FLUWATCH

July 21 to August 24 2024
(Weeks 30-34)

Weekly Highlights

At the national level, indicators of influenza activity are decreasing and remain at interseasonal levels.

This is the final FluWatch report for the 2023-2024 season.

Virologic

- In week 34, the percentage of tests positive for influenza was 0.3% and a total of 57 laboratory detections (47 influenza A and 10 influenza B) were reported.

Syndromic

- The percentage of FluWatchers reporting cough and fever was 1.3% in week 34. The percentage of FluWatchers reporting cough and fever remains similar to expected levels for this time of year.

Outbreaks

- From August 27, 2023 to August 24, 2024 (weeks 35 to 34), 1,224 laboratory-confirmed influenza outbreaks have been reported (no laboratory-confirmed influenza outbreaks were reported in week 34).

Severe Outcomes

- From August 27, 2023 to August 24, 2024 (weeks 35 to 34), 4,516 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 (199/100,000) and children under 5 years of age (139/100,000).

Other Notes

- This is the final FluWatch report of the 2023-2024 season. The next scheduled FluWatch report, the first of the 2024-2025 surveillance season (weeks 35-39) will be published October 4, 2024.
- Weekly reporting of SARS-CoV-2 specific trends can be found on the COVID-19 epidemiology update page.
- Weekly reporting of laboratory detections of influenza, SARS-CoV-2, and other seasonal respiratory viruses will continue via our Respiratory Virus Detections Surveillance System.

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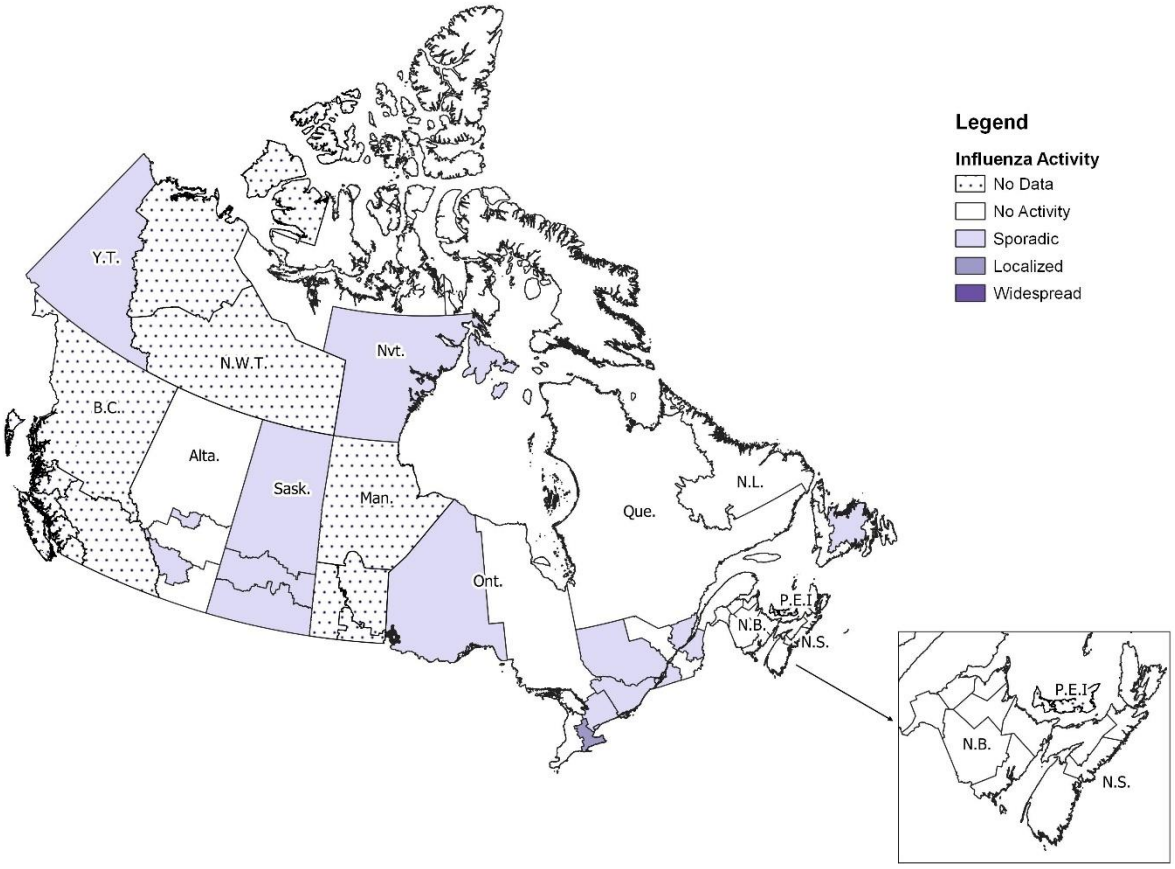
Canada

Influenza/Influenza-like Illness Activity – Geographic Spread

In week 34, 1 region in one province reported localized influenza activity (Ont.) and 15 regions in seven provinces and territories reported sporadic influenza activity (N.L., Que., Ont., Sask., Alta., Y.T., and Nvt.). 24 regions in seven provinces and territories reported no activity this week (N.L., N.S., N.B., Que., Ont., Alta., and Nvt.). (Figure 1).

Figure 1 – Map of influenza/ILI activity by province and territory, Canada, week 2024-34

Number of Regions Reporting in week 34: 40 out of 53



Laboratory-Confirmed Influenza Detections

Influenza percent positivity continues to decrease (57 detections, 0.3%). The following results were reported from sentinel laboratories across Canada in week 34 (Figures 2 and 3):

- A total of 57 laboratory detections were reported (47 influenza A detections and 10 influenza B detections).
- Among subtyped influenza A detections (9), 90% (8) were influenza A(H1N1).
- Age information was reported for 33 detections. Adults aged over 65 years of age reported the highest proportion of detections, 51%.

The start of the 2023-2024 season was declared in week 45 (week ending November 11, 2023) and the end of the season was declared in week 19 (week ending May 11, 2024). The season peaked in week 52 (week ending December 30, 2023) at 18.7% test positivity.

During the 2023-2024 season:

- 103,173 influenza detections were reported from 1,358,268 tests, of which 77% (79,940) were influenza A.
- Among subtyped influenza A detections (26,742), influenza A(H1N1) accounted for 84% (22,421) of detections.
- 85,379 laboratory-confirmed influenza detections with age information were reported, of which 27,264 (32%) were in individuals aged 0-19 years old. Across adult age groups, adults over 65 years reported the highest detections, 27%, while similar proportions are being observed in adults 20-44 years old, 22% and adults 45-64 years, 19% (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 2024-34

Number of Laboratories Reporting in Week 34: 31 out of 35

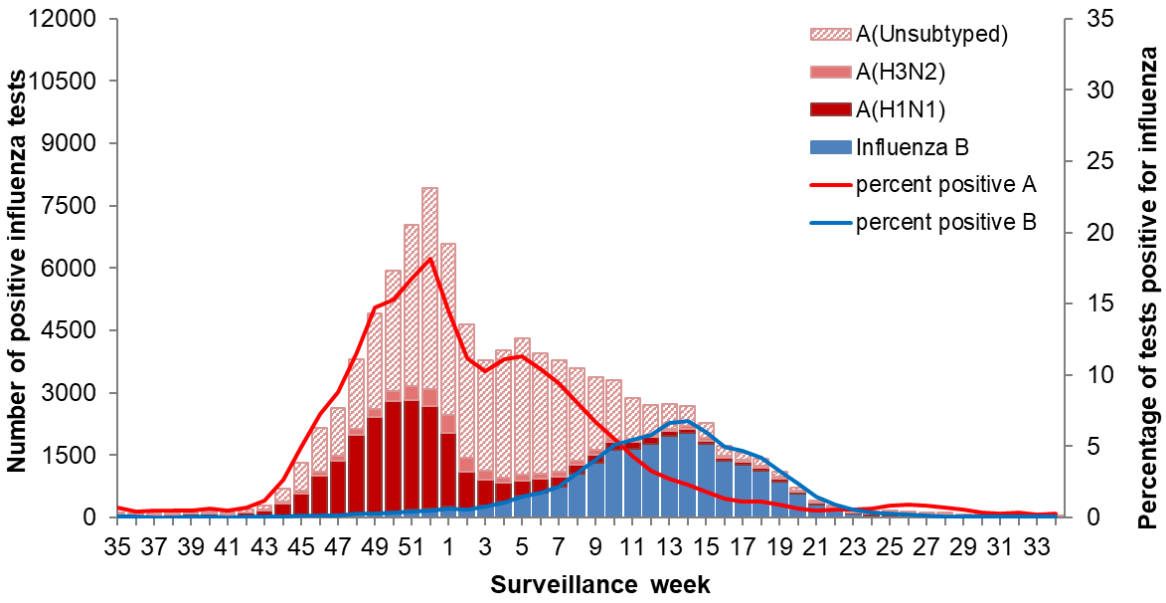
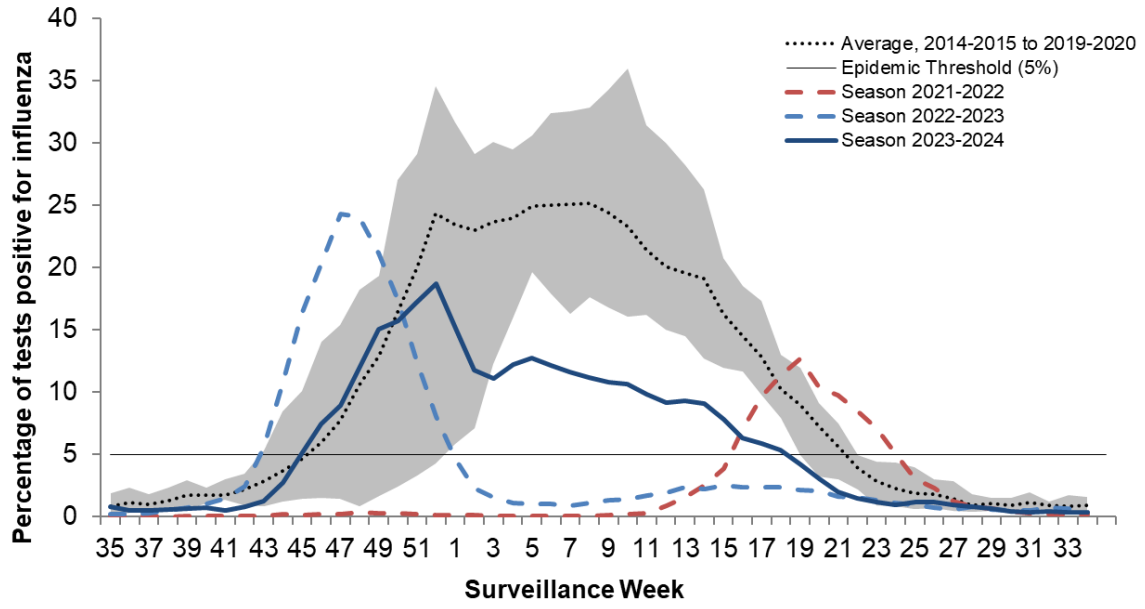


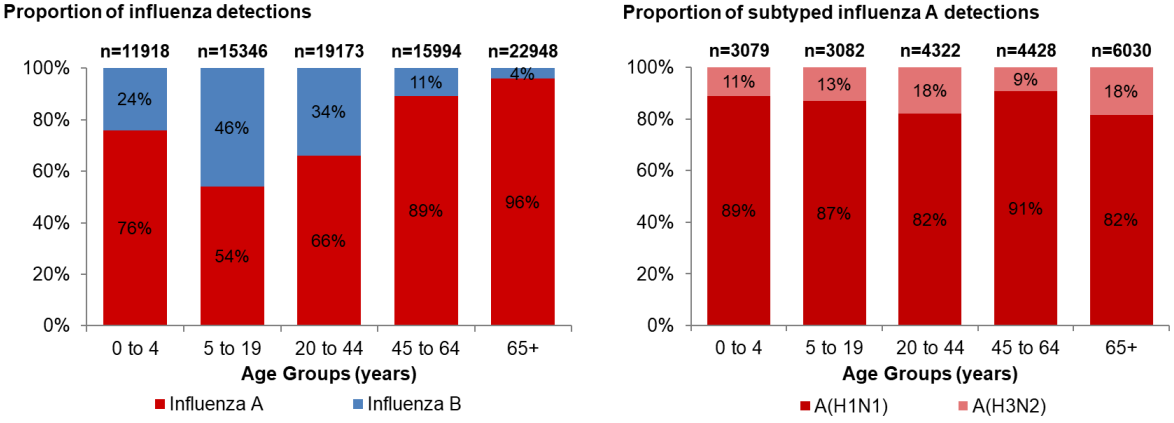
Figure 3 –Percentage of tests positive in Canada compared to previous seasons, week 2023-35 to 2024-34



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 2024-34



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

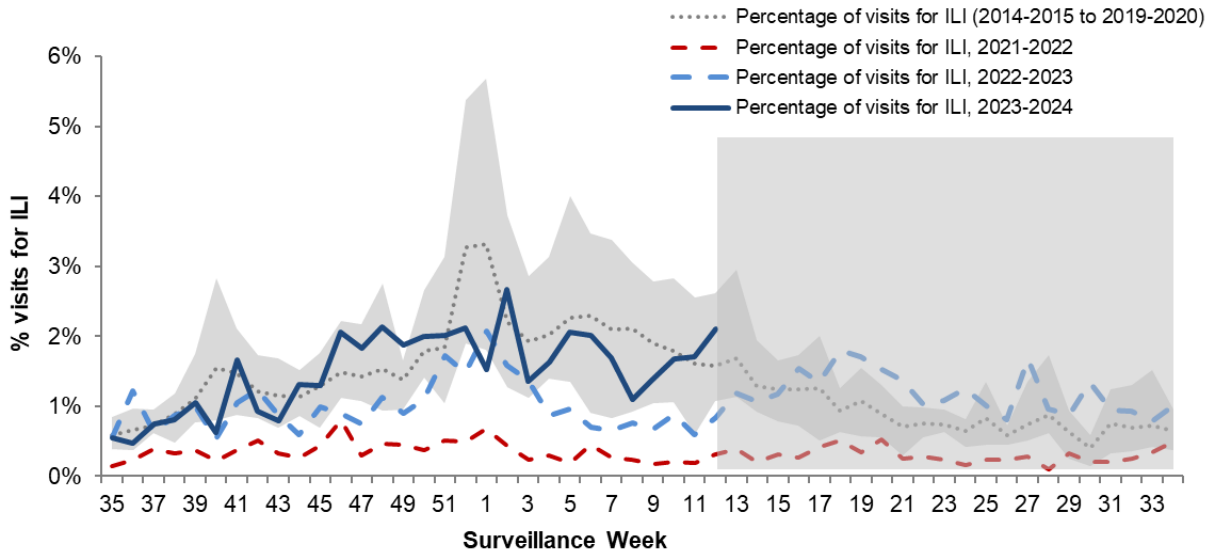
Healthcare Practitioners Sentinel Surveillance

Sentinel practitioner ILI surveillance data will not be updated further due to the limited number of reporting sentinels.

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 2024-12



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 34, 8,224 participants reported to FluWatchers, of which 1.3% reported symptoms of cough and fever (Figure 6). The percentage of FluWatchers reporting cough and fever has increased slightly but remains within expected 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 109 participants who reported cough and fever:

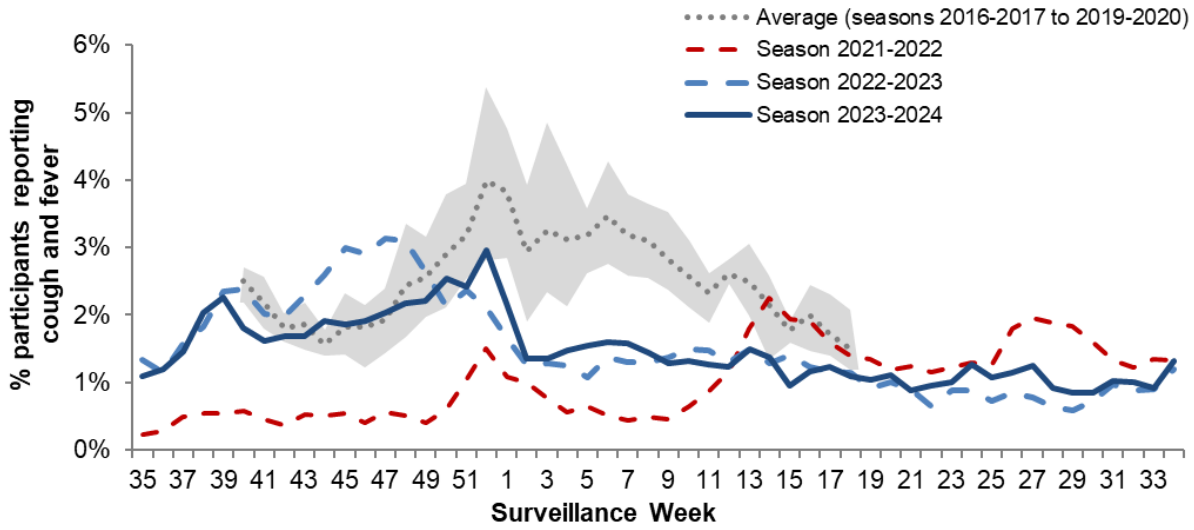
- 14% consulted a healthcare professional.
- 68% reported days missed from work or school, resulting in an average of 2.3 missed days from work or school among those 74 participants.

The Yukon had the highest participation rate this week (48 participants per 100,000 population) and the neighbourhood with postal code K0A had the highest number of participants (112). 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 2024-34

Number of Participants Reporting in Week 34: 8,224



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 34, no laboratory-confirmed influenza outbreaks were reported.

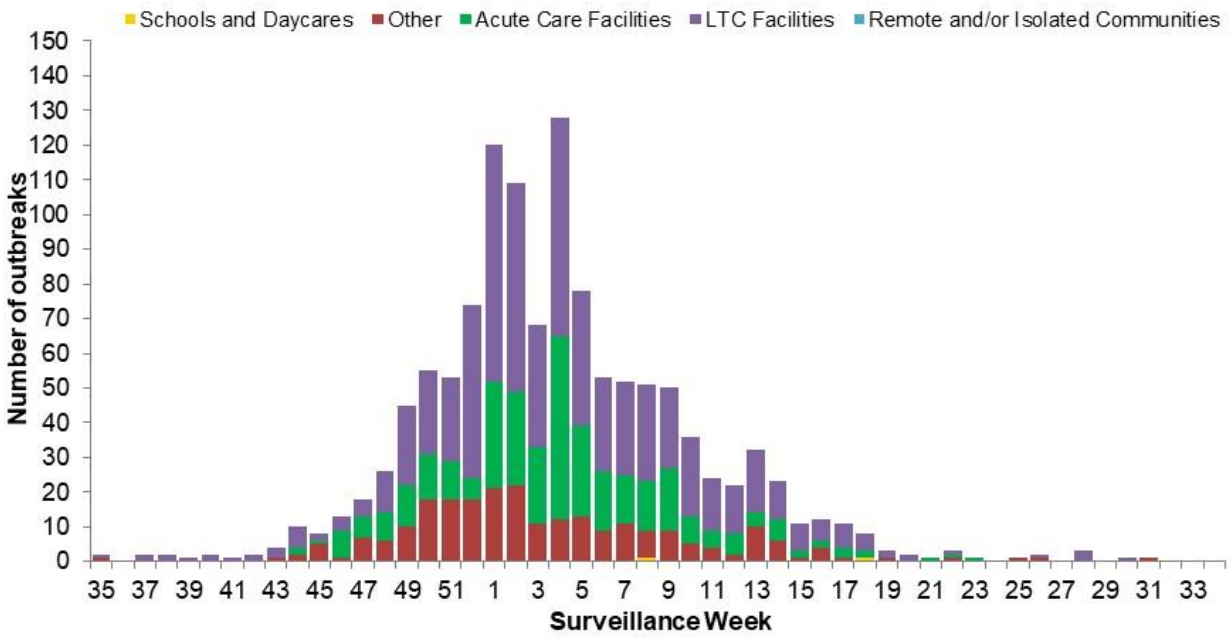
During the 2023-2024 season:

- 1,224 laboratory-confirmed influenza outbreaks have been reported
  - 651 were in LTC facilities (53%)
  - 330 were in acute care facilities (27%)
  - 241 were in a facility categorized as 'other' (20%)
  - 2 were in a school or daycare (<1%)
  - 1,184 outbreaks were associated with influenza A and 31 outbreaks were associated with influenza B; an additional 6 outbreaks were a mix of influenza A and influenza B and 3 outbreaks were untyped.
  - Among outbreaks with subtyping information (241), influenza A(H1N1) was detected in 86% of the outbreaks
- 90 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 2024-34

Number of provinces and territories[1] reporting in week 34: 9 out of 13



[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. 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

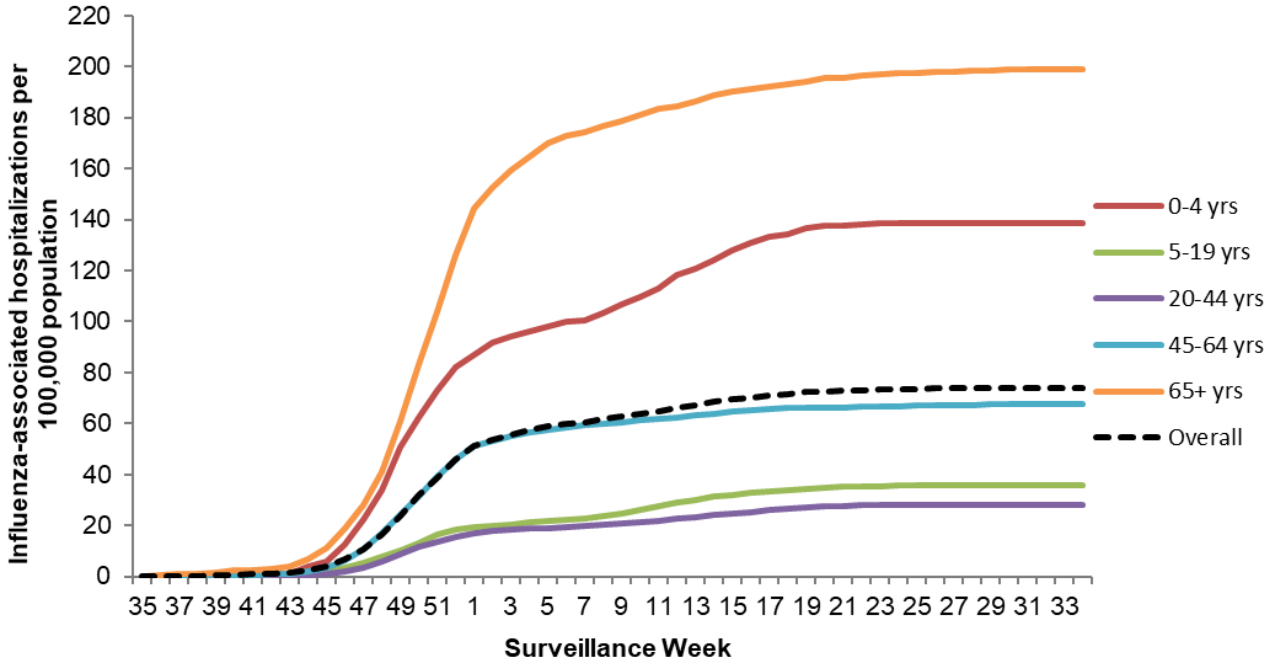
In week 34, less than 5 influenza-associated hospitalizations, no ICU admissions, and no influenza-associated deaths were reported by participating provinces and territories[2].

During the 2023-2024 season:

- 4,516 influenza-associated hospitalizations were reported by participating provinces and territories
  - 87% of the hospitalizations were associated with influenza A.
  - Of the cases with subtype information (2,925), 92% 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 (199/100,000) and children under 5 years of age (139/100,000).
- 493 ICU admissions and 256 influenza-associated deaths were reported.
  - Adults aged 45-64 years of age and 65 years of age and older accounted for 37% and 30% of reported ICU admissions respectively.
  - Adults aged 65 years of age and older accounted for 71% 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 2024-34

Number of provinces and territories reporting in week 34: 4 out of 5



[2]Influenza-associated hospitalizations are reported by Alberta, New Brunswick, Newfoundland and Labrador, Prince Edward Island and Yukon.

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[3]. The SPRINT-KIDS sentinel pediatric (≤18 years) hospital network provides severe outcome monitoring in both the emergency department 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

From October 1, 2023 to May 11, 2024:

- 59,984 tests have been conducted for influenza across 13 sites[4].
- 6,779 tests were positive for influenza.
- The majority were influenza A (n=4,458; 66%).

Hospitalizations

From October 1, 2023 to May 11, 2024:

- 1,111 influenza-associated pediatric hospitalizations were reported from a total of 4,641 positive influenza tests across 10 sites[4].
- The majority were influenza A (n=809; 73%).

[3] 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.

[4] 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 1,999 influenza viruses (334 A(H3N2), 920 A(H1N1), and 745 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.

- 904 influenza A(H1N1) viruses were characterized as antigenically similar to A/Wisconsin/67/2022-like with antisera produced against cell-grown A/Wisconsin/67/2022.
- 16 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.

- 312 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.
- 22 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)

- 745 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 2,065 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
A(H1N1)					The A(H1N1) component belongs to genetic clade 6B.1A.5a.2a.1
	6B.1A.5a	977	2a	473	
			2a.1	504	
A(H3N2)					The A(H3N2) component belongs to genetic clade 3C.2a1b.2a.2a
	3C.2a1b.2a	344	2a.1b	3	
			2a.3a	2	
			2a.3a.1	339	
B/Victoria					The B/Victoria component belongs to genetic clade V1A.3
	V1A	744	3a.2	744	
B/Yamagata					The B/Yamagata component belongs to genetic clade Y3
	Y3	0	Y3	0	

Additionally, the NML reported a positive specimen for A(H3N2)v during the week of July 7, 2024 (week 28). Genetic sequencing results indicate the hemagglutinin (HA) gene showed 99.53% identity to A/swine/Minnesota/A02862472/2024 (A/H3N2). Additional information can be found in the August issue of the Human Emerging Respiratory Pathogens Bulletin.

Antiviral Resistance

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

Oseltamivir

1,702 influenza viruses (283 H3N2, 863 H1N1 and 556 influenza B) were tested for resistance to oseltamivir.

- Three of the 863 influenza A(H1N1) viruses were resistant to oseltamivir
- All influenza A(H3N2) viruses and B viruses were sensitive to oseltamivir.

Zanamivir

1,702 influenza viruses (283 H3N2, 863 H1N1 and 556 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

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 2023-2024 influenza season, coverage was similar compared to previous seasons (2022-2023; 2019-2020):

- 42% among all adults aged 18 years and older.
    - 29% among adults aged 18-64 without chronic medical conditions.
    - 44% among adults aged 18-64 with chronic medical conditions.
- 73% 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 2023-2024

Flu Season								
	2023-2024		2022-2023		2021-2022		2020-2021	
Age group (years)	n	Vaccination coverage % (95% CI)	n	Vaccination coverage % (95% CI)	n	Vaccination coverage % (95% CI)	n	Vaccination coverage % (95% CI)
All adults (≥18)	5344	42.2 (40.5-44.0)	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	2264	28.5 (26.1-30.8)	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	987	44.1 (40.1-48.1)	583	43.1 (38.6-47.6)	713	37.6 (33.6-41.7)	646	40.5 (36.2-44.8)
Seniors (≥65)	2072	72.7 (70.3-75.1)	1198	73.7 (71.0-76.5)	1098	71.0 (68.1-74.0)	862	70.4 (67.1-73.8)

Vaccine Effectiveness

With contribution from the provinces of British Columbia, Alberta, Ontario and Quebec, the Canadian Sentinel Practitioner Surveillance Network (SPSN) provides vaccine effectiveness (VE) estimates for the prevention of medically attended illness due to laboratory-confirmed influenza and COVID-19. Below is a summary of SPSN 2023/24 influenza VE findings.

Between October 29, 2023 and May 4, 2024, influenza A(H1N1)pdm09 comprised about half, influenza B about one-quarter and influenza A(H3N2) about one-fifth of all influenza viruses detected by the SPSN. Among case viruses contributing to VE analyses and characterized by whole genome sequencing, a roughly equal proportion of A(H1N1)pdm09 viruses were vaccine-matched clade 5a.2a.1 versus alternate clade 5a.2a viruses; whereas, all influenza B viruses were the vaccine matched B(Victoria) V1A.3a.2 clade and virtually all A(H3N2) viruses belonged to vaccine mis-matched clade 2a.3a.1.

During the analysis period, VE against any medically-attended influenza was 46% (95% CI: 37 to 54). VE against influenza A was 48% (95% CI: 38 to 56): 50% (95% CI: 39 to 59) against A(H1N1)pdm09 and 32% (95% CI: 10 to 49) against A(H3N2). VE against influenza B was 63% (95% CI: 48 to 74). VE was paradoxically lower for A(H1N1)pdm09 viruses belonging to vaccine-matched clade 5a.2a.1 (43%, 95% CI: 24 to 57) than the alternate clade 5a.2a (57%, 95% CI: 41 to 63). Influenza A (H1N1)pdm09 VE estimates were higher in children <20 years at 61% (95% CI: 40 to 75) and adults ≥65 years at 61% (95% CI: 38 to 75), compared to adults 20-64 years at 41% (95% CI: 24 to 54).

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 – Respiratory Watch (gnb.ca)
- Prince Edward Island – PEI Respiratory Illness Summary 2023-2024 Season | Government of Prince Edward Island
- Nova Scotia – CDPC - Respiratory Watch Report | novascotia.ca
- Newfoundland and Labrador – Newfoundland and Labrador Multi Respiratory Application (arcgis.com)
- Yukon – Respiratory surveillance report
- 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.