



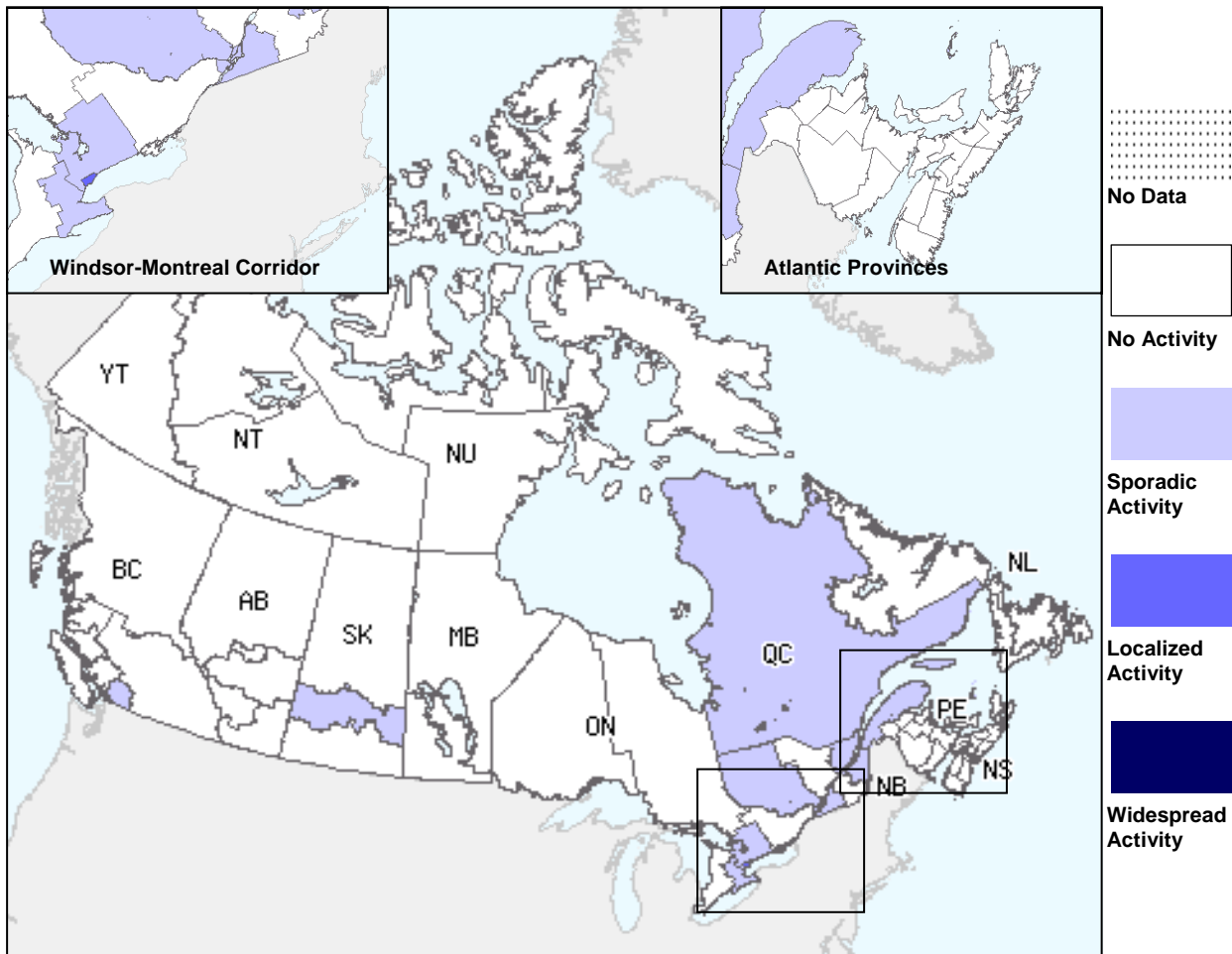
November 7 to November 13, 2010 (Week 45)

- During week 45, the overall influenza activity in Canada has slightly increased. However, most of the influenza surveillance regions have reported no activity.
- The proportion of positive influenza specimens reported during week 45 has increased with 42 specimens out of 1,951 (2.15%) testing positive. Of the 42 positive tests, 15 specimens were reported as influenza A/H3N2 (ON & QC), 23 as untyped influenza A (ON & QC) and four as influenza B (BC, ON & QC).
- Since the beginning of the season, A/H3N2 has been the predominant strain circulating in Canada representing 97% of the subtyped positive influenza specimens. Seasonal influenza A/H3N2 viruses also continued to be the predominant circulating strain of influenza viruses worldwide, however, in many countries there has been co-circulation of seasonal influenza B viruses and to a lesser extent, pandemic H1N1 2009.
- The Public Health Agency of Canada published an article on November 8, 2010 in the Canadian Medical Association Journal on the Incidence of hospital admissions and severe outcomes during the first and second waves of pandemic (H1N1) 2009. Full article at: <http://www.cmaj.ca/cgi/rapidpdf/cmaj.100746v2>.

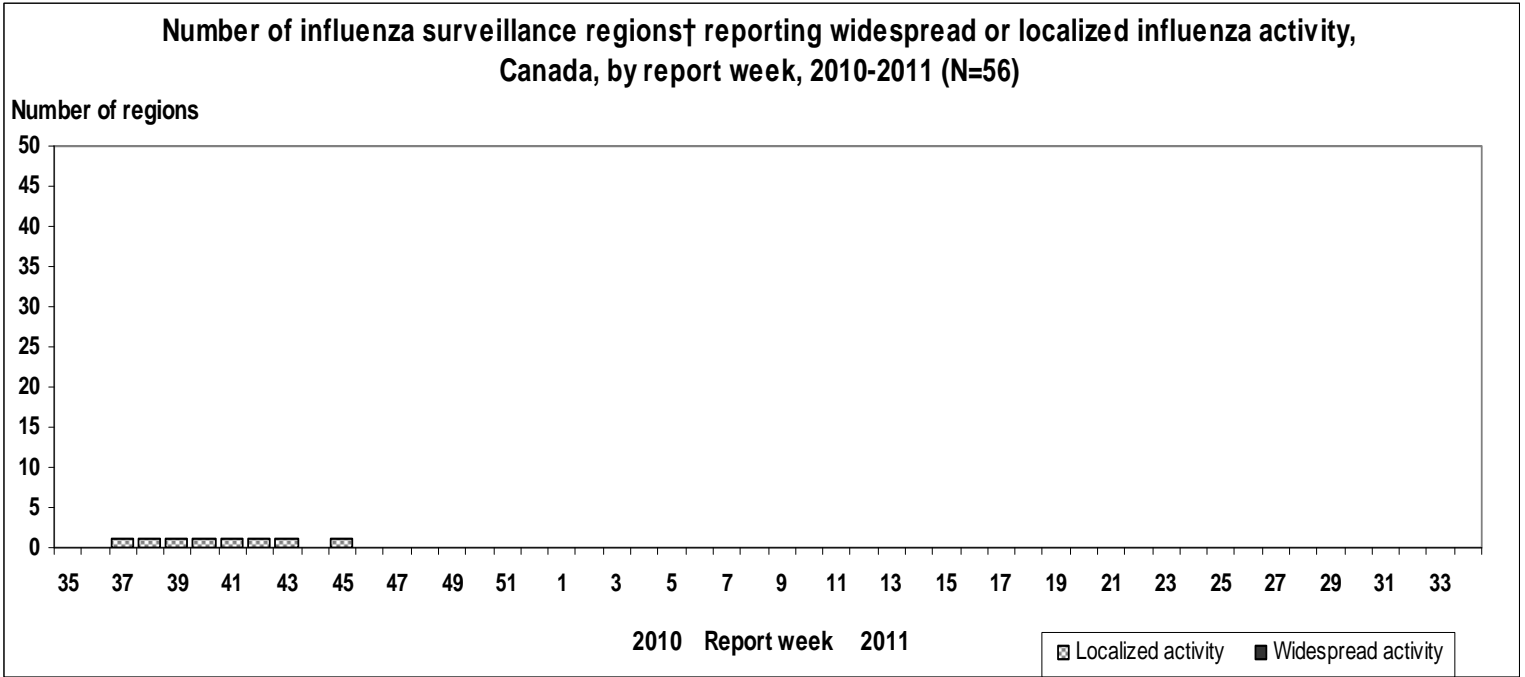
Overall Influenza Summary – Week 45 (November 7 to November 13, 2010)

In week 45, while one region reported localized activity (ON), nine regions reported sporadic activity (BC, SK, ON & QC) and 46 regions presented no activity (See Activity level Map). One new influenza outbreak was reported in a long-term care facility during week 45 in ON.

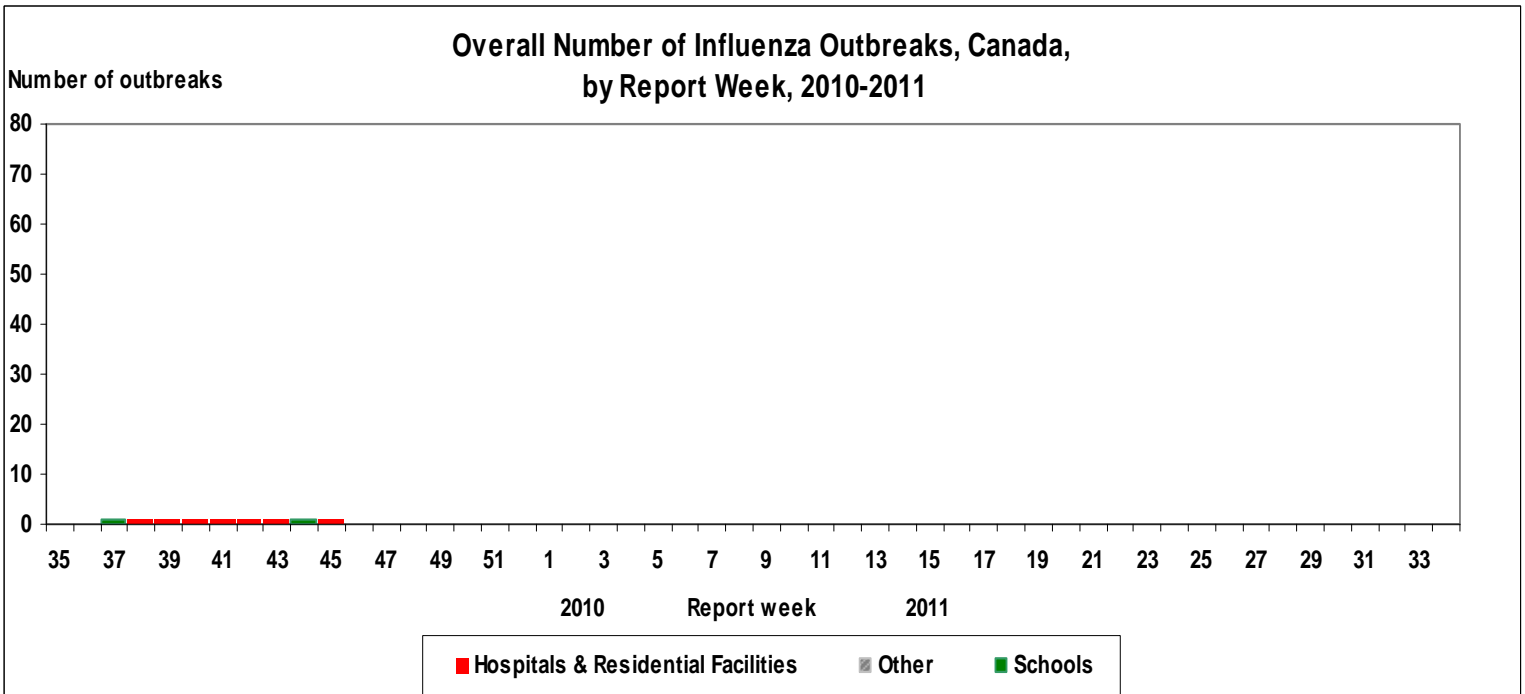
Map of overall Influenza activity level by province and territory, Canada, Week 45



Note: Influenza 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 (see graphs and tables) and reported outbreaks. Please refer to detailed definitions on the last page. For areas where no data is reported, late reports from these provinces and territories will appear on the FluWatch website.



† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist. Graph may change as late returns come in.

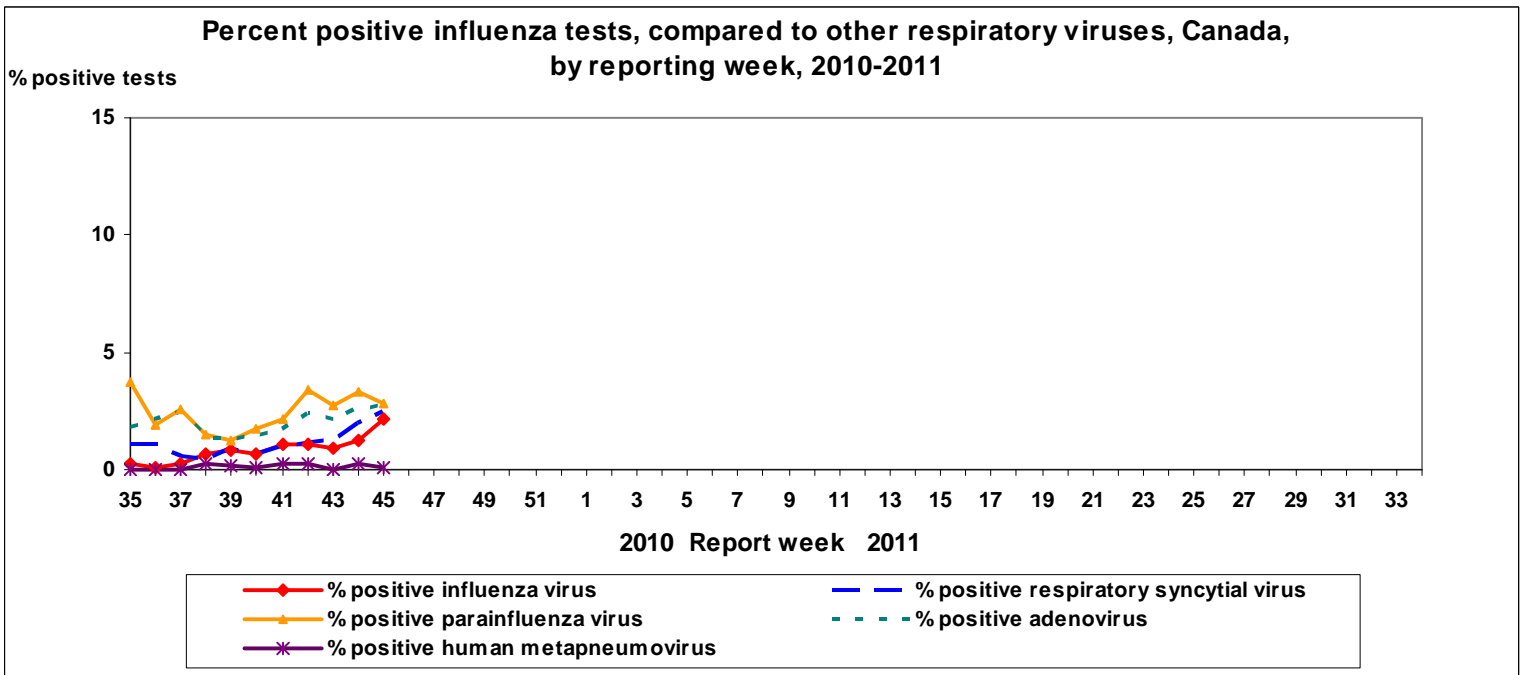
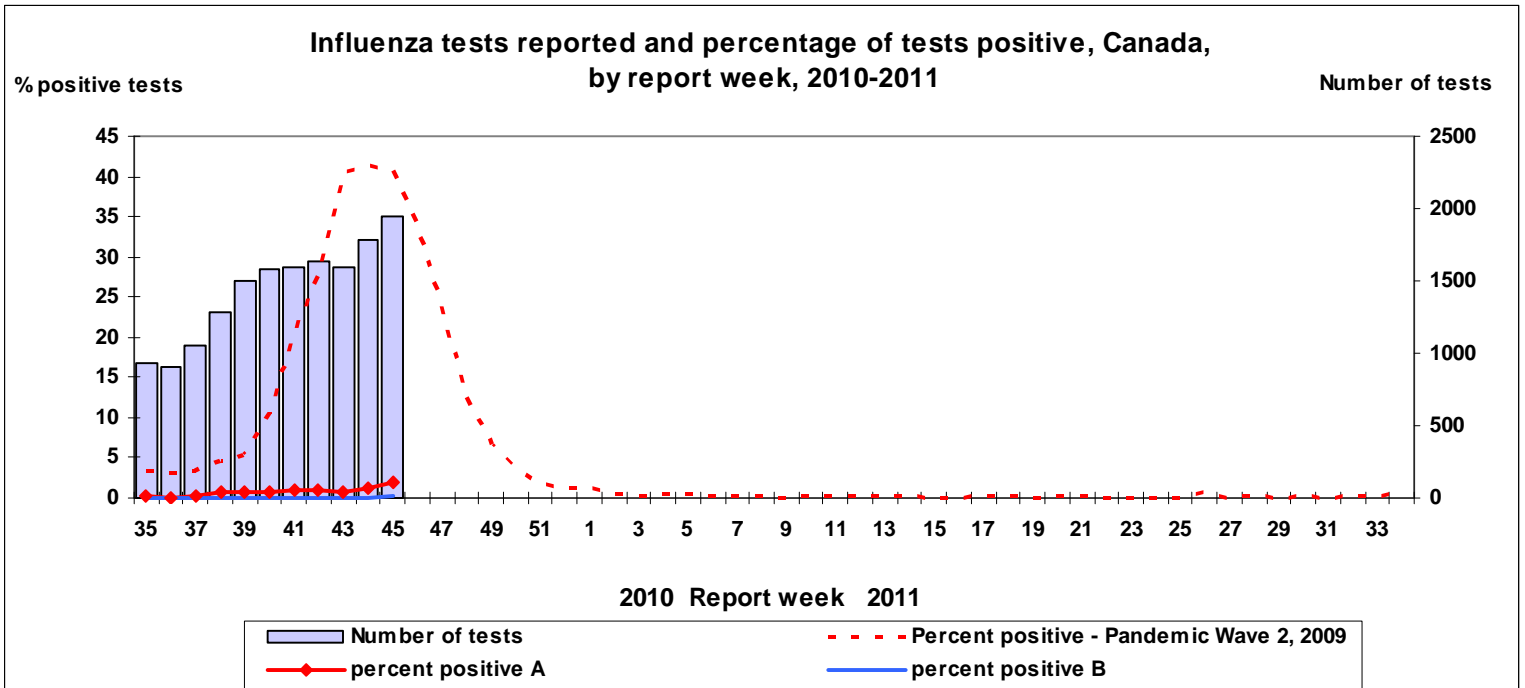


Note that this was the first year that all the provinces and territories were reporting on influenza outbreaks in schools (greater than 10% absenteeism on any day most likely due to ILI) which has increased considerably the total number of outbreaks reported compared to previous years.

Weekly & Cumulative numbers of positive influenza specimens by age groups reported through case-based laboratory reporting, Canada, 2010-2011*

Age groups	Weekly (Nov. 7 to Nov. 13, 2010) (9/42)					Cumulative (Aug. 29, 2010 to Nov. 13, 2010) (80/149)				
	Influenza A				B	Influenza A				B
	A Total	Pandemic H1N1	A/H3N2	A unsubtype	Total	A Total	Pandemic H1N1	A/H3N2	A unsubtype	Total
<5	0	0	0	0	0	9	0	8	1	0
5-19	0	0	0	0	0	6	0	6	0	0
20-44	0	0	0	0	0	11	0	10	1	1
45-64	0	0	0	0	2	7	2	5	0	2
65+	7	0	6	1	0	43	0	35	8	0
Unknown	0	0	0	0	0	1	0	0	1	0
Total	7	0	6	1	2	77	2	64	11	3

*Please note that this table reflects the number of specimens for which demographic information was reported. These represent a subset of all positive influenza cases reported. Five provinces have reported detailed case-by-case data since the beginning of the season (BC, AB, SK, MB and ON). Delays in the reporting of data may cause data to change retrospectively.



Canadian situation

Paediatric Influenza Hospitalizations and Deaths

In week 45, one laboratory-confirmed influenza-associated paediatric (18 years of age and under) hospitalization was reported through the Immunization Monitoring Program Active (IMPACT) network. The case aged between 2 and 4 years was from BC and was due to influenza A/H3N2. Since the beginning of the season, three hospitalizations were reported among children aged under 4 years and were all due to influenza A/H3N2.

Adult Influenza Hospitalizations and Deaths

During week 45, two new laboratory-confirmed influenza-associated adult (16 years of age and older) hospitalizations were reported through the Canadian Nosocomial Infection Surveillance Program (CNISP) from 26 sites. Both were male patients; one aged between 45 and 64 years with unsubtype influenza A and one over 80 years of age with influenza A/H3N2. Since the beginning of the season, 13 hospitalized cases have been reported (3 A/H3N2, 1 pandemic H1N1 and 9 influenza A unsubtype from BC, ON and QC). 9 of the 13 (69%) cases were aged over 65 years and were males.

Sale of antivirals (AV)

During week 45, antiviral prescriptions monitoring results demonstrated a plateau in antiviral prescription rates at the national level and among the provinces and territories, although daily and weekly antiviral data at the Health Region level showed low antiviral prescription rates compared to this time last year.

Antigenic Characterization

Since September 1, 2010, National Microbiology Laboratory (NML) has antigenically characterized 24 influenza viruses (21 A/H3N2 from BC, AB, MB, ON & QC, 1 pandemic H1N1 2009 in ON and 2 B viruses from BC and QC) that were received from provincial laboratories. The 21 influenza A/H3N2 viruses characterized were related to A/Perth/6/2009, which is the influenza A/H3N2 component recommended for the 2010-11 influenza vaccine. The pandemic H1N1 2009 characterized was antigenically related to the pandemic vaccine virus A/California/7/2009, which is the recommended H1N1 component for the 2010-11 Northern Hemisphere influenza vaccine. The two influenza B viruses characterized was antigenically related to B/Brisbane/60/08 (Victoria lineage), which is the recommended influenza B component for the 2010-11 influenza vaccine.

Antiviral Resistance

Since the beginning of the 2010-2011 season, no oseltamivir resistant pandemic H1N1 2009 have been reported. So far this season, the NML has tested 22 influenza A/H3N2 and one pandemic H1N1 isolates for amantadine resistance and found that all isolates were resistant to amantadine. 22 influenza isolates (19 A/H3N2, 1 pandemic H1N1 and 2 B) were also tested for oseltamivir and zanamivir resistance and found that all isolates were sensitive to both antivirals.

International influenza update

Global information

WHO: Worldwide, overall influenza activity remained low, except in parts of the tropics, most notably in Southeast Asia, and to a lesser extent in the tropical areas of the Americas. After late winter and springtime influenza epidemics in several countries of the temperate Southern Hemisphere, influenza activity has returned to near or below baseline in most places. However, a recent post-season rise in cases has been noted across parts of southern Africa associated with localized outbreaks of pandemic H1N1 2009. Seasonal influenza A/H3N2 viruses continued to be the predominant circulating strain of influenza viruses worldwide, however, in many countries there has been co-circulation of seasonal influenza B viruses and to a lesser extent, pandemic H1N1 2009. The latter has been recently predominant in a limited number of countries, including in India.

<http://www.who.int/csr/disease/influenza/2010_11_08_GIP_surveillance/en/index.html>

Geographic update

Northern hemisphere

United States: During week 44, influenza activity remained low in the United States. The geographic spread of influenza in three states was reported as local; the District of Columbia, Puerto Rico and 34 states was assessed as sporadic; Guam and 13 states reported no influenza activity and the US Virgin Islands did not report. 185 (6.8%) specimens were tested positive for influenza this week. Two human infections with novel influenza A viruses were reported. The proportion of outpatient visits for influenza-like illness (ILI) and the proportion of deaths attributed to pneumonia and influenza (P&I) were both below the national baseline. One influenza-associated pediatric death was reported and was associated with an influenza A virus for which the subtype was undetermined. <<http://www.cdc.gov/flu/weekly/index.htm>>

Latin America: In the tropics of the Americas, between late July and early October, many countries or parts of countries experienced periods of active circulation of influenza viruses, including but not limited to southern Mexico, Costa Rica, Nicaragua, El Salvador, Honduras, Jamaica, Cuba, Peru, Colombia, and Bolivia. In most of these countries, seasonal influenza A/H3N2 was the predominant circulating influenza virus. Notably, Nicaragua observed circulation of predominantly influenza B viruses, while Colombia and Bolivia experienced circulation of predominantly pandemic H1N1 2009. In most countries of the region, overall influenza virus transmission has declined substantially or returned to very low levels. <http://www.who.int/csr/disease/influenza/2010_11_08_GIP_surveillance/en/index.html>

Europe: Rare detections of influenza virus along with sporadic detections of respiratory syncytial virus in a number of European countries suggested that the low influenza-like illness and acute respiratory infection activity currently observed was likely due to respiratory pathogens other than influenza. Epidemiological indicators showed no or only sporadic influenza activity in 24 of the 25 reporting EU countries.

Malta reported local spread and Bulgaria reported medium intensity of acute respiratory infection. During week 44, 15 (4.9%) of 309 sentinel specimens tested positive for influenza virus. 27 of 41 influenza viruses detected in sentinel and non-sentinel specimens were type A, and 14 were type B. Of the 16 subtyped influenza A viruses, 15 were pandemic H1N1 2009 and one was A/H3N2. Three SARI cases, not related to influenza were reported during week 44. <http://ecdc.europa.eu/en/publications/Publications/101119_SUR_Weekly_Influenza_Surveillance_Overview.pdf>

Asia: In the tropics of Asia, the most active reported circulation of influenza viruses continued to be in Thailand. Since late July 2010, pandemic H1N1 2009 has been the predominant circulating influenza viruses in Thailand, however, more recently beginning in early October 2010, seasonal influenza A/H3N2, B, and pandemic H1N1 2009 viruses began to co-circulate at similar levels. In southern China and Hong Kong (SAR), recent periods of active circulation of seasonal influenza A/H3N2 viruses during late summer and autumn appeared to have largely subsided. In India, the national epidemic of pandemic H1N1 2009 which began during June 2010 and lasted until late September 2010 has largely subsided but small numbers of new cases continued to be reported weekly. In Bangladesh, there has been persistent influenza virus transmission since the early part of 2010, however; only in recent months has circulation of seasonal influenza A/H3N2 become predominant. <http://www.who.int/csr/disease/influenza/2010_11_08_GIP_surveillance/en/index.html>

Southern hemisphere

South America: In Chile, an unusually late winter and springtime influenza epidemic, characterized by predominance of circulating seasonal influenza A/H3N2 viruses, and to a lesser extent seasonal influenza B and pandemic H1N1 2009, appears to have largely subsided. A similarly timed influenza epidemic was also observed in Paraguay and Uruguay. In Argentina, however, little winter and springtime influenza activity was observed during 2010, with influenza B viruses accounting for the majority of sporadic influenza virus detections. <http://www.who.int/csr/disease/influenza/2010_11_08_GIP_surveillance/en/index.html>

FluWatch reports include data and information from the following sources: laboratory reports of positive influenza tests in Canada (National Microbiology Laboratory), sentinel physician reporting of influenza-like illness (ILI), provincial/territorial assessment of influenza activity based on various indicators, including laboratory surveillance, ILI reporting, and outbreaks, influenza-associated paediatric and adult hospitalizations, antiviral sales in Canada, and WHO and other international reports of influenza activity.

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).

ILI definition for the 2010-2011 season

ILI in the general population: 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.

Definitions of ILI/Influenza outbreaks for the 2010-2011 season

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. Institutional outbreaks should be reported within 24 hours of identification. Residential institutions include but not limited to long-term care facilities (LTCF) and prisons.

Other settings: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case; i.e. workplace, closed communities.

Influenza Activity Levels Definition for the 2010-2011 season

Influenza Regional Activity levels are defined as:

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* and
(2) lab confirmed influenza detection(s) together with
(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* and
(2) lab confirmed influenza detection(s) together with
(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 Public Health Agency website at the following address: <http://www.phac-aspc.gc.ca/fluwatch/index.html>. Ce rapport est disponible dans les deux langues officielles. Pour en recevoir un exemplaire dans l'autre langue chaque semaine, veuillez communiquer avec Estelle Arseneault, Division de l'immunisation et des infections respiratoires au (613) 998-8862.