



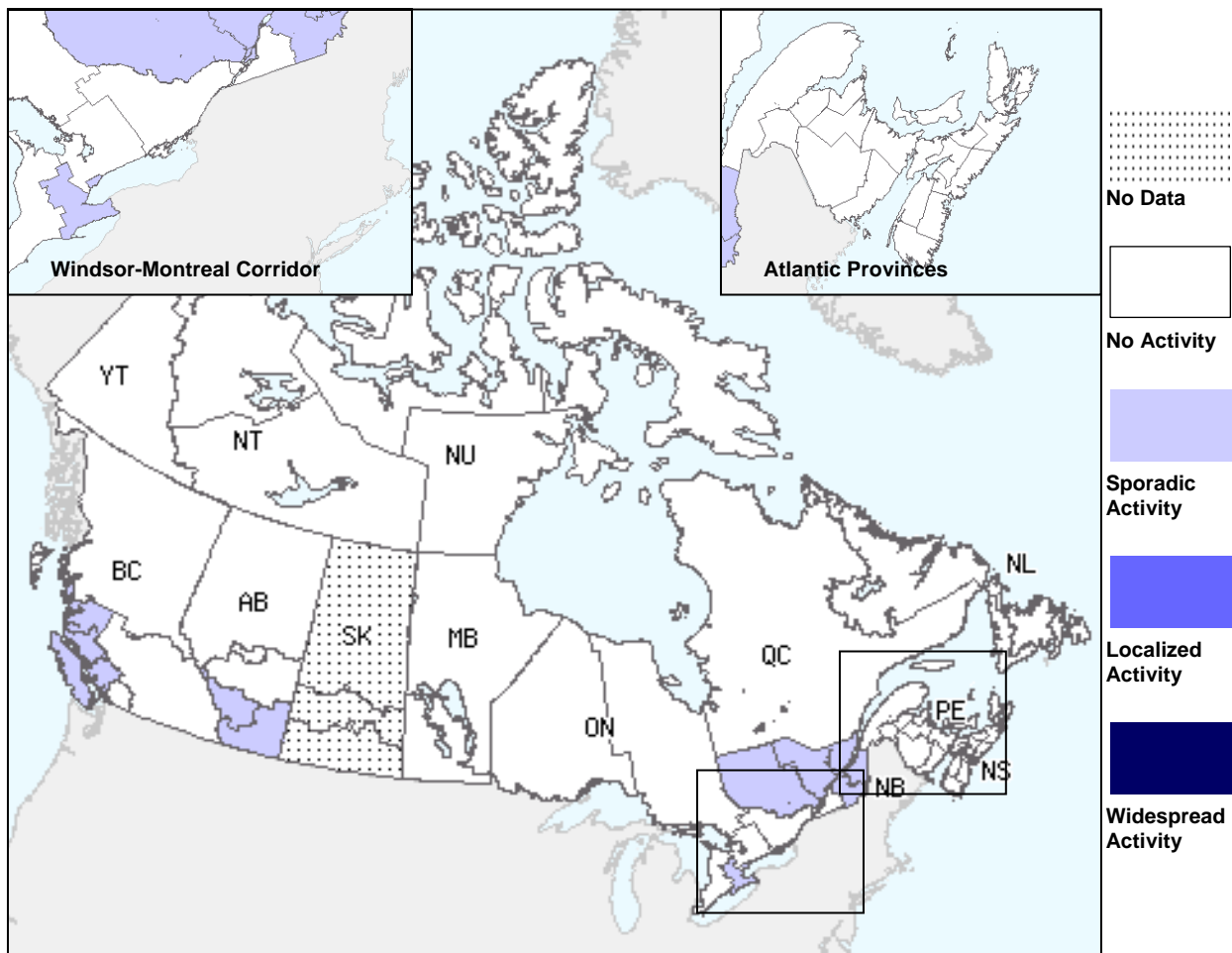
### October 24 to October 30, 2010 (Week 43)

- During week 43, the overall influenza activity in Canada remained low with most of the influenza surveillance regions reporting no activity and a proportion of positive influenza specimens of 0.88% (14/1,598). Of the 14 positive specimens, 11 specimens were reported as influenza A/H3N2 (BC, AB, ON & QC), one as influenza B (QC) and two as unsubtype influenza A (ON & QC).
- Since the beginning of the season, A/H3N2 has been the predominant strain circulating in Canada. All of the 13 influenza A/H3N2 viruses characterized so far at NML were related to A/Perth/6/2009, which is the influenza A/H3N2 component recommended for the 2010-11 influenza vaccine.
- In most of the temperate regions of the Northern Hemisphere influenza activity levels were still low. Influenza A/H3N2 continued to be the most frequently detected virus worldwide.

#### Overall Influenza Summary – Week 43 (October 24 to October 30, 2010)

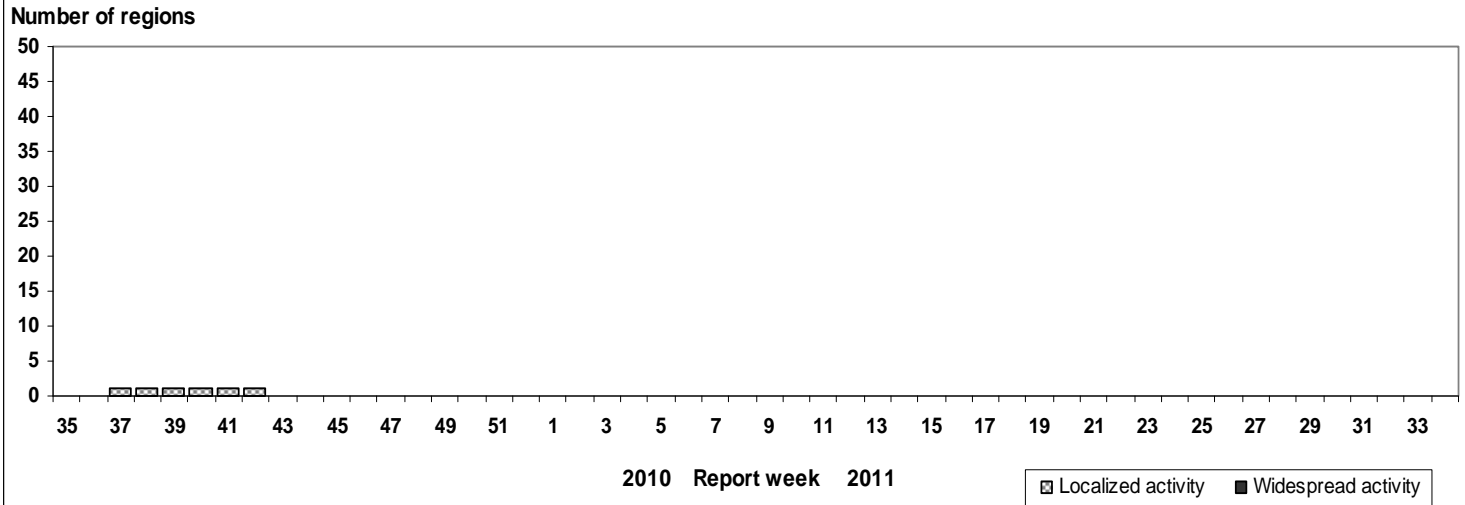
In week 43, ten regions reported sporadic activity (BC, AB, ON & QC) and 43 regions reported no activity (See Activity level Map). All three regions in SK have stopped reporting for the summer and have not yet resumed. No new influenza outbreak was reported during week 43.

**Map of overall Influenza activity level by province and territory, Canada, Week 43**



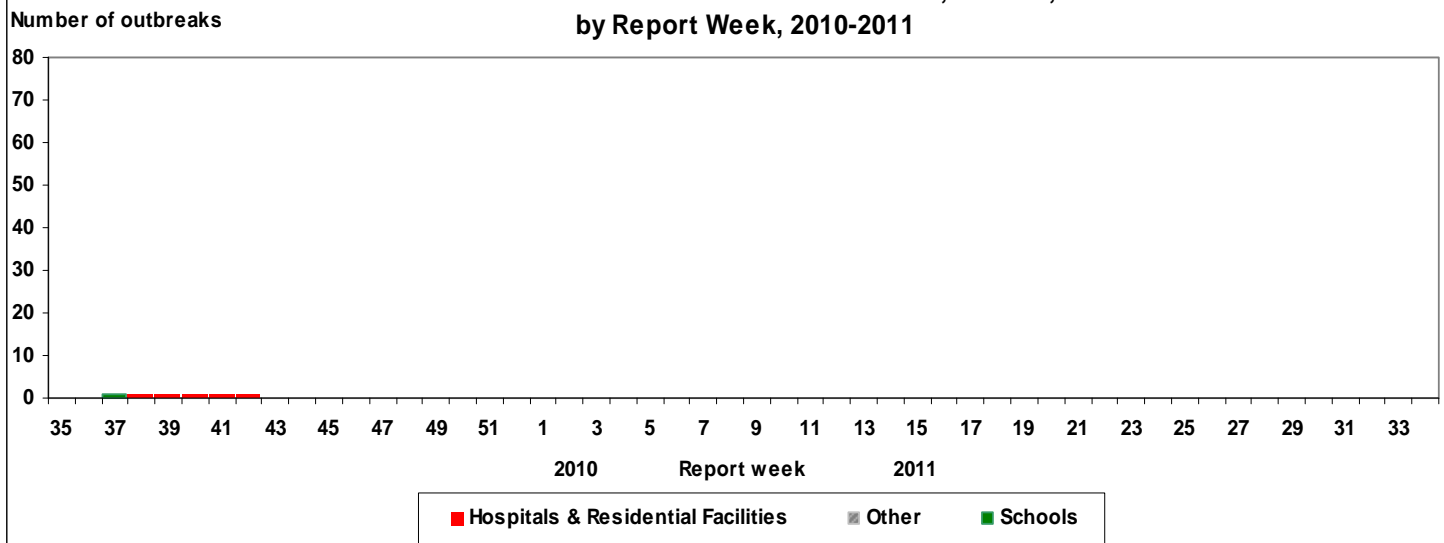
Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and reported outbreaks. Please refer to detailed definitions on the last page. For areas 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**



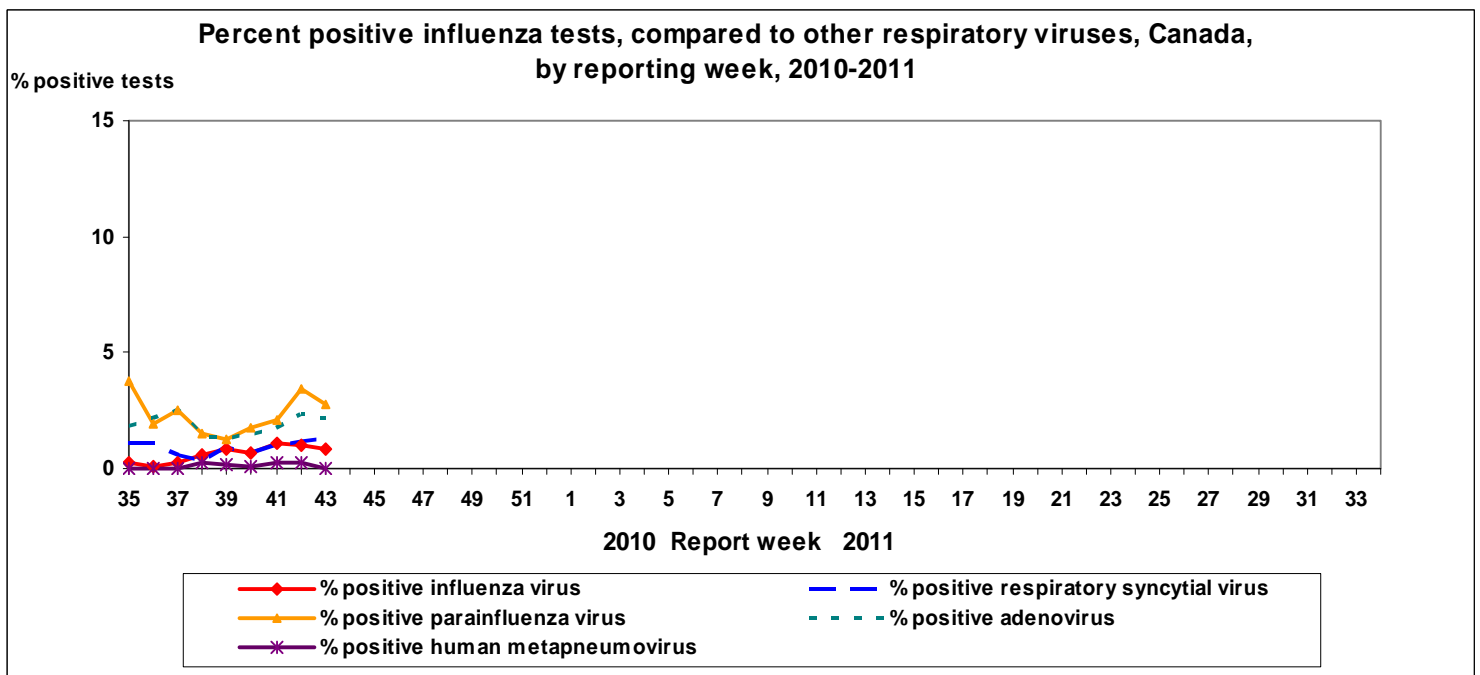
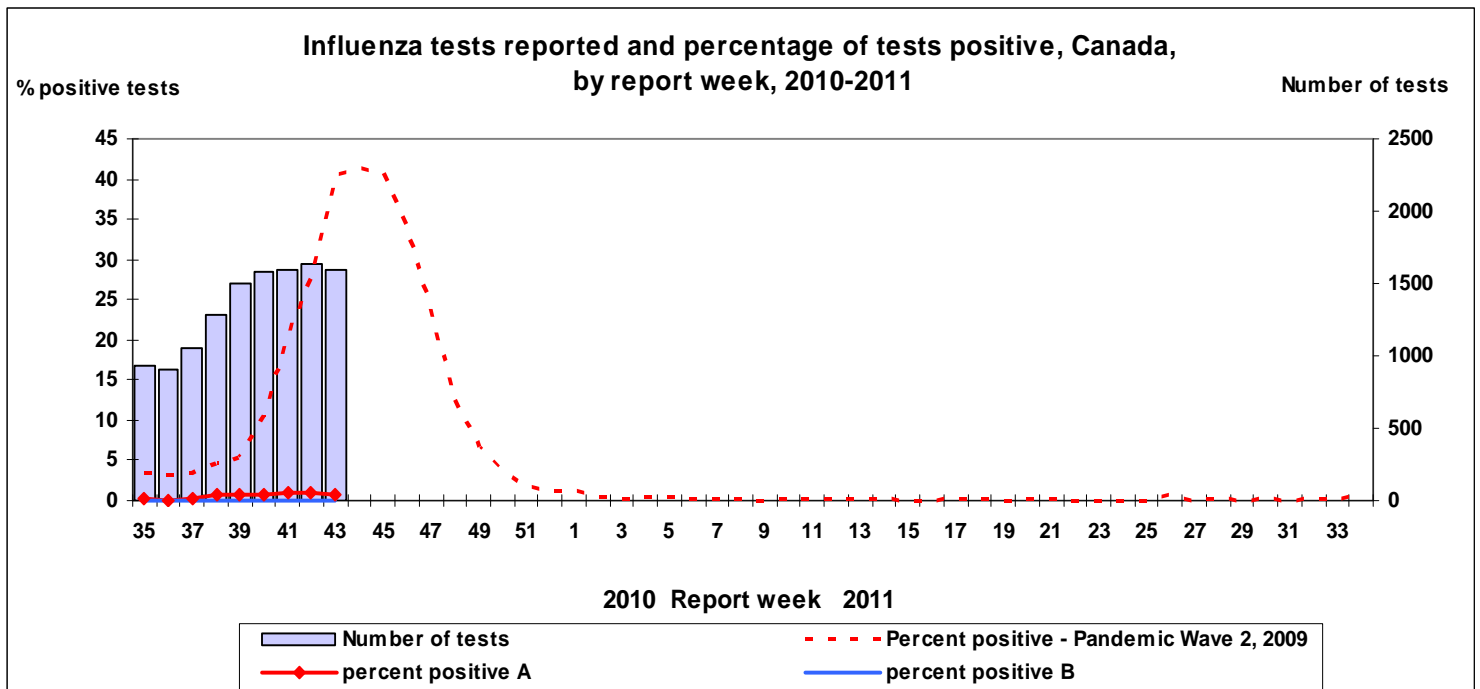
Note that this was the first year that all the provinces and territories were reporting on influenza outbreaks in schools (greater than 10% absenteeism on any day most likely due to ILI) which has increased considerably the total number of outbreaks reported compared to previous years.



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

| Age groups   | Weekly (October 24 to October 30, 2010) (10/13) |               |          |             |          | Cumulative (August 29, 2010 to October 30, 2010) (54/85) |               |           |             |          |
|--------------|---|---------------|----------|-------------|----------|--|---------------|-----------|-------------|----------|
|              | 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           | 1   | 0             | 0        | 1           | 0        | 6  | 0             | 4         | 2           | 0        |
| 5-19         | 2   | 0             | 2        | 0           | 0        | 3  | 0             | 3         | 0           | 0        |
| 20-44        | 0   | 0             | 0        | 0           | 0        | 6  | 0             | 5         | 1           | 1        |
| 45-64        | 1   | 0             | 1        | 0           | 0        | 7  | 2             | 5         | 0           | 0        |
| 65+          | 6   | 0             | 6        | 0           | 0        | 30   | 0             | 20        | 10          | 0        |
| Unknown      | 0   | 0             | 0        | 0           | 0        | 1  | 0             | 0         | 1           | 0        |
| <b>Total</b> | <b>10</b>                                       | <b>0</b>      | <b>9</b> | <b>1</b>    | <b>0</b> | <b>53</b>  | <b>2</b>      | <b>37</b> | <b>14</b>   | <b>1</b> |

\*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). Delays in the reporting of data may cause data to change retrospectively.



## **Canadian situation**

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

In week 43, the first laboratory-confirmed influenza-associated paediatric (18 years of age and under) hospitalization this season was reported through the Immunization Monitoring Program Active (IMPACT) network. The case aged between 0 and 5 months was from ON and was due to unsubtype influenza A.

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

During week 43, 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 35 sites. One female patient aged between 45 and 64 years and one male patient over 65 years of age were reported with unsubtype influenza A. Since the beginning of the season, 7 hospitalized cases have been reported (1 A/H3N2, 1 pandemic H1N1 and 5 influenza A unsubtype from ON, QC and NB). All cases were aged over 50 years and 5 out of 7 were males.

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

During week 43, 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 15 influenza viruses (13 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 13 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 14 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** (last international update published on October 20, 2010): 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 42, influenza activity remained low in the United States. The geographic spread of influenza in Guam and the U.S. Virgin Islands was assessed as regional; two states reported local influenza activity; the District of Columbia and 22 states were assessed as sporadic; 26 states reported no influenza activity, and Puerto Rico did not report. 48 (3.0%) specimens were tested positive for influenza this week. The proportion of outpatient visits for influenza-like illness (ILI) was below the national baseline. The proportion of deaths attributed to pneumonia and influenza (P&I) was below the epidemic threshold and no influenza-associated pediatric deaths were reported. <<http://www.cdc.gov/flu/weekly/index.htm>>

**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. The large majority of countries continued to report low rates and unchanging trends in sentinel physician consultations for influenza-like illness and acute respiratory infection. Six (1.7%) of 355 sentinel specimens tested positive for influenza virus. Seven of nine influenza viruses detected in sentinel and non-sentinel specimens were type A, and of the three subtyped, two were A/H3N2 and one was pandemic H1N1 2009. Three SARI cases not related to flu were reported during week 42. <[http://ecdc.europa.eu/en/publications/Publications/101029\\_SUR\\_Weekly\\_Influenza\\_Surveillance\\_Overview.pdf](http://ecdc.europa.eu/en/publications/Publications/101029_SUR_Weekly_Influenza_Surveillance_Overview.pdf)>

**United Kingdom:** During week 42, influenza activity was very low across the UK. The weekly influenza/influenza-like illness (ILI) consultation rates increased slightly in England, Wales and Scotland and decreased in Northern Ireland. Three specimens have been reported as positive for influenza through sentinel GP surveillance in week 42 in England (one pandemic H1N1 2009, one influenza A unsubtype and one influenza B). The number of respiratory syncytial virus (RSV) detections was low while the proportion of specimens positive for rhinovirus remained high. By week 42, the proportion of people in England aged over 65 years who had received the 2010/11 influenza vaccine was currently 40.4%, while it was 22.5% in those in a risk group aged under 65. <[http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1287143141638](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1287143141638)>

### **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.

**Chile:** Since week 31 in Chile there has been an increase in respiratory consultations. However, during week 41, the influenza activity in all regions decreased. The predominant virus circulating in Chile has been A/H3N2 with co-circulation of pandemic H1N1 2009 in lower numbers.

<[http://www.pandemia.cl/templates/pandemia/documentos/Informe\\_influenza\\_22\\_10\\_10.pdf](http://www.pandemia.cl/templates/pandemia/documentos/Informe_influenza_22_10_10.pdf)>

**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 **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.