



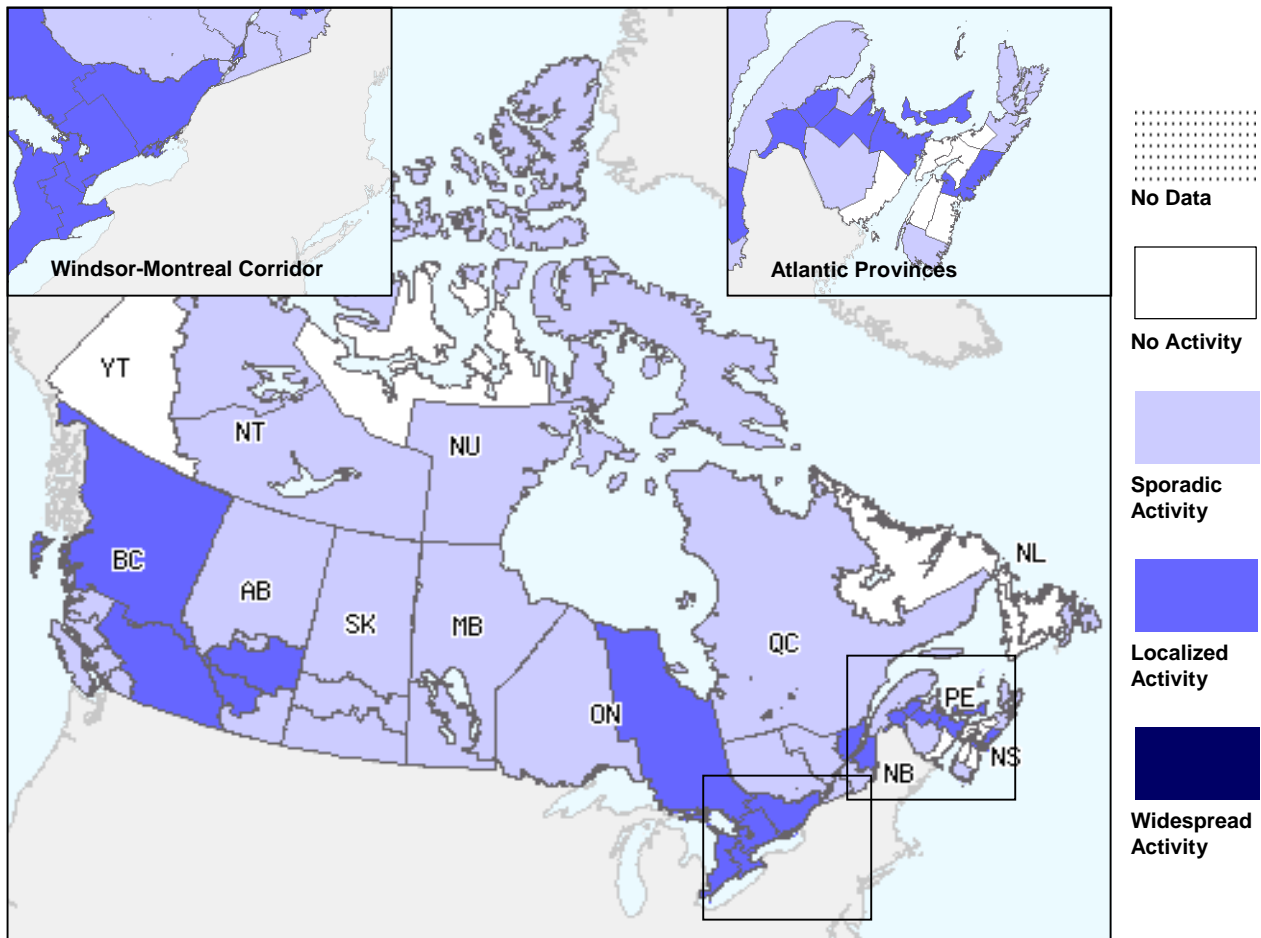
January 30 to February 5, 2011 (Week 05)

- Several regions across the country continue to report localized influenza activity. The percentage of positive influenza detections overall increased slightly in week 05, due to an increase in influenza detections in Ontario and the Atlantic provinces. Other indicators of influenza activity remained similar to the previous week.
- Since the beginning of the season, 88.0% of the subtyped positive influenza A specimens were influenza A/H3N2. In week 05, detections of both pandemic H1N1 2009 and influenza type B increased as a proportion of influenza positive specimens compared to week 04. The proportion of positive tests for RSV continued to increase.

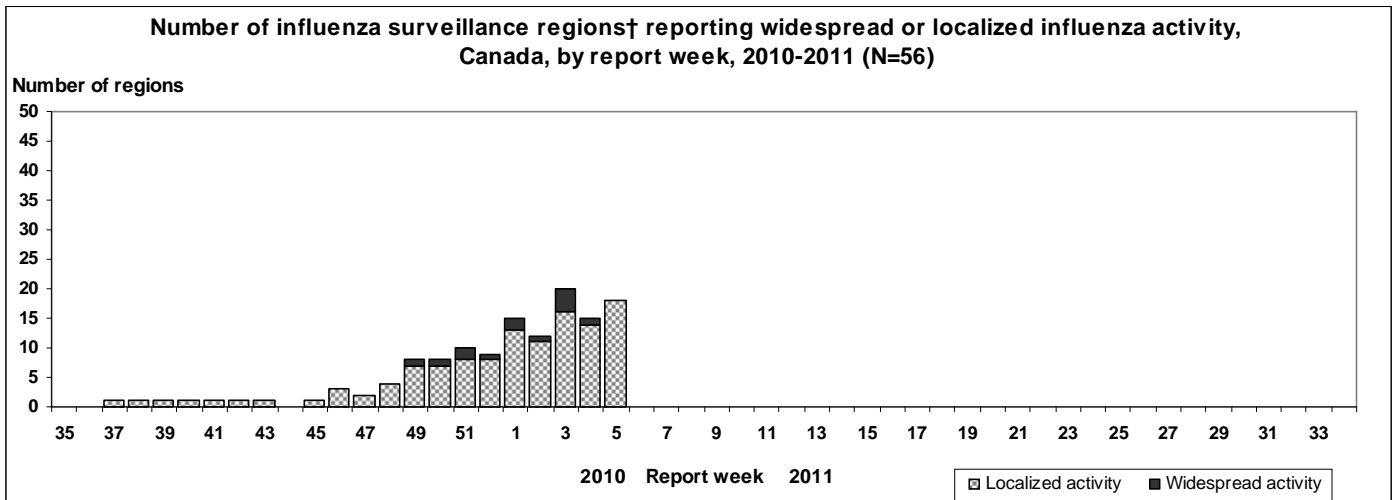
Overall Influenza Summary – Week 05 (January 30 to February 5, 2011)

In week 05, 18 regions reported localized activity (in BC(2), AB(2), ON(6), QC(2), NS(1), NB(4) & PE(1)), 27 regions reported sporadic activity (in all provinces and territories except YK) and 11 regions presented no activity. (See Activity level Map). Compared to the previous week (week 04), 10 regions reported an increased level of influenza activity, 8 regions reported decreased activity, and 29 regions maintained a stable level of influenza activity (sporadic or higher). During week 05, 29 new ILI/influenza outbreaks were reported: 11 in long-term care facilities (LTCF) in ON(4), QC(4), NB (2) and PE(1); 9 school outbreaks in BC(1), NB(7) and NL(1); 2 outbreaks in hospitals in ON; and 7 outbreaks in other facilities in BC(1) and ON(6).

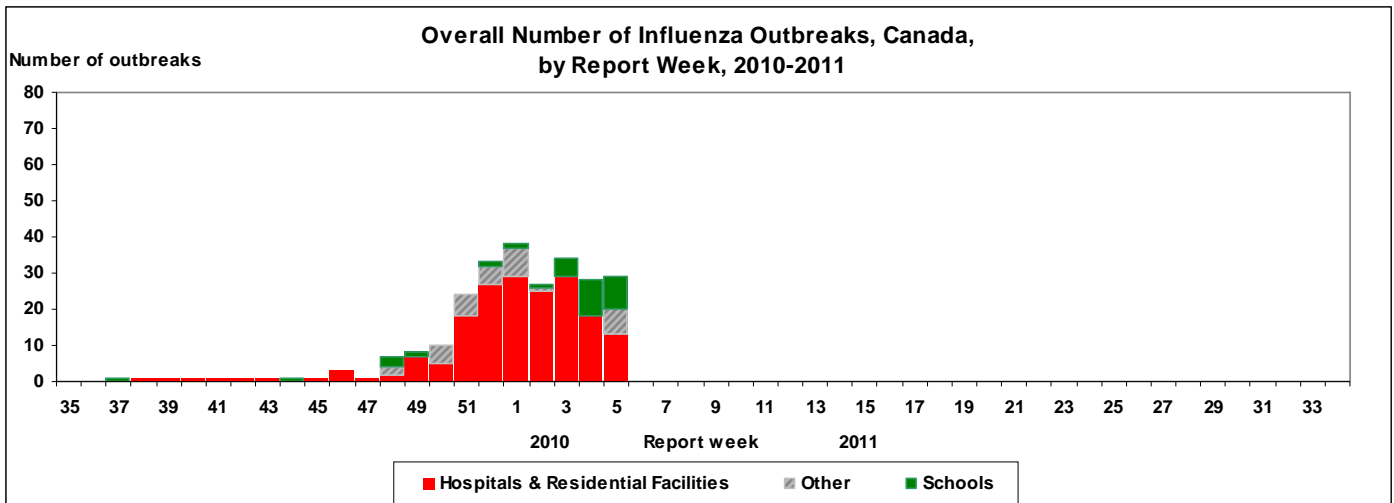
Map of overall Influenza activity level by province and territory, Canada, Week 05



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.



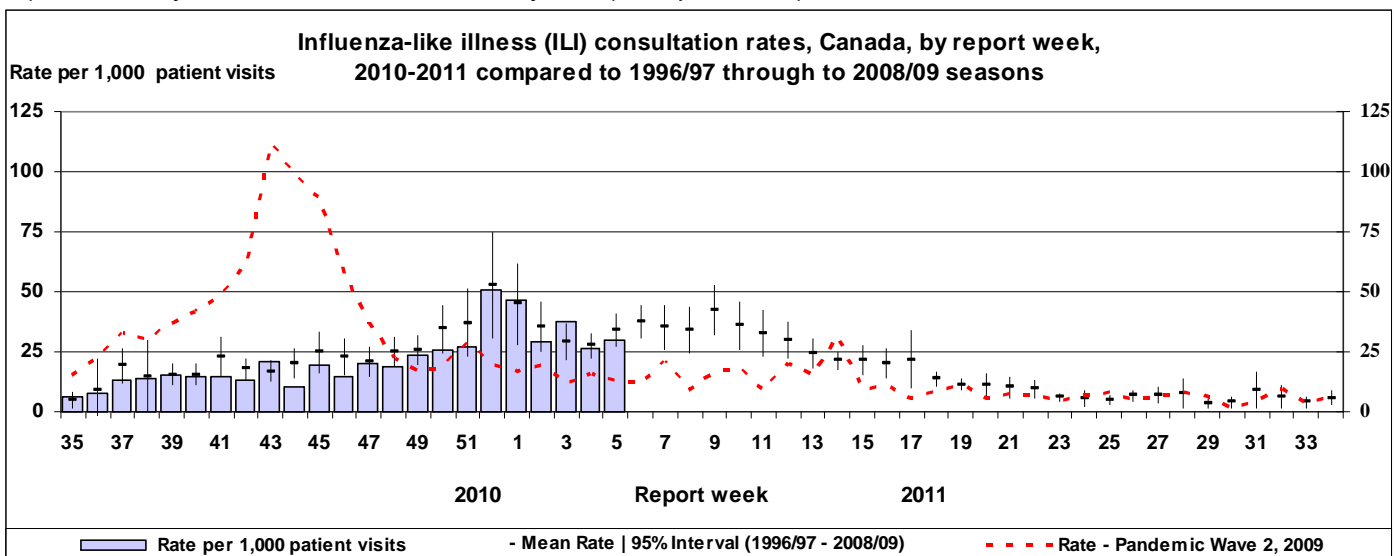
† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist. Graph may change as late returns come in.



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 05, the national ILI consultation rate was 29.9 consultations per 1,000 patient visits, which is similar to week 04 with 26.6 consultations per 1,000. This rate is still within the expected levels for this time of year (see ILI graph). Children under 5 years of age had the highest consultation rates (72.5 per 1,000 consultations in week 05) followed by children between 5 and 19 years (54.1 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 05 was 19.8%. The proportion of positive tests decreased from a peak at week 52, but increased slightly in week 05, likely due to an increase in the proportion of positive tests in Ontario and the Atlantic provinces. Of the 1359 positive tests reported during week 05, 401 (30%) specimens were reported as influenza A/H3N2, 88 (7%) as pandemic H1N1 2009, 101 (7%) as influenza B and 769 (57%) as untyped influenza A. The majority of influenza virus detections to date this season were influenza A viruses (96.8% or 10471/10821). Since the beginning of the season, 88.0% of the subtyped positive influenza A specimens were influenza A/H3N2. In week 05, detections of pandemic H1N1 2009 represented 18.0% of all subtyped influenza A specimens, an increase from 12.6% in week 04. Detections of influenza B increased slightly from 5.4% of all positive influenza specimens in week 04 to 7.4% in week 05. During week 05, 51.8% (72/139) of cases with A/H3N2 reported through the detailed case-based laboratory reporting were aged 65 years or older, while since August 29, 2010, the proportion was 49.8% (1384/2778) (see Tests detailed table). In week 05, the proportion of positive tests for respiratory syncytial virus detections (RSV) increased slightly from 15.0% to 16.9% of specimens tested while low levels of parainfluenza (2.1%) and rhinovirus (4.0%) continue to be reported (see Respiratory viruses graph).

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

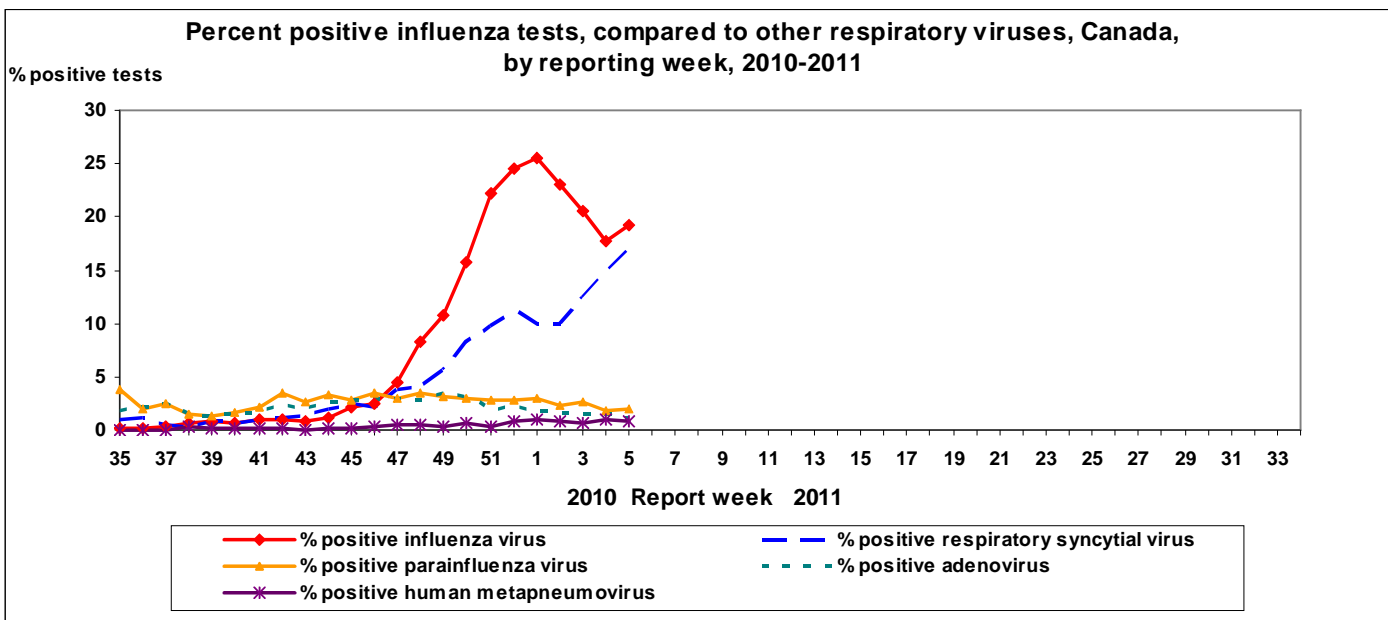
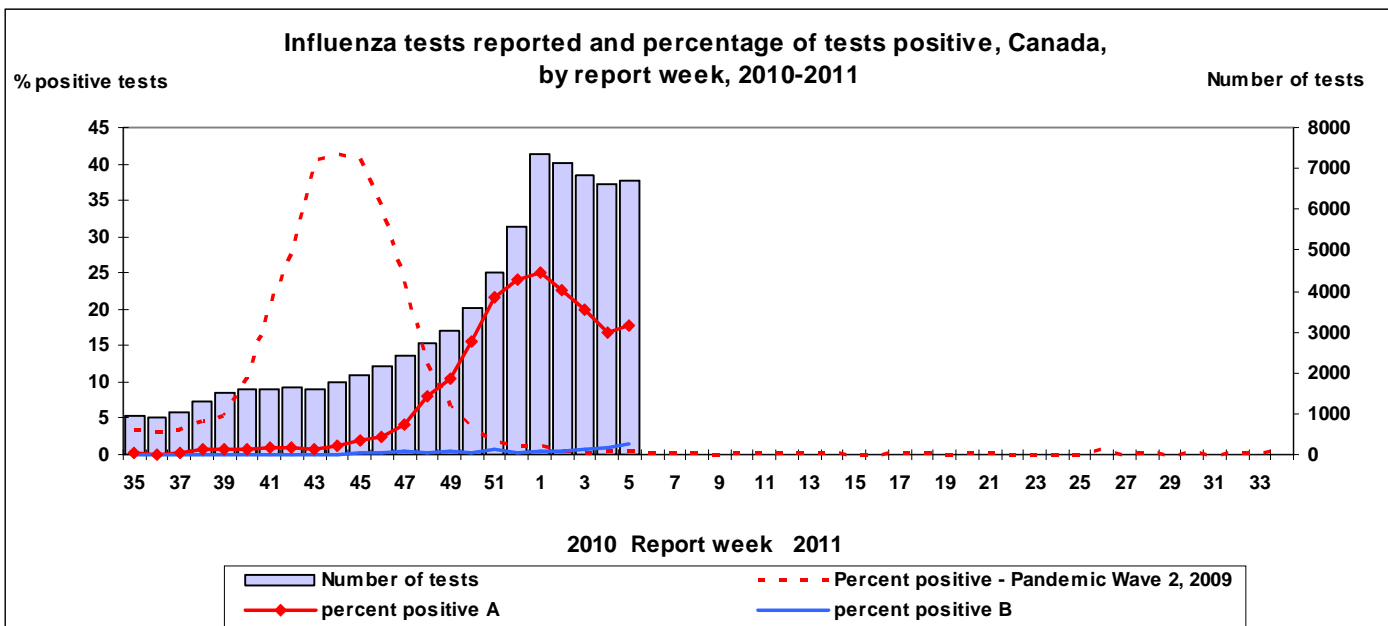
Reporting provinces	Weekly (January 30 to February 5, 2011)						Cumulative (August 29, 2010 to February 5, 2011)					
	Influenza A					B	Influenza A					B
	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total	A Total	A(H1)	A(H3)	Pand H1N1	A (UnS)*	Total
BC	21	0	4	14	3	8	161	0	54	54	53	29
AB	70	0	36	17	17	19	448	0	341	78	29	51
SK	42	0	36	2	4	1	112	0	76	3	33	7
MB	6	0	0	0	6	0	480	0	56	1	423	0
ON	582	0	155	21	406	48	5147	0	1986	217	2944	184
QC	442	0	106	9	327	19	3898	0	498	22	3378	72
NB	84	0	57	21	6	5	175	0	110	43	22	7
NS	4	0	1	3	0	0	20	0	7	4	9	0
PE	7	0	6	1	0	0	21	0	14	7	0	0
NL	0	0	0	0	0	1	9	0	8	1	0	1
Canada	1258	0	401	88	769	101	10471	0	3150	430	6891	351

*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 (Jan. 30 to Feb. 5, 2011)					Cumulative (Aug. 29, 2010 to Feb. 5, 2011)				
	Influenza A				B	Influenza A				B
	A Total	Pandemic H1N1	A/H3N2	A untyped	Total	A Total	Pandemic H1N1	A/H3N2	A untyped	Total
<5	37	7	21	9	7	623	66	435	122	45
5-19	19	4	13	2	12	302	46	163	93	49
20-44	38	14	16	8	5	631	143	333	155	34
45-64	27	2	17	8	0	472	80	272	120	20
65+	94	2	72	20	2	1632	24	1384	224	23
Unknown	1	0	0	1	0	197	3	191	3	0
Total	216	29	139	48	26	3857	362	2778	717	171

*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 05 (ending 5 February 2011), 29 new laboratory-confirmed influenza-associated paediatric (16 years of age and under) hospitalizations were reported through the Immunization Monitoring Program Active (IMPACT) network: 2 from AB, 1 from MB, 13 from ON, 12 from QC, and 1 from NS. This number is decreased compared to the previous week (week 04) in which 35 paediatric hospitalizations were reported (note that numbers may fluctuate because of the delays in reporting). So far this season, two deaths in children have been reported, both in Ontario. One, aged between 6 months and 23 months, who tested positive for pandemic H1N1 2009 was reported in week 48, and one aged 10-16 years, who tested positive for influenza A (unsubtyped), was reported in week 04.

Since the beginning of the season, 330 hospitalizations with laboratory-confirmed influenza have been reported from all provinces except NB and PE; 60 (18.2%) as influenza A/H3N2, 10 (3.0%) pandemic H1N1 2009, 233 (70.6%) as unsubtyped influenza A, and 27 (8.2%) influenza B. The distribution of cases to date by age group was as follows: 17.9% among 0-5 month olds; 30.3% among 6-23 month olds; 27.0% among the 2-4 year-olds; 16.1% among 5-9 year-olds; and 8.8% among children 10-16 years old.

Adult Influenza Hospitalizations and Deaths

During week 05 (ending 5 February 2011) 26 new hospitalizations with laboratory-confirmed influenza among adults (16 years of age and older) were reported through the Canadian Nosocomial Infection Surveillance Program (CNISP). This number decreased for the second week in a row, compared to 39 adult hospitalizations in week 04 and 59 in week 03 (note that numbers may fluctuate because of the delays in reporting). Of the 26 new cases reported between January 30 and February 5, 2011, 23 (88.5%) tested positive for unsubtyped influenza A, 2 (7.7%) as influenza A/H3N2, and 1 (3.8%) as

influenza B. Since the beginning of the season, 694 hospitalized cases have been reported: 170 (24.5%) A/H3N2, 29 (4.2%) pandemic H1N1 2009, 483 (69.6%) influenza A untyped, and 12 (1.7%) influenza B, from all reporting provinces except NB and NL. To date, 494 of the 694 (71.2%) cases were aged 65 years or older and 305 (43.9%) were males.

Nine provinces and territories (excluding BC, QC, NB and NU) currently conduct severe outcomes surveillance and report weekly numbers of hospitalizations, ICU admissions and deaths with laboratory-confirmed influenza. In week 05, ON reported 5 deaths, 1 with pandemic H1N1 2009, 1 with A/H3N2, and 3 with untyped influenza A (note that numbers may fluctuate because of the delays in reporting). Among the 95 fatal cases currently reported since the beginning of the influenza season, influenza A/H3N2 was identified in 61.1% (58/95), untyped influenza A in 31.6% (30/95), pandemic H1N1 2009 in 6 cases (6.3%), and influenza B in one case (1.1%). Seventy-three percent (69/95) of these fatal cases were among persons 65 years of age or older, and another 15% (14/95) were between the ages of 45 and 64 years old, in keeping with the age-groups usually affected by A/H3N2.

Antigenic Characterization

Between September 1 and February 11, 2011, the National Microbiology Laboratory (NML) has antigenically characterized 228 influenza viruses that were received from provincial laboratories: 133 A/H3N2 from BC, AB, SK, MB, ON, QC & NB, 44 pandemic H1N1 2009 from BC, AB, ON, QC & NB, and 51 B viruses from BC, AB, SK, ON, QC & NB. All 133 influenza A/H3N2 viruses characterized were antigenically related to A/Perth/6/2009, which is the influenza A/H3N2 component recommended for the 2010-11 influenza vaccine. The 44 pandemic H1N1 2009 viruses characterized were antigenically related to the pandemic vaccine virus A/California/7/2009, which is the recommended H1N1 component for the 2010-11 influenza vaccine. Of the 51 influenza B viruses characterized, 50 were antigenically related to B/Brisbane/60/08 (Victoria lineage), which is the recommended influenza B component for the 2010-11 influenza vaccine. Four viruses tested showed reduced titer with antisera produced against B/Brisbane/60/08. One influenza B virus was characterized as B/Florida/04/2006-like, which belongs to the Yamagata lineage.

Antiviral Resistance

Since the beginning of the 2010-2011 season, NML has tested 237 influenza A isolates (200 A/H3N2 and 37 pandemic H1N1 2009) for amantadine resistance and found that 199 influenza A/H3N2 were resistant to amantadine and one was sensitive. All 37 influenza A/H1N1 viruses were resistant to amantadine. Of 193 influenza viruses (113 A/H3N2, 35 pandemic H1N1 2009, and 45 influenza B) tested for resistance to oseltamivir, all isolates were found to be sensitive to oseltamivir. Of 189 influenza viruses (112 A/H3N2, 34 pandemic H1N1 2009, and 43 influenza B) tested for resistance to zanamivir, all isolates were found to be sensitive to zanamivir.

International influenza update

Geographic update

Northern hemisphere

United States: During week 04 (January 23 to 29, 2011), influenza activity increased. Thirty two percent (2044/6209) of specimens tested were positive for influenza, of which 81.8% were influenza A and 18.2% were influenza B. One sporadic human infection with a novel swine origin influenza A (H3N2) virus was reported in a patient who had contact with pigs. The patient did not require hospitalization, and has since fully recovered. The proportion of deaths attributed to pneumonia and influenza (P&I) was above the epidemic threshold. Six influenza-associated paediatric deaths were reported, for a total of 19 this season. One of the deaths reported in week 04 was associated with an influenza A/H3 virus and four were associated with an influenza B virus. The proportion of outpatient visits for influenza-like illness (ILI) was 4.0%, which is above the national baseline of 2.5%. Seven of the 10 national regions reported ILI at or above region-specific baseline levels. Seventeen states experienced high ILI activity, 3 states experienced moderate ILI activity, mainly in southern and eastern states. The geographic spread of influenza in 30 states was reported as widespread, and 15 states reported regional influenza activity. <http://www.cdc.gov/flu/weekly/index.htm>

United Kingdom

Influenza activity continues to decline in the UK. GP consultation rates are below baseline levels in England, Wales and Scotland. All influenza types are reducing, with influenza B the predominant virus; influenza A H1N1 (2009) continues to circulate, with very few, sporadic influenza A (H3N2) virus detections. The virus strains circulating are overall well matched to the current influenza vaccine. Twenty percent of specimens from patients with ILI presenting to sentinel GPs in England in week 5 (ending 6 Feb 2011), were reported as positive for influenza. The proportion of samples positive for RSV remained stable, and the proportion positive for rhinovirus increased. Since week 36, 439 UK deaths associated with influenza infection have been reported, with 93% of the 391 cases with available information associated with pandemic H1N1 2009 infection, 5 with untyped influenza A and 24 (6%) with influenza B infection. Reported deaths have been mainly in middle-aged and younger adults. By week 5, the proportion of people in England aged over 65 years who had received the 2010/11 influenza vaccine was 72.2%. For those in a risk group aged under 65 years it was 50.0%. http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1296680593998

Europe

Most European countries continue to report medium to high ILI/ARI consultation rates and widespread activity. Increasing trends are mainly observed in central, eastern and southern Europe whereas countries in western Europe are reporting declining trends. The proportion of influenza-positive sentinel specimens has decreased for the fourth consecutive week, dropping from 54% in peak week 52/2010 to 47% in week 4/2011. 70% of influenza detections are type A, 30% are type B. More than 97% of subtyped influenza A viruses are pandemic H1N1 2009. Since week 40/2010, nine countries have reported 2 488 all-cause SARI and hospitalised confirmed influenza-infected cases, including 154 fatalities. Overall, 43% of these cases were not known to have any underlying condition. In western countries with surveillance of severe cases, the numbers of new admissions requiring hospital care are generally dropping though numbers requiring higher level care remain substantial. Most of the severely affected cases are in the age group 15–64 years.

http://ecdc.europa.eu/en/publications/Publications/110204_SUR_Weekly_Influenza_Surveillance_Overview.pdf

Other regions of the northern hemisphere

Influenza transmission in North Africa and the Middle East appears to have peaked overall, though Algeria is showing an increase. In Pakistan, Iran and Oman the percentage of samples tested positive for influenza was still high. Pandemic H1N1 2009 and type B viruses are co-circulating in nearly equal distribution. The influenza-like illness activity has been variable in the different countries in northern Asia. A number of countries already went through a peak of influenza activity, and most of these were predominated by A/H3N2, notably northern China and Mongolia, while the Republic of Korea has had a pandemic H1N1 2009 season which peaked around week 52 of 2010. In recent weeks, however, Mongolia and northern China are reporting an increase in pandemic H1N1 2009 detections, although without a significant increase in ILI. Japan is reporting a sharp increase of ILI activity, but does not report as many positive detections of influenza viruses as in previous weeks.

http://www.who.int/csr/disease/influenza/2011_02_11_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.