

September 25 to October 8, 2016 (Weeks 39-40)

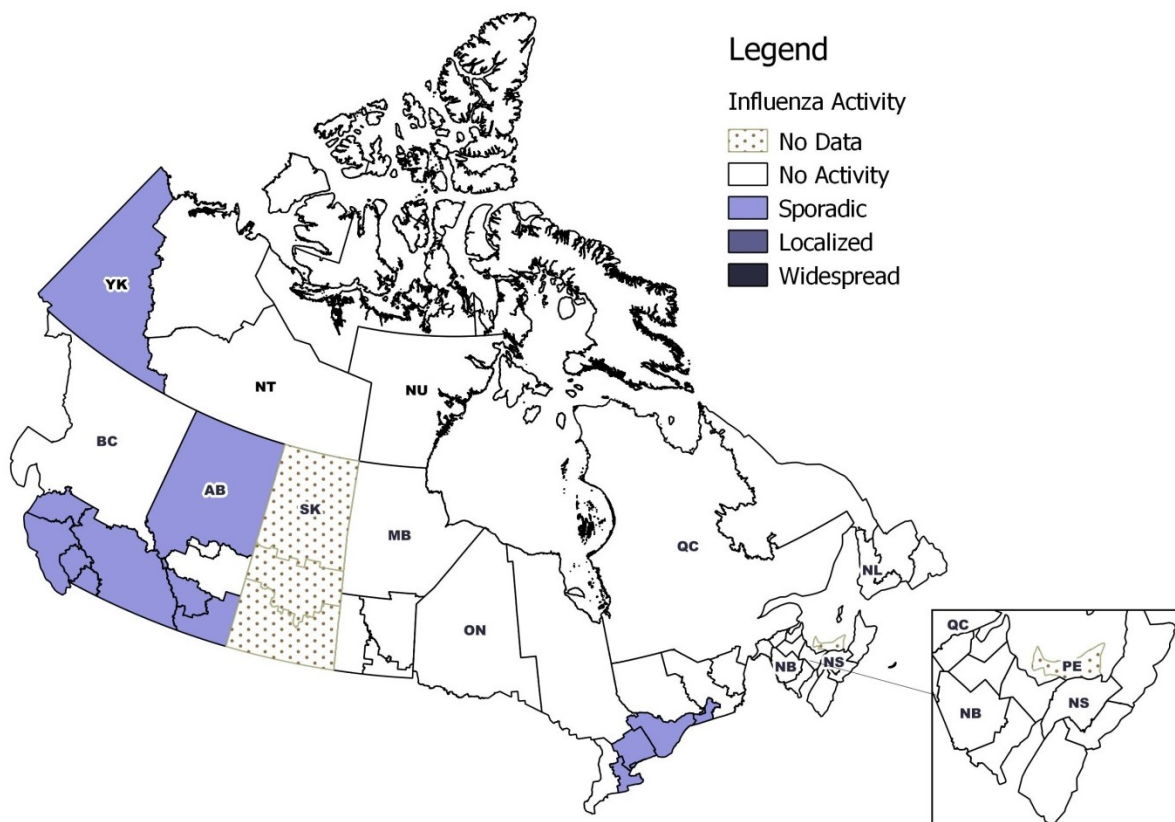
## Overall Summary

- Influenza activity is at interseasonal levels with the majority of regions of Canada reporting no influenza activity.
- Since week 35, the majority of influenza activity has been reported in Western regions of Canada.
- A total of 127 positive influenza detections were reported in weeks 39 and 40. Influenza A(H3N2) was the most common subtype detected and the majority of detections were in adults  $\geq 65$  years of age.
- In weeks 39 and 40, approximately 1.0% of visits to sentinel healthcare professionals were due to ILI.
- A total of six laboratory-confirmed influenza outbreaks were reported all of which occurred in week 39.
- Low numbers of hospitalizations and no deaths were reported in weeks 39 and 40.
- For more information on the flu, see our [Flu\(influenza\)](#) web page.

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

In weeks 39 and 40 the majority of regions experienced sporadic or no activity. In week 39, four regions experienced localized activity while in week 40 no regions experienced localized activity. The majority of activity in both weeks 39 and 40 was reported in Western regions of Canada. Additional information on specific regions is available by clicking on the map below.

Figure 1 – Map of overall influenza/ILI activity level by province and territory, Canada, Week 40

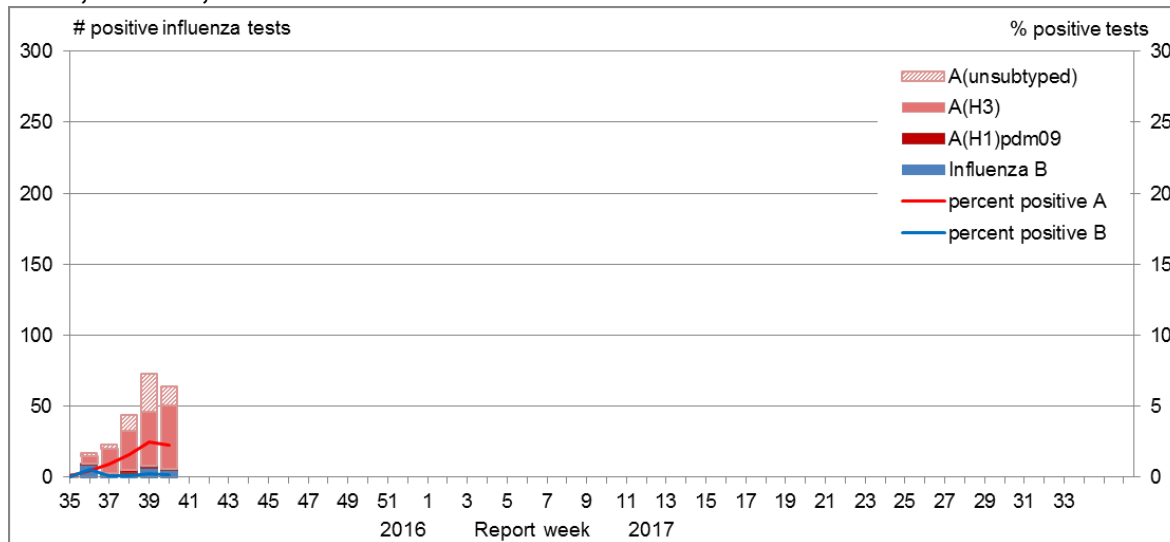


Note: Influenza/ILI activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates and reported outbreaks. Please refer to detailed definitions at the end of the report. Maps from previous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

## Laboratory Confirmed Influenza Detections

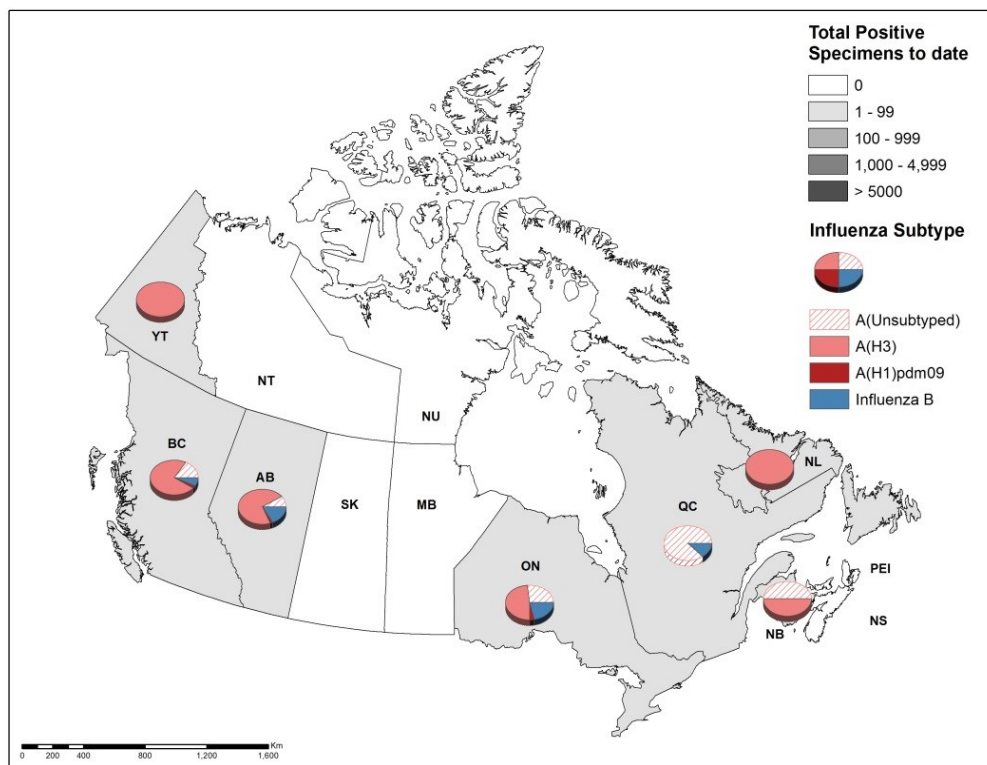
In weeks 39-40, the percentage of tests positive for influenza remained at interseasonal levels, with 2.5% of tests positive in week 39 and 2.3% in week 40. Data on other respiratory virus detections are available in the [Respiratory Virus Detections in Canada Report](#).

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



Nationally in weeks 39-40, there were 127 positive influenza tests reported. Influenza A(H3N2) was the most common subtype detected in both weeks. Many regions across Canada continue to report no influenza detections (SK, MB, NS, PE, NT, NU). More detailed weekly and cumulative influenza data are available in the text descriptions for figures 2 and 3 and the [Respiratory Virus Detections in Canada Report](#).

**Figure 3 – Cumulative numbers of positive influenza specimens by type/subtype and province/territory, Canada, 2016-17**



In weeks 39 and 40, detailed information on age and type/subtype has been received for 84 cases. Adults aged 65+ currently account for the greatest proportion of influenza cases (Table 1).

**Table 1 – Weekly and cumulative numbers of positive influenza specimens by type, subtype and age-group reported through case-based laboratory reporting<sup>1</sup>, Canada, 2016-17**

Age groups (years)	Weeks (Sept. 25 to Oct. 8, 2016)					Cumulative (Aug. 28, 2016 to Oct. 8, 2016)				
	Influenza A				B	Influenza A				B
	A Total	A(H1 pdm09)	A(H3)	A (UnS) <sup>3</sup>		A Total	A(H1 pdm09)	A(H3)	A (UnS) <sup>3</sup>	
<5	<5	0	<5	0	<5	14	0	8	6	<5
5-19	<5	0	<5	0	<5	>5	0	5	<5	<5
20-44	13	0	7	6	<5	27	0	16	11	7
45-64	>12	0	12	<5	<5	>44	<5	29	15	5
65+	42	0	24	18	<5	>90	<5	58	32	6
<b>Total</b>	<b>77</b>	<b>0</b>	<b>49</b>	<b>&gt;24</b>	<b>7</b>	<b>186</b>	<b>&lt;5</b>	<b>116</b>	<b>&gt;64</b>	<b>22</b>

<sup>1</sup>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.

<sup>2</sup>Percentage of tests positive for sub-types of influenza A are a percentage of all influenza A detections.

<sup>3</sup>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 other provinces

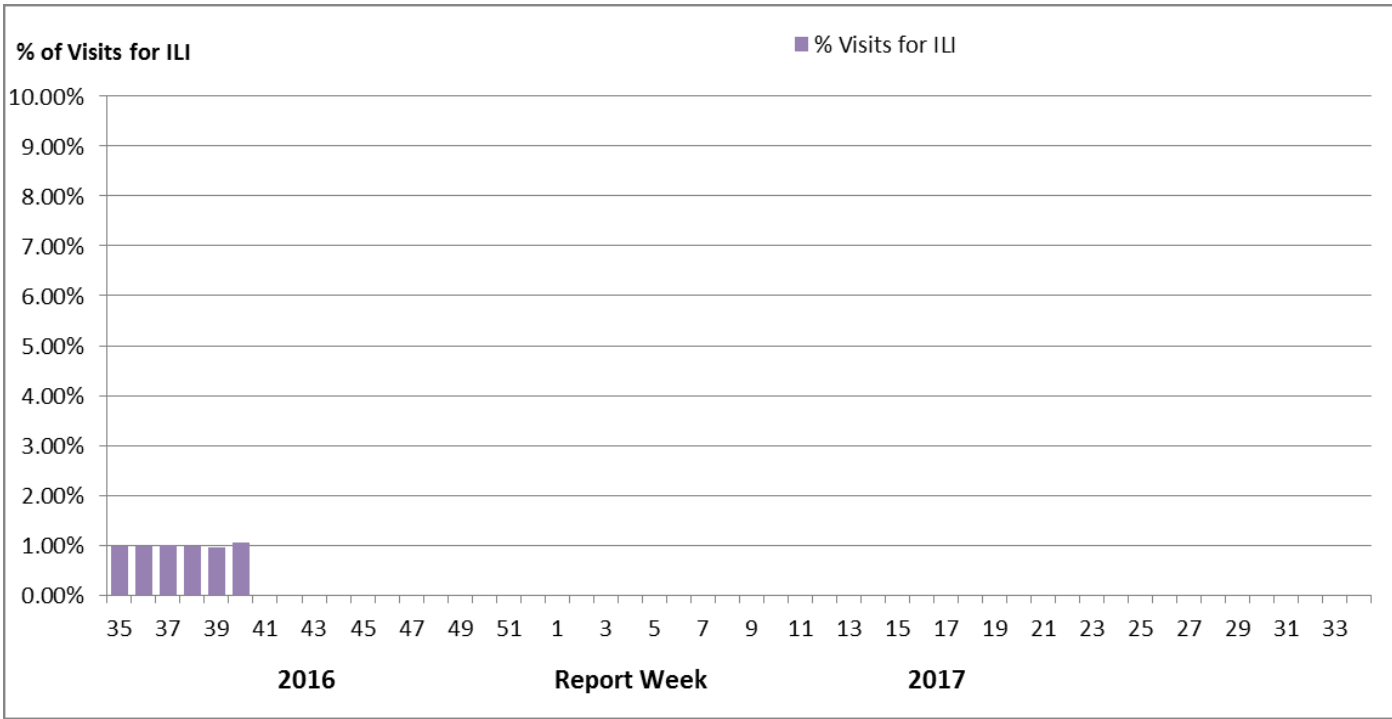
## Syndromic/Influenza-like Illness Surveillance

### Healthcare Professionals Sentinel Syndromic Surveillance

In weeks 39 and 40, approximately 1.0% of visits to healthcare professionals were due to ILI. The ILI rate remained constant since week 35.

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

Number of Sentinels Reporting week 40: 80



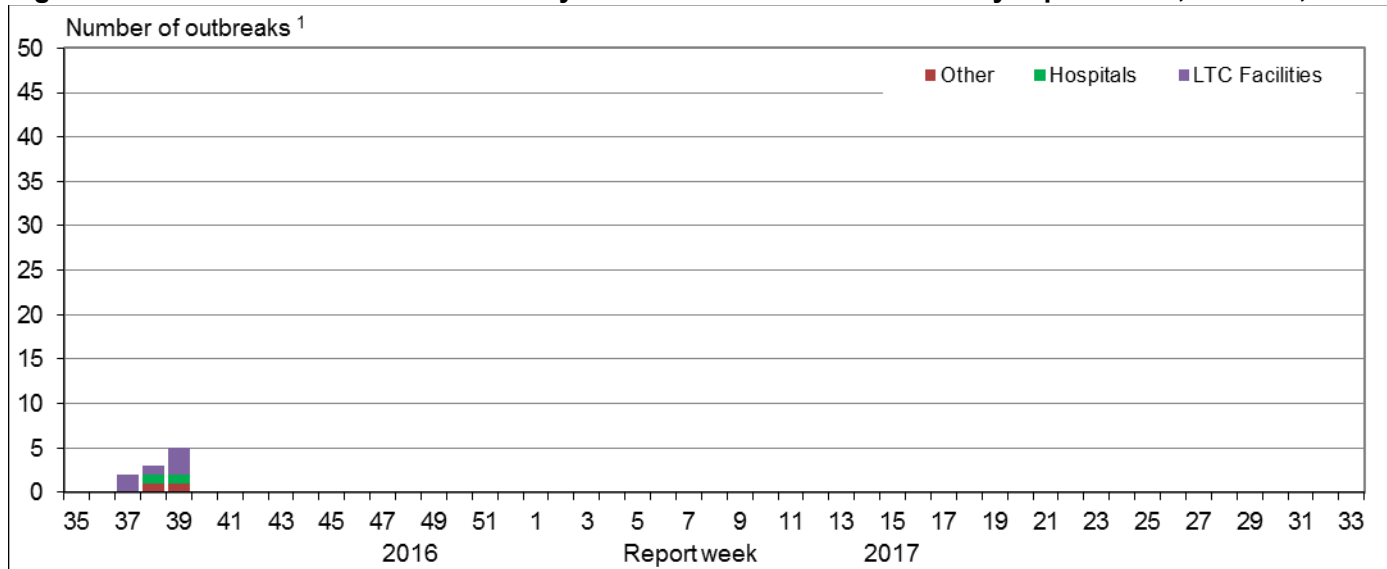
Delays in the reporting of data may cause data to change retrospectively. In BC, AB, and SK, data are compiled by a provincial sentinel surveillance program for reporting to FluWatch. Not all sentinel physicians report every week.

**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 weeks 39-40, six laboratory confirmed influenza outbreaks were reported. A total of four outbreaks were reported in a long term care facility (LTCF), two in hospitals and one in other setting. All outbreaks were reported in week 39. Of the outbreaks with known types or subtypes, one outbreak was due to influenza A (H3N2).

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



<sup>1</sup>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

Cumulatively, over 25 influenza-associated hospitalizations were reported by participating provinces and territories<sup>1</sup>. To date, the majority of hospitalizations have been reported in adults aged 65 years or older. No ICU admissions or deaths have been reported this season.

**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 8 October 2016)					
	Hospitalizations		ICU Admissions		Deaths	
	Influenza A Total	Influenza B Total	Influenza A and B Total	%	Influenza A and B Total	%
0-4	<5	0	0	0%	0	0%
5-19	<5	<5	0	0%	0	0%
20-44	<5	<5	0	0%	0	0%
45-64	0	<5	0	0%	0	0%
65+	17	<5	0	0%	0	0%
<b>Total</b>	<b>&gt;17</b>	<b>&lt;5</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0%</b>

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. It is important to note that 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, a total of five laboratory-confirmed influenza-associated pediatric ( $\leq 16$  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 five influenza viruses [four influenza B and one influenza A(H3N2)].

**Table 3: Influenza strain characterizations, Canada, 2016-17**

Strain Characterization Results*	Count	Description
<b>Influenza B</b>		
B/Brisbane/60/2008-like (Victoria lineage)	3	Viruses antigenically similar to B/Brisbane/60/2008, the influenza B component of the 2016-17 Northern Hemisphere's <b>trivalent</b> and <b>quadrivalent</b> influenza vaccine
B/Phuket/3073/2013-like (Yamagata lineage)	1	Viruses antigenically similar to B/Phuket/3073/2013, the additional influenza B component of the 2016-17 Northern Hemisphere <b>quadrivalent</b> influenza vaccine.
<b>Influenza A (H3N2)</b>		
Antigenically A/Hong Kong/4801/2014-like	1	Viruses antigenically similar to A/Hong Kong/4801/2014, the A(H3N2) component of the 2016-17 Northern Hemisphere's trivalent and quadrivalent vaccine.

\*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](http://www.who.int).

### Antiviral Resistance

During the 2016-17 season, the National Microbiology Laboratory (NML) has tested eleven influenza viruses for resistance to oseltamivir and zanamivir and one virus to Amantadine. All viruses were sensitive to oseltamivir and zanamivir (Table 4). The virus tested for resistance to Amantadine was resistant.

**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 (%)
<b>A (H3N2)</b>	7	0 (0%)	7	0 (0%)	1	1 (100%)
<b>A (H1N1)</b>	0	0 (0%)	0	0 (0%)	0	0 (0%)
<b>B</b>	4	0 (0%)	4	0 (0%)	NA <sup>1</sup>	NA <sup>1</sup>
<b>TOTAL</b>	11	0 (0%)	11	0 (0%)	1	1 (100%)

<sup>1</sup>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.