FluWatch

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

October 30 to November 5, 2016 (Week 44)

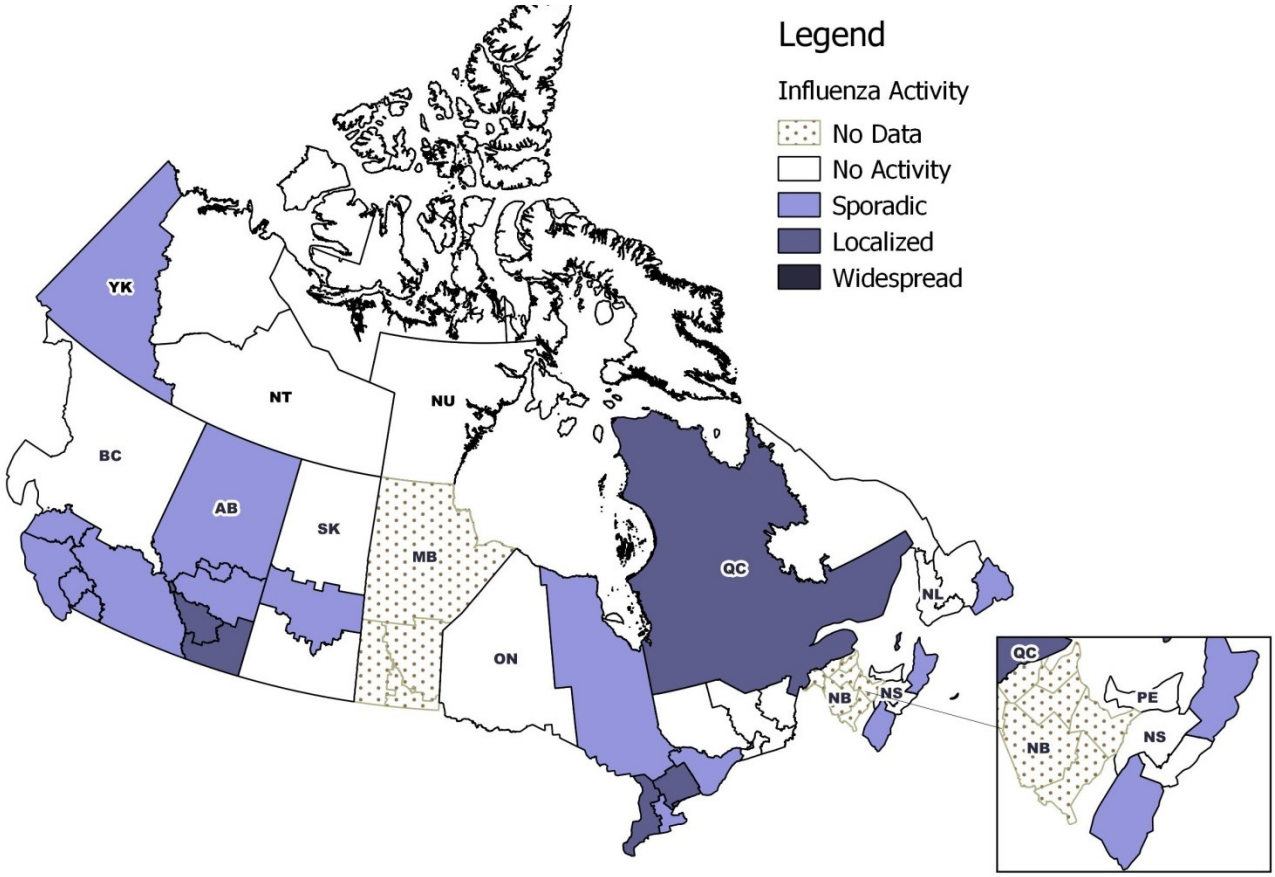
Overall Summary

- Influenza activity is at interseasonal levels with the majority regions in Canada reporting low activity.
- A total of 147 positive influenza detections were reported in week 44. Influenza A(H3N2) continues to be the most common subtype detected.
- In week 44, 1.4% of visits to sentinel healthcare professionals were due to influenza-like symptoms, a slight increase from week 43.
- Nine laboratory-confirmed influenza outbreaks were reported in week 44.
- Ten hospitalizations were reported in week 44; all due to influenza A(H3N2). The first influenza-associated deaths of the season were reported in week 44, but cumulative counts remain low (less than five deaths).
- For more information on the flu, see our Flu(influenza) web page.

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

In week 44, a total of 19 regions reported no influenza activity. Sporadic influenza activity was reported in 16 regions across eight provinces (BC, AB, SK, ON, QC, NS, NF and YK). Localized activity was reported in six regions across three provinces (AB, ON and QC). For more details on a specific region, click on the map.

Figure 1 – Map of overall influenza/ILI activity level by province and territory, Canada, Week 44

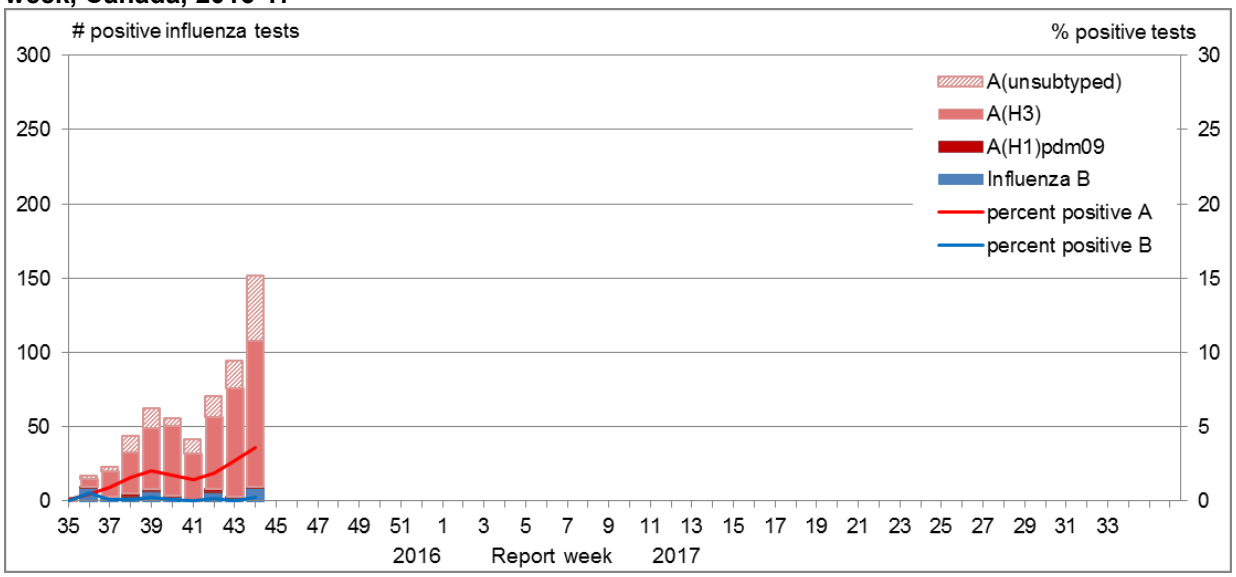


Note: Influenza/ILI activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates and reported outbreaks. Please refer to detailed definitions at the end of the report. Maps from previous weeks, including any retrospective updates, are available in the mapping feature found in the Weekly Influenza Reports.

Laboratory Confirmed Influenza Detections

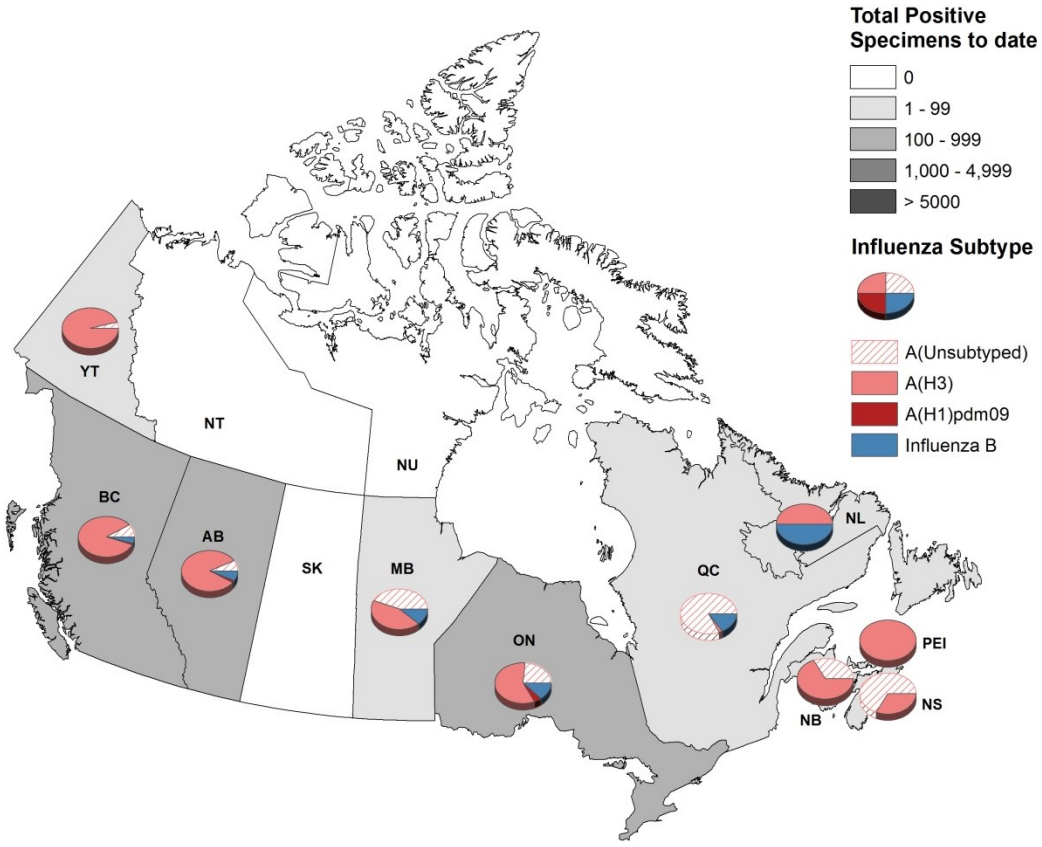
The percentage of tests positive for influenza increased in week 44 but remained at interseasonal levels, with 3.9% of tests positive for influenza. For data on other respiratory virus detections, see the Respiratory Virus Detections in Canada Report on the Public Health Agency of Canada (PHAC) website.

Figure 2 – Number of positive influenza tests and percentage of tests positive, by type, subtype and report week, Canada, 2016-17



Nationally in week 44, there were 147 positive influenza tests. Influenza A(H3N2) was the most common subtype detected. BC and AB accounted for the majority (65%) of influenza detections in week 44. To date, influenza A(H3N2) is the most common subtype detected, representing 73% of laboratory-confirmed detections. 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 3 – Cumulative numbers of positive influenza specimens by type/subtype and province/territory, Canada, 2016-17



To date this season, detailed information on age and type/subtype has been received for over 536 laboratory confirmed influenza cases. Adults aged 65+ accounted 46% of reported influenza cases. Among cases of influenza A(H3N2), adults aged 65+ accounted for 48% of cases.

Table 1 – Weekly and cumulative numbers of positive influenza specimens by type, subtype and age-group reported through case-based laboratory reporting[1], Canada, 2016-17

Age groups (years)	Week (Oct. 30, 2016 to Nov. 5, 2016)					Cumulative (Aug. 28, 2016 to Nov. 5, 2016)						
	Influenza A				B	Influenza A				B	Influenza A and B	
	A Total	A(H1) pdm09	A(H3)	A (UnS)[3]	Total	A Total	A(H1) pdm09	A(H3)	A (UnS)[3]	Total	#	%
0-4	6	0	<5	<5	<5	38	0	24	14	9	47	9%
5-19	7	0	<5	<5	0	37	0	32	5	<5	>37	7%
20-44	22	0	14	8	0	>86	<5	68	18	8	>94	18%
45-64	19	0	8	11	0	>104	<5	70	34	6	>110	21%
65+	44	0	27	17	<5	>238	<5	180	58	10	>248	46%
Total	98	0	57	41	<5	510	7	374	129	>33	>536	100%
Percentage[2]	96%	0%	58%	42%	4%	94%	1%	73%	25%	6%		

[1]Table 1 includes specimens for which demographic information was reported. These represent a subset of all positive influenza cases reported. Cumulative data include updates to previous weeks.
[2]Percentage of tests positive for sub-types of influenza A are a percentage of all influenza A detections.
[3]UnS: unsubtyped: The specimen was typed as influenza A, but no result for subtyping was available.
Specimens from NT, YT, and NU are sent to reference laboratories in the provinces

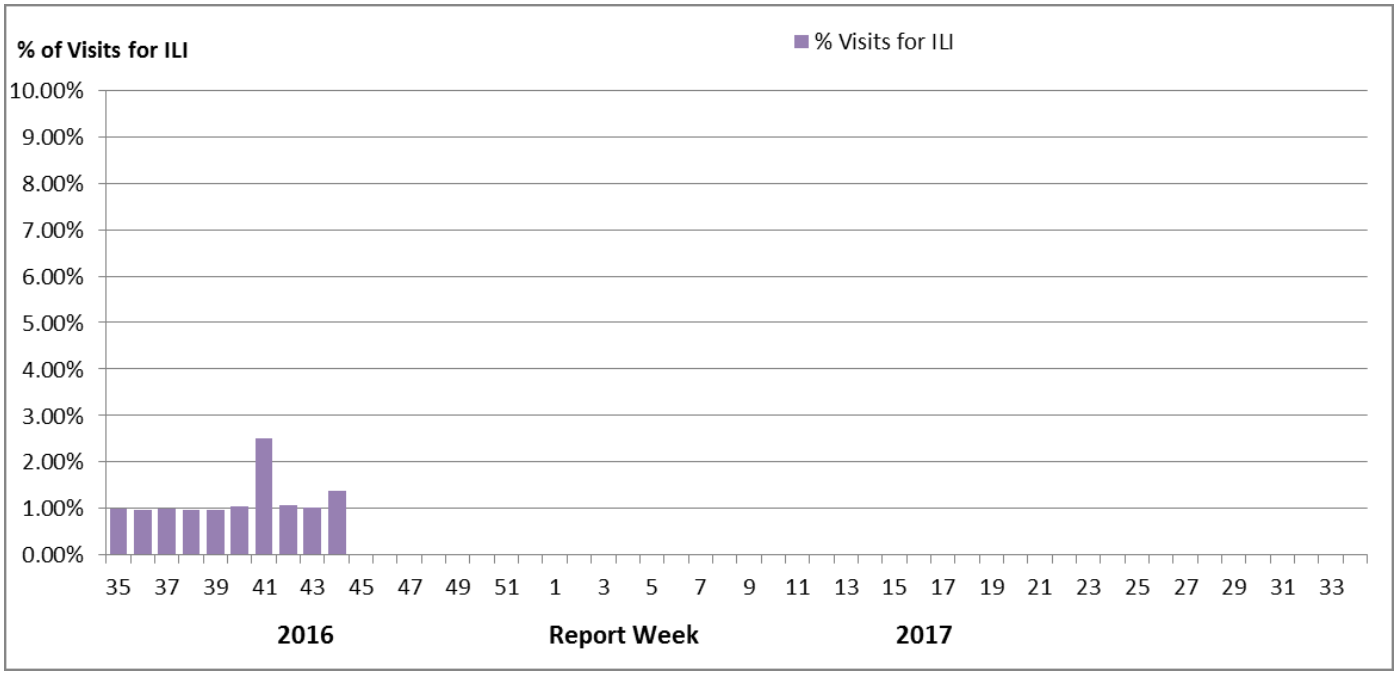
Syndromic/Influenza-like Illness Surveillance

Healthcare Professionals Sentinel Syndromic Surveillance

In week 44, 1.4% of visits to healthcare professionals were due to ILI. The proportion of ILI visits increased slightly from the previous week.

Figure 4 – Percentage of visits for ILI reported by sentinels by report week, Canada, 2016-17

Number of Sentinels Reporting Week 44: 107



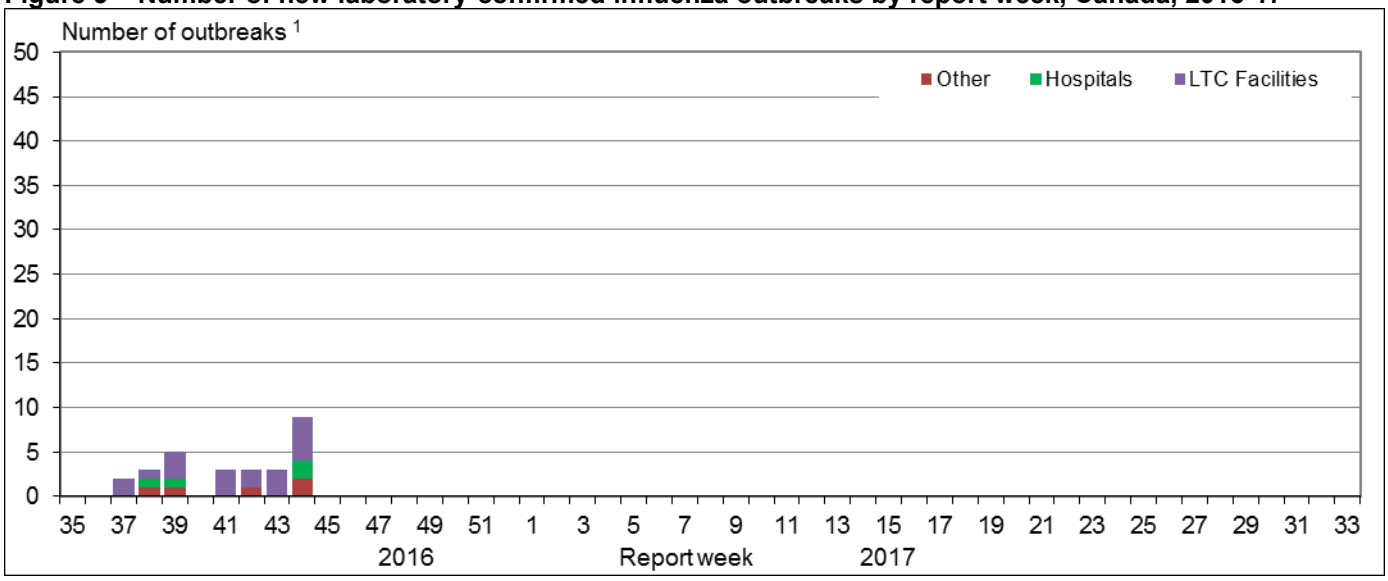
Delays in the reporting of data may cause data to change retrospectively. In BC, AB, and SK, data are compiled by a provincial sentinel surveillance program for reporting to FluWatch. Not all sentinel physicians report every week.

Are you a primary healthcare practitioner (General Practitioner, Nurse Practitioner or Registered Nurse) interested in becoming a FluWatch sentinel? Please visit our Influenza Sentinel page for more details.

Influenza Outbreak Surveillance

In week 44, nine laboratory confirmed influenza outbreaks were reported: five in long-term care (LTC) facilities, two in hospitals and two in institutions or community settings. Of the outbreaks with known strains or subtypes, one outbreak was due to influenza A(H3N2) (in a LTC facility) and one outbreak was due to influenza A (unsubtyped) (in a LTC facility). To date this season, 29 outbreaks have been reported and the majority (66%) have occurred in LTC facilities.

Figure 5 – Number of new laboratory-confirmed influenza outbreaks by report week, Canada, 2016-17



[1]All provinces and territories except NU report influenza outbreaks in long-term care facilities. All provinces and territories with the exception of NU and QC report outbreaks in hospitals. Outbreaks of influenza or influenza-like-illness in other facilities are reported to FluWatch but reporting varies between jurisdictions. Outbreak definitions are included at the end of this report.

Provincial/Territorial Influenza Hospitalizations and Deaths

In week 44, a total of 10 influenza-associated hospitalizations and less than five ICU admissions and deaths were reported by participating provinces and territories*. All hospitalizations in week 44 were due to influenza A(H3N2).

To date this season, greater than 63 hospitalizations have been reported, of which 73% were due to influenza A(H3N2) and 67% were in adults aged 65+. Less than five ICU admissions and deaths have been reported.

Table 2 – Cumulative number of hospitalizations, ICU admissions and deaths by age and Influenza type reported by participating provinces and territories, Canada, 2016-17

Age Groups (years)	Cumulative (Aug. 28, 2016 to 5 Nov. 2016)						
	Hospitalizations			ICU Admissions		Deaths	
	Influenza A Total	Influenza B Total	Total (#)	Influenza A and B Total	%	Influenza A and B Total	%
0-4	<5	0	6%	0	0%	0	0%
5-19	5	<5	9%	0	0%	0	0%
20-44	<5	<5	8%	0	0%	0	0%
45-64	6	<5	10%	0	0%	0	0%
65+	44	<5	67%	<5	100%	<5	100%
Total	63	<5	100%	<5	100%	<5	100%

*Note: Influenza-associated hospitalizations are not reported to PHAC by BC, NU, and QC. Only hospitalizations that require intensive medical care are reported by SK. ICU admissions are not distinguished among hospital admissions reported from ON. The hospitalization or death does not have to be attributable to influenza, a positive laboratory test is sufficient for reporting.

Sentinel Hospital Influenza Surveillance

Pediatric Influenza Hospitalizations and Deaths

To date this season, less than five laboratory-confirmed influenza-associated pediatric (≤16 years of age) hospitalizations were reported by the Immunization Monitoring Program Active (IMPACT) network.

Influenza Strain Characterizations

During the 2016-17 influenza season, the National Microbiology Laboratory (NML) has characterized 49 influenza viruses [38 A(H3N2), 2 A(H1N1), 9 influenza B].

Table 3 – Influenza strain characterizations, Canada, 2016-17

Strain Characterization Results[1]	Count	Description
Influenza A (H3N2)		
Antigenically A/Hong Kong/4801/2014-like	17	Viruses antigenically similar to A/Hong Kong/4801/2014, the A(H3N2) component of the 2016-17 Northern Hemisphere's trivalent and quadrivalent vaccine.
Genetically[2] A/Hong Kong/4801/2014-like	21	Viruses belonging to a genetic group for which most viruses were antigenically related to A/Hong Kong/4801/2014, the A(H3N2) component of the 2016-17 Northern Hemisphere's trivalent and quadrivalent vaccine.
Influenza A (H1N1)		
A/California/7/2009-like	2	Viruses antigenically similar to A/California/7/2009, the A(H1N1) component of the 2016-17 Northern Hemisphere's trivalent and quadrivalent vaccine influenza vaccine.
Influenza B		
B/Brisbane/60/2008-like (Victoria lineage)	7	Viruses antigenically similar to B/Brisbane/60/2008, the influenza B component of the 2016-17 Northern Hemisphere's **trivalent** and **quadrivalent** influenza vaccine
B/Phuket/3073/2013-like (Yamagata lineage)	2	Viruses antigenically similar to B/Phuket/3073/2013, the additional influenza B component of the 2016-17 Northern Hemisphere **quadrivalent** influenza vaccine.

[1]The NML receives a proportion of the influenza positive specimens from provincial laboratories for strain characterization and antiviral resistance testing. Strain characterization data reflect the results of hemagglutination inhibition (HI) testing compared to the reference influenza strains recommended by WHO.

[2]Determined by sequence analysis

Antiviral Resistance

During the 2016-17 season, the National Microbiology Laboratory (NML) has tested 50 influenza viruses for resistance to oseltamivir and zanamivir and 30 influenza viruses for resistance to amantadine. All 50 viruses weres sensitive to oseltamivir and zanamivir. All 30 influenza A viruses were resistant to amantadine (Table 4).

Table 4 – Antiviral resistance by influenza virus type and subtype, Canada, 2016-17

Virus type and subtype	Oseltamivir		Zanamivir		Amantadine	
	# tested	# resistant (%)	# tested	# resistant (%)	# tested	# resistant (%)
A (H3N2)	41	0 (0%)	41	0 (0%)	28	28 (100%)
A (H1N1)	2	0 (0%)	2	0 (0%)	2	2 (100%)
B	7	0 (0%)	7	0 (0%)	NA[1]	NA[1]
TOTAL	50	0 (0%)	50	0 (0%)	30	30 (100%)

[1]NA: Not Applicable

Provincial and International Influenza Reports

- *World Health Organization influenza update*
- *World Health Organization FluNet*
- *WHO Influenza at the human-animal interface*
- *Centers for Disease Control and Prevention seasonal influenza report*
- *European Centre for Disease Prevention and Control - epidemiological data*
- *South Africa Influenza surveillance report*
- *New Zealand Public Health Surveillance*
- *Australia Influenza Report*
- *Pan-American Health Organization Influenza Situation Report*
- Alberta Health – Influenza Surveillance Report
- BC - Centre for Disease Control (BCCDC) - Influenza Surveillance
- New Brunswick – Influenza Surveillance Reports
- Newfoundland and Labrador – Surveillance and Disease Reports
- Nova Scotia - Flu Information
- Public Health Ontario – Ontario Respiratory Pathogen Bulletin
- Quebec - Système de surveillance de la grippe
- Manitoba – Epidemiology and Surveillance – Influenza Reports
- Saskatchewan – influenza Reports
- PEI – Influenza Summary

FluWatch Definitions for the 2016-2017 Season

Abbreviations: Newfoundland/Labrador (NL), Prince Edward Island (PE), New Brunswick (NB), Nova Scotia (NS), Quebec (QC), Ontario (ON), Manitoba (MB), Saskatchewan (SK), Alberta (AB), British Columbia (BC), Yukon (YT), Northwest Territories (NT), Nunavut (NU).

Influenza-like-illness (ILI): Acute onset of respiratory illness with fever and cough and with one or more of the following - sore throat, arthralgia, myalgia, or prostration which is likely due to influenza. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

ILI/Influenza outbreaks
Schools: Greater than 10% absenteeism (or absenteeism that is higher (e.g. >5-10%) than expected level as determined by school or public health authority) which is likely due to ILI. Note: it is recommended that ILI school outbreaks be laboratory confirmed at the beginning of influenza season as it may be the first indication of community transmission in an area.
Hospitals and residential institutions: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case. Residential institutions include but not limited to long-term care facilities (LTCF) and prisons.
Workplace: Greater than 10% absenteeism on any day which is most likely due to ILI.
Other settings: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case; i.e. closed communities.
Note that reporting of outbreaks of influenza/ILI from different types of facilities differs between jurisdictions.

Influenza/ILI Activity Levels
1 = No activity: no laboratory-confirmed influenza detections in the reporting week, however, sporadically occurring ILI may be reported
2 = Sporadic: sporadically occurring ILI and lab confirmed influenza detection(s) with **no outbreaks** detected within the influenza surveillance region†
3 = Localized: (1) evidence of increased ILI* ;
(2) lab confirmed influenza detection(s);
(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring in **less than 50% of the influenza surveillance region†**
4 = Widespread: (1) evidence of increased ILI*;
(2) lab confirmed influenza detection(s);
(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring **in greater than or equal to 50% of the influenza surveillance region†**
Note: ILI data may be reported through sentinel physicians, emergency room visits or health line telephone calls.
** More than just sporadic as determined by the provincial/territorial epidemiologist.*
† Influenza surveillance regions within the province or territory as defined by the provincial/territorial epidemiologist.

We would like to thank all the Fluwatch surveillance partners who are 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.