



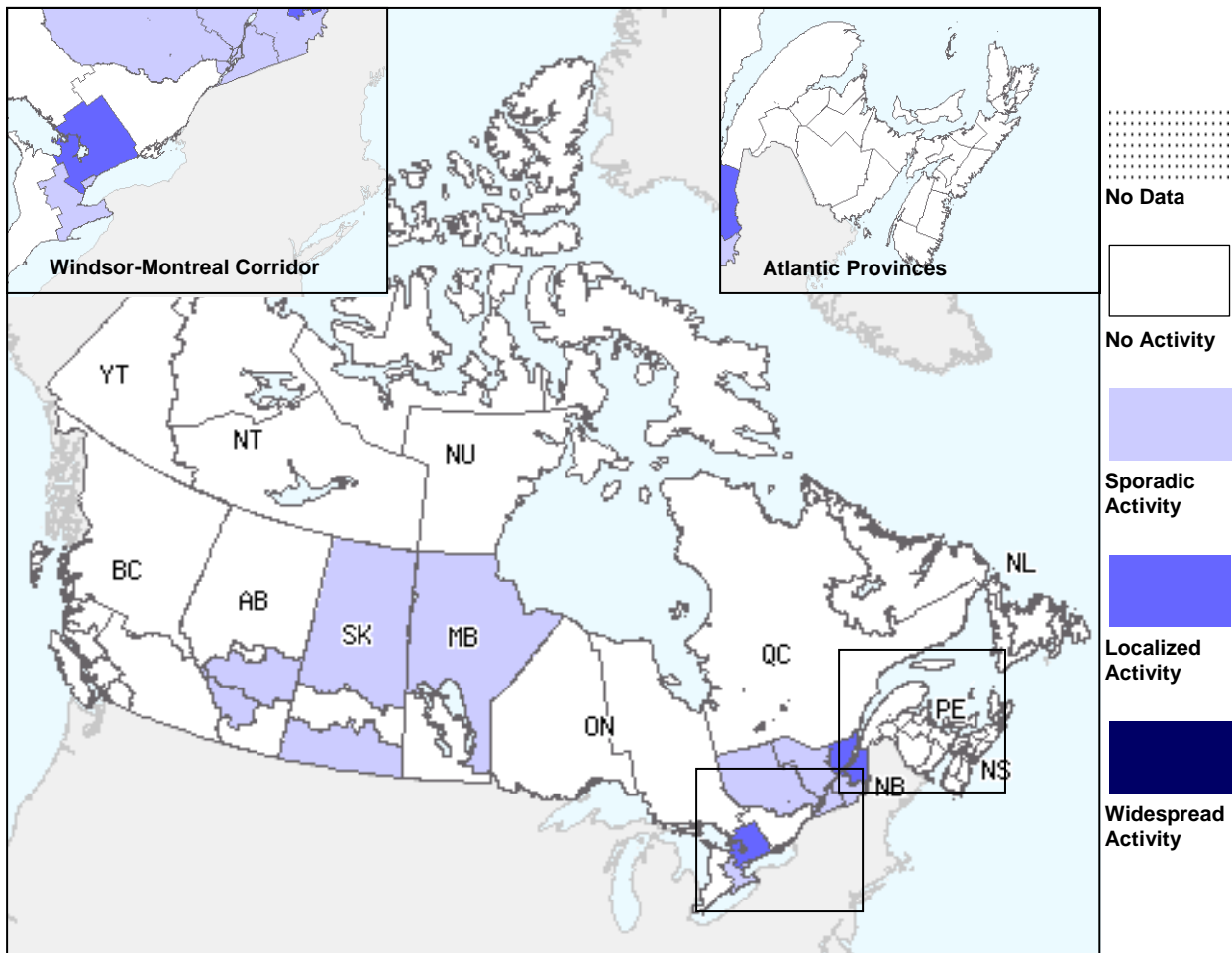
### November 21 to November 27, 2010 (Week 47)

- During week 47, the overall influenza activity in Canada remained relatively low, however, activity level in some regions of the Prairies, Ontario and Quebec has slightly increased.
- The proportion of positive influenza specimens reported during week 47 has doubled this week with 111 specimens out of 2,418 (4.59%) testing positive. Of the 111 positive tests, 39 specimens were reported as influenza A/H3N2 (AB, MB, ON & QC), 63 as unsubtype influenza A (AB, SK, MB, ON & QC) and nine as influenza B (AB, SK & ON).
- Since the beginning of the season, A/H3N2 has been the predominant strain circulating in Canada representing 98% of the subtyped positive influenza A specimens. Seasonal influenza B and A/H3N2 viruses continued to co-circulate worldwide, with the later slightly predominant; pandemic H1N1 2009 virus circulation continued to be detected at low to moderate levels across Asia, and sporadically in other parts of the world.

#### Overall Influenza Summary – Week 47 (November 21 to November 27, 2010)

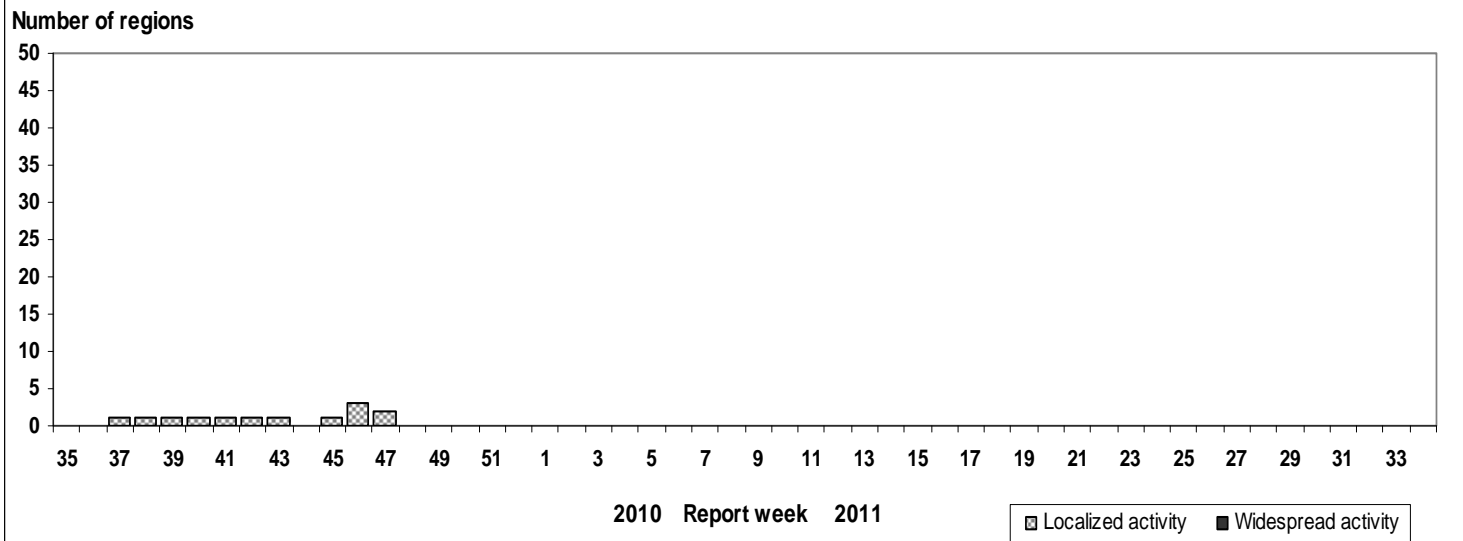
In week 47, while two regions reported localized activity (ON & QC), eleven regions reported sporadic activity (AB, SK, MB, ON & QC) and 42 regions presented no activity (See Activity level Map). One new unsubtype influenza A outbreak was reported during week 47 in a QC long-term care facility.

**Map of overall Influenza activity level by province and territory, Canada, Week 47**



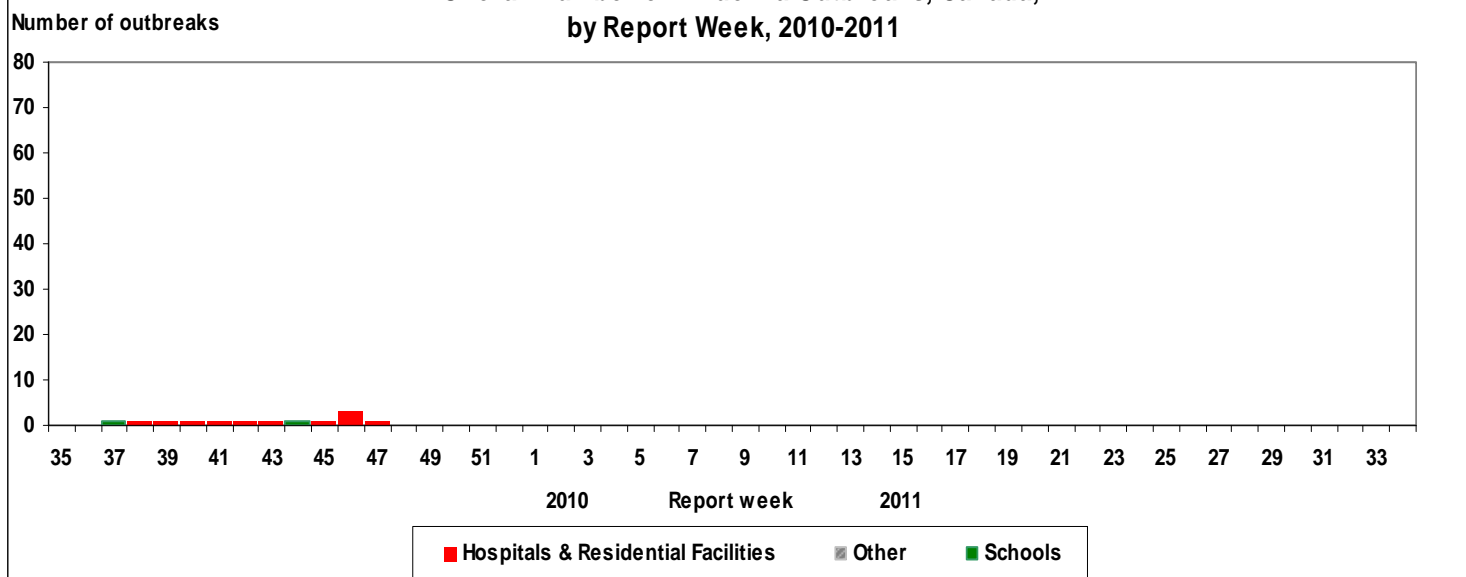
Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and reported outbreaks. Please refer to detailed definitions on the last page. For areas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

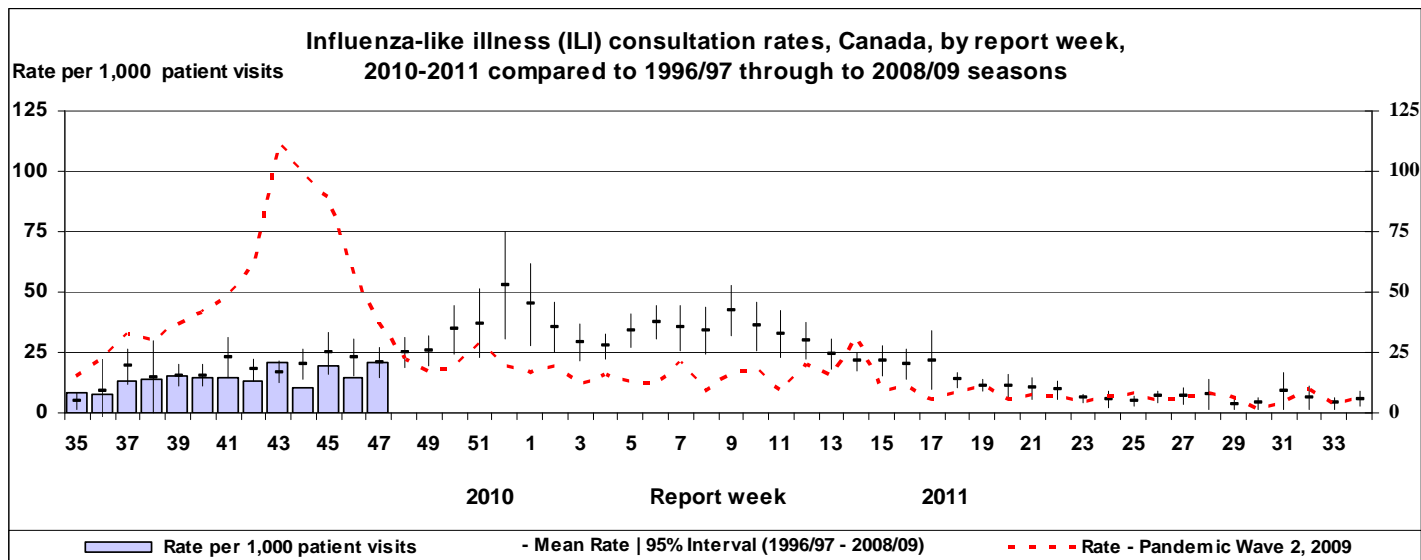
**Overall Number of Influenza Outbreaks, Canada, by Report Week, 2010-2011**



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 47, the national ILI consultation rates was 21.0 consultations per 1,000 patients visits which was similar to what was observed in the previous weeks and was within the expected levels for this time of year (see ILI graph). Children under 5 years of age had the highest consultation rates (69.8 per 1,000 consultations) followed by people aged between 5 and 19 years (20.7 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 47 (4.59%, 111/2,418) continued to increase. This proportion was higher than 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 111 positive tests, 39 specimens were reported as influenza A/H3N2 (AB, MB, ON & QC), 63 as unsubtype influenza A (AB, SK, MB, ON & QC) and nine as influenza B (AB, SK & ON). Although the majority of influenza virus detections to date this season were influenza A viruses (93% or 296/317) detections for influenza B viruses are also increasing. Since the beginning of the season, 98% of the subtyped positive influenza A specimens were for influenza A/H3N2. During week 47, 38% (12/32) of cases with A/H3N2 reported through the detailed case-based laboratory reporting were aged over 65 years, while since August 29, 2010, the proportion was 49% (52/107) (see Tests detailed table). In week 47, low levels of respiratory syncytial virus detections (RSV) (3.8%), adenovirus (3.1%), parainfluenza (2.9%), and human metapneumovirus (0.6%) continue to be reported (see Respiratory viruses graph).

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

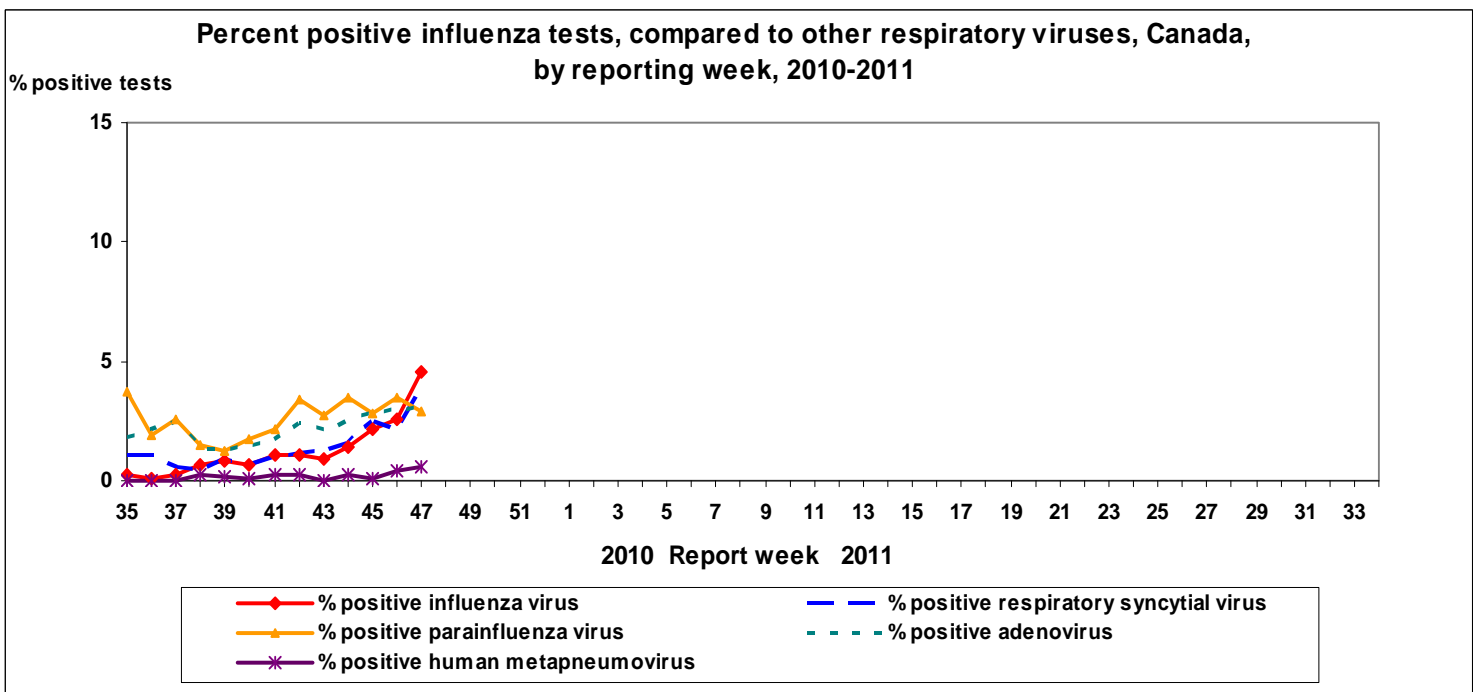
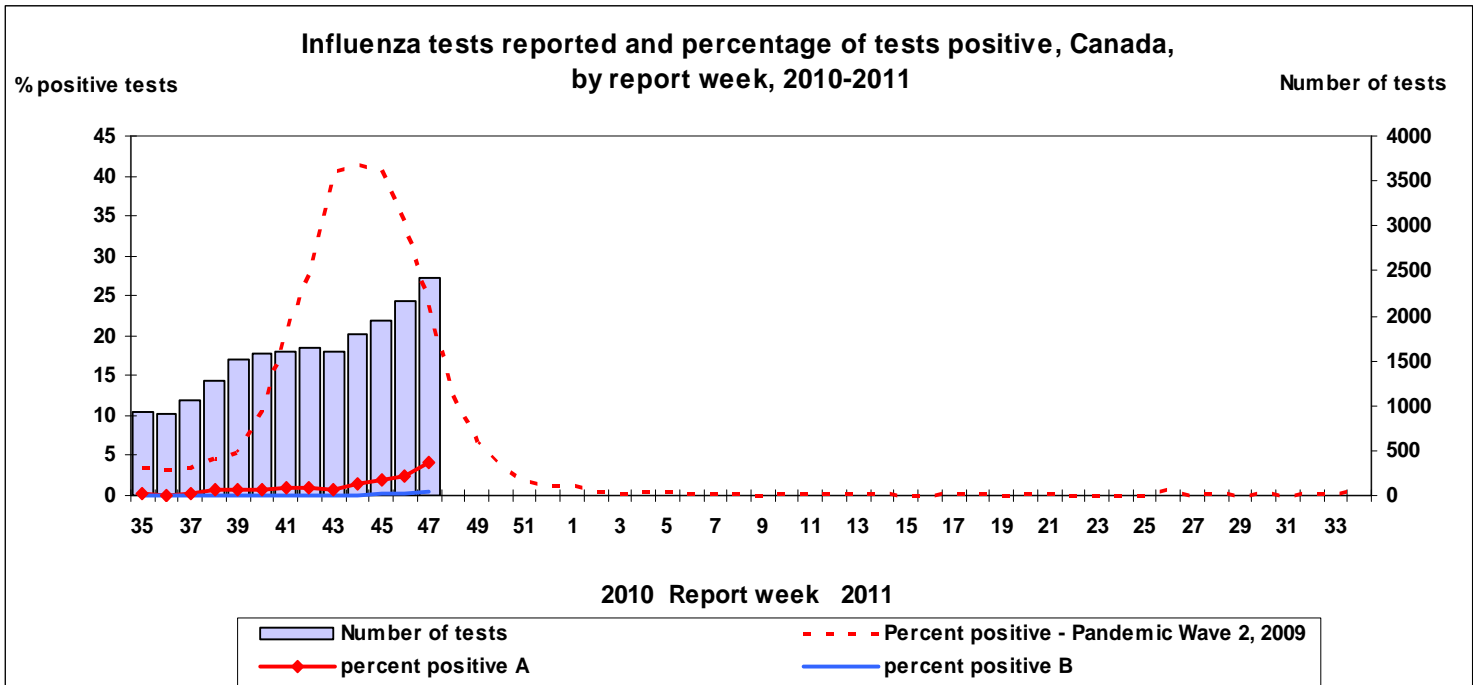
Reporting provinces	Weekly (November 21 to November 27, 2010)						Cumulative (August 29, 2010 to November 27, 2010)					
	Influenza A					B	Influenza A					B
	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total
BC	0	0	0	0	0	0	12	0	8	0	4	3
AB	2	0	1	0	1	1	19	0	18	0	1	1
SK	1	0	0	0	1	1	3	0	1	0	2	1
MB	10	0	10	0	0	0	12	0	11	0	1	0
ON	51	0	26	0	25	7	155	0	62	3	90	12
QC	38	0	2	0	36	0	97	0	19	0	78	4
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>102</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>63</b>	<b>9</b>	<b>298</b>	<b>0</b>	<b>119</b>	<b>3</b>	<b>176</b>	<b>21</b>

\*Unsubtyped: The specimen was typed as influenza A, but no test for subtyping was performed. 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 (Nov. 21 to Nov. 27, 2010) (37/111)					Cumulative (Aug. 29, 2010 to Nov. 27, 2010) (135/317)				
	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	6	0	6	0	1	17	1	14	2	1
5-19	3	0	2	1	0	9	0	8	1	1
20-44	9	0	9	0	1	24	0	22	2	2
45-64	5	0	3	2	0	15	2	11	2	5
65+	12	0	12	0	0	60	0	52	8	0
Unknown	0	0	0	0	0	1	0	0	1	0
<b>Total</b>	<b>35</b>	<b>0</b>	<b>32</b>	<b>3</b>	<b>2</b>	<b>126</b>	<b>3</b>	<b>107</b>	<b>16</b>	<b>9</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. 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 47, two new laboratory-confirmed influenza-associated paediatric (18 years of age and under) hospitalizations were reported through the Immunization Monitoring Program Active (IMPACT) network. Both cases were from ON: one case with pandemic H1N1 2009 was aged between 6 and 23 months and one case with unsubtype influenza A was between 2 and 4 years. Since the beginning of the season, nine hospitalizations were reported from BC and ON; three as influenza A/H3N2, one pandemic H1N1 2009, three as unsubtype influenza A and two type B. The distribution of cases to date by age group was as follows: two among 0-5 month olds; two between 6-23 month olds; two among the 2-4 year-olds; and three between 5-9 year-olds.

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

During week 47, 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 29 sites. The two cases aged over 80 years were characterized as unsubtype influenza A (both from ON). Since the beginning of the season, 19 hospitalized cases have been reported (5 A/H3N2, 1 pandemic H1N1 and 13 influenza A unsubtype from BC, ON and QC). 16 of the 19 (84%) cases were aged over 60 years and 11 (58%) were males.

Among the nine provinces and territories conducting severe outcomes surveillance, since the beginning of the season three deaths have been reported among laboratory confirmed influenza cases. There were two deaths with influenza A among people aged 65 years of age or older in ON (reported on week 40 and 45, respectively) and one death with influenza A/H3N2 aged between 20 and 44 years in MB.

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

During week 47, antiviral prescriptions monitoring results demonstrated a levelling-off in antiviral prescription rates at the national level with some variation among provinces and territories. The increase in prescriptions among children reported last week appears to have peaked and is now declining. Weekly analysis of antiviral data at the Health Region level showed low antiviral prescription rates among all Health Regions for the report week compared to this time last year.

### **Antigenic Characterization**

Since September 1, 2010, National Microbiology Laboratory (NML) has antigenically characterized 29 influenza viruses (24 A/H3N2 from BC, AB, MB, ON & QC, 1 pandemic H1N1 2009 in ON and 4 B viruses from BC, ON and QC) that were received from provincial laboratories. The 24 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 four 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 26 influenza A/H3N2 and one pandemic H1N1 isolates for amantadine resistance and found that all isolates were resistant to amantadine. 25 influenza isolates (21 A/H3N2, 1 pandemic H1N1 and 3 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, influenza activity remained low, except in limited areas of tropical Asia and temperate South America. Although the winter influenza season in the temperate zone of the Southern Hemisphere formally concluded during early October 2010 and generally transmission has been negligible since then, there have been recent reports of localized, late season epidemic influenza activity in Argentina, most notably in several provinces in the northwestern part of the country. As the temperate zone of the Northern Hemisphere enters the late autumn and winter months, influenza activity remained at or below seasonal baseline in most countries of Europe, North America, and temperate Asia. Seasonal influenza B and A/H3N2 viruses continued to co-circulate worldwide, with the later slightly predominant; pandemic H1N1 2009 virus circulation continued to be detected at low to moderate levels across Asia, and sporadically in other parts of the world. <[http://www.who.int/csr/disease/influenza/2010\\_11\\_22\\_GIP\\_surveillance/en/index.html](http://www.who.int/csr/disease/influenza/2010_11_22_GIP_surveillance/en/index.html)>

### **Geographic update**

#### **Northern hemisphere**

**United States:** During week 46, influenza activity remained relatively low overall, but increased slightly in the Southeast. The geographic spread of influenza in one state was reported as regional, Puerto Rico and seven states reported local activity; the District of Columbia, Guam, the U.S. Virgin Islands and 31 states was assessed as sporadic; and 11 states reported no influenza activity. 284 (9.8%) specimens were tested 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 most countries in the tropics of the Americas, influenza activity has largely subsided. This comes after a period of variable influenza virus transmission spanning late July through early October 2010 during which many countries in the region observed active circulation of seasonal A/H3N2 viruses, while a few noted either seasonal influenza B or pandemic H1N1 activity. <[http://www.who.int/csr/disease/influenza/2010\\_11\\_22\\_GIP\\_surveillance/en/index.html](http://www.who.int/csr/disease/influenza/2010_11_22_GIP_surveillance/en/index.html)>

**Europe:** During week 47, 24 of 29 countries reported epidemiological data. All reporting countries experienced low intensity influenza activity. The number of detected respiratory syncytial virus infections continued to show steady increase. During week 47, sentinel physicians collected 604 specimens of which 5.1% were positive for influenza. Of the 359 influenza detections in sentinel and non-sentinel specimens, 63% were influenza A and 37% influenza B viruses. Of 130 sub-typed influenza A viruses, 74.6% were A(H1N1)2009, 24.6% were A(H3) and 0.8% was A(H1) virus.  
<[http://ecdc.europa.eu/en/publications/Publications/101203\\_SUR\\_Weekly\\_Influenza\\_Surveillance\\_Overview.pdf](http://ecdc.europa.eu/en/publications/Publications/101203_SUR_Weekly_Influenza_Surveillance_Overview.pdf)>

**Asia:** Several countries of Southeast Asia continued to report active circulation of influenza viruses. In Thailand, as of mid to late October 2010, there continued to be reports of active but declining co-circulation of seasonal influenza A/H3N2, B, and pandemic H1N1 2009. In neighboring Cambodia, since September 2010, there has been sustained active circulation of predominantly seasonal A/H3N2 viruses, but also to a lesser extent, seasonal influenza B and pandemic H1N1. In Singapore, sustained co-circulation of seasonal influenza and pandemic H1N1 has been observed, in varying proportions over time, since April 2010. Elsewhere in Asia, Sri Lanka has reported a recent increase in the circulation of seasonal influenza A/H3N2, B, and pandemic H1N1. <[http://www.who.int/csr/disease/influenza/2010\\_11\\_22\\_GIP\\_surveillance/en/index.html](http://www.who.int/csr/disease/influenza/2010_11_22_GIP_surveillance/en/index.html)>

### **Southern hemisphere**

**South America:** In most countries of the temperate zone of the Southern Hemisphere, influenza virus circulation remained low to sporadic and ILI activity levels remained near or below baseline. In Argentina, however, there have been recent reports of localized, late season epidemics of influenza occurring during September and October 2010 in the several northwestern and far southern provinces. These outbreaks have been associated with circulation of influenza A viruses (some isolates have been characterized as seasonal influenza A/H3N2 but most have not been subtyped). <[http://www.who.int/csr/disease/influenza/2010\\_11\\_22\\_GIP\\_surveillance/en/index.html](http://www.who.int/csr/disease/influenza/2010_11_22_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.