expected levels for this time of year.

The following results were reported from sentinel laboratories across Canada in week 52 (Figures 2 and 3):

- A total of 7,587 laboratory detections (7,373 influenza A and 214 influenza B) were reported.
- Among subtyped influenza A detections (1,913), 83% (1,582) were influenza A(H1N1).
- Age information was reported for 4,927 detections. For the past three weeks (50-52), detections in individuals over 65 years have been increasing while detections in the remaining age groups have remained similar.

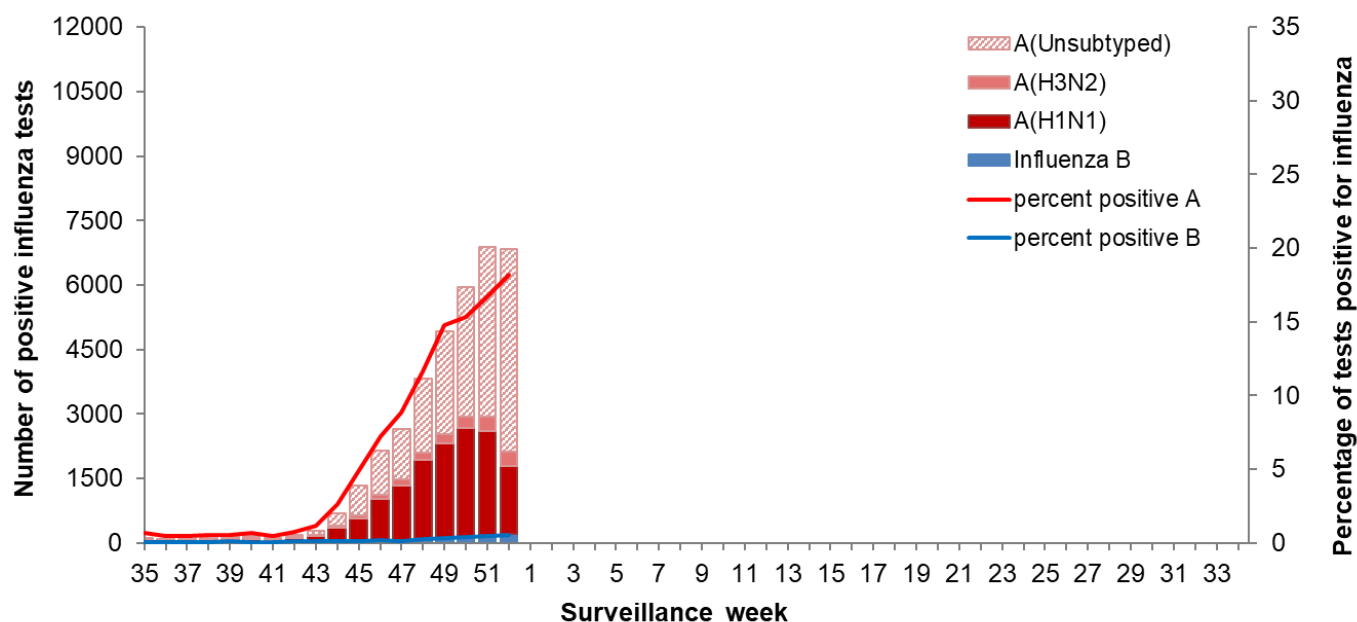
To date this season (August 27, 2023 to December 30, 2023):

- 37,823 influenza detections were reported, of which 97% (36,850) were influenza A and among subtyped influenza A detections (16,166), influenza A(H1N1) accounted for 89% of detections.
- 29,191 laboratory-confirmed influenza detections with age information were reported, of which 8,967 (31%) were in individuals aged 0-19 years old. Across adult age groups, similar proportion are being observed: 21%: 20-44 years old, 22%: 45-64 years old, and 26%: 65+ years old (Figure 4).

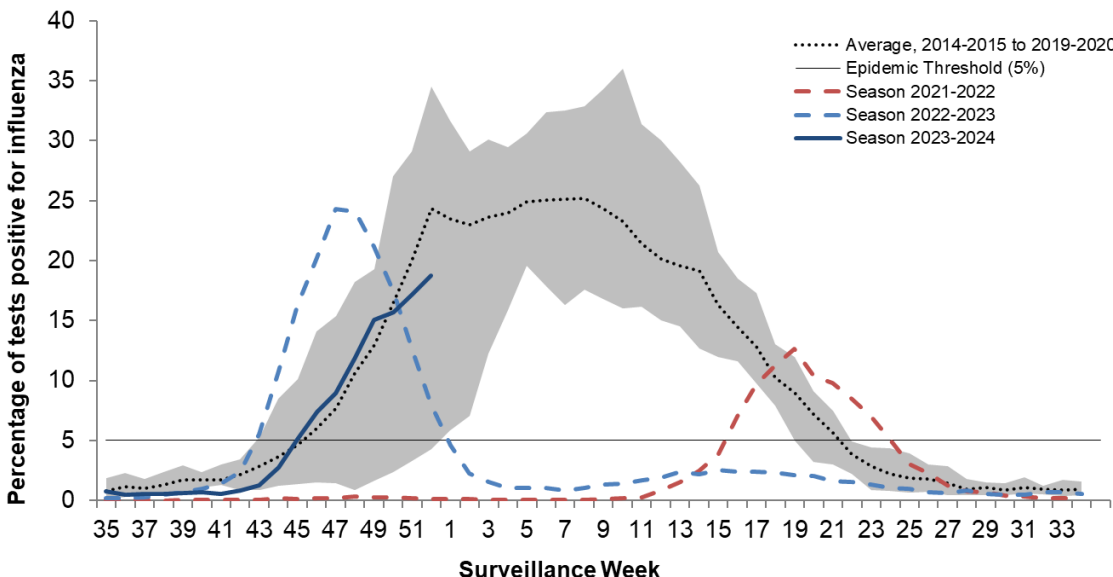
For more detailed weekly and cumulative influenza data, see the text descriptions for [Figures 2 and 3](#) or the [Respiratory Virus Detections in Canada Report](#).

**Figure 2 – Number of positive influenza tests and percentage of tests positive, by type, subtype and report week, Canada, week 2023-35 to 2023-52**

Number of Laboratories Reporting in Week 52: 33 out of 35



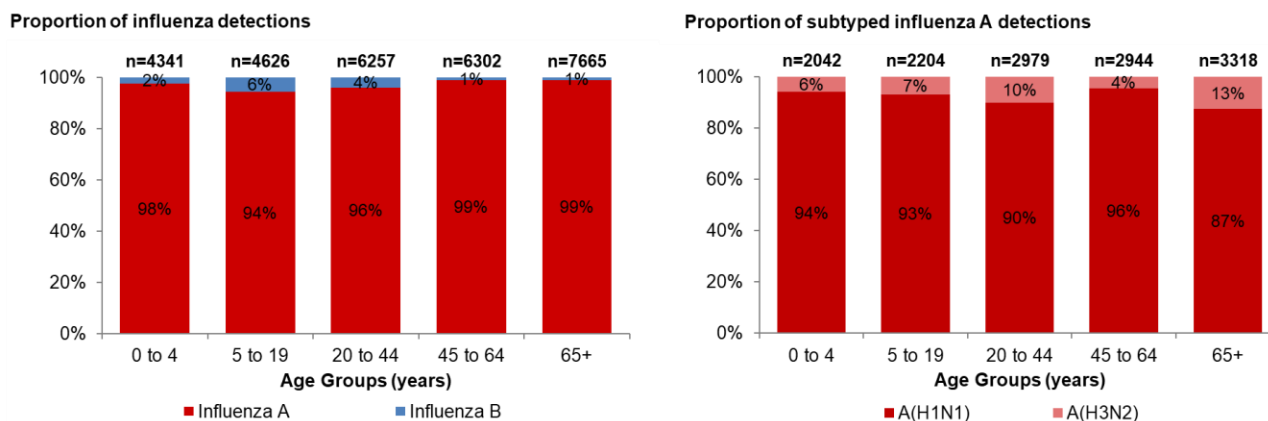
**Figure 3 –Percentage of tests positive in Canada compared to previous seasons, week 2023-35 to 2023-52**



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 2023-35 to 2023-52**



Laboratory data notes:

Testing for influenza and other respiratory viruses has been influenced by the 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

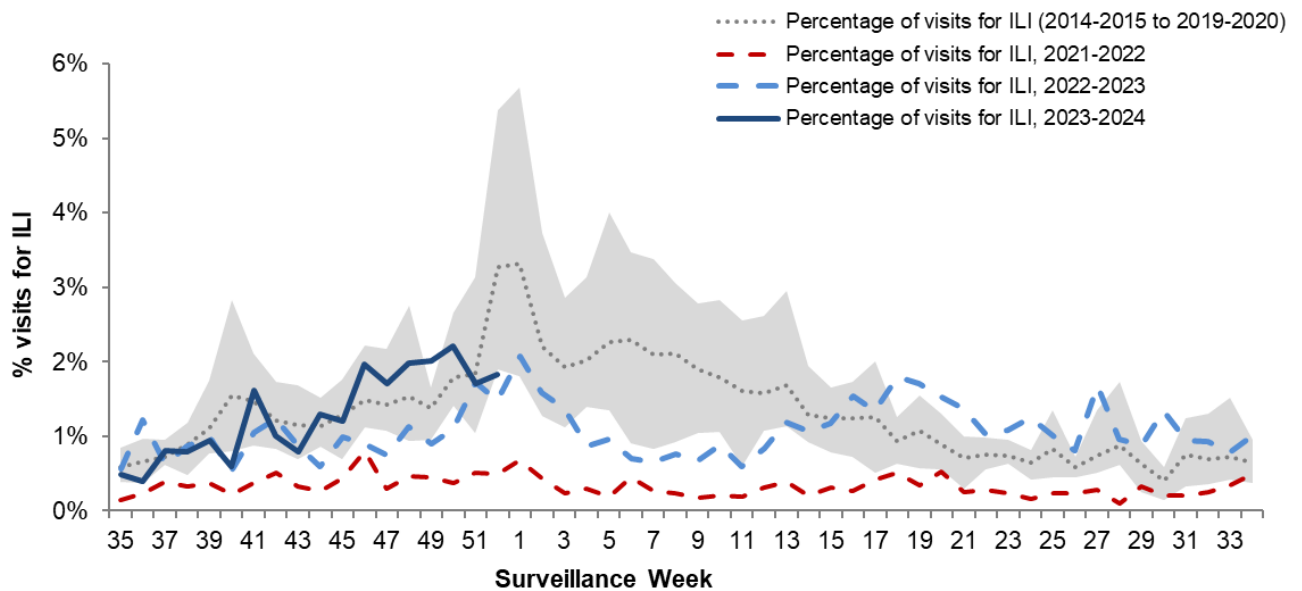
In week 52, 1.8% of visits to healthcare professionals were due to influenza-like illness (ILI) (Figure 5). The percentage of visits for ILI is within expected levels for this time of year.

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 SARS-CoV-2, the virus that causes COVID-19. This makes the percentage of visits for ILI an important indicator of overall respiratory illness morbidity in the community in the presence of co-circulating viruses.

This indicator should be interpreted with caution as there have been 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 2023-35 to 2023-52**

Number of Sentinels Reporting in Week 52: 19



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 52, 8,958 participants reported to FluWatchers, of which 3.0% reported symptoms of cough and fever (Figure 6). The percentage of FluWatchers reporting cough and fever has been increasing slightly but is within expected levels for 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 SARS-CoV-2, the virus that causes COVID-19. This makes the proportion of individuals reporting cough and fever an important indicator of overall respiratory illness activity in the community in the presence of co-circulating viruses.

FluWatchers reporting is not impacted by changes in health services or health seeking behaviours.

Among the 269 participants who reported cough and fever:

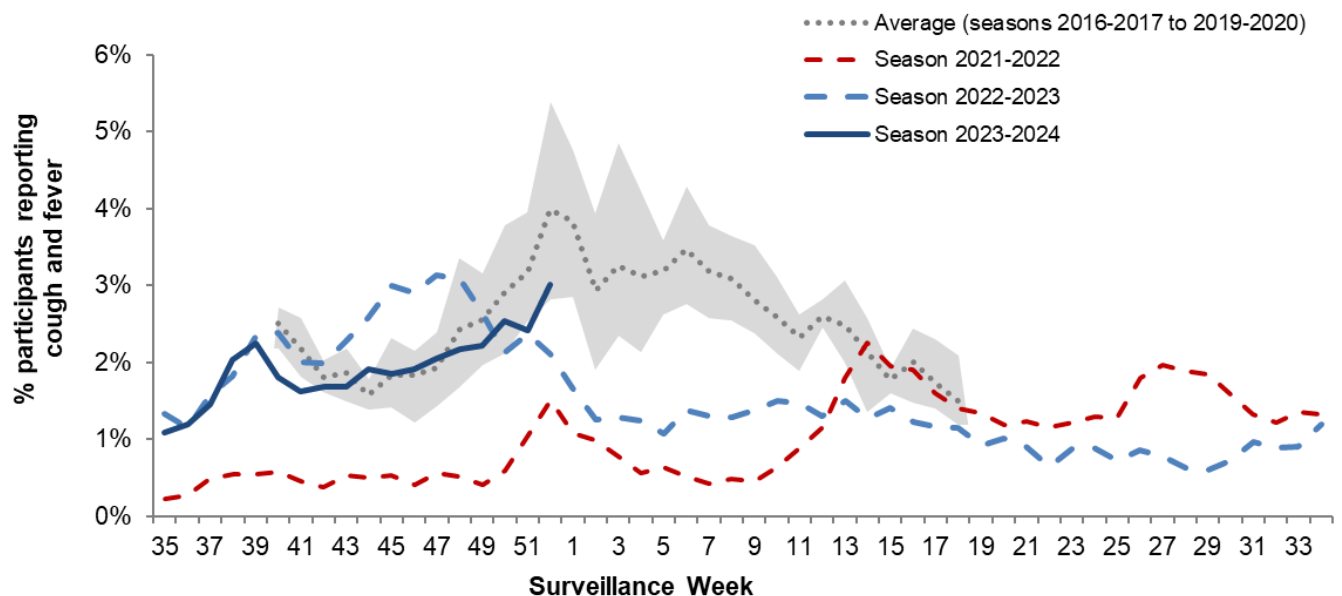
- 14% consulted a healthcare professional.
- 70% reported days missed from work or school, resulting in an average of 1.5 missed days from work or school among those 188 participants.

Yukon had the highest participation rate this week (71 participants per 100,000 population) and the neighbourhood with postal code, K0A had the highest number of participants (126). 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 2023-35 to 2023-52**

Number of Participants Reporting in Week 52: 8,958



The shaded area represents the maximum and minimum percentage of 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 52, 39 laboratory-confirmed influenza outbreaks were reported.

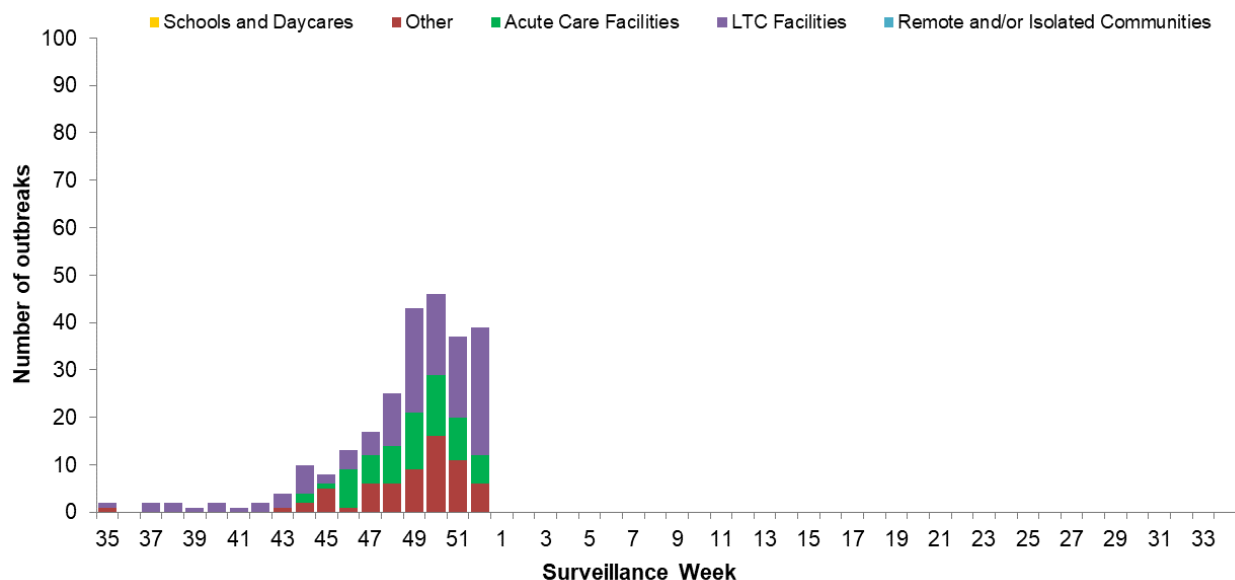
To date this season (August 27, 2023 to December 9, 2023):

- 254 laboratory-confirmed influenza outbreaks have been reported
  - 125 were in LTC facilities (49%)
  - 64 were in a facility categorized as ‘other’ (25%)
  - 65 were in acute care facilities (26%)
  - All outbreaks were due to influenza A of which 11 outbreaks were mixed with influenza B
  - Among outbreaks with subtyping information (86), influenza A(H1N1) was detected in 92% of the outbreaks
- 43 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, COVID-19, or a mixture of viruses.

**Figure 7 – Number of new outbreaks of laboratory-confirmed influenza by report week, Canada, weeks 2023-35 to 2023-52**

Number of provinces and territories<sup>1</sup> reporting in week 52: 11 out of 13



<sup>1</sup>All 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. Six PTs (AB, SK, NB, NS, PEI, and NL) report ILI outbreaks in schools and/or daycares and other facilities.

# Influenza Severe Outcomes Surveillance

## Provincial/Territorial Influenza Hospitalizations and Deaths

In week 52, 179 influenza-associated hospitalizations, 22 ICU admissions, and less than five influenza-associated deaths were reported by participating provinces and territories<sup>2</sup>.

To date this season (August 27, 2023 to December 30, 2023), 2,522 influenza-associated hospitalizations were reported by participating provinces and territories:

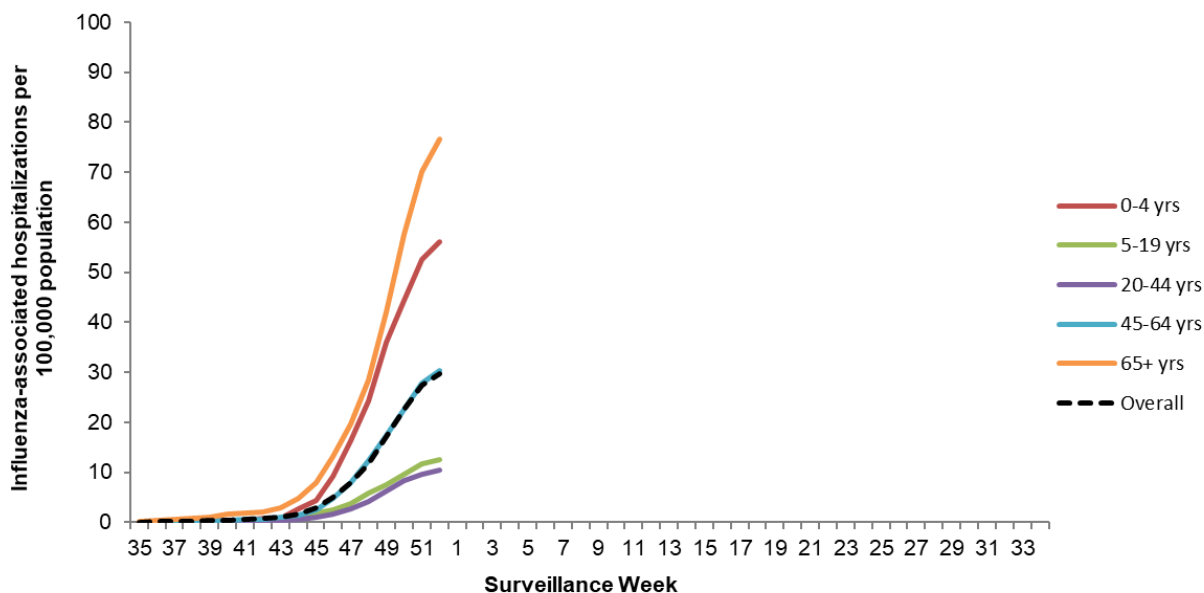
- 99% of the hospitalizations were associated with influenza A.
- Of the cases with subtype information (2,038), 96% were associated with influenza A(H1N1).
- Adults aged 65 years of age and older accounted for 45% of reported hospitalizations. The highest cumulative hospitalization rates were among adults 65 years of age and older (77/100,000) and children under 5 years of age (56/100,000).

To date this season (August 27, 2023 to December 30, 2023), 297 ICU admissions and 69 influenza-associated deaths were reported.

- Adults aged 45-64 years of age and 65 years of age and older accounted for 40% and 28% of reported ICU admissions respectively.
- Adults aged 65 years of age and older accounted for 64% of reported deaths.

**Figure 8 – Cumulative rates of influenza-associated hospitalizations by age-group and surveillance week, Canada, participating provinces and territories, week 2023-35 to 2023-52**

Number of provinces and territories reporting in week 52: 7 out of 9



<sup>2</sup>Influenza-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.



## Sentinel Pediatric Influenza Severe Outcomes

For the 2023-2024 season, data on pediatric influenza associated [severe outcomes](#) are provided by the Surveillance Program for Rapid Identification and Tracking of Infectious Diseases in kids (SPRINT-KIDS) Network<sup>3</sup>. The SPRINT-KIDS sentinel pediatric hospital network provides severe outcome monitoring in both the emergency room and inpatient facilities and consists of 15 pediatric hospitals across 8 provinces in Canada (all provinces with the exception of New Brunswick and Prince Edward Island).

### Emergency and Inpatient Influenza Testing

In week 52, 911 tests were conducted for influenza in emergency rooms and inpatient wards from 6/15 sites:

- 222 tests (24.4%) were positive for influenza.
- The majority were influenza A (n=218, 98%).

To date this season (October 1, 2023 to December 30, 2023):

- 7,850 tests have been conducted for influenza across 9 sites<sup>4</sup>.
- 928 tests were positive for influenza.
- The majority were influenza A (n=908, 98%).

### Hospitalizations

In week 52, 55 influenza-associated pediatric hospitalizations were reported from a total of 214 positive influenza tests from 5/15 sites:

- All but one of the hospitalizations were due to influenza A.

To date this season (October 1, 2023 to December 30, 2023):

- 248 influenza-associated pediatric hospitalizations were reported from a total of 858 positive influenza tests across 7 sites<sup>4</sup>.
- The majority were influenza A (n=244, 98%).

<sup>3</sup> Sentinel pediatric severe outcome surveillance data was previously provided by the Immunization Monitoring Program ACTIVE (IMPACT) network. The change in the sentinel network will affect the comparability of pediatric hospitalization data from the 2023-2024 season to previous seasons as the number of hospitalizations (weekly and cumulative) may appear higher due to a greater number of sentinel sites.

<sup>4</sup> Represents total number of sites reporting this data to date this season; some sites may not have reported data every week.

## Influenza Strain Characterization

Since September 1, 2023, the National Microbiology Laboratory Branch (NMLB) has characterized 362 influenza viruses (65 A(H3N2), 270 A(H1N1), and 27 influenza B) received from Canadian laboratories.

### Antigenic Characterization

Changes in circulating influenza viruses are monitored by antigenic characterization. Antigenic characterization results show how similar the circulating viruses are to reference viruses. Reference viruses represent strains included in the current seasonal influenza vaccine.

#### Influenza A(H1N1)

A/Wisconsin/67/2022 is the influenza A(H1N1) component of the 2023-2024 Northern Hemisphere influenza vaccine.

- 267 H1N1 viruses were characterized as antigenically similar to A/Wisconsin/67/2022-like with antisera produced against cell-grown A/Wisconsin/67/2022.
- 3 influenza A(H1N1) showed reduced titer with antisera raised against cell-grown A/Wisconsin/67/2022.

#### Influenza A(H3N2)

A/Darwin/6/2021 (H3N2)-like virus is the influenza A(H3N2) component of the 2023-2024 Northern Hemisphere influenza vaccine.

- 63 influenza A(H3N2) were antigenically similar to A/Darwin/6/2021 (H3N2)-like virus using antisera raised against cell-grown A/Darwin/6/2021 (H3N2)-like virus.
- 2 influenza A(H3N2) showed reduced titer with antisera raised against cell-grown A/Darwin/6/2021 (H3N2)-like virus.

#### Influenza B

Influenza B viruses can be divided into two antigenically distinct lineages represented by B/Yamagata/16/88 and B/Victoria/2/87 viruses. The recommended influenza B components for the 2023-2024 Northern Hemisphere influenza vaccine are B/Austria/1359417/2021 (Victoria lineage) and B/Phuket/3073/2013 (Yamagata lineage)

- 27 viruses characterized were antigenically similar to B/Austria/1359417/2021.

## Genetic Characterization

Genetic characterization is used to determine how similar gene sequences of circulating influenza viruses are to the sequences of the vaccine components used in the current seasonal influenza vaccine.

Since September 1, 2023, NML has genetically characterized 293 influenza viruses.

**Table 1: Genetic Characterizations results of influenza A(H3N2), influenza A(H1N1) and Influenza B, Canada, season 2023-2024**

Virus Subtype or Lineage	HA Clade	Number of Viruses Characterized	HA Subclade	Number of viruses Characterized	HA genetic clades and subclades of the 2023-2024 Northern Hemisphere influenza vaccine components
<b>A(H1N1)</b>					The A(H1N1) component belongs to genetic clade 6B.1A.5a.2a.1
	6B.1A.5a	231	2a	81	
			2a.1	150	
<b>A(H3N2)</b>					The A(H3N2) component belongs to genetic clade 3C.2a1b.2a.2a
	3C.2a1b.2a	46	2a.3a.1	46	
<b>B/Victoria</b>					The B/Victoria component belongs to genetic clade V1A.3
	V1A	16	3a.2	16	
<b>B/Yamagata</b>					The B/Yamagata component belongs to genetic clade Y3
	Y3	0	Y3	0	

## Antiviral Resistance

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

### Oseltamivir

279 influenza viruses (44 H3N2, 218 H1N1 and 17 influenza B) were tested for resistance to oseltamivir.

- All influenza viruses were sensitive to oseltamivir.

### Zanamivir

279 influenza viruses (44 H3N2, 218 H1N1 and 17 influenza B) were tested for resistance to zanamivir.

- All influenza viruses were sensitive to zanamivir.

## Influenza Vaccine Monitoring

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

### Vaccination Coverage

Influenza vaccine coverage estimates for the 2023-2024 season are anticipated to be available in February or March 2024.

### Vaccine Effectiveness

Influenza vaccine effectiveness estimates for the 2023-2024 season are anticipated to be available in February or March 2024.

## Provincial and International Surveillance Links

- British Columbia – [Influenza Surveillance; Vaccine Effectiveness Monitoring](#)
- Alberta – [Respiratory Virus Surveillance](#)
- Saskatchewan – [CRISP \(Community Respiratory Illness Surveillance Program\) Reports](#)
- Manitoba – [Seasonal Influenza Reports](#)
- Ontario – [Ontario Respiratory Virus Tool \(ORVT\)](#)
- 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.