FLUWATCH

June 18 to July 22, 2023
(Weeks 25-29)

Weekly Highlights

At the national level, influenza activity has been stable and remains at interseasonal levels. Sporadic influenza activity continues to be reported in many regions across Canada.

Virologic

- In week 29, the percentage of tests positive for influenza was 0.5% and a total of 56 laboratory detections (49 influenza A and 7 influenza B) were reported.

Syndromic

- The percentage of visits for influenza-like illness (ILI) was 0.2% in week 29. The percentage of visits for ILI is below levels typical of this time of year.
- The percentage of FluWatchers reporting fever and cough was 0.6% in week 29, below levels typical of this time of year.

Outbreaks

- From August 28, 2022 to July 22, 2023 (weeks 35 to 29), 622 laboratory-confirmed influenza outbreaks have been reported (no laboratory-confirmed influenza outbreaks were reported in week 29).

Severe Outcomes

- The highest cumulative hospitalization rate up to week 29 is among adults 65 years of age and older (136/100,000 population) and children under 5 years of age (130/100,000 population). The overall cumulative hospitalization rate this season to date is 50/100,000 population.

Other Notes

- The next FluWatch report will be published September 1, 2023. Weekly reporting of laboratory detections of influenza, SARS-CoV-2, and other seasonal respiratory viruses will continue via our Respiratory Virus Detections Surveillance System.

ISSN: 2370-957X | Cat.: HP58-1E-PDF | Pub.: 210278

Public Health Agency of Canada | Agence de la santé publique du Canada

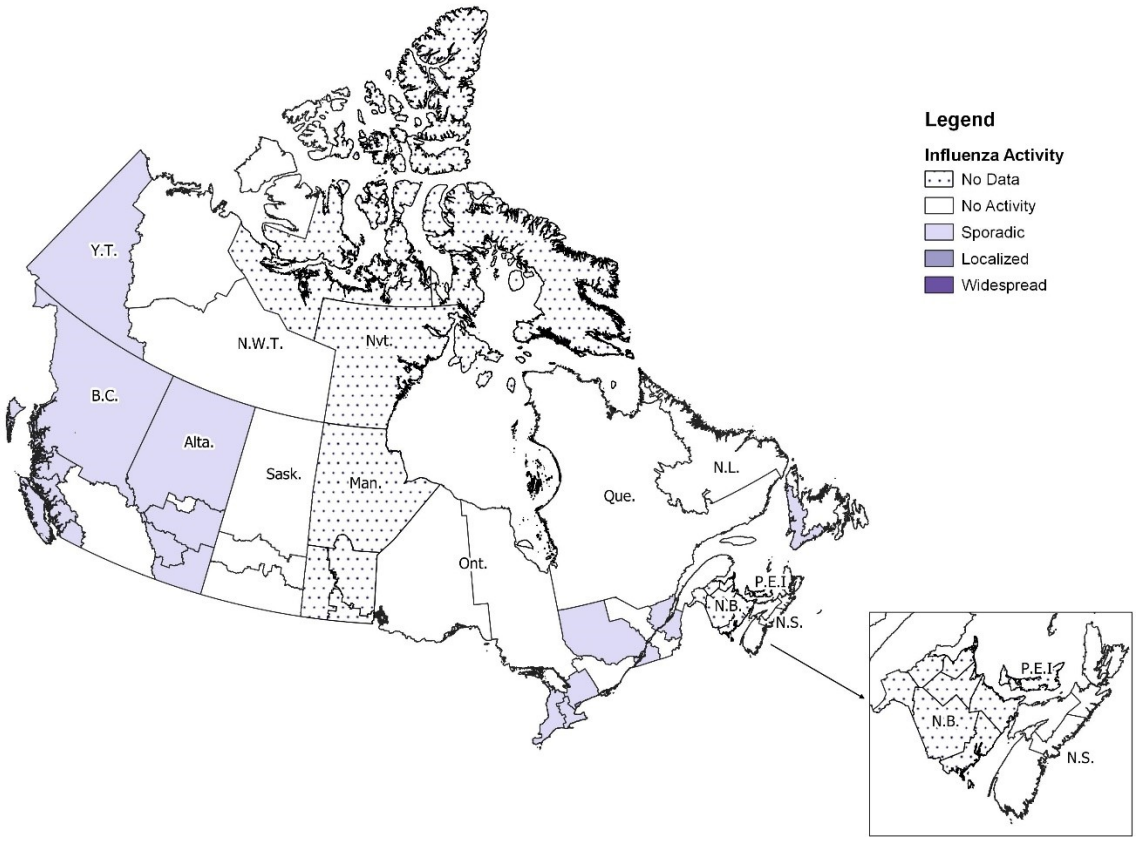
Canada

Influenza/Influenza-like Illness Activity – Geographic Spread

In week 29, 18 regions across Canada reported either sporadic or localized influenza activity (Figure 1). The number of regions reporting influenza activity and the intensity of reported activity remains stable. A total of 19 regions in Canada reported no activity this week.

Figure 1 – Map of influenza/ILI activity by province and territory, Canada, week 2023-29

Number of Regions Reporting in Week 29: 37 out of 53



Laboratory-Confirmed Influenza Detections

The weekly percentage of tests positive for influenza (0.5% in week 29) remains stable and is at interseasonal levels.

The following results were reported from sentinel laboratories across Canada in week 29 (Figures 2 and 3):

- A total of 56 laboratory detections (49 influenza A and 7 influenza B) were reported.
- Among subtyped influenza A detections (28), 82% (23) were influenza A(H1N1).
- Among detections for which age information was reported (12), 9 (75%) of detections were in individuals under the age of 65 years.

To date this season (August 28, 2022 to July 22, 2023):

- 72,556 influenza detections were reported, of which 93% (67,214) were influenza A and among subtyped influenza A detections (21,142), influenza A(H3N2) accounted for 90% of detections.
- 52,694 laboratory-confirmed influenza detections with age information were reported, of which 21,503 (41%) were in individuals aged 0-19 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 2022-35 to 2023-29

Number of Laboratories Reporting in Week 29: 32 out of 35

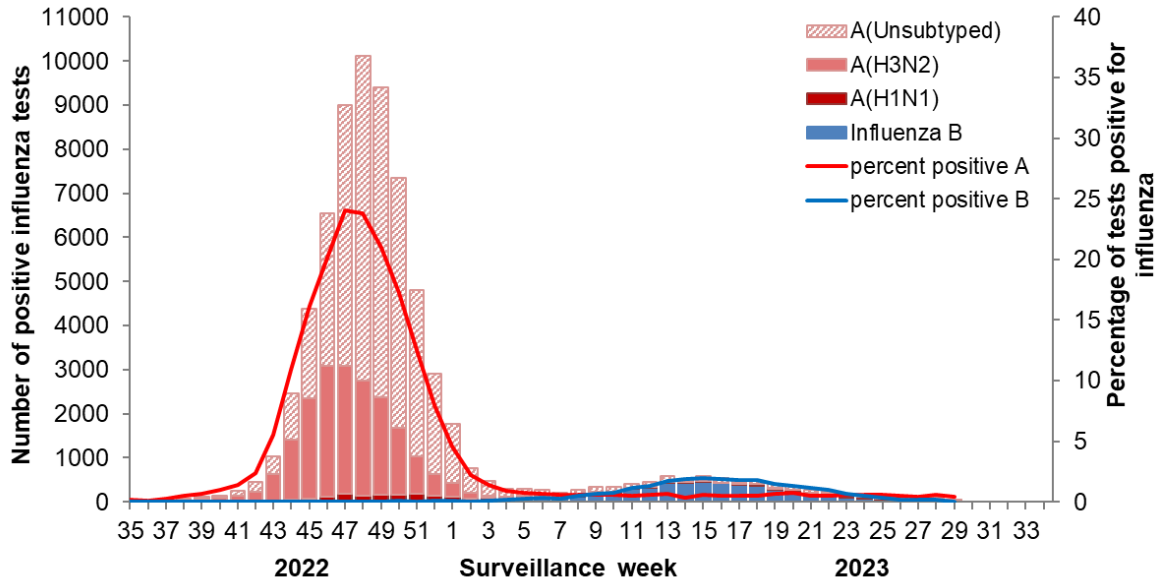
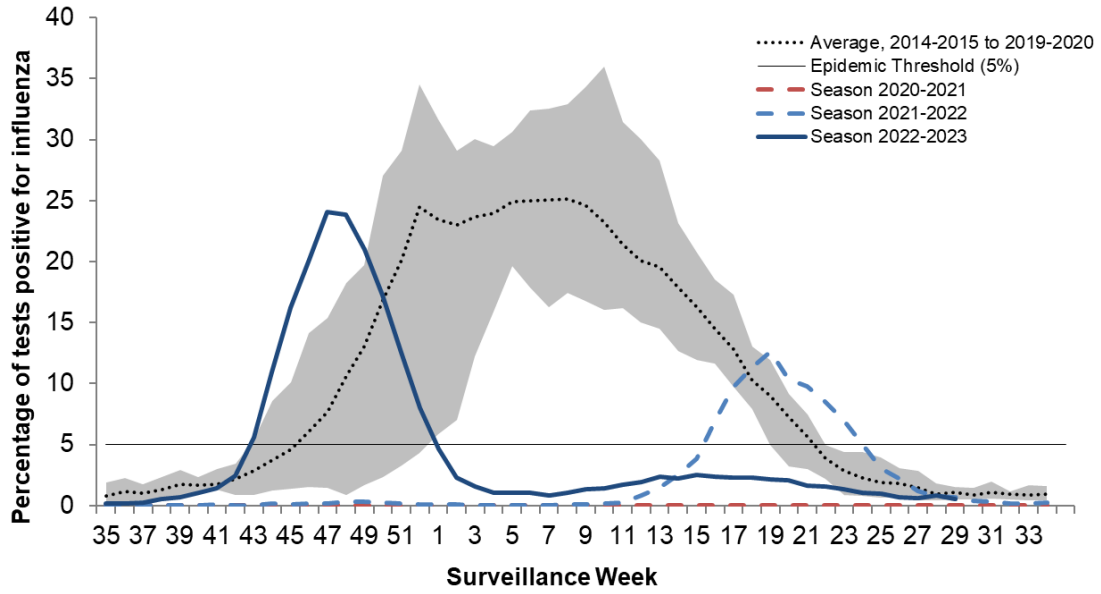


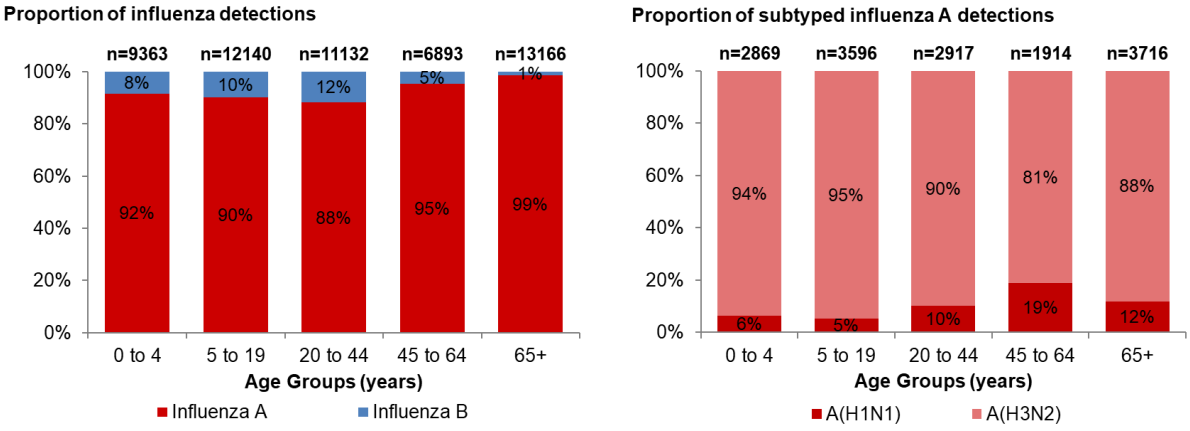
Figure 3 –Percentage of tests positive in Canada compared to previous seasons, week 2022-35 to 2023-29



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 2023-29



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

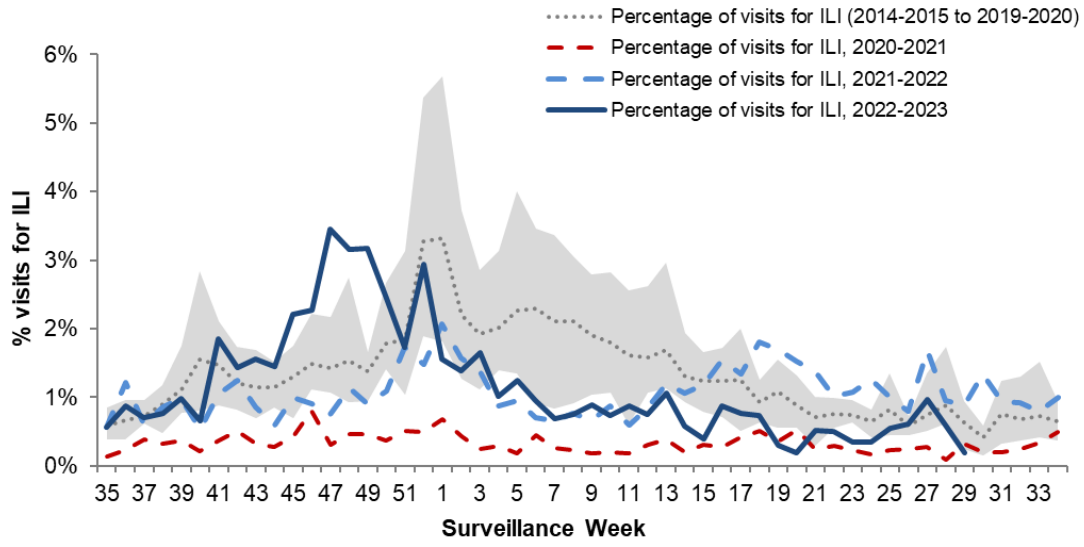
In week 29, 0.2% of visits to healthcare professionals were due to influenza-like illness (ILI) (Figure 5). The percentage of visits for ILI is below expected levels for this time of year.

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 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 2023-29

Number of Sentinels Reporting in Week 29: 27



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 29, 8,659 participants reported to FluWatchers, of which 0.6% reported symptoms of cough and fever (Figure 6). The percentage of FluWatchers who have reported cough and fever is below seasonal levels.

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 51 participants who reported cough and fever:

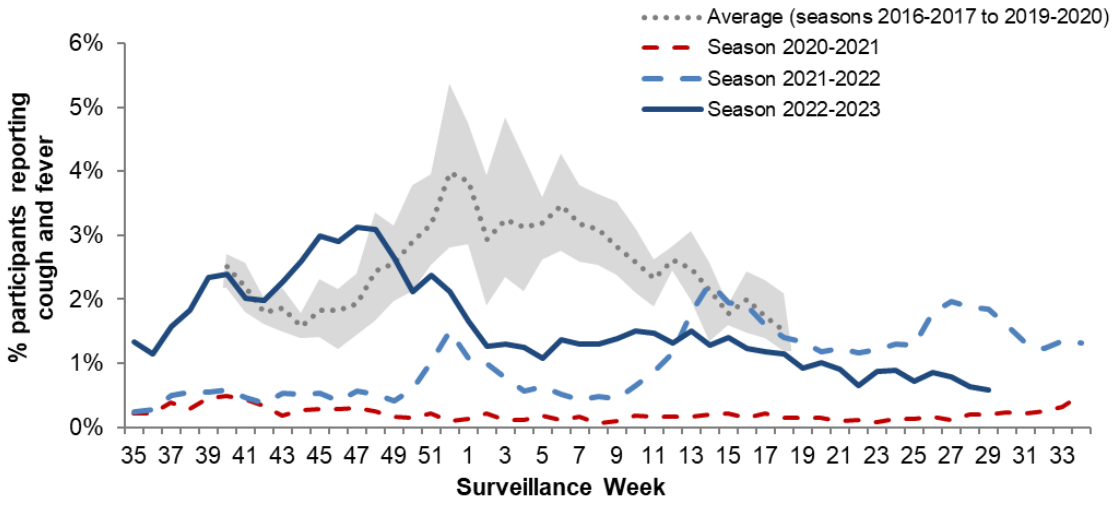
- 16% consulted a healthcare professional.
- 67% reported days missed from work or school, resulting in an average of 2.4 missed days from work or school among those 34 participants.

The Northwest Territories had the highest participation rate this week (58 participants per 100,000 population) and the neighbourhood with postal code, K0A had the highest number of participants (113). 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 2023-29

Number of Participants Reporting in Week 29: 8,659



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 29, no laboratory-confirmed influenza outbreaks were reported.

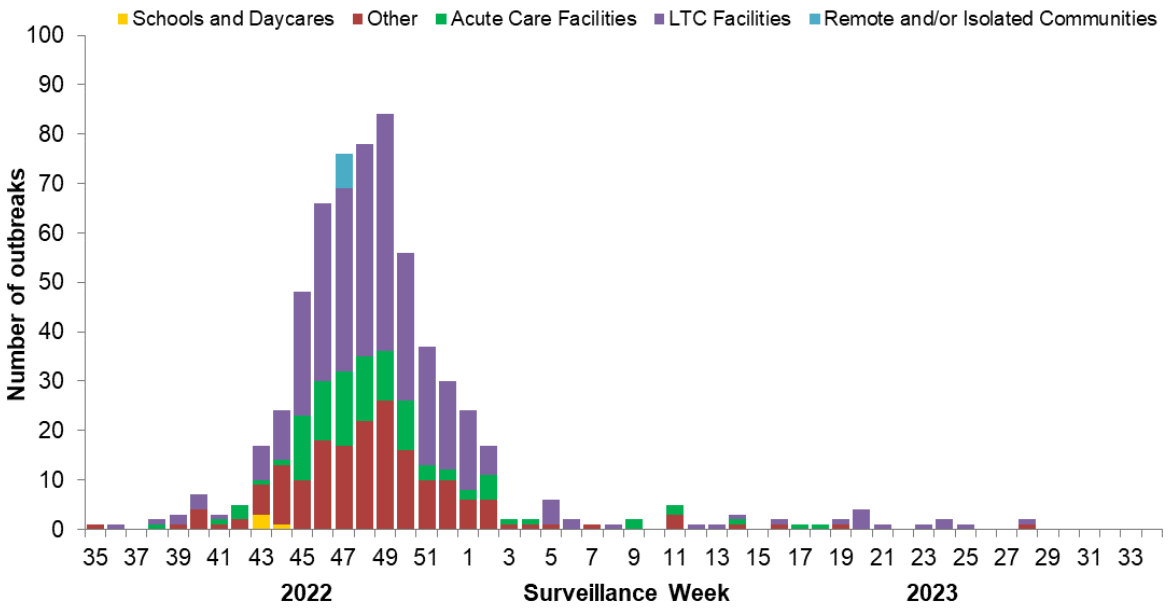
To date this season (August 28, 2022 to July 22, 2023):

- 622 laboratory-confirmed influenza outbreaks have been reported
  - 331 were in LTC facilities (53%)
  - 179 were in facilities categorized as 'other' (29%)
  - 101 were in acute care facilities (16%)
  - 7 were in remote and/or isolated communities (1%)
  - 4 were in schools/daycares (<1%)
  - All but 5 outbreaks were due to influenza A and among those with subtyping information (234), 90% were due to influenza A(H3N2)
- 300 ILI outbreaks have been reported
  - All but 3 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. 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 territories[1] reporting in week 29: 9 out of 13

Figure 7: Number of new outbreaks of laboratory-confirmed influenza by report week, Canada, weeks 2022-35 to 2023-29



[1]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. 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 29, less than five influenza-associated hospitalizations and no ICU admissions were reported by participating provinces and territories[2].

To date this season (August 28, 2022 to July 22, 2023), 4,197 influenza-associated hospitalizations were reported by participating provinces and territories:

- 97% of the hospitalizations were associated with influenza A.
- Of the cases with subtype information (2,115), 85% were associated with influenza A(H3N2)
- The highest cumulative hospitalization rates up to week 29 were among adults 65 years of age and older (136/100,000 population) and children under 5 years of age (130/100,000 population).

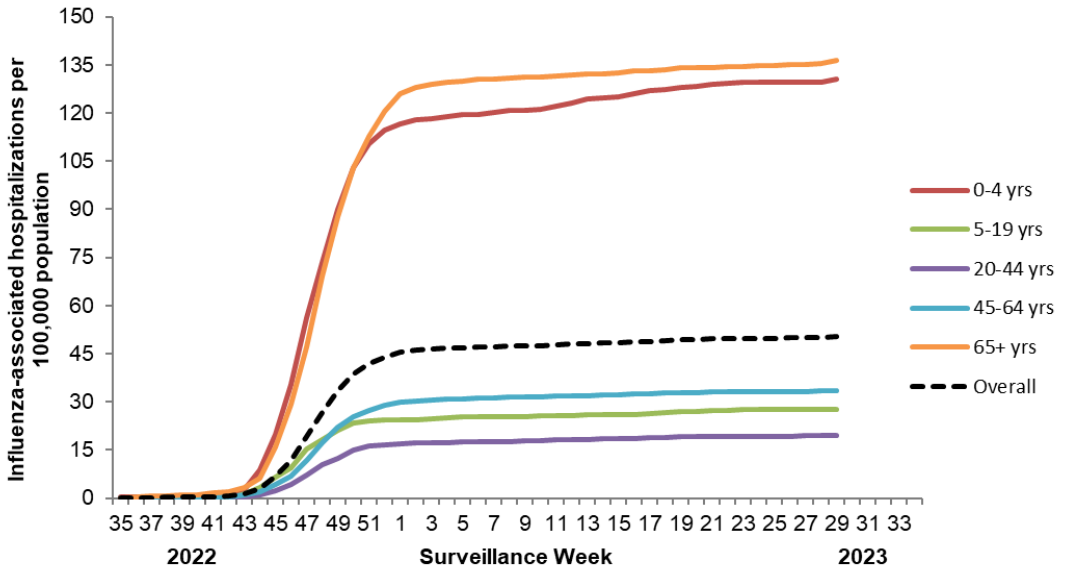
To date this season (August 28, 2022 to July 22, 2023), 360 ICU admissions and 273 influenza-associated deaths were reported.

- Adults aged 45-64 years of age and 65 years of age and older accounted for 28% and 31% of reported ICU admissions respectively.
- Adults aged 65 years of age and older accounted for 76% of reported deaths.

Number of provinces and territories reporting in week 29: 6 out of 9

[2]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.

Figure 8 – Cumulative rates of influenza-associated hospitalizations by age-group and surveillance week, Canada, participating provinces and territories, week 2022-35 to 2023-29



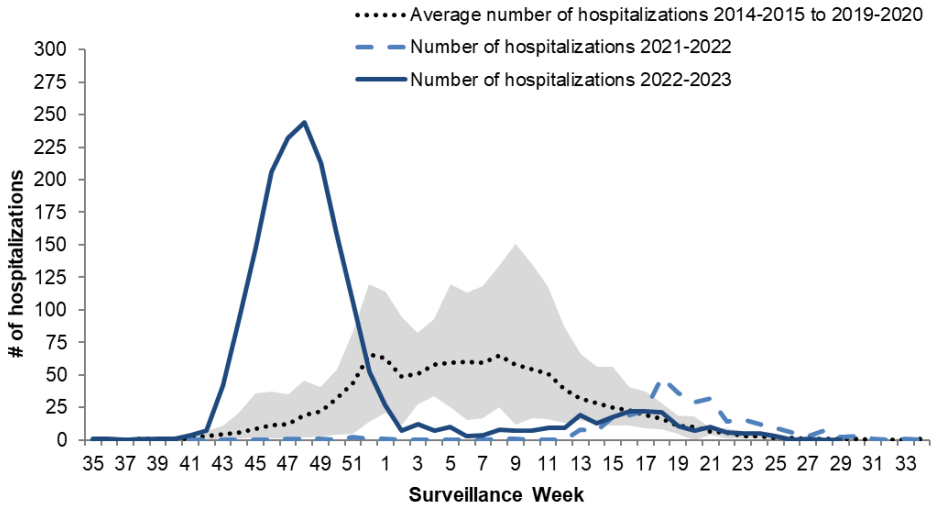
Pediatric Influenza Hospitalizations and Deaths

In week 29, no influenza-associated pediatric (≤16 years of age) hospitalizations and no influenza-associated ICU admissions were reported by the Immunization Monitoring Program Active (IMPACT) network (Figure 9).

To date this season (August 28, 2022 to July 22, 2023):

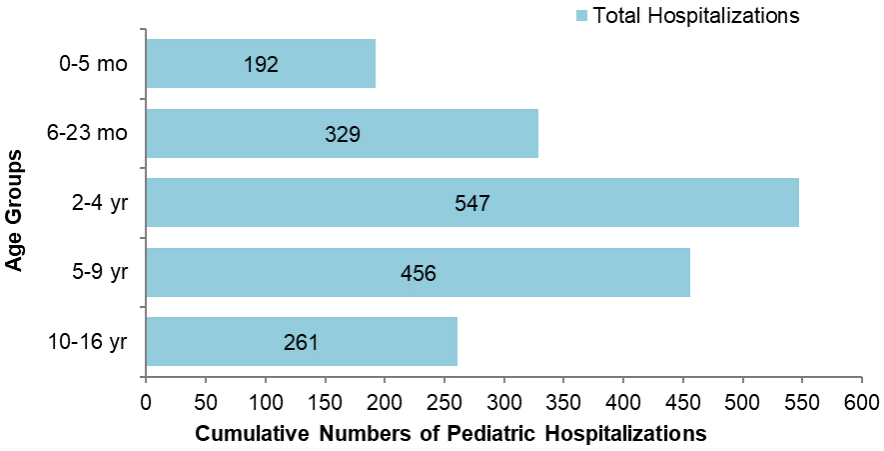
- 1,785 pediatric influenza-associated hospitalizations have been reported.
- 90% of the hospitalizations were associated with influenza A.
- Children aged between 2-4 years and 5-9 years account for 56% of the reported pediatric hospitalizations (Figure 10).
- 279 ICU admissions were reported; children aged between 2-4 years and 5-9 years account for 48% of the reported pediatric ICU admissions.
- 9 influenza-associated pediatric deaths have been reported.

Figure 9 – Number of pediatric (≤16 years of age) hospitalizations reported by the IMPACT network, by week, Canada, week 2022-35 to 2023-29



The shaded area represents the maximum and minimum number of hospitalizations, 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.

Figure 10 – Cumulative numbers of pediatric hospitalizations (≤16 years of age) with influenza by age-group reported by the IMPACT network, Canada, week 2022-35 to 2023-29



Influenza Strain Characterization

Since September 1, 2022, the National Microbiology Laboratory (NML) has characterized 624 influenza viruses (424 A(H3N2), 88 A(H1N1), and 112 influenza B) received from Canadian laboratories.

Genetic Characterization of Influenza A(H3N2)

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

Sequence analysis of the HA genes of the viruses showed that they belonged to genetic group 3C.2a1b.2a2.

A/Darwin/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)

- Of the 416 influenza A (H3N2) viruses characterized, 408 were characterized as antigenically similar to A/Darwin/6/2021 (H3N2)-like virus with antisera raised against cell-grown A/Darwin/6/2021 (H3N2)-like virus. Eight viruses showed reduced titer with antisera raised against cell-grown A/Darwin/6/2021 (H3N2)-like virus.
    - A/Darwin/6/2021 (H3N2)-like virus is an influenza A/H3N2 component of the 2022-23 Northern Hemisphere influenza vaccine.
- Of the 416 influenza A(H3N2) viruses characterized, 407 belonged to genetic group 3C.2a1b.2a2. Sequences are pending for the remaining isolates.

Influenza A(H1N1)

- 88 influenza A (H1N1) viruses were 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.

Influenza B

- 112 viruses characterized were antigenically similar to B/Austria/1359417/2021.
- 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 2022-23 Northern Hemisphere influenza vaccine are B/Austria/1359417/2021 (Victoria lineage) and B/Phuket/3073/2013 (Yamagata lineage).

Antiviral Resistance

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

Oseltamivir

576 influenza viruses (379 A(H3N2), 87 A(H1N1) and 110 influenza B) were tested for resistance to oseltamivir and it was found that:

- All influenza viruses were sensitive to oseltamivir.

Zanamivir

576 influenza viruses (379 A(H3N2), 87 A(H1N1) and 110 influenza B) 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 vaccination coverage and vaccine effectiveness.

Vaccination Coverage

The Seasonal Influenza Immunization Vaccination Coverage Survey is an annual telephone survey conducted between January and February that collects information from Canadians on whether they received the annual seasonal influenza vaccine that season. Vaccination coverage is measured as the percentage of people who reported receiving the influenza vaccine in a specific influenza season.

In the 2022-2023 influenza season, coverage was slightly higher compared to the 2021-2022 season at:

- 44% among all adults aged 18 years and older.
    - 31% among adults aged 18-64 without chronic medical conditions.
    - 43% among adults aged 18-64 with chronic medical conditions.
- 74% among seniors (aged 65 years and older).

Table 1 - Seasonal influenza vaccination coverage, by risk group and influenza season, Seasonal Influenza Vaccination Coverage Survey, Canada, 2020-2021 to 2022-2023

Flu Season						
	2022-2023		2021-2022		2020-2021	
Age group (years)	n	Vaccination coverage % (95% CI)	n	Vaccination coverage % (95% CI)	n	Vaccination coverage % (95% CI)
All adults (≥18)	3535	43.5 (41.6-45.3)	3487	38.7 (36.9-40.6)	3014	40.4 (38.4-42.4)
18-64, without chronic medical condition	1715	31.0 (28.6-33.4)	1658	26.8 (24.4-29.2)	1498	29.2 (26.6-31.8)
18-64, with chronic medical condition	583	43.1 (38.6-47.6)	713	37.6 (33.6-41.7)	646	40.5 (36.2-44.8)
Seniors (≥65)	1198	73.7 (71.0-76.5)	1098	71.0 (68.1-74.0)	862	70.4 (67.1-73.8)

Vaccine Effectiveness

The Canadian Sentinel Practitioner Surveillance Network (SPSN) provides estimates of the effectiveness of the seasonal influenza vaccine in preventing medically-attended illness due to laboratory-confirmed influenza among Canadians.

Based on data collected between November 1, 2022 and January 6, 2023, vaccine effectiveness (VE) was estimated to be 54% against influenza A(H3N2). Due to the dominant circulation of influenza A(H3N2) this season, the VE estimate was only available for one influenza subtype. By age group, VE was 47% (95% CI 11 to 69) for individuals under the age of 19 years, 58% (95% CI 33 to 73) for adults aged 20-64 years and 59% (95% CI 15 to 80) for adults 65 years and older. The SPSN interim estimates are published and available online.

Updated influenza VE estimates, if available, will be published at the end of the 2022-2023 influenza season.

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.