



October 16 to October 22, 2011 (Week 42)

Overall Influenza Summary

- Influenza activity continues at low inter-seasonal levels
- In week 42, 4 laboratory detections of influenza were reported
- Only two regions reported sporadic influenza activity (in YT & QC)
- The ILI consultation rate increased slightly but is within the expected range for this week

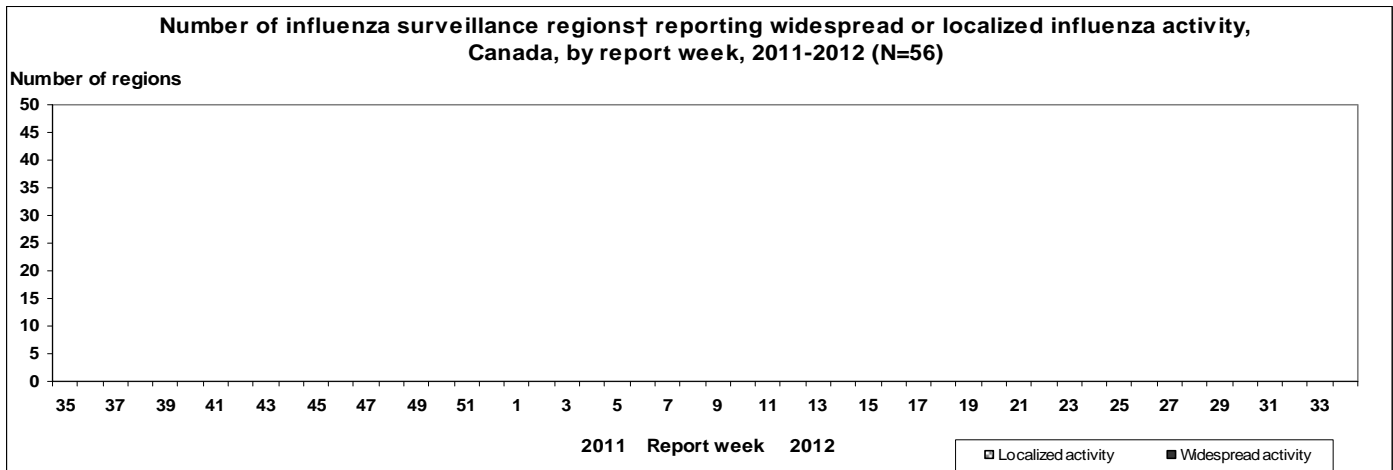
Influenza Activity and Outbreaks

In week 42, two regions reported sporadic influenza activity (in YT & QC). No data was received from SK this week (see Activity level Map). No outbreaks of influenza or ILI have been reported since the start of the season.

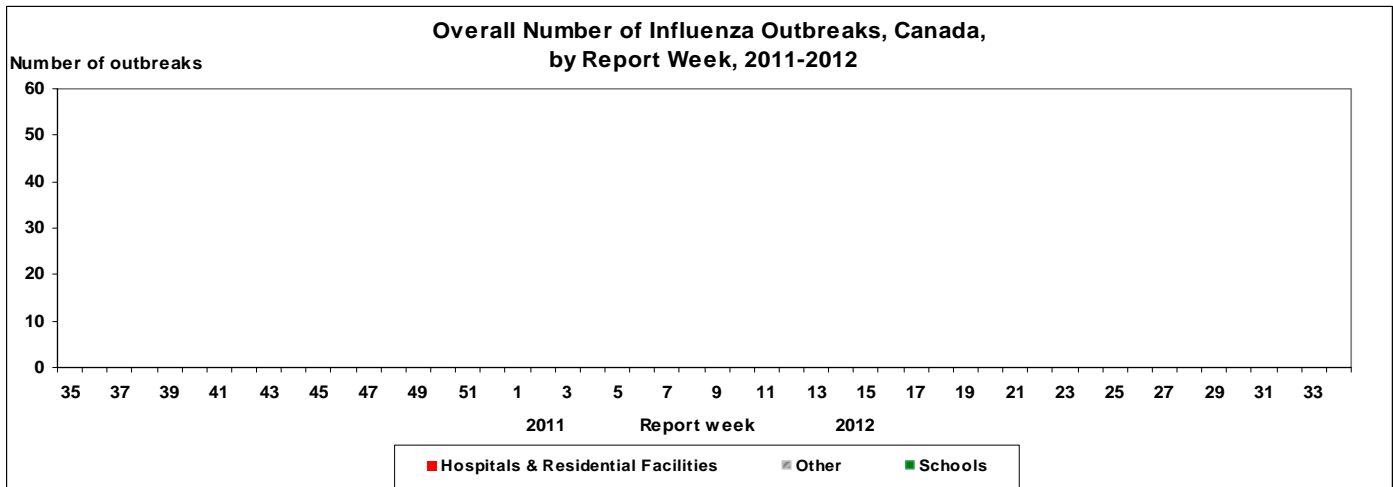
Map of overall Influenza activity level by province and territory, Canada, Week 42



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.

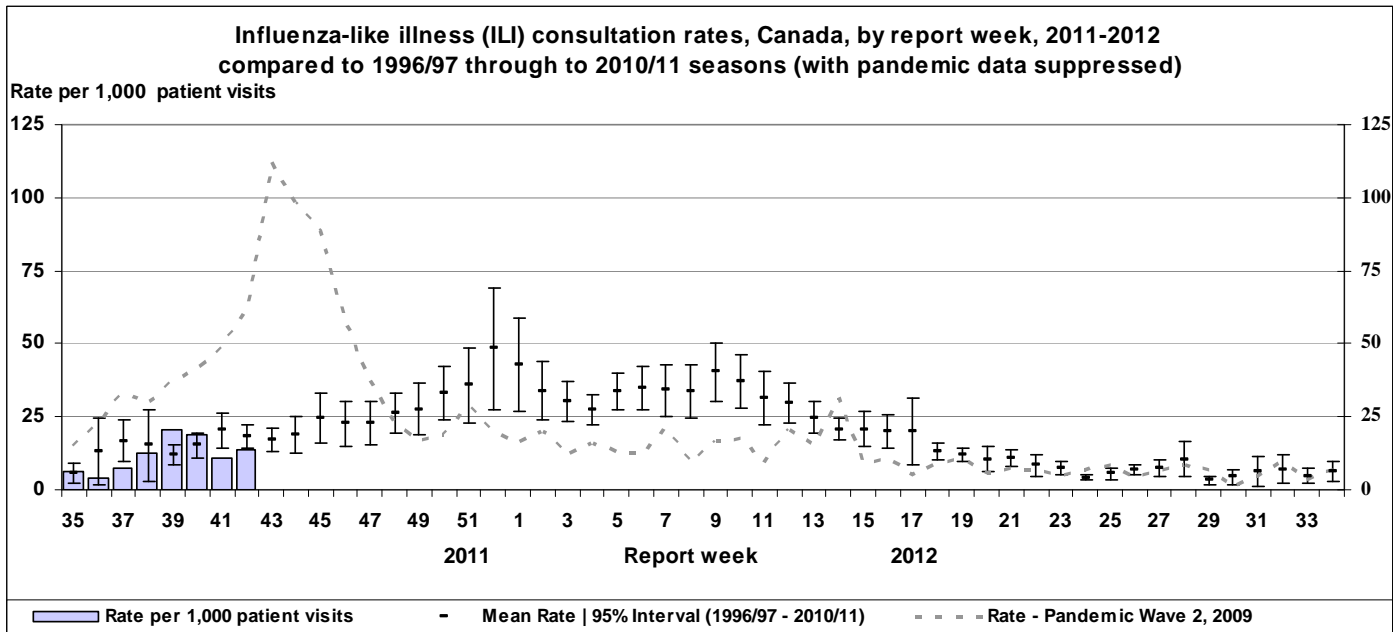


† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist. Graph may change as late returns come in.



ILI consultation rate

The national ILI consultation rate increased slightly to 13.8 consultations per 1,000 patient visits in week 42 which is within the expected levels for this time of year (see ILI graph). The highest consultation rate this week was observed among those 5 to 19 years of age (35.1 / 1,000 visits) followed by children under 5 (19.8/1,000 visits).



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

In week 42, 1,844 influenza tests were conducted of which 4 (0.2%) were positive for influenza. Of the positive detections, three were A(H3N2) (from BC) and one was unsubtype influenza A (QC). The proportion of tests positive for influenza has been similar over the last three weeks. Detailed information on age and subtype were received from three cases this season to date. All three cases were between the ages of 20-44 years. One case was due to A(H1N1)pdm09 and the other two were unsubtype influenza A.

In week 42, the proportion of tests positive for parainfluenza (6.2%) and rhinoviruses (24.6%) remained similar to previous weeks. The proportion of positive tests for the other respiratory viruses remained low (RSV-1.3%; adenovirus-2.5%; hMPV-0.7%; coronavirus-0.0%) (see Respiratory Viruses graph). For more details of weekly respiratory virus detections in Canada, see <http://www.phac-aspc.gc.ca/bid-bmi/dsd-dsm/rvdi-divr/index-eng.php>.

Weekly & Cumulative numbers of positive influenza specimens by Provincial Laboratories, Canada, 2011-2012

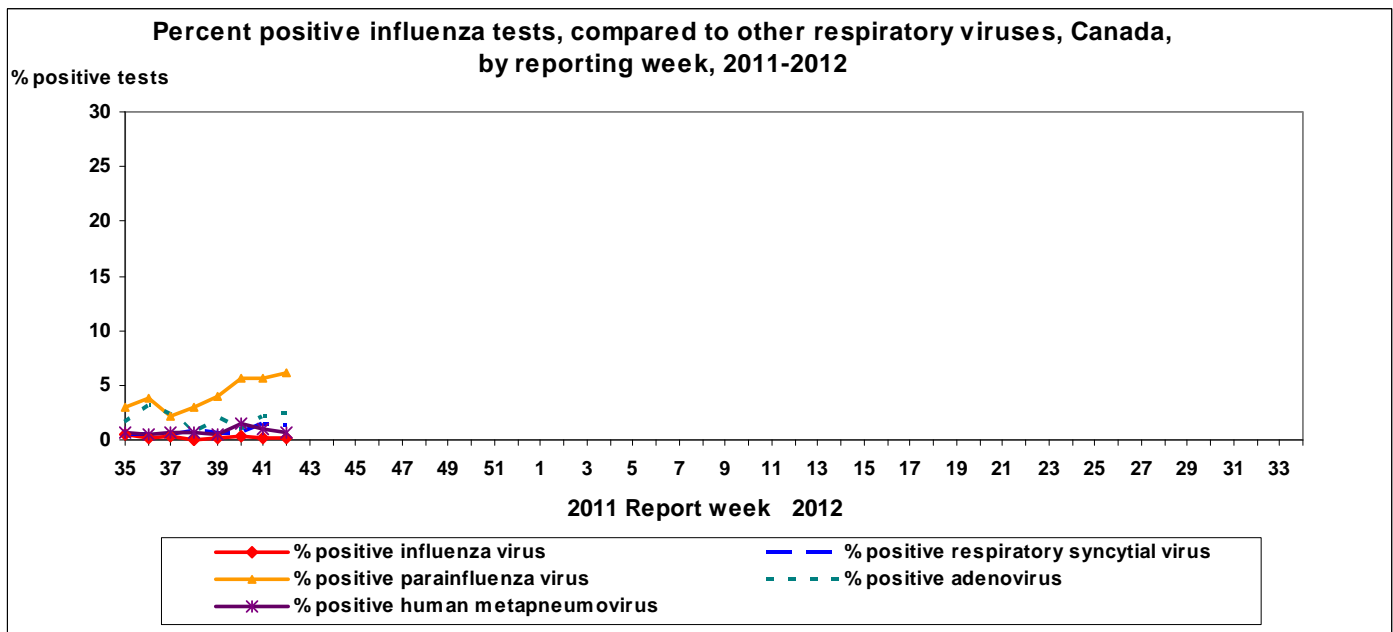
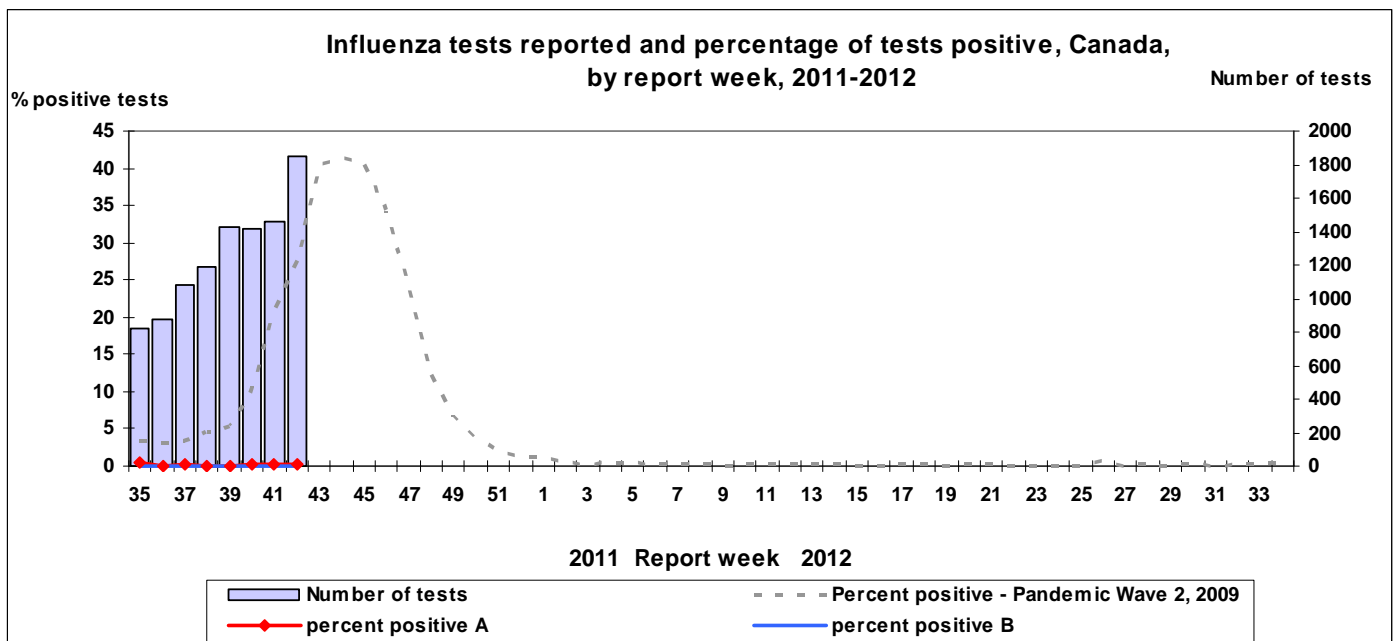
Reporting provinces	October 16 to October 22, 2011						Cumulative (August 28, 2011 to October 22, 2011)					
	Influenza A					B	Influenza A					B
	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total
BC	3	0	3	0	0	0	9	0	9	0	0	1
AB	0	0	0	0	0	0	2	0	0	1	1	1
SK	0	0	0	0	0	0	0	0	0	0	0	0
MB	0	0	0	0	0	0	0	0	0	0	0	0
ON	0	0	0	0	0	0	1	0	1	0	0	0
QC	1	0	0	0	1	0	6	0	0	1	5	2
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
Canada	4	0	3	0	1	0	18	0	10	2	6	4

*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, 2011-2012*

Age groups	Weekly (Oct 16 to Oct 22, 2011)					Cumulative (Aug. 28, 2011 to Oct.22, 2011)				
	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	0	0	0	0	0
5-19	0	0	0	0	0	0	0	0	0	0
20-44	0	0	0	0	0	3	1	0	2	0
45-64	0	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	3	1	0	2	0

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



Antigenic Characterization

Since the start of the season, the National Microbiology Laboratory (NML) has antigenically characterized two influenza viruses (one A/H3N2, and one B), both of which were from BC. The A/H3N2 virus was antigenically related to A/Perth/16/2009, which is the influenza A/H3N2 component recommended for the 2011-12 Northern Hemisphere influenza vaccine. The recommended influenza B component for the 2011-12 Northern Hemisphere influenza vaccine is B/Brisbane/60/2008 (Victoria lineage). The influenza B virus characterized was antigenically related to the reference virus B/Wisconsin/01/2010-like, which belongs to the Yamagata lineage.

The WHO has released the recommended influenza virus vaccine composition for the 2012 Southern hemisphere season and includes the following: an A/California/7/2009 (H1N1)pdm09-like virus, an A/Perth/16/2009 (H3N2)-like virus, and a B/Brisbane/60/2008-like virus. (http://www.who.int/influenza/vaccines/virus/recommendations/2011_09_recommendation.pdf)

Antiviral Resistance

Since the beginning of the season, NML has tested two influenza viruses (one A/H3N2 and one B) for resistance to oseltamivir (by phenotypic assay and/or sequencing) and for resistance to zanamivir (by phenotypic assay) and it was found that both viruses were susceptible to both oseltamivir and zanamivir.

Severe Illness Surveillance

Since the beginning of the season, no laboratory-confirmed paediatric (<16 years of age) influenza hospitalizations have been reported through the Immunization Monitoring Program Active (IMPACT) network.

International influenza update

No new updates were reported by the WHO this week. As of October 21, 2011, countries in the temperate regions of the northern hemisphere that have begun routine surveillance activities reported no active community transmission of influenza to date. In general, low or undetectable levels of influenza transmission were reported in the tropical countries of the Americas, South America and South Africa. Influenza transmission in tropical Asia has continued to be active in localized areas. Influenza activity has peaked in Australia and New Zealand, though there are regional variations in the timing of the peaks and the season has not yet ended.

http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html

The WHO released a report that summarizes the chronology, epidemiology and virology of the winter influenza season in the southern hemisphere's temperate regions, spanning January 2011 to the end of September 2011. The full report can be accessed at: <http://www.who.int/wer/2011/wer8644.pdf>

United States: In week 41, the CDC reported that 0.5% (6/1,286) of influenza tests were positive. No antigenic characterization data is available for specimens collected after October 1, 2011; however, the majority of strains characterized (based on specimens collected between May 22 to September 30, 2011) were A/Perth/16/2009-like and B/Brisbane/60/2008-like. National and regional proportions of visits due to ILI were below baseline levels. Geographic spread of influenza was sporadic at most and reported in 18 states.

Novel Influenza A Virus: A case infected with a swine origin influenza A(H3N2) virus was reported from Maine. The patient developed symptoms on October 7, 2011, did not require hospitalization and is continuing to recover. The patient reported attending an event where pigs were present the week prior to symptom onset. No illness has been identified in family members or close contacts, but the investigation is ongoing. No epidemiologic link has been identified between this case from Maine and recent cases reported in Indiana and Pennsylvania. <http://www.cdc.gov/flu/weekly/index.htm>

Europe: In week 42, levels of influenza activity in Europe (including laboratory detections, consultation rates for ILI and ARI (acute respiratory infection)) remained low. The proportion of specimens positive for influenza virus this week was 0.4% (2/458). Sporadic detections of influenza A(H3N2), A(H1N1)pdm09 and influenza B have been reported in the past several weeks. http://euroflu.org/cgi-files/bulletin_v2.cgi

Australia: As of week ending October 14, 2011, influenza activity in Australia has continued to decrease. Levels of ILI in the community (via reports from sentinel general practitioners and emergency departments) and laboratory notifications continued to decline. Nationally, weekly notifications for this season peaked in the week ending August 5, 2011 with 1,989 influenza notifications. Although this peak in notifications was above the peak frequency experience in previous years (except in 2009), assessment of this peak in conjunction with other surveillance systems monitored highlights that this difference in activity was not significant. Of the influenza isolates subtyped from January 1 to October 16, 2011, 44.6% were A(H1N1)pdm09, 17.5% were A(H3N2) and 37.9% were B. <http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-ozflu-flucurr.htm>

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 2011-2012 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 2011-2012 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 2011-2012 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.