



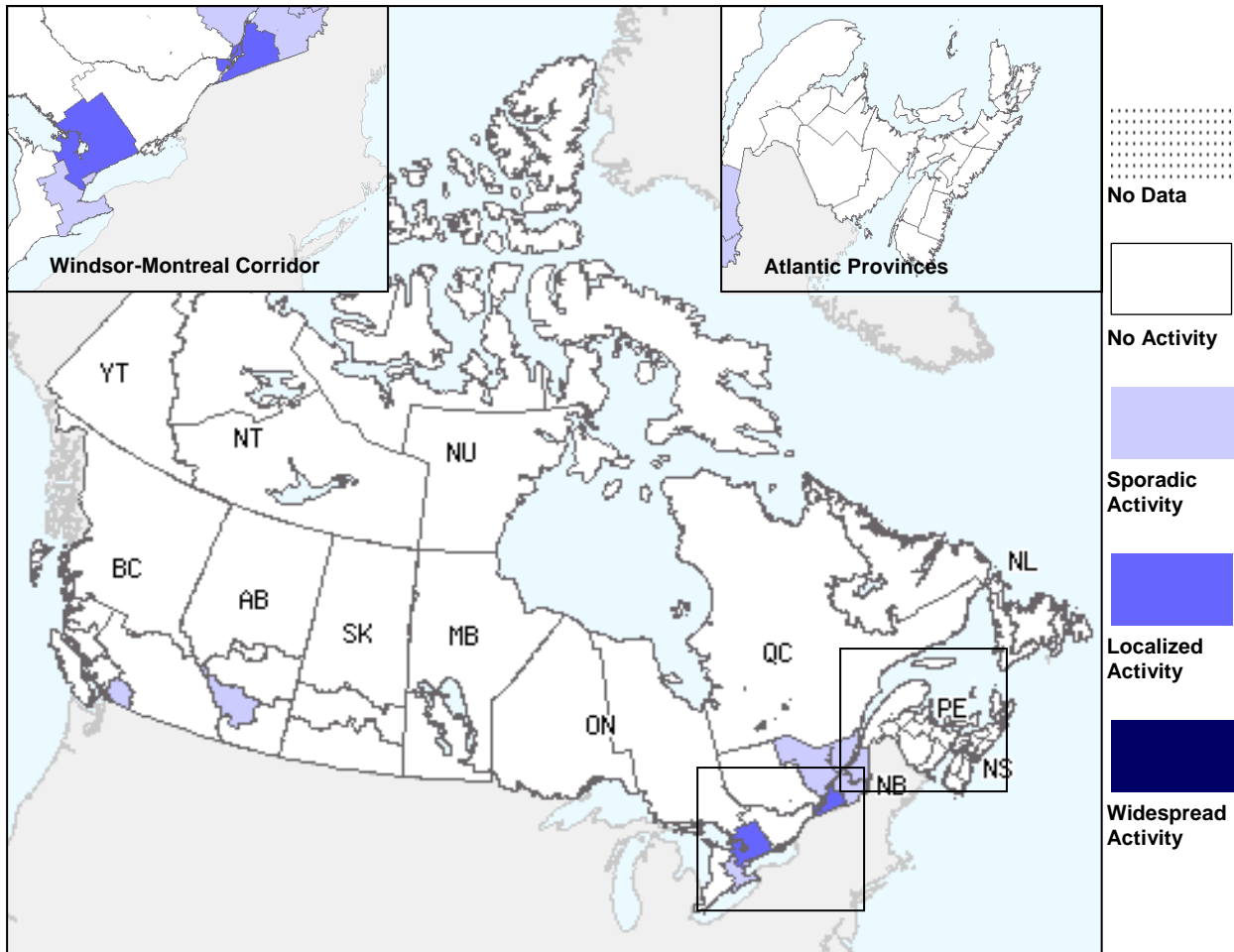
November 14 to November 20, 2010 (Week 46)

- During week 46, 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 46 has increased with 53 specimens out of 2,021 (2.62%) testing positive. Of the 53 positive tests, 17 specimens were reported as influenza A/H3N2 (ON & QC), 30 as unsubtype influenza A (MB, ON & QC), one as pandemic H1N1 2009 (ON) and five as influenza B (BC & ON).
- Since the beginning of the season, A/H3N2 has been the predominant strain circulating in Canada representing 96% 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.
- The Canadian Food Inspection Agency (CFIA) has confirmed the presence of low pathogenic H5N2 avian influenza virus in a commercial poultry operation in the rural municipality of Rockwood, Manitoba on November 25, 2010. The infected farm remains under quarantine and all birds in the operation will be humanely destroyed. The human health risk posed by this avian influenza virus strain is low and there have been no reports of human illness associated with this outbreak. <http://www.inspection.gc.ca/english/corpaffr/newcom/2010/20101125e.shtml>

Overall Influenza Summary – Week 46 (November 14 to November 20, 2010)

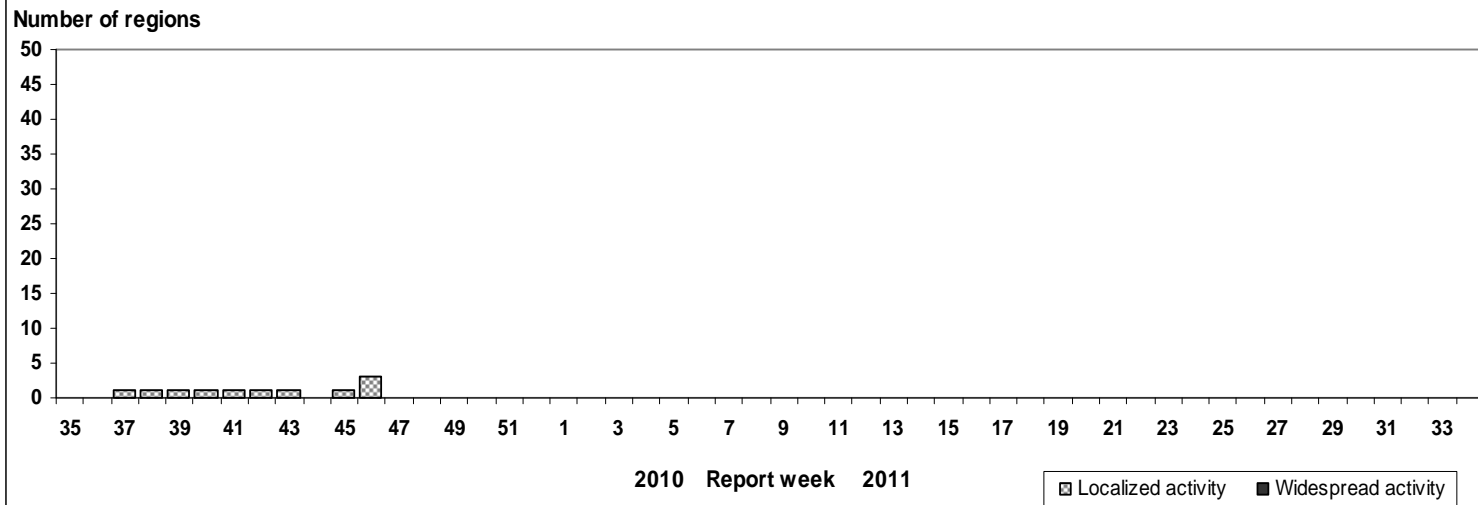
In week 46, while three regions reported localized activity (ON & QC), six regions reported sporadic activity (BC, AB, ON & QC) and 47 regions presented no activity (See Activity level Map). Three new unsubtype influenza A outbreaks were reported during week 46 all in long-term care facilities (ON & QC).

Map of overall Influenza activity level by province and territory, Canada, Week 46



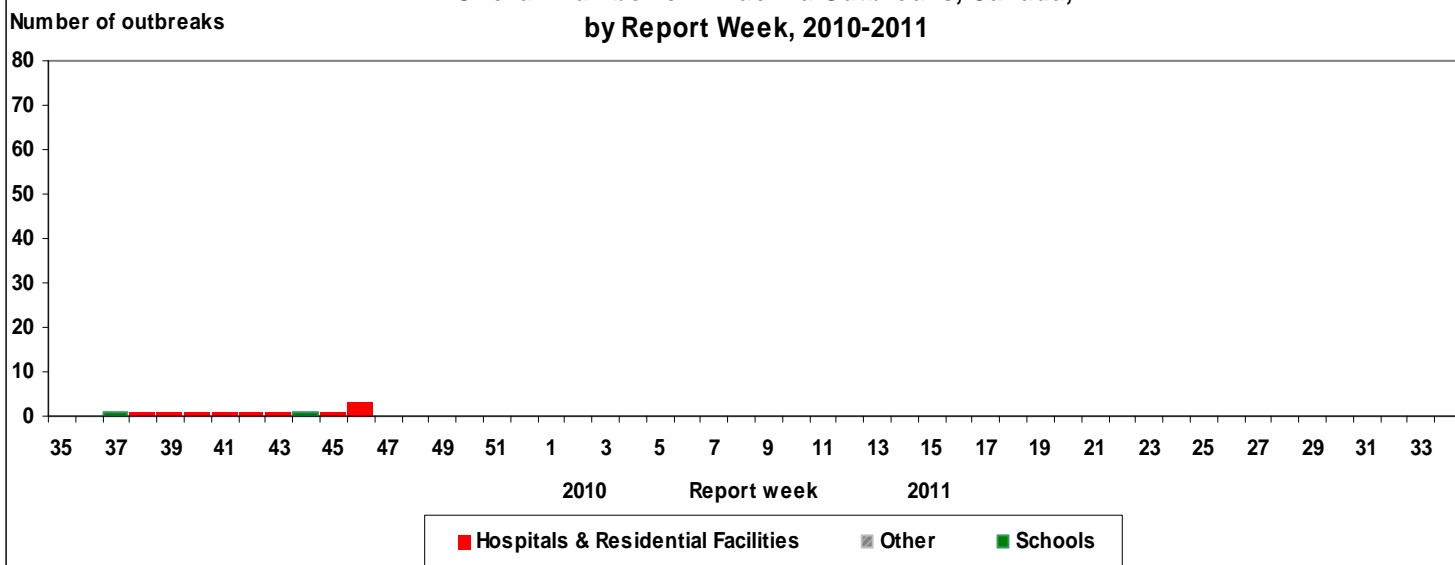
Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and reported outbreaks. Please refer to detailed definitions on the last page. For areas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

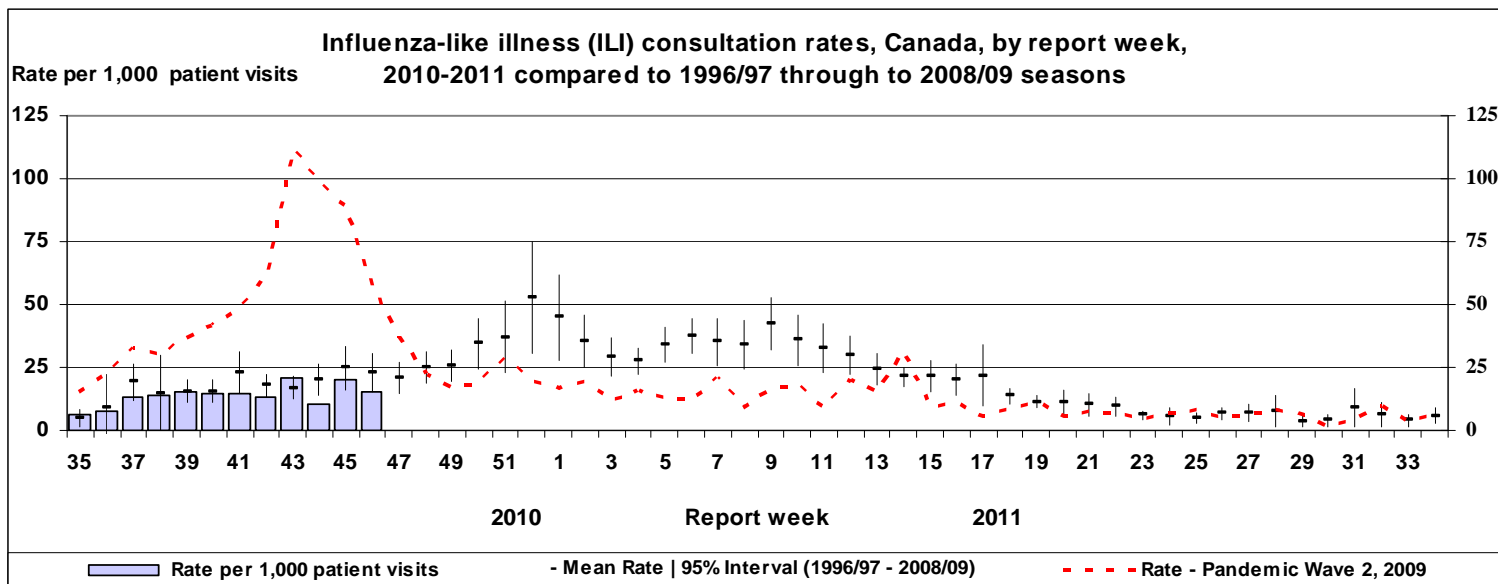
Overall Number of Influenza Outbreaks, Canada, by Report Week, 2010-2011



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 46, the national ILI consultation rates was 15.1 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). People aged between 5 and 19 years had the highest consultation rates (34.4 per 1,000 consultations) followed by children under 5 years of age (26.8 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 46 (2.62%, 53/2,021) has increased compared to previous weeks. 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 53 positive tests, 17 specimens were reported as influenza A/H3N2 (ON & QC), 30 as unsubtype influenza A (MB, ON & QC), one as pandemic H1N1 2009 (ON) and five as influenza B (BC & ON). Since the beginning of the season, 96% of the subtyped positive influenza specimens were for influenza A/H3N2. During week 46, low levels of adenovirus detections (3.1%), parainfluenza (2.8%), respiratory syncytial virus (RSV) (2.3%) and human metapneumovirus (0.4%) continue to be reported (see Respiratory viruses graph). The proportion of specimens positive for rhinovirus has been high since the beginning of the influenza season (18% this week). During week 46, 63% (5/8) 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 54% (40/74) (see Tests detailed table).

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

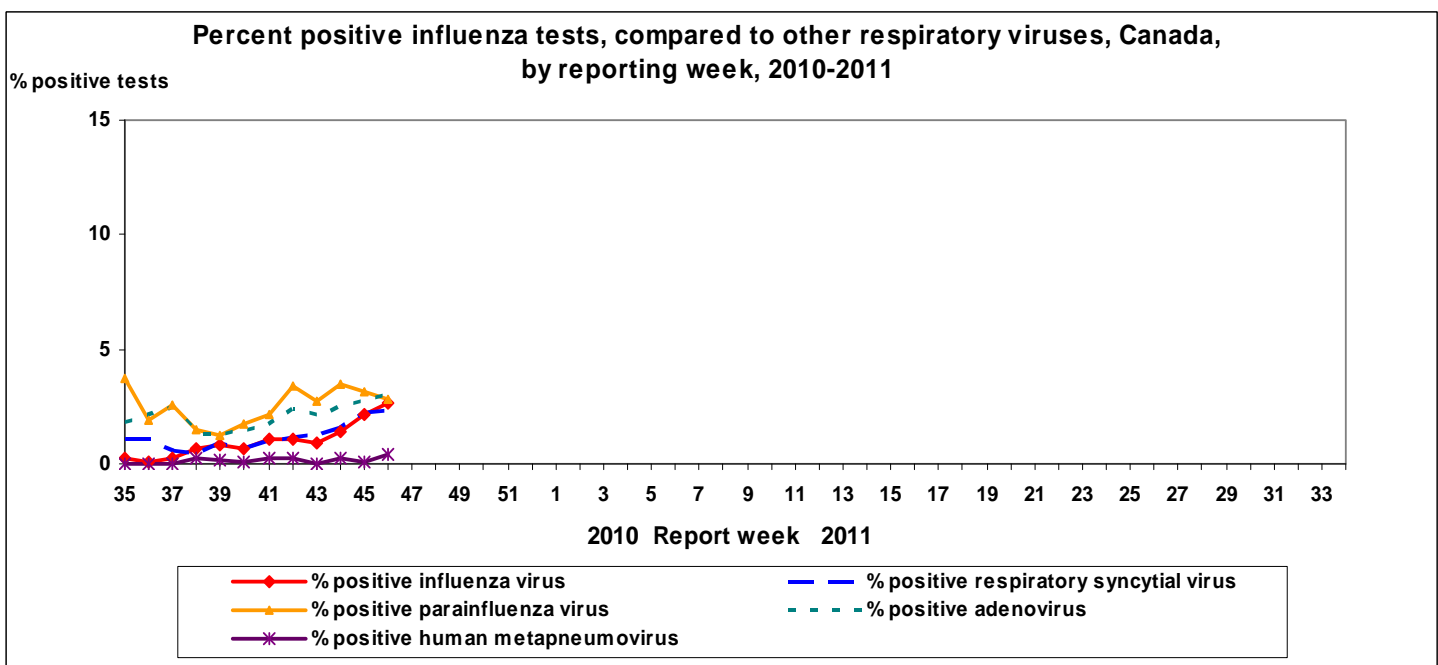
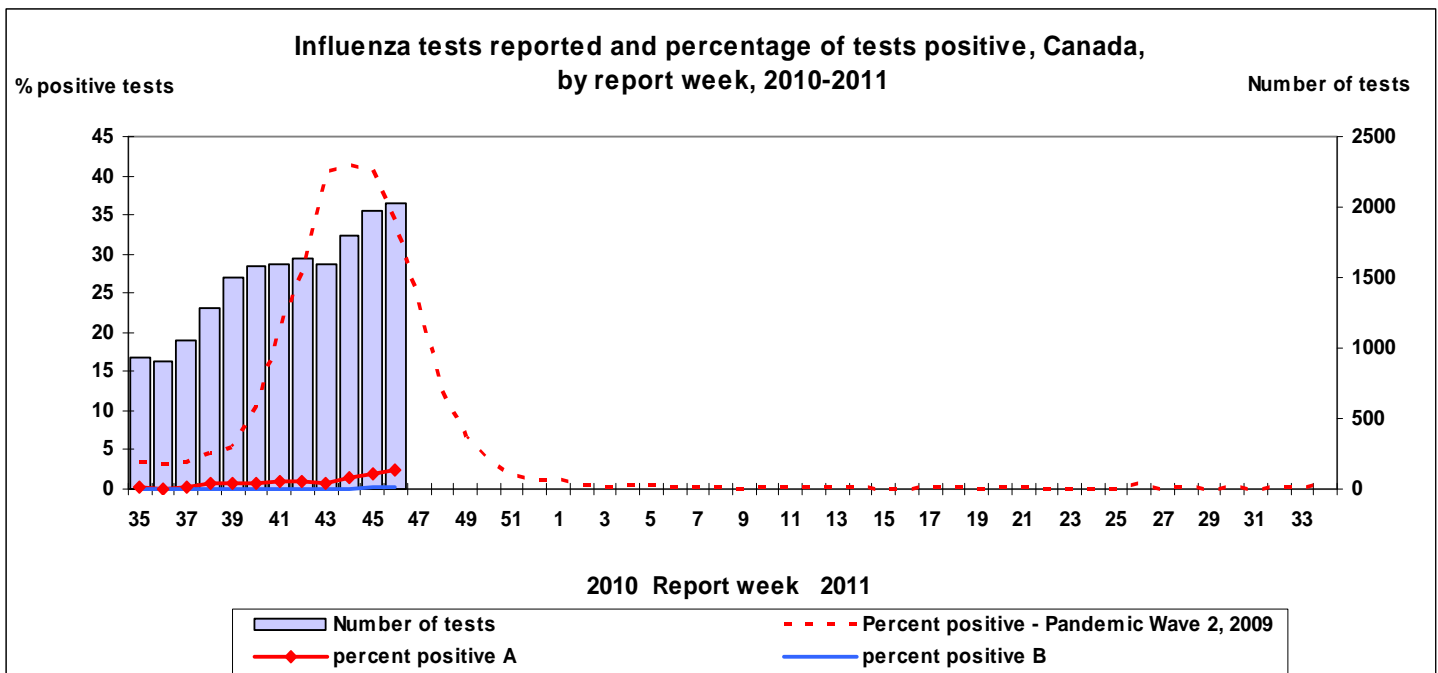
Reporting provinces	Weekly (November 14 to November 20, 2010)						Cumulative (August 29, 2010 to November 20, 2010)					
	Influenza A					B	Influenza A					B
	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total
BC	0	0	0	0	0	1	12	0	8	0	4	3
AB	0	0	0	0	0	0	15	0	15	0	0	0
SK	0	0	0	0	0	0	2	0	1	0	1	0
MB	1	0	0	0	1	0	2	0	1	0	1	0
ON	20	0	12	1	7	4	104	0	36	3	65	5
QC	27	0	5	0	22	0	59	0	17	0	42	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
Canada	48	0	17	1	30	5	194	0	78	3	113	12

*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. 14 to Nov. 20, 2010) (16/53)					Cumulative (Aug. 29, 2010 to Nov. 20, 2010) (98/206)				
	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	11	1	8	2	0
5-19	1	1	0	0	1	6	0	6	0	1
20-44	3	0	1	2	0	15	0	12	3	1
45-64	2	0	2	0	3	10	2	8	0	5
65+	5	0	5	0	0	48	0	40	8	0
Unknown	0	0	0	0	0	1	0	0	1	0
Total	12	1	8	3	4	91	3	74	14	7

*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 46, no laboratory-confirmed influenza-associated paediatric (18 years of age and under) hospitalizations were reported through the Immunization Monitoring Program Active (IMPACT) network. Since the beginning of the season, six hospitalizations were reported from BC and ON; three as influenza A/H3N2, two as unsubtype influenza A and one type B. The distribution of cases to date by age group was as follows: two among 0-5 month olds; one between 6-23 month olds; one among the 2-4 year-olds; and two between 5-9 year-olds.

Adult Influenza Hospitalizations and Deaths

During week 46, four new laboratory-confirmed influenza-associated adult (16 years of age and older) hospitalizations were reported through the Canadian Nosocomial Infection Surveillance Program (CNISP) from 30 sites. Two cases aged over 65 years were characterized as influenza A/H3N2, one case between 20 and 44 years of age as well as one case over 65 years were reported as influenza A untyped. Since the beginning of the season, 17 hospitalized cases have been reported (5 A/H3N2, 1 pandemic H1N1 and 11 influenza A untyped from BC, ON and QC). 14 of the 17 (82%) cases were aged over 65 years and 11 (65%) were males.

Sale of antivirals (AV)

During week 46, antiviral prescriptions monitoring results demonstrated an increase in antiviral prescription rates at the national level; rates increased particularly in Western Canada and among children. 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 27 influenza viruses (23 A/H3N2 from BC, AB, MB, ON & QC, 1 pandemic H1N1 2009 in ON and 3 B viruses from BC, ON and QC) that were received from provincial laboratories. The 23 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 three 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 25 influenza A/H3N2 and one pandemic H1N1 isolates for amantadine resistance and found that all isolates were resistant to amantadine. 23 influenza isolates (20 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, 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>

Geographic update

Northern hemisphere

United States: During week 45, influenza activity remained low in the United States. The geographic spread of influenza in Puerto Rico and four states was reported as local; the District of Columbia and 34 states was assessed as sporadic; Guam and 12 states reported no influenza activity and the US Virgin Islands did not report. 220 (7.7%) specimens were tested positive for influenza this week. The proportion of deaths attributed to pneumonia and influenza (P&I) was at 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>

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 23 of the 24 reporting EU countries. Bulgaria reported medium intensity of acute respiratory infection. During week 45, 22 (6.0%) of 369 sentinel specimens tested positive for influenza virus. 32 of 39 influenza viruses detected in sentinel and non-sentinel specimens were type A, and 7 were type B. Of the 24 influenza A subtyped viruses, 20 were pandemic H1N1 2009 and four were A/H3N2. 11 SARI cases, not related to influenza, were reported during week 45. <http://ecdc.europa.eu/en/publications/Publications/101119_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>

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>

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.