

October 18 to October 24, 2015 (Week 42)

Overall Summary

- Overall, there is low influenza activity in Canada.
- Influenza activity and detections decreased from the previous week.
- No laboratory confirmed outbreaks have been reported in the last two weeks.
- So far this season, influenza A(H3N2) has been the most common subtype affecting Canadians.
- To date, the majority of influenza laboratory detections and hospitalizations have been in seniors greater than 65 years of age.
- For more information on the flu, see our [Flu\(influenza\)](#) web page.

Are you a primary health care practitioner (General Practitioner, Nurse Practitioner or Registered Nurse) interested in becoming a FluWatch sentinel for the 2015-16 influenza season? Contact us at FluWatch@phac-aspc.gc.ca

Influenza/Influenza-like Illness Activity (geographic spread)

In week 42, sporadic influenza activity were reported in a few regions across Canada. One region in Ontario reported localized activity. The number of regions reporting influenza activity decreased from the previous week, from 12 regions reporting influenza activity in week 41 to 10 regions reporting influenza activity in week 42. Overall, the majority of regions in Canada reported no influenza activity.

Figure 1 – Map of overall influenza/ILI activity level by province and territory, Canada, Week 42

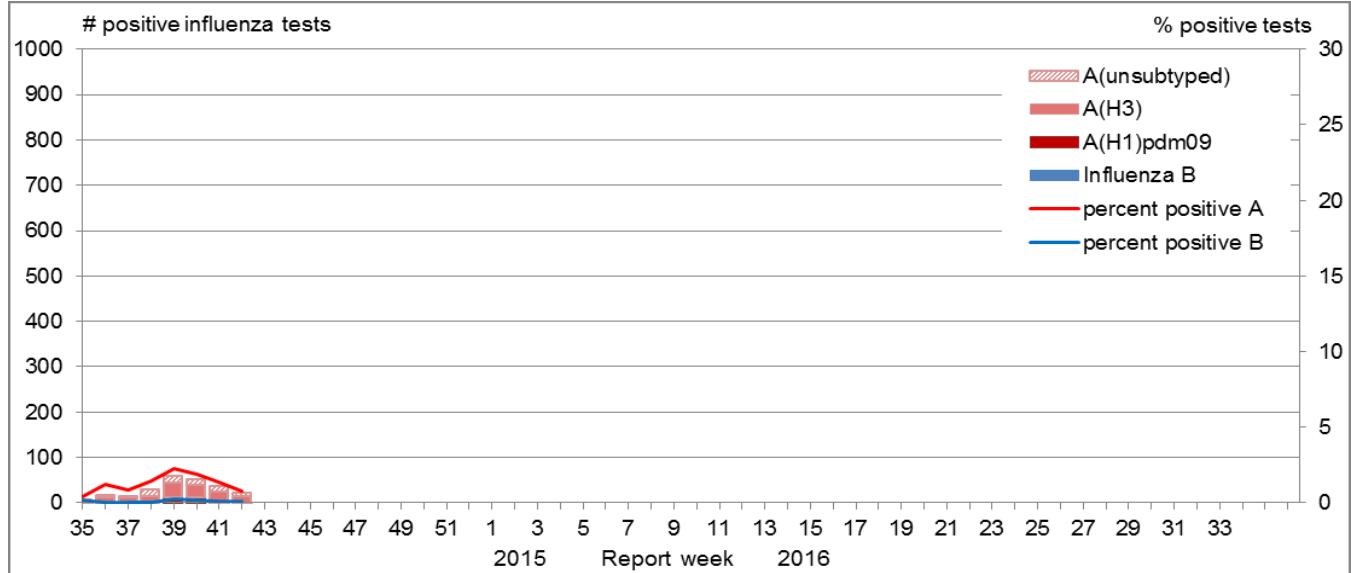


Note: Influenza/ILI activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates and reported outbreaks. Please refer to detailed definitions at the end of the report. Maps from previous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

Laboratory Confirmed Influenza Detections

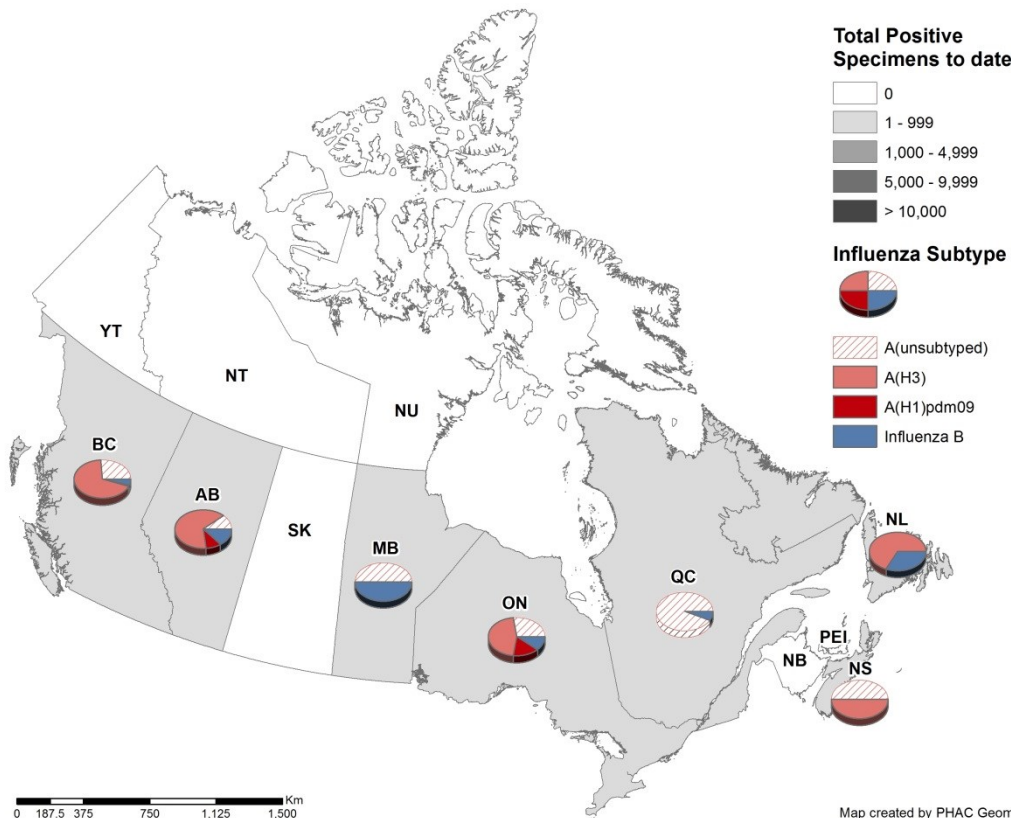
In week 42, the percent positive for influenza detections remained low at 0.85%. The percent positive reported this week is lower than the percent positive reported the same week last season (1.96%). Since week 39, the percent positive for influenza detections have been decreasing (Figure 2).

Figure 2 – Number of positive influenza tests and percentage of tests positive, by type, subtype and report week, Canada, 2015-16



In week 42, the majority of detections in Canada have been reported from BC and ON, accounting for 75% of the influenza detections in Canada. A total of six jurisdictions have not reported any influenza cases. To date, 92% of influenza detections have been influenza A and the majority of those subtyped have been A(H3).

Figure 3 – Cumulative numbers of positive influenza specimens by type/subtype and province, Canada, 2015-16



Note: Specimens from NT, YT, and NU are sent to reference laboratories in other provinces. Cumulative data includes updates to previous weeks.

Among cases with reported age, the largest proportion was in those ≥ 65 years of age (48%) (Table 1). Compared to the previous year during the same period, a greater proportion of cases in the 20-44 and 45-64 age groups have been reported to date (40% this year vs 24% last year)

Table 1 – Weekly and cumulative numbers of positive influenza specimens by type, subtype and age-group reported through case-based laboratory reporting¹, Canada, 2015-16

Age groups (years)	Weekly (October 18 to October 24, 2015)					Cumulative (August 30, 2015 to October 24, 2015)						
	Influenza A				B	Influenza A				B	Influenza A and B	
	A Total	A(H1) pdm09	A(H3)	A (UnS) ³		A Total	A(H1) pdm09	A(H3)	A (UnS) ³		Total	#
<5	0	0	0	0	0	7	1	6	0	1	8	4.0%
5-19	1	0	0	1	0	10	1	5	4	4	14	7.0%
20-44	2	0	2	0	0	25	5	12	8	3	28	14.0%
45-64	3	0	1	2	0	48	7	29	12	3	51	25.5%
65+	2	0	0	2	2	92	2	71	19	6	98	49.0%
Unknown	0	0	0	0	0	1	0	1	0	0	1	0.5%
Total	8	0	3	5	2	183	16	124	43	17	200	100.0%
Percentage²	80.0%	0.0%	37.5%	62.5%	20.0%	91.5%	8.7%	67.8%	23.5%	8.5%		

¹Table 1 includes specimens for which demographic information was reported. These represent a subset of all positive influenza cases reported.

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

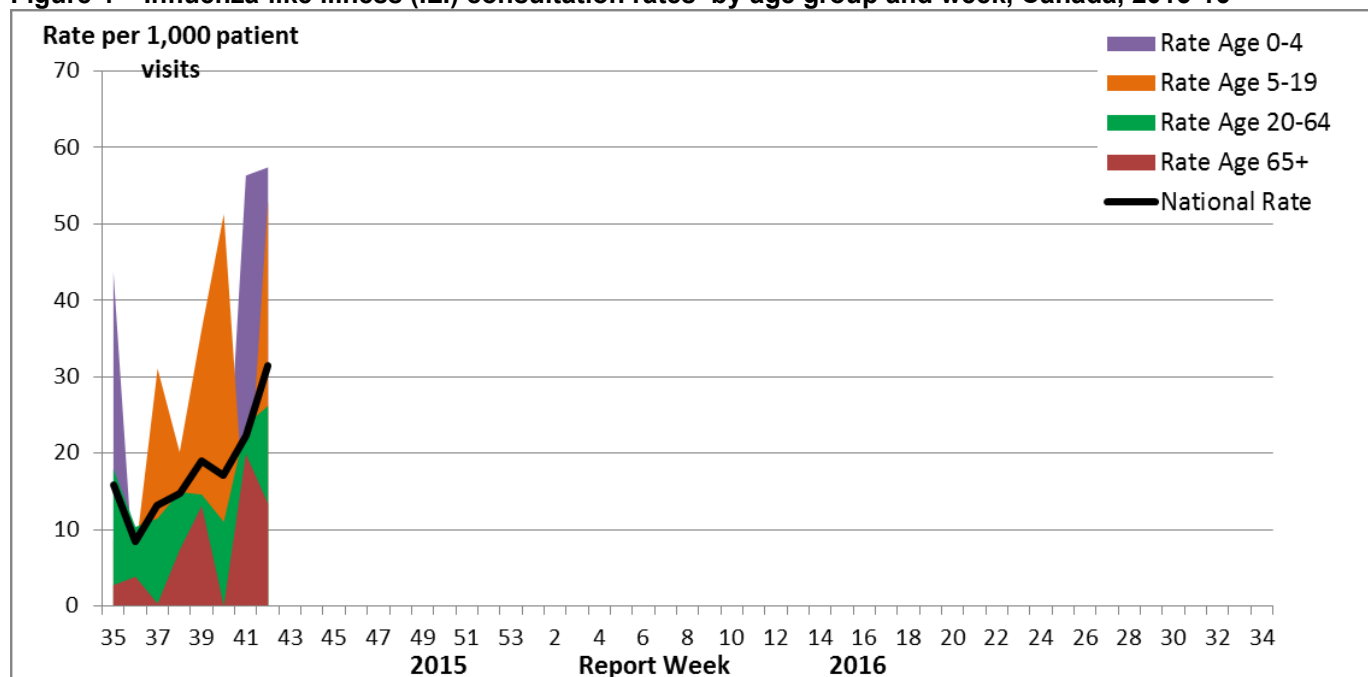
³UnS: unsubtyped: The specimen was typed as influenza A, but no result for subtyping was available.

For additional data on other respiratory virus detections see the [Respiratory Virus Detections in Canada Report](#) on the Public Health Agency of Canada website.

Influenza-like Illness Consultation Rate

The national influenza-like-illness (ILI) consultation rate increased from 22.3 consultations per 1,000 patient visits in week 41 to 31.4 per 1,000 visits in week 42. In week 42, the highest ILI consultation rate was found in the 0-4 age group and the lowest was found in the ≥ 65 years of age group (Figure 4).

Figure 4 – Influenza-like illness (ILI) consultation rates by age group and week, Canada, 2015-16

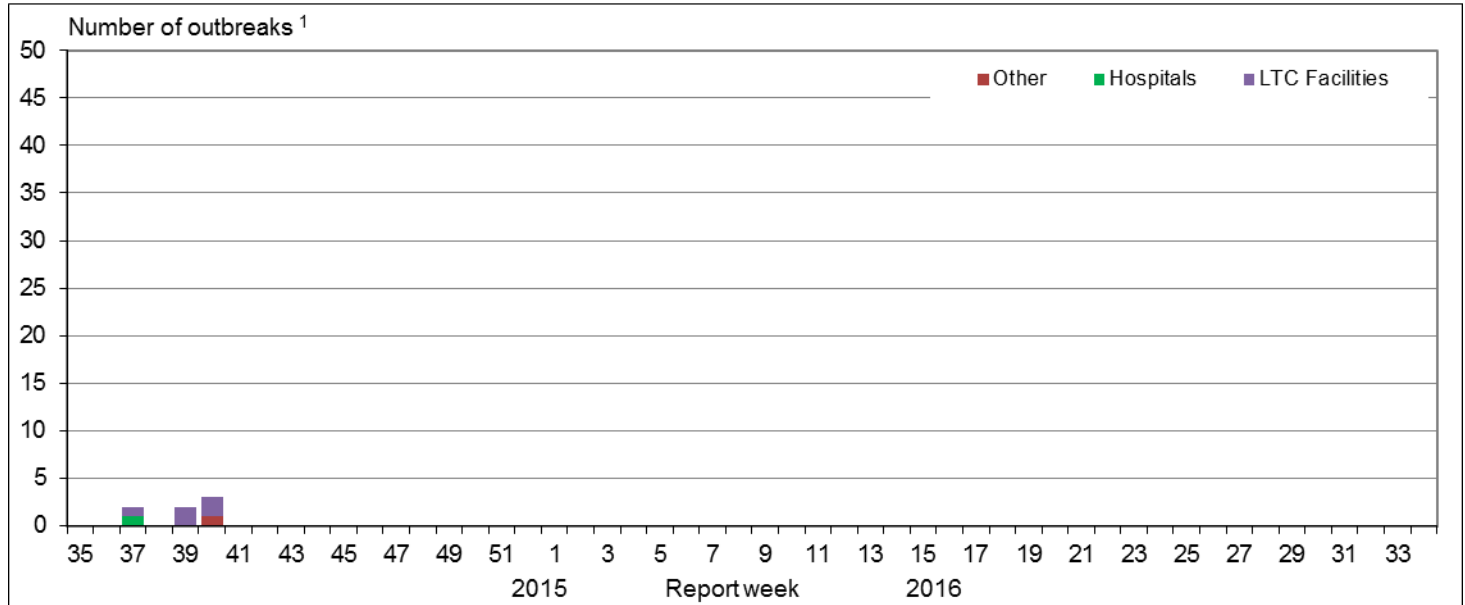


Delays in the reporting of data may cause data to change retrospectively. In BC, AB, and SK, data is compiled by a provincial sentinel surveillance program for reporting to FluWatch. Not all sentinel physicians report every week.

Influenza Outbreak Surveillance

In week 42, no new laboratory-confirmed outbreaks of influenza were reported (Figure 5). There was one outbreak of ILI reported in a school. To date this season, seven outbreaks have been reported, which is lower than the number of outbreaks reported last year at this time (n=11).

Figure 5 – Overall number of new laboratory-confirmed influenza outbreaks by report week, Canada, 2015-2016



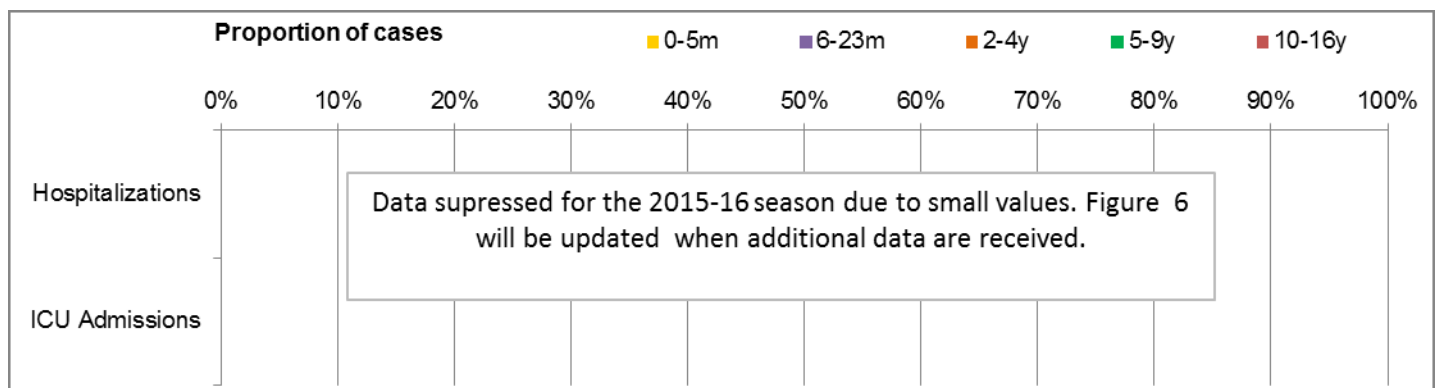
¹All provinces and territories except NU report influenza outbreaks in long-term care facilities. All provinces and territories with the exception of NU and QC report outbreaks in hospitals. Outbreaks of influenza or influenza-like-illness in other facilities are reported to FluWatch but reporting varies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

Sentinel Pediatric Hospital Influenza Surveillance

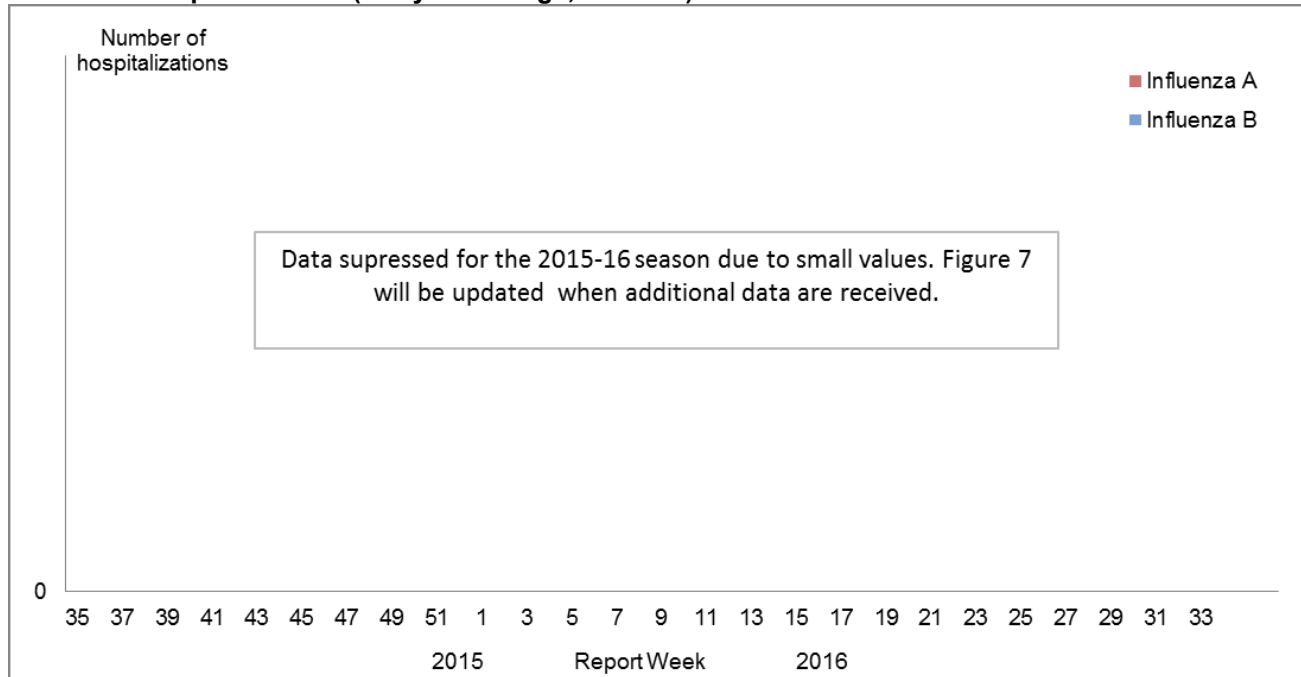
Paediatric Influenza Hospitalizations and Deaths (IMPACT)

To date this season, less than five laboratory-confirmed influenza-associated paediatric (≤ 16 years of age) hospitalizations have been reported by the Immunization Monitoring Program Active (IMPACT) network. All hospitalized cases were due to influenza A. To date, less than five ICU admissions have been reported.

Figure 6 – Percentage of hospitalizations, ICU admissions and deaths with influenza reported by age-group, Canada, 2015-16, Paediatric hospitalizations (≤ 16 years of age, IMPACT)



**Figure 7 – Number of cases of influenza reported by sentinel hospital networks, by week, Canada, 2015-16
Paediatric hospitalizations (≤16 years of age, IMPACT)**



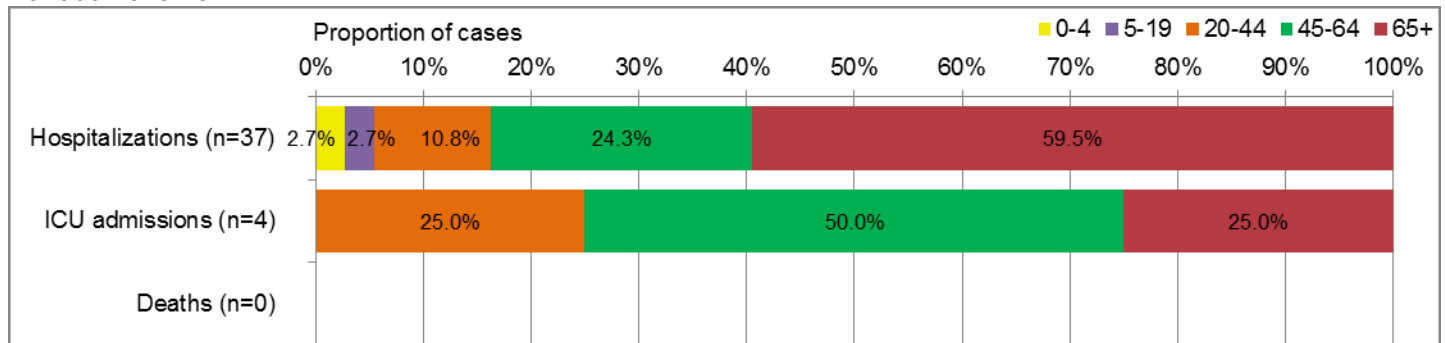
Note: The number of hospitalizations reported through IMPACT represents a subset of all influenza-associated paediatric hospitalizations in Canada. Delays in the reporting of data may cause data to change retrospectively.

Provincial/Territorial Influenza Hospitalizations and Deaths

Since the start of the 2015-16 season, 37 laboratory-confirmed influenza-associated hospitalizations were reported from participating provinces and territories². All but three hospitalizations were due to influenza A. The majority (60%) of patients were ≥65 years of age. Four ICU admissions have been reported.

* Note: Influenza-associated hospitalizations are not reported to PHAC by the following Provinces and Territory: BC, NU, and QC. Only hospitalizations that require intensive medical care are reported by Saskatchewan. ICU admissions are not distinguished among hospital admissions reported from Ontario. Data may also include cases reported by the IMPACT networks. The number of new influenza-associated hospitalizations and deaths reported for the current week may include cases from Ontario that occurred in previous weeks, as a result of retrospective updates to the cumulative total. 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.

Figure 8 – Percentage of hospitalizations, ICU admissions and deaths with influenza reported by age-group, Canada 2015-16



See additional data on [Reported Influenza Hospitalizations and Deaths in Canada: 2011-12 to 2015-16](#) on the Public Health Agency of Canada website.

Influenza Strain Characterizations

During the 2015-16 influenza season, the National Microbiology Laboratory (NML) has characterized 12 influenza viruses [8 A(H3N2), 1 A(H1N1) and 3 influenza B].

Influenza A (H3N2): When tested by hemagglutination inhibition (HI), one H3N2 virus was antigenically characterized as A/Switzerland/9715293/2013-like using antiserum raised against cell-propagated A/Switzerland/9715293/2013.

Sequence analysis was done on seven H3N2 viruses. All seven viruses belonged to a genetic group for which most viruses were antigenically related to A/Switzerland/9715293/2013.

A/Switzerland/9715293/2013 is the A(H3N2) component of the Northern Hemisphere's vaccine.

Influenza A (H1N1): One H1N1 virus characterized was antigenically similar to A/California/7/2009, the A(H1N1) component of the 2015-16 influenza vaccine.

Influenza B: The three influenza B viruses characterized were antigenically similar to the vaccine strain B/Phuket/3073/2013.

The recommended components for the 2015-2016 northern hemisphere trivalent influenza vaccine include: an A/California/7/2009(H1N1)pdm09-like virus, an A/Switzerland/9715293/2013(H3N2)-like virus, and a B/Phuket/3073/2013-like virus (Yamagata lineage). For quadrivalent vaccines, the addition of a B/Brisbane/60/2008-like virus is recommended.

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

Antiviral Resistance

During the 2015-16 season, the National Microbiology Laboratory (NML) has tested 17 influenza viruses for resistance to oseltamivir and zanamivir. All viruses were sensitive to zanamivir and oseltamivir. All influenza A viruses tested were resistant to amantadine (Table 2).

Table 2 – Antiviral resistance by influenza virus type and subtype, Canada, 2015-16

Virus type and subtype	Oseltamivir		Zanamivir		Amantadine	
	# tested	# resistant (%)	# tested	# resistant (%)	# tested	# resistant (%)
A (H3N2)	13	0	13	0	12	12 (100%)
A (H1N1)	1	0	1	0	1	1 (100%)
B	3	0	3	0	NA ¹	NA ¹
TOTAL	17	0	17	0	13	13

¹NA: Not Applicable

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](#)

FluWatch Definitions for the 2015-2016 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 under [Weekly influenza reports](#).

Ce rapport est disponible dans les deux langues officielles.