



FluWatch

November 30, 2008 to December 6, 2008 (Week 49)

Overall influenza activity in Canada remains low; localized activity reported in Southern Alberta

During week 49, influenza activity in Canada remained low overall with the majority of the influenza surveillance regions still reporting no activity. Thirteen regions (in BC, AB, ON & QC) reported sporadic influenza activity and one region in Alberta (South) reported localized activity this week (see map). Nineteen specimens tested positive for influenza in Canada this week (percentage positive = 0.9%; 19/2,024) (see table). In week 49, the ILI consultation rate declined to 12 ILI consultations per 1,000 patient visits (see ILI graph), and is below the expected range for this week. The sentinel response rate was at 65%. Three new influenza outbreaks were reported in AB this week, all of which were in schools.

Antigenic Characterization:

Since 1 September 2008, the NML has antigenically characterized 15 influenza viruses: one influenza A/Brisbane/59/2007(H1N1)-like (from NS), two influenza A/Brisbane/10/2007(H3N2)-like (from BC & ON), two influenza B/Florida/4/2006-like (from ON and AB) and 10 B/Malaysia/2506/2004-like (from ON and AB). A/Brisbane/59/2007(H1N1), A/Brisbane/10/2007(H3N2) and B/Florida/4/2006 are the influenza A and influenza B components recommended for the 2008-09 influenza vaccine. B/Malaysia/2506/2004 was the influenza B component for the 2007-2008 season vaccine. (see pie chart)

Antiviral Resistance:

Since the start of the season, the NML has tested 4 influenza A isolates (1 H1N1 and 3 H3N2) for amantadine resistance and found that all 3 H3N2 isolates were resistant to amantadine and the H1N1 isolate was susceptible; resulting in 75% (3/4) resistance among all influenza A isolates tested.

The NML has also tested 6 influenza isolates (1 A/H1N1, 2 A/H3N2 & 3 B) for oseltamivir (Tamiflu) resistance and found that the H1N1 isolate tested was resistant to oseltamivir due to the H274Y mutation whereas the H3N2 and B isolates were susceptible; resulting in 16.7% (1/6) resistance among all influenza isolates tested. All 6 influenza isolates (1 A/H1N1, 2 A/H3N2 & 3 B) tested for zanamivir resistance to date were sensitive to zanamivir.

Influenza-associated Paediatric Hospitalizations:

No laboratory-confirmed influenza-associated paediatric hospitalizations have been reported through the Immunization Monitoring Program Active (IMPACT) network for the 2008-09 season.

International:

CDC: During week 48, a low level of influenza activity was reported in the United States. One state (Hawaii) reported local influenza activity however the majority reported either no activity or sporadic activity. Of the 2,136 specimens tested this week for influenza viruses, 43 (2%) were positive. Since 1 October 2008, the CDC has antigenically characterized 30 influenza viruses: 20 influenza A(H1) (all A/Brisbane/59/2007-like), 3 A(H3) (all A/Brisbane/10/2007-like) and 7 influenza B (4 were B/Florida/04/2006-like belonging to the B/Yamagata lineage and the other 3 belonged to the B/Victoria lineage). Since 1 October, 2008, 39 influenza viruses (25 A(H1N1), 5 A (H3N2), and 9 B) have been tested for resistance to neuraminidase inhibitors. Of the A(H1N1) viruses tested, 96% (24/25) were resistant to oseltamivir however all were sensitive to zanamivir. All of the A(H3N2) and B viruses tested were sensitive to both oseltamivir and zanamivir. The CDC tested 30 influenza A viruses (25 H1, 5 H3) for amantadine resistance: all of the H1N1 viruses were sensitive to amantadine however all the H3N2 viruses were resistant. <<http://www.cdc.gov/flu/weekly/>>

Human Avian Influenza: On 9 December 2008, the WHO reported two new cases of human H5N1 avian influenza infection in Indonesia. The cases were not linked epidemiologically. The first case, a 9-year-old female from Riau Province developed symptoms on 7 November, was hospitalized on 12 November, recovered and was discharged from hospital on 27 November. Investigations into the source of her infection indicate poultry deaths at her home on 2 November. The second case, a 2-year-old female from East Jakarta, developed symptoms on 18 November, was hospitalized on 26 November and died on 29 November. Initial investigations into the source of her infection suggest exposure at a live bird market. <http://www.who.int/csr/disease/avian_influenza/en/index.html>

**Total number of influenza tests performed and number of positive tests
by province/territory of testing laboratory, Canada, 2008-2009**

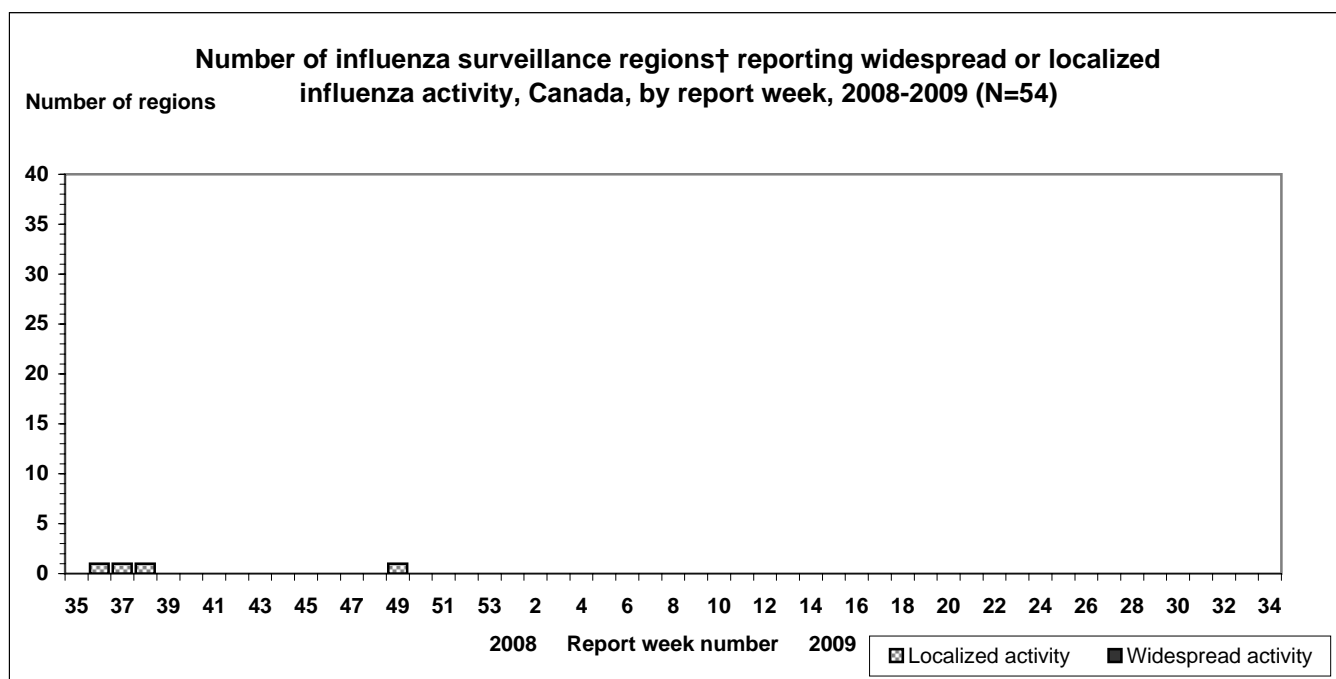
Province of reporting laboratories	Report Period: November 29, 2008 to December 6, 2008				Season to Date: August 24, 2008 to December 6, 2008			
	Total # of influenza	# of positive tests			Total # of influenza	# of positive tests		
		Influenza A	Influenza B	Total		Influenza A	Influenza B	Total
NL	15	0	0	0	103	0	0	0
PE	8	0	0	0	38	0	0	0
NS	34	0	0	0	189	1	0	1
NB	46	0	0	0	121	0	0	0
QC	538	0	0	0	4487	31	2	33
ON	507	1	1	2	5787	5	3	8
MB	61	0	0	0	659	0	0	0
SK	97	0	0	0	1007	0	0	0
AB	667	2	11	13	5765	4	29	33
BC	51	4	0	4	453	13	1	14
Canada	2024	7	12	19	18609	54	35	89

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.

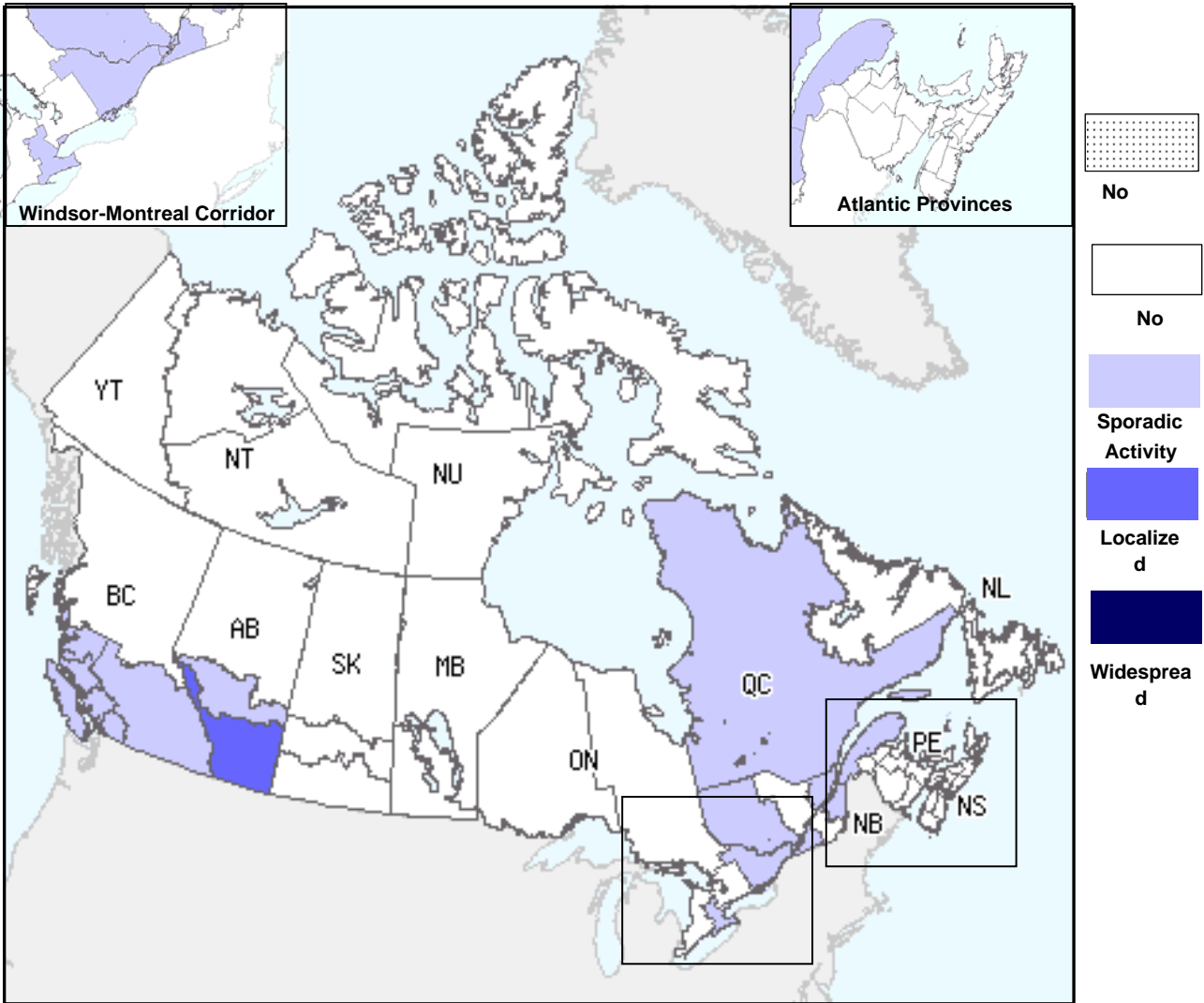
Abbreviations: Newfoundland/Labrador (NL), Prince Edward Island (PE), New Brunswick (NB), Nova Scotia (NS), Quebec (QC), Ontario (ON), Manitoba (MB), Saskatchewan (SK), Alberta (AB), British Columbia (BC), Yukon (YT), Northwest Territories (NT), Nunavut (NU)

Respiratory virus laboratory detections in Canada, by geographic regions, are available weekly on the following website:
<<http://www.phac-aspc.gc.ca/bid-bmi/dsd-dsm/rvdi-divr/index-eng.php>>

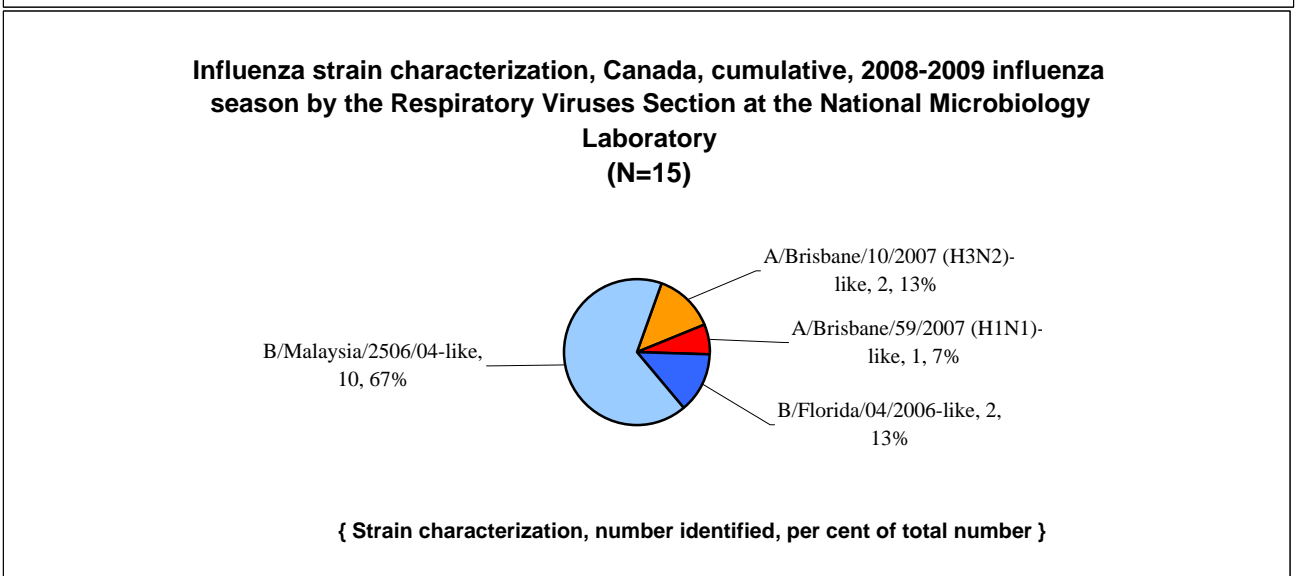
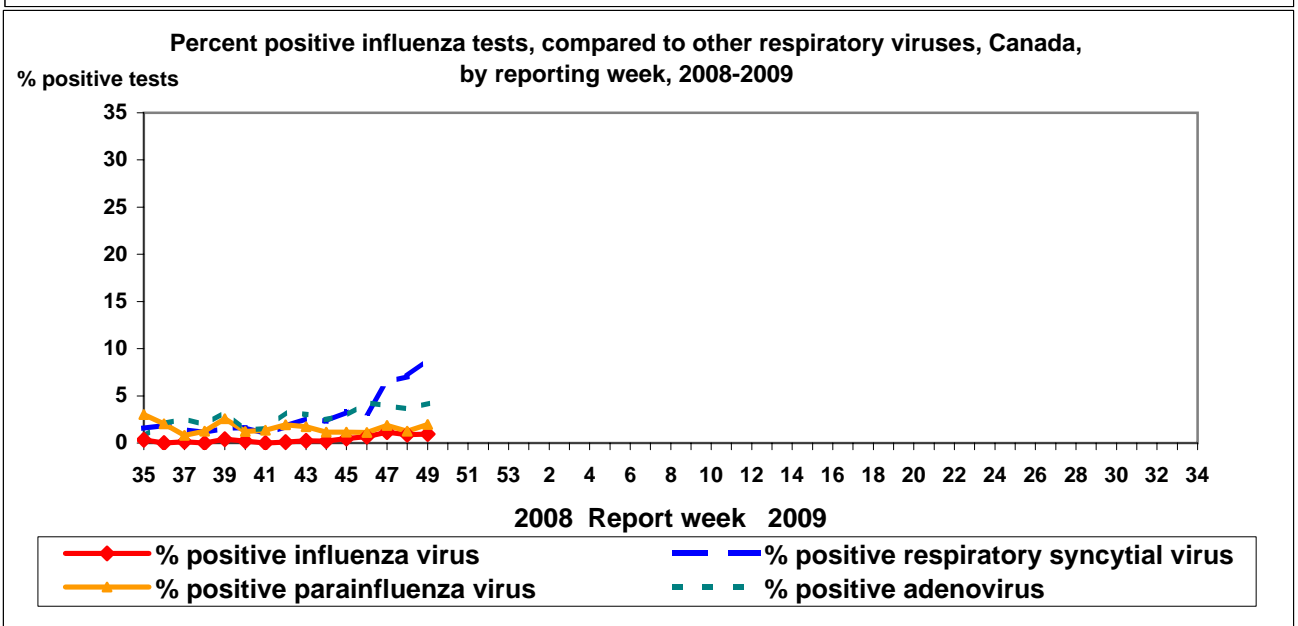
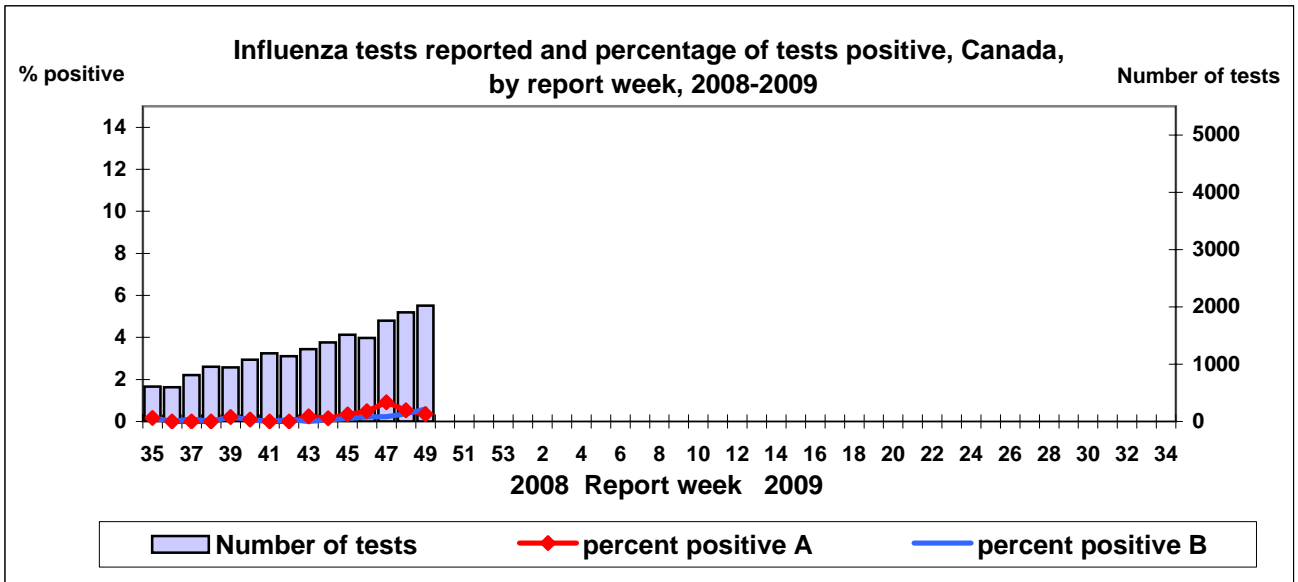


† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist. Graph may change as late returns come in.

**Influenza Activity Level by Provincial and Territorial Influenza Surveillance Regions,
Canada; November 30, 2008 to December 6, 2008 (Week 49)**

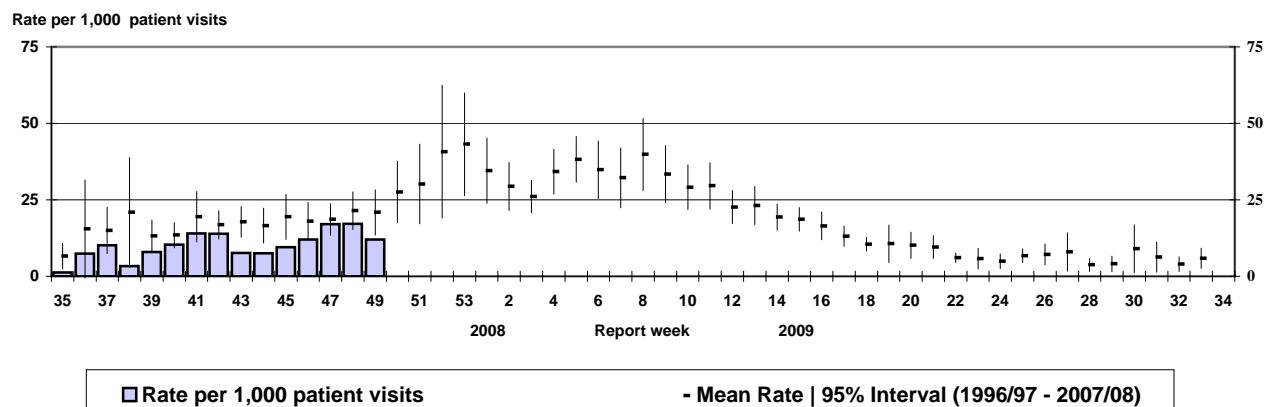


Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, **based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and outbreaks.** Please refer to detailed definitions on the last page. For areas where no data is reported, late reports from these provinces and territories will appear on the FluWatch website. Select single maps by report week to get this updated information. <<http://dsol-smed.hc-sc.gc.ca/dsol-smed/fluwatch/fluwatch.phtml?lang=e>>



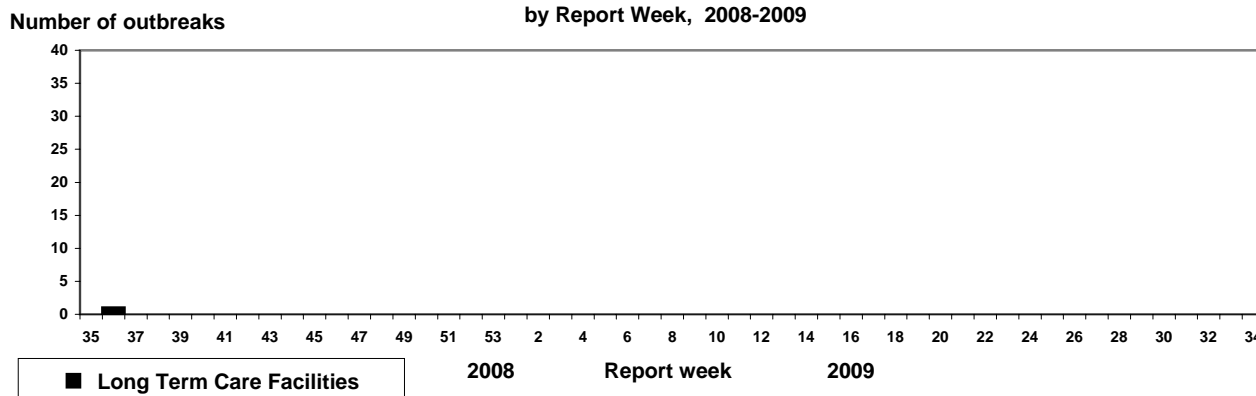
NACI recommends that the trivalent vaccine for the 2008-2009 season in Canada contain A/Brisbane/59/2007 (H1N1)-like virus; an A/Brisbane/10/2007 (H3N2)-like virus; and a B/Florida/4/2006-like virus.

**Influenza-like illness (ILI) consultation rates, Canada, by report week,
2008-2009 compared to 1996/97 through to 2007/08 seasons**



Note: No data available for mean rate in previous years for weeks 19 to 39 (1996-1997 through 2002-2003 seasons).

**Number of New Outbreaks in Long Term Care Facilities, Canada,
by Report Week, 2008-2009**



FluWatch reports include data and information from five main sources: laboratory reports of positive influenza tests in Canada; sentinel physician reporting of influenza-like illness (ILI); provincial/territorial assessment of influenza activity based on various indicators, including laboratory surveillance, ILI reporting, school and work site absenteeism, and outbreaks; influenza-associated pediatric hospitalizations; WHO and other international reports of influenza activity. The map shows influenza activity in the "influenza surveillance regions" † within each jurisdiction, as determined by the provincial/territorial epidemiologists.

ILI definitions for the 2008-2009 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 could be due to influenza virus. 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 2008-2009 season

Schools and work sites: greater than 10% absenteeism on any day most likely due to ILI

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.

Influenza Activity levels are defined as:

1 = No activity: i.e. no laboratory-confirmed influenza detections during the past four weeks, however, sporadically occurring ILI may be reported

2 = Sporadic: sporadically occurring **ILI and lab confirmed influenza* with NO outbreaks** detected within the influenza surveillance region†

3 = Localized: sporadically occurring **ILI and lab confirmed influenza* together with outbreaks of ILI** in schools and worksites or laboratory confirmed influenza in residential institutions occurring in less than 50% of the influenza surveillance region(s)†

4 = Widespread: sporadically occurring **ILI and lab confirmed influenza* together with outbreaks of ILI** in schools and worksites or laboratory confirmed influenza in residential institutions occurring **in greater than or equal to 50% of the influenza surveillance region(s)†**

* confirmation of influenza within the surveillance region at any time within the prior four weeks

† sub-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) 952-8484