



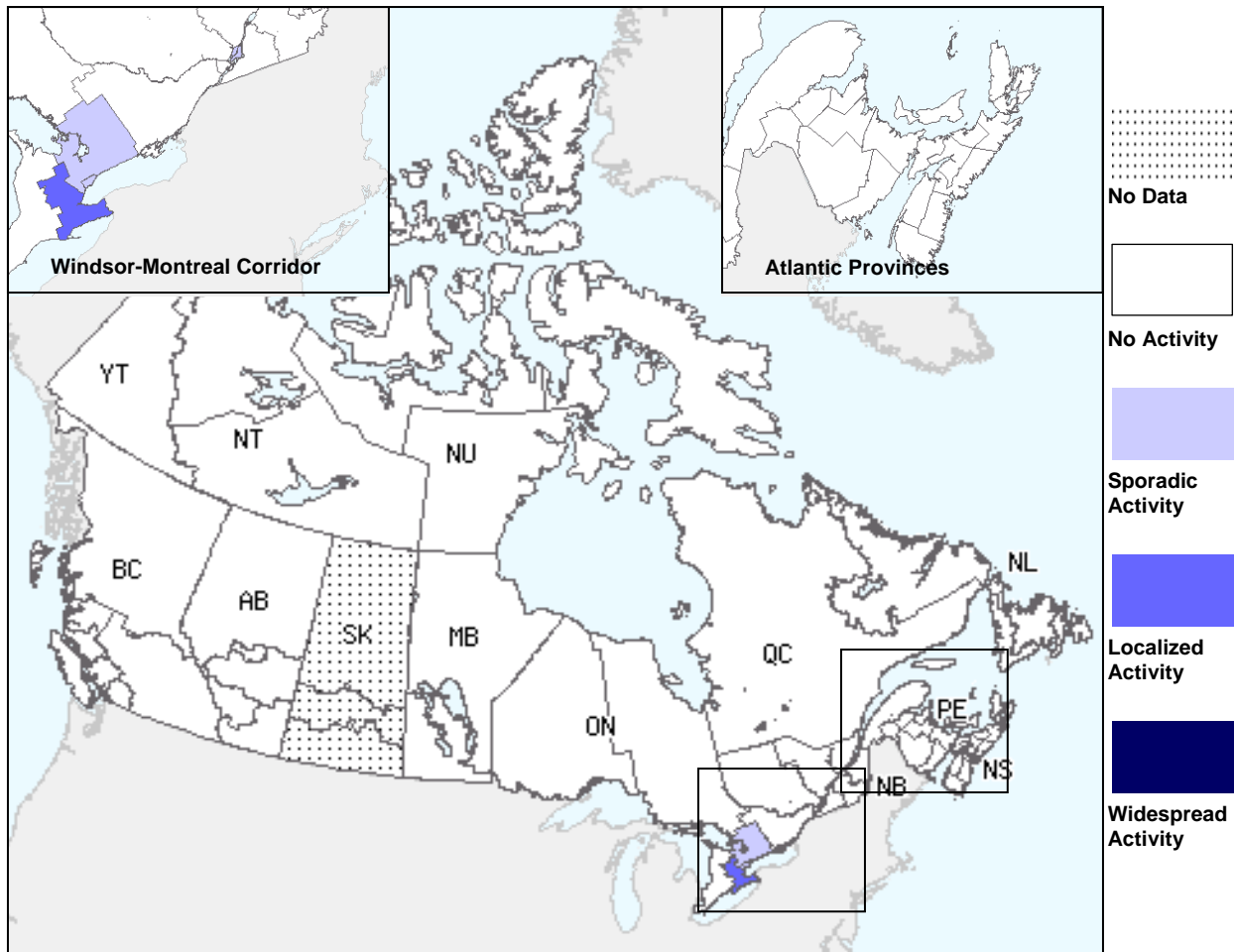
### October 17 to October 23, 2010 (Week 42)

- Overall influenza activity in Canada slightly increased during week 42 but was still within expected levels for this time of year.
- The proportion of positive influenza specimens reported during week 42 has increased slightly with 16 out of 1,565 (1.02%) specimens testing positive; all specimens were reported as unsubtype influenza A (ON & QC).
- Since the beginning of the season, the most predominant virus circulating in Canada has been A/H3N2 influenza.
- In most of the temperate regions of the Northern Hemisphere influenza activity levels were still low. Influenza virus A/H3N2 continued to be the most frequently detected virus worldwide. Most of the influenza A/H3N2 viruses were A/Perth/16/2009-like, which is the virus strain included in the seasonal vaccines for the Northern and Southern Hemispheres.

#### Overall Influenza Summary – Week 42 (October 17 to October 23, 2010)

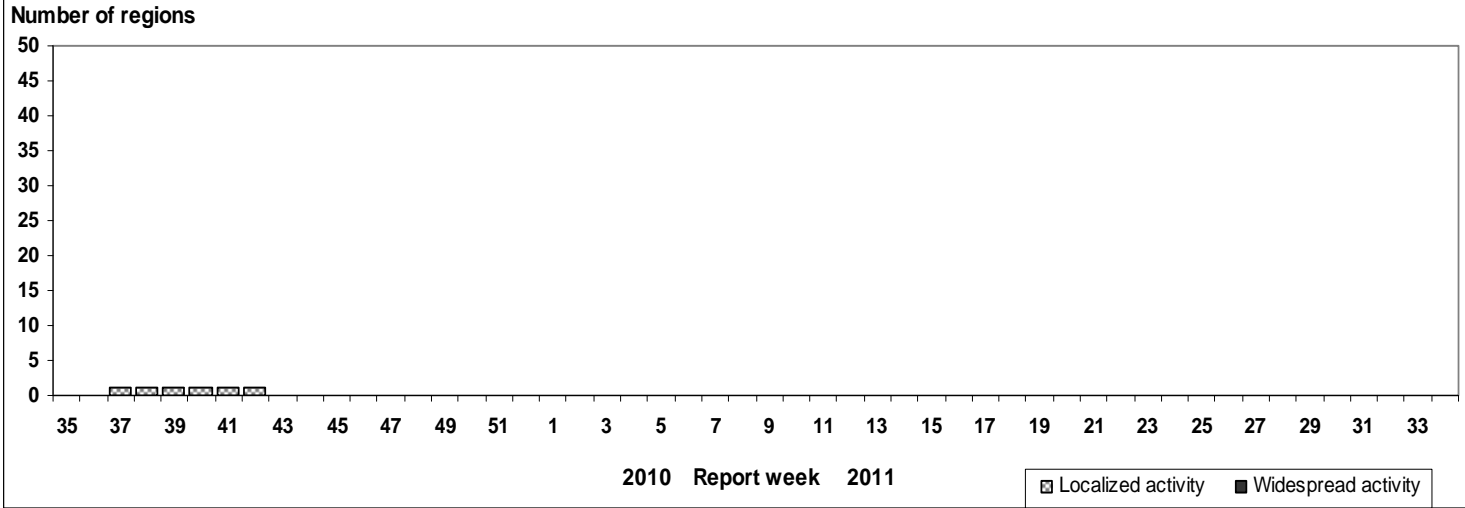
In week 42, the regional activity levels reported were similar to the last week with only one region reported localized activity (ON), three regions reported sporadic activity (ON & QC) and 49 regions reported no activity (See Activity level Map). All three regions in SK have stopped reporting for the summer and have not yet resumed. One new influenza outbreak was reported during week 42 in a long-term care facility in ON.

**Map of overall Influenza activity level by province and territory, Canada, Week 42**



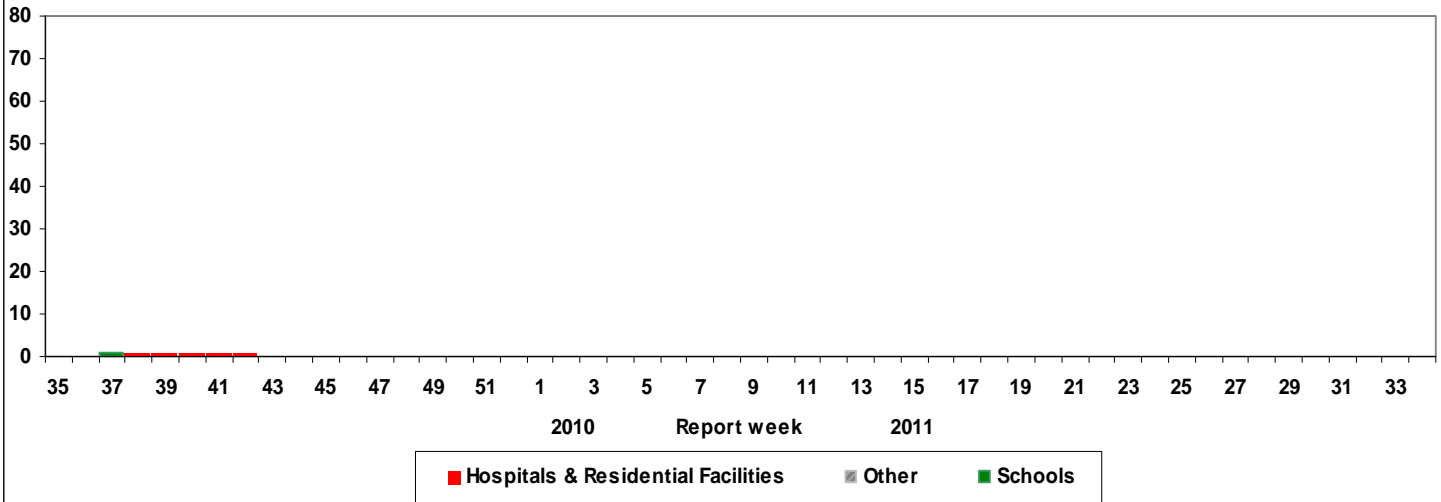
Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and reported outbreaks. Please refer to detailed definitions on the last page. For areas where no data is reported, late reports from these provinces and territories will appear on the FluWatch website.

**Number of influenza surveillance regions† reporting widespread or localized influenza activity, Canada, by report week, 2010-2011 (N=56)**



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

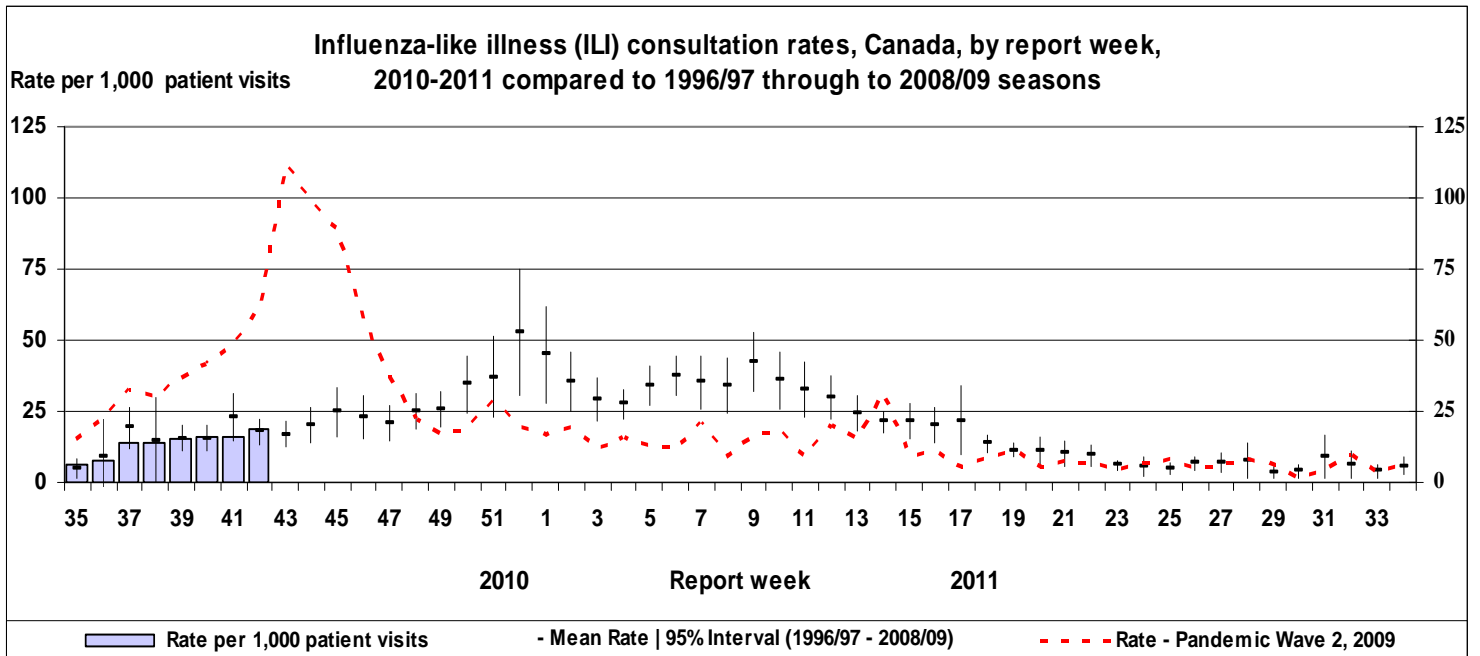
**Overall Number of Influenza Outbreaks, Canada, by Report Week, 2010-2011**



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.

## ILI consultation rate

During week 42, the national ILI consultation rates was 19.1 consultations per 1,000 patients visits which was slightly higher than what was observed in the previous weeks but was still within expected levels for this time of year (see ILI graph). Children under 5 years of age had the highest consultation rates (40.6 per 1,000 consultations) followed by those between 5 and 19 years of age (29.7 per 1,000).



Note: No data available for mean rate in previous years for weeks 19 to 39 (1996-1997 through 2002-2003 seasons). Delays in the reporting of data may cause data to change retrospectively.

## Laboratory Surveillance Summary

The proportion of tests that were positive for influenza during week 42 (1.02%, 16/1,565) has slightly increased compared to the previous weeks but was similar to what was usually observed at this time of the year but much lower than during H1N1 2009 pandemic (see Tests table and Influenza tests graph). Of the 16 positive specimens, all specimens were reported as unsubtype influenza A (ON & QC). During week 42, low levels of parainfluenza detections (3.3%), adenovirus (2.2%), respiratory syncytial virus (RSV) (1.0%) and human metapneumovirus (0.2%) continue to be reported (See Respiratory viruses graph). Of the 47 positive influenza specimens for whom we received detailed information, 31 were reported as A/H3N2, 14 as unsubtype, one as pandemic H1N1 2009 and one influenza type B. More than 50% (17/31) of positive specimens for influenza A/H3N2 reported through the case-based laboratory reporting were aged over 65 years (see Tests detailed table).

### Weekly & Cumulative numbers of positive influenza specimens by Provincial Laboratories, Canada, 2010-2011

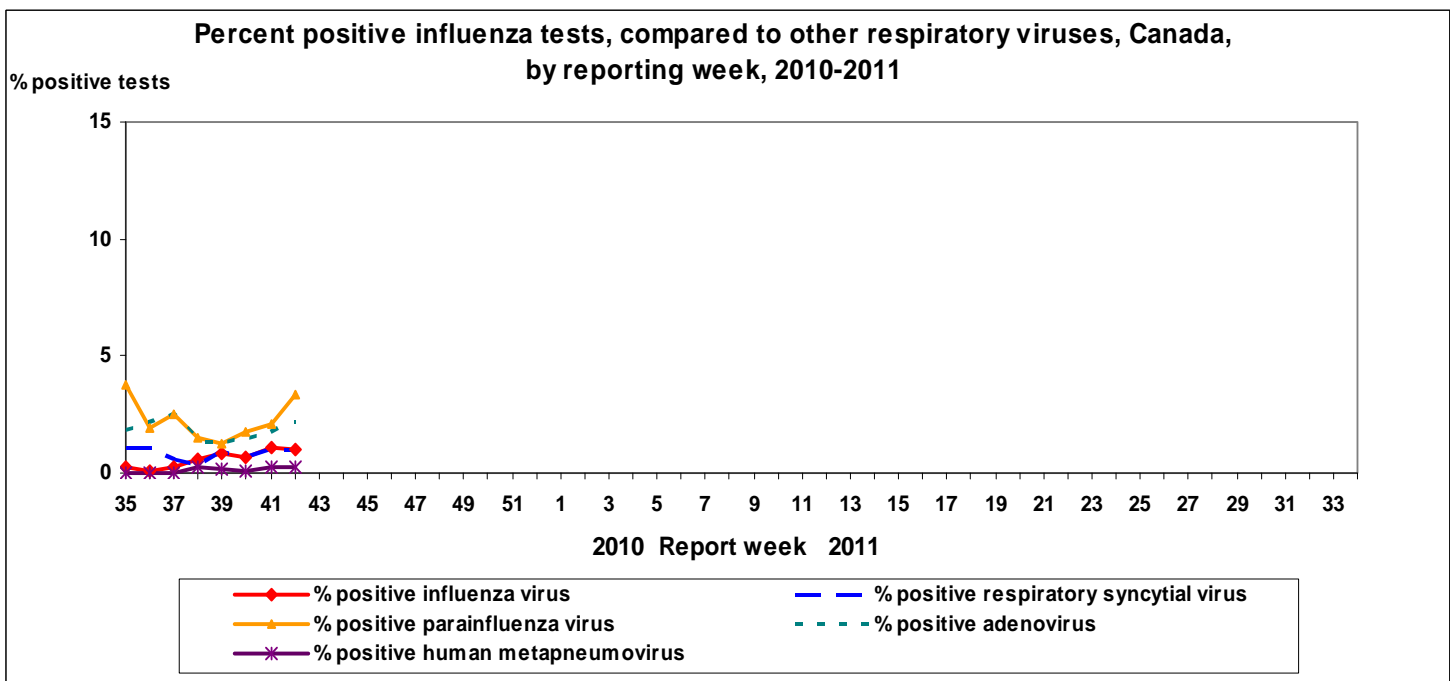
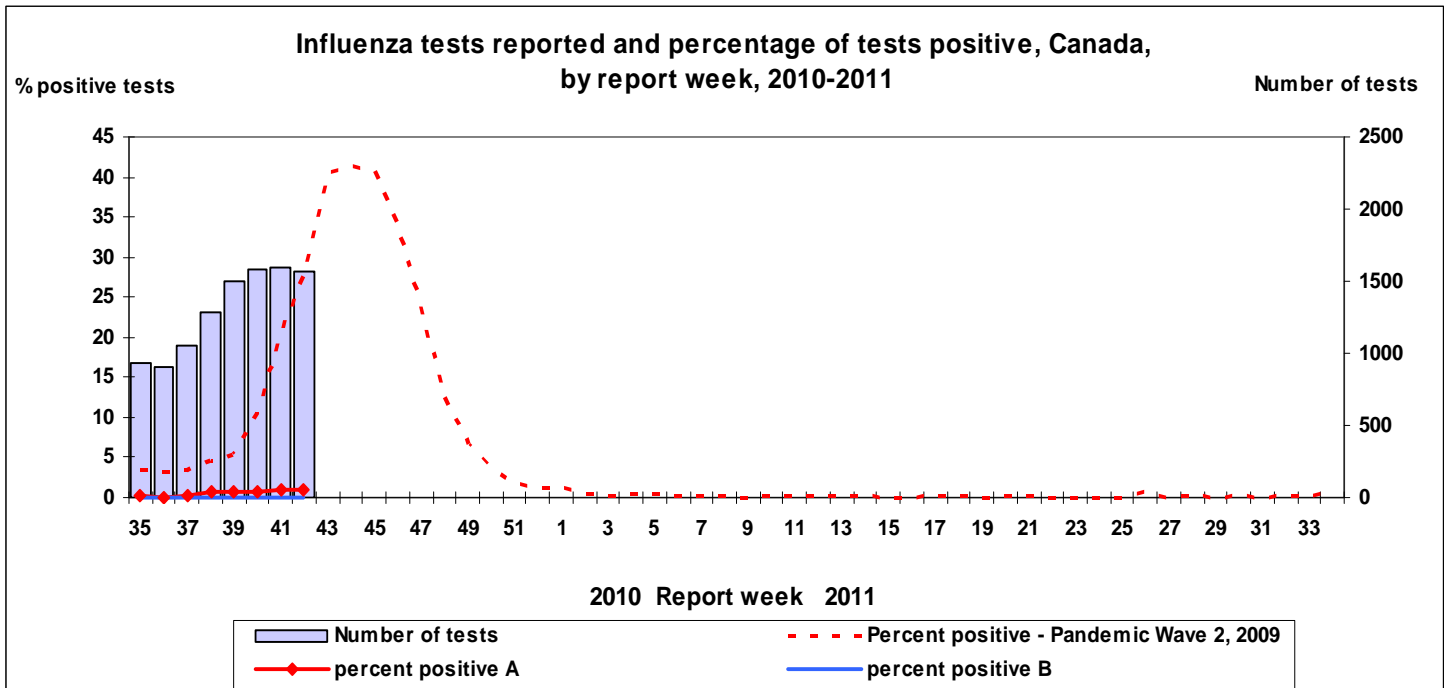
Reporting provinces	Weekly (October 17 to October 23, 2010)						Cumulative (August 29, 2010 to October 23, 2010)					
	Influenza A					B	Influenza A					B
	A Total	A(H1)	A(H3)	Pand H1N1	A (NS)*		A Total	A(H1)	A(H3)	Pand H1N1	A (NS)*	
BC	0	0	0	0	0	0	7	0	3	0	4	1
AB	0	0	0	0	0	0	7	0	7	0	0	0
SK	0	0	0	0	0	0	0	0	0	0	0	0
MB	0	0	0	0	0	0	1	0	1	0	0	0
ON	12	0	0	0	12	0	46	1	6	1	38	0
QC	4	0	0	0	4	0	7	0	2	0	5	1
NB	0	0	0	0	0	0	0	0	0	0	0	0
NS	0	0	0	0	0	0	0	0	0	0	0	0
PE	0	0	0	0	0	0	0	0	0	0	0	0
NL	0	0	0	0	0	0	0	0	0	0	0	0
<b>Canada</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>68</b>	<b>1</b>	<b>19</b>	<b>1</b>	<b>47</b>	<b>2</b>

\*Not subtyped. Specimens from NT, YT, and NU are sent to reference laboratories in other provinces. Note: Cumulative data includes updates to previous weeks; due to reporting delays, the sum of weekly report totals do not add up to cumulative totals.

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

Age groups	Weekly (October 17 to October 23, 2010) (2/16)					Cumulative (August 29, 2010 to October 23, 2010) (47/70)				
	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	5	0	4	1	0
5-19	0	0	0	0	0	1	0	1	0	0
20-44	0	0	0	0	0	6	0	5	1	1
45-64	0	0	0	0	0	6	1	4	1	0
65+	0	0	0	2	0	27	0	17	10	0
Unknown	0	0	0	0	0	1	0	0	1	0
<b>Total</b>	0	0	0	2	0	46	1	31	14	1

\* 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. Four provinces have reported detailed case-by-case data since the beginning of the season (BC, AB, MB and ON).



## **Canadian situation**

### **Paediatric Influenza Hospitalizations and Deaths**

No report received this week.

### **Adult Influenza Hospitalizations and Deaths**

During week 42, no new laboratory-confirmed influenza-associated adult (16 years of age and older) hospitalizations were reported through the Canadian Nosocomial Infection Surveillance Program (CNISP) from 23 sites. Since the beginning of the season, five hospitalized cases have been reported (1 A/H3N2, 1 pandemic H1N1 and 3 influenza A untyped from ON, QC and NB). All cases were aged over 60 years and four out of five were males.

### **Sale of antivirals (AV)**

During week 42, antiviral prescriptions monitoring results demonstrate increases of antiviral prescriptions at the national level and among several provinces, although daily and weekly antiviral data at the Health Region level demonstrated low antiviral prescription rates compared to this time last year.

### **Antigenic Characterization**

Since September 1, 2010, National Microbiology Laboratory (NML) has antigenically characterized 13 influenza viruses (11 A/H3N2 from AB, MB, ON & QC, 1 pandemic H1N1 2009 in ON and 1 B virus from QC) that were received from provincial laboratories. The 11 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 influenza B virus 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 11 influenza A/H3N2 and 1 pandemic H1N1 isolates for amantadine resistance and found that all isolates were resistant to amantadine. 13 influenza isolates (11 A/H3N2, 1 pandemic H1N1 and 1 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:** This winter's influenza season in the temperate countries in the Southern Hemisphere has peaked and is declining in most areas. In the tropical areas of the world most countries are reporting decreased influenza activity, but some countries in Southeast Asia, Central and South America are experiencing an increase in transmission intensity due to mainly influenza A/H3N2. Influenza virus A/H3N2 continued to be the most frequently detected virus worldwide. Most of the influenza A/H3N2 viruses were A/Perth/16/2009-like, which is the virus strain included in the seasonal vaccines for the Northern and Southern Hemispheres. <[http://www.who.int/csr/disease/influenza/2010\\_10\\_20\\_GIP\\_surveillance/en/index.html](http://www.who.int/csr/disease/influenza/2010_10_20_GIP_surveillance/en/index.html)>

### **Geographic update**

#### **Northern hemisphere**

**United States:** During week 41, influenza activity remained low in the United States. The geographic spread of influenza in the District of Columbia, Guam, Puerto Rico, and 24 states was assessed as sporadic, Guam and 26 states reported no influenza activity. 92 (3.6%) specimens tested were positive for influenza this week. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold. No influenza-associated pediatric deaths were reported. <<http://www.cdc.gov/flu/weekly/index.htm>>

**Latin America:** In Central America influenza activity was declining, with influenza A/H3N2 being the most frequently reported virus since August 2010. In the Caribbean, Jamaica reported an increased number of severe acute respiratory infections (SARI) with influenza A/H3N2 being the most predominant virus detected. Mexico had an earlier start than normal for the influenza season, with most of the viruses being influenza A/H3N2. The activity peaked in August-September and both influenza like-illness (ILI) and severe acute respiratory disease (SARI) were still declining. In South America, Colombia was currently reporting increased influenza activity due to mainly A/H3N2 viruses, with co-circulation of pandemic H1N1 2009 and some influenza B.

**Europe:** Rare sporadic detections of influenza virus along with sporadic detections of respiratory syncytial virus in a number of European countries suggest that the reported influenza-like illness and acute respiratory infection activity was likely due to respiratory pathogens other than influenza. 14 specimens were tested positive for influenza virus this week. Ten of the 14 influenza viruses detected in sentinel and non-sentinel specimens were type A, and three of the four viruses subtyped were pandemic H1N1 2009.

<[http://ecdc.europa.eu/en/publications/Publications/101022\\_SUR\\_Weekly\\_Influenza\\_Surveillance\\_Overview.pdf](http://ecdc.europa.eu/en/publications/Publications/101022_SUR_Weekly_Influenza_Surveillance_Overview.pdf)>

**Asia:** In South Asia, India's country-wide outbreak of mainly pandemic H1N1 2009 has peaked and there was now a lower incidence of new cases and deaths in all regions being reported. In South East Asia, neighboring countries Thailand and Cambodia were currently reporting an increased number of influenza virus detections. In Thailand, pandemic H1N1 2009 viruses were dominating but there was also an increasing number of influenza A/H3N2 detections and a lower number of influenza B. In Cambodia influenza A/H3N2 was the predominant influenza virus circulating. In China, since mid August, both Northern and Southern region have had predominantly influenza A/H3N2. In Hong Kong Special Administrative Region the sentinel surveillance system for general practitioners showed a decreasing ILI activity during the last weeks.

### **Southern hemisphere**

**Australia and New Zealand:** During week 41 in Australia the influenza surveillance indicated a decrease in the activity compared to the last reporting period. In recent weeks there has been an increase in the proportion of influenza type B in Western Australia but they are still experiencing a co-circulation of mainly pandemic H1N1 2009 and influenza B. New Zealand's influenza activity has decreased since late August and was now under baseline for the third consecutive week. The most common influenza virus detected this season in New Zealand was pandemic H1N1 2009.

**South America:** Chile continues to report high transmission of influenza but since mid September the activity has declined. The predominant virus circulating in Chile has been A/H3N2 with co-circulation of pandemic H1N1 2009 in lower numbers. Detections of other respiratory viruses such as respiratory syncytial virus are also declining. Argentina and Uruguay have both had a season with mostly influenza type B, and are now reporting a decrease in number of virus detections.

**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.