The College of Family Physicians of Canada | Le Collège des médecins de famille du Canada

FluWatch

Public Health Agency of Canada | Agence de la santé publique du Canada

October 28, 2007 to November 3, 2007 (Week 44)

Influenza activity remains low in Canada

During week 44, influenza activity levels remained low in Canada where most regions across the country reported no activity. Sporadic influenza activity was reported in a few regions (in Nova Scotia, Quebec, Ontario and Alberta) and localized activity was reported in the central east Ontario region (see map). In week 44, 2 (0.15%) of the 1,296 specimens tested were positive for influenza virus. Of the influenza detections to date, 89% (17/19) were influenza A and 11% (2/19) were influenza B (see table). The ILI consultation rate was similar to the previous week (7 ILI consultations per 1,000 patient visits) and is below the expected range (see ILI graph). Sentinel response rates over recent weeks have been low (56% in week 44) but are expected to increase as the season progresses. In week 44, no new influenza outbreaks were reported. Since the start of the season, 3 LTCF outbreaks have been reported (2 from Ontario and 1 in Alberta). In the current season to date, no new laboratory-confirmed influenza-associated paediatric hospitalizations were reported through the Immunization Monitoring Program Active (IMPACT) network.

Antigenic Characterization:

The National Microbiology Laboratory (NML) has characterized 6 influenza viruses for the 2007-2008 influenza season: 4 A(H3N2) and 2 B viruses. Of the 4 influenza A(H3N2) viruses characterized, 2 were antigenically similar to A/Wisconsin/67/2005 (which is the influenza A(H3N2) component recommended for the 2007-2008 influenza vaccine), 1 had reduced titer to the A/Wisconsin/67/2005, and 1 was antigenically similar to A/Brisbane/10/2007. The 2 influenza B isolates characterized were antigenically similar to B/Florida/4/2006, belonging to the B/Yamagata lineage, and is the B component recommended for the 2008 influenza vaccine in the Southern Hemisphere (see pie chart).

Note: The results of the strain identifications indicate that there may be some degree of antigenic drift this season, however, the current Canadian vaccine is still expected to provide a level of protection against this new variant.

** The WHO recommends that the vaccines to be used in the 2007-2008 season (northern hemisphere) contain the following: an A/Solomon Islands/3/2006 (H1N1)-like virus; an A/Wisconsin/67/2005 (H3N2)-like virus; and a B/Malaysia/2506/2004-like (B/Victoria/2/1987 lineage) virus.*

Antiviral Resistance:

Since the start of the season, the NML has tested 6 influenza A isolates (all H3N2) for amantadine resistance (from Ontario, Alberta and British Columbia). Four (67% or 4/6) of the isolates tested were resistant to amantadine (3 of which originated from Ontario and one from Alberta) (see recommendation from the 2006-2007 influenza season: <*http://www.phac-aspc.gc.ca/media/nr-rp/2006/20061101-amantadine_e.htm*>). Of the 5 isolates tested for oseltamivir resistance (3 influenza A, 2 influenza B), none were found to be resistant.

International:

WHO: During weeks 40-43, the level of overall influenza activity in the world remained low with sporadic activity observed in some countries. In countries reporting sporadic influenza activity, both influenza A (H1 and H3) and B were detected. <*http://www.who.int/wer/2007/wer8245/en/index.html*>

CDC: A low level of influenza activity was reported in the United States during week 43 with only 2 states reporting localized activity. Of the 1,252 specimens tested for influenza virus, 33 (2.6%) were positive. Of the positive influenza detections to date, 93% (112/120) were influenza A and 7% (8/120) were influenza B. The proportion of deaths attributed to pneumonia and influenza was below the epidemic threshold, and the proportion of outpatient visits for ILI (1.3%) was below national and region-specific baseline levels. From May 20 - September 29, 2007, CDC antigenically characterized 14 influenza isolates: 2 influenza A (H1) (both A/Solomon Islands/3/2006(H1N1)-like); 10 influenza A (H3) (6 A/Wisconsin/67/2005(H3N2)-like, 2 A/Brisbane/10/2007(H3N2)-like and 2 showed reduced titers to A/Wisconsin/67/2005 and A/Brisbane/10/2007); and 2 B/Yamagata lineage viruses. <*http://www.cdc.gov/flu/weekly/*>

EISS: In week 44, low levels of influenza activity in Europe were reported which is typical for this time of year. There have only been sporadic laboratory confirmed cases of influenza since week 40 (N=47) of which 64% were influenza A and 36% influenza B. So far this season, the consultation rates for ILI and/or ARI for Europe as a whole have been at levels usually seen outside the winter period. Based on antigenic and/or genetic characterization of 7 influenza viruses, 6 were A/Solomon Islands/3/2006(H1N1) like and 1 was B/Florida/4/2006-like (B/Yamagata/16/88 lineage). However, it is too early to say which virus type or subtype will become dominant in Europe this season. <*http://www.eiss.org/cgi-files/bulletin_v2.cgi*>

Human Avian Influenza: Since 3 November 2007, the WHO reported one new case of human infection with the H5N1 avian influenza virus from Indonesia. The case was a 30-year-old female who developed symptoms on 23 October, was hospitalized on 31 October, and died in an avian influenza referral hospital on 3 November. <*http://www.who.int/csr/disease/avian_influenza/en/*>

Total number of influenza tests performed and number of positive tests by province/territory of testing laboratory, Canada, 2007-2008

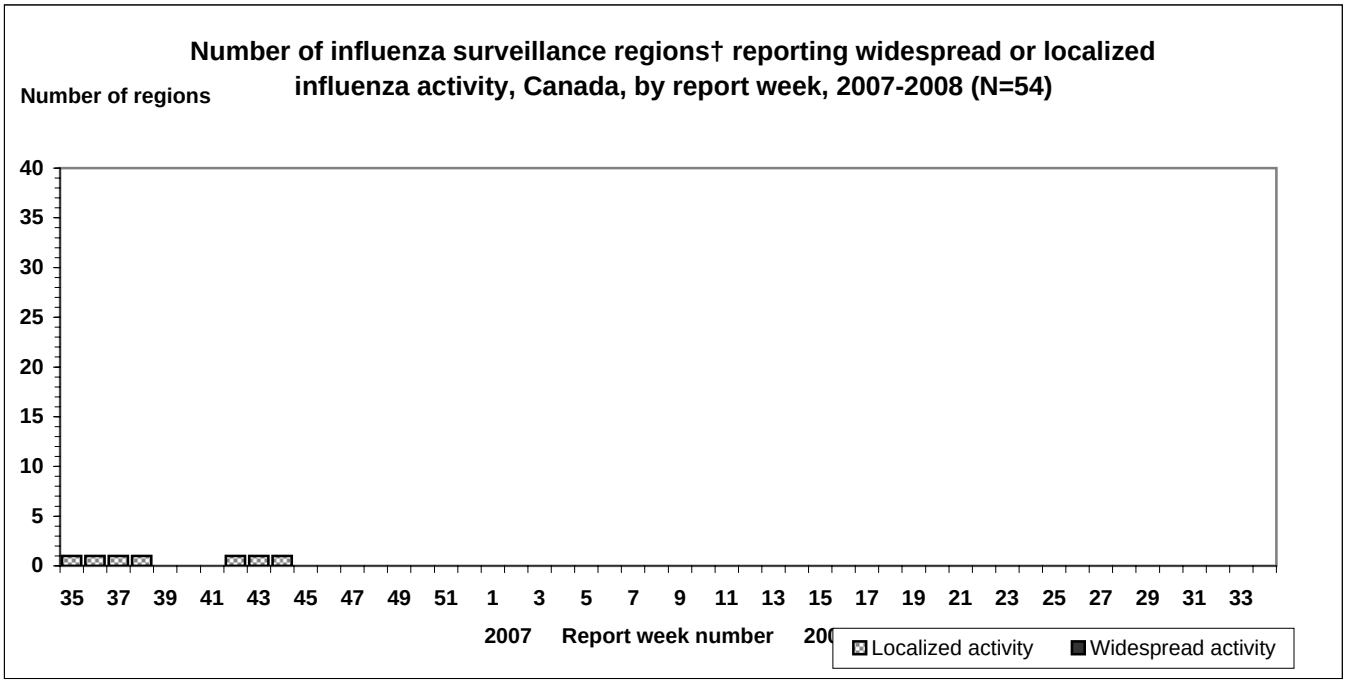
Province of reporting laboratories	Report Period: October 28, 2007 to November 3, 2007				Season to Date: August 26, 2007 to November 3, 2007			
	Total # of influenza tests	# of positive tests			Total # of influenza tests	# of positive tests		
		Influenza A	Influenza B	Total		Influenza A	Influenza B	Total
NL	0	0	0	0	25	0	0	0
PE	0	0	0	0	20	0	0	0
NS	10	0	0	0	95	0	1	1
NB	14	0	0	0	76	0	0	0
QC	198	1	0	1	1719	2	0	2
ON	354	0	0	0	2722	5	1	6
MB	39	0	0	0	357	0	0	0
SK	71	0	0	0	733	0	0	0
AB	577	1	0	1	4332	9	0	9
BC	33	0	0	0	262	1	0	1
Canada	1296	2	0	2	10341	17	2	19

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.

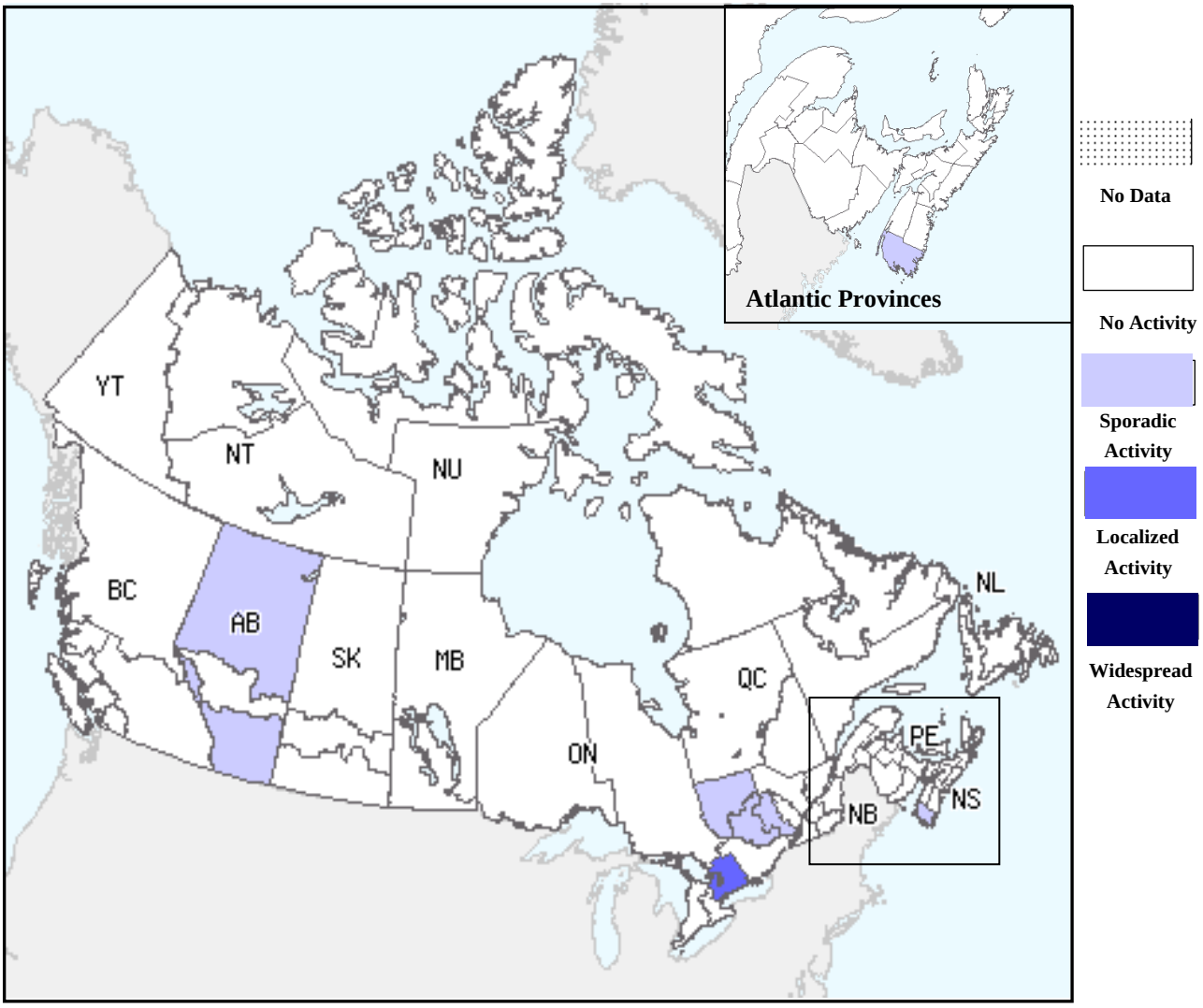
Abbreviations: Newfoundland/Labrador (NL), Prince Edward Island (PE), New Brunswick (NB), Nova Scotia (NS), Quebec (QC), Ontario (ON), Manitoba (MB), Saskatchewan (SK), Alberta (AB), British Columbia (BC), Yukon (YT), Northwest Territories (NT), Nunavut (NU)

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.html>

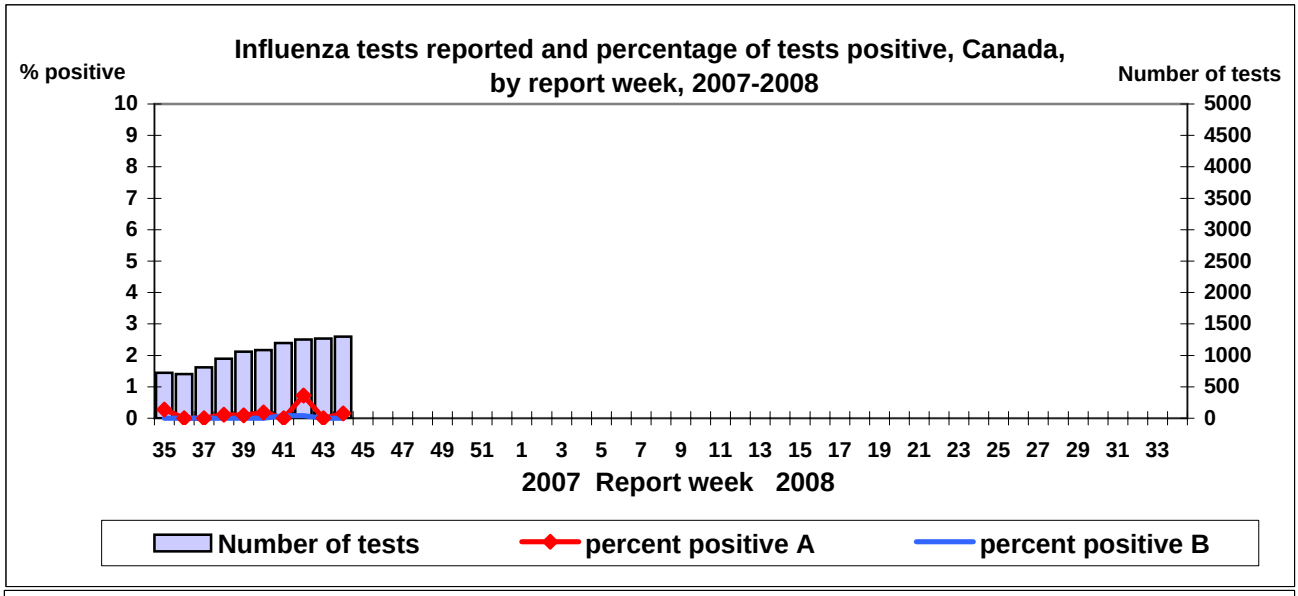


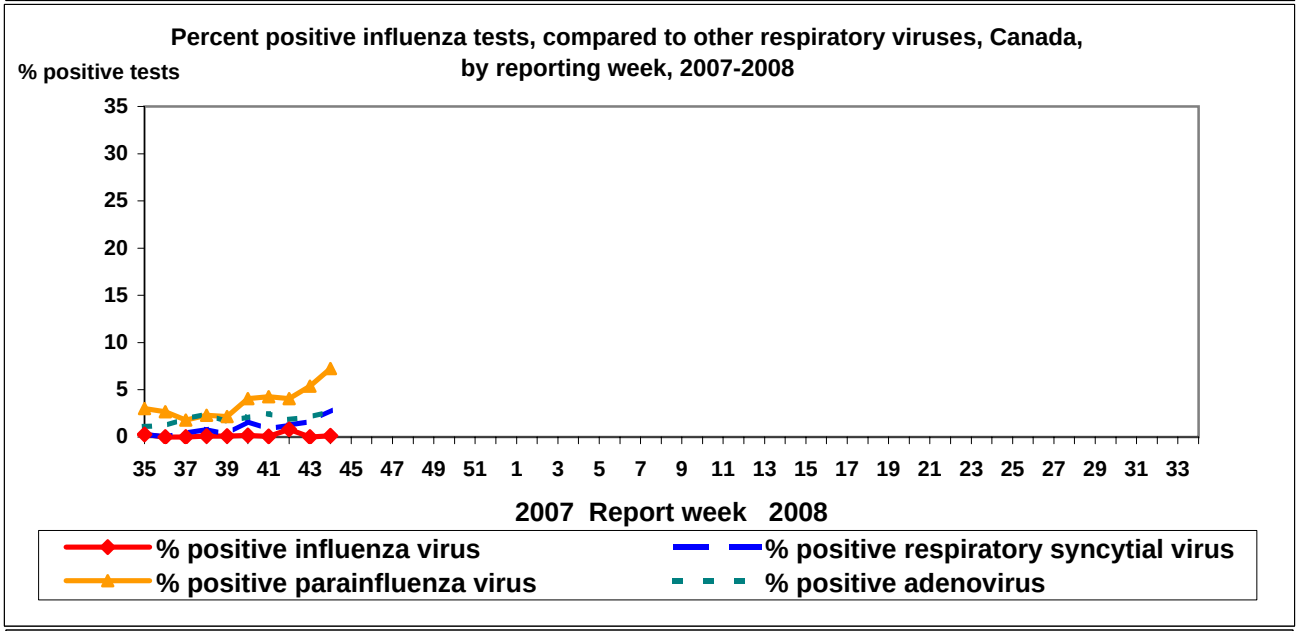
† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist. Graph may change as late returns come in.

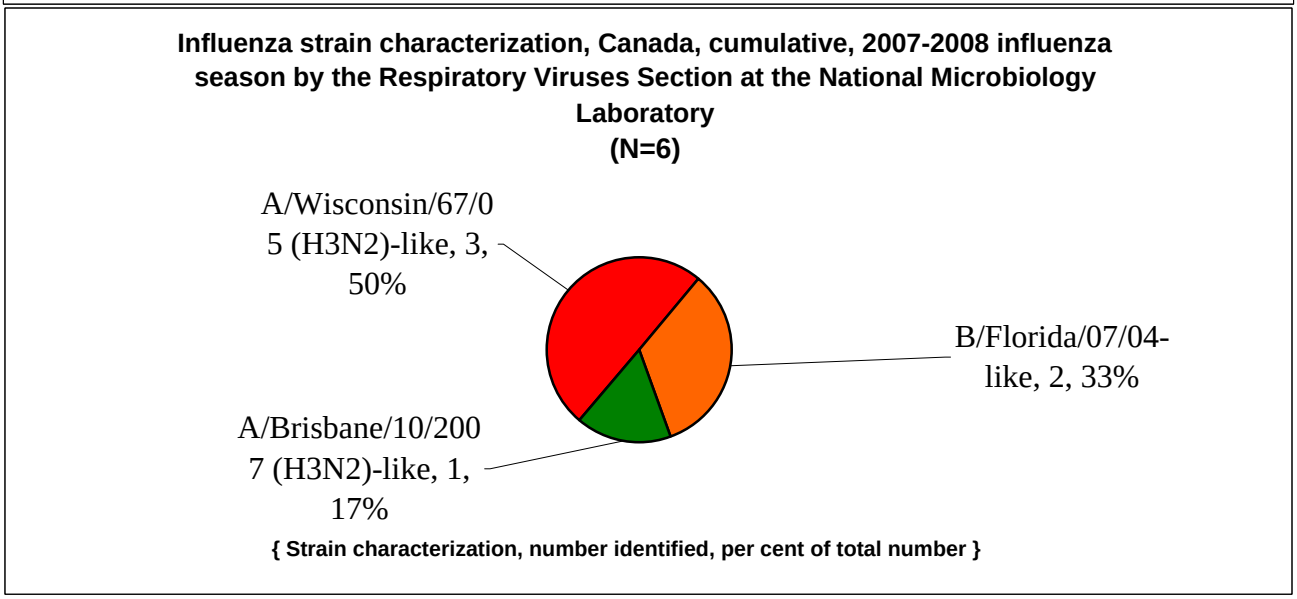
Influenza Activity Level by Provincial and Territorial Influenza Surveillance Regions, Canada; October 28, 2007 to November 3, 2007 (Week 44)



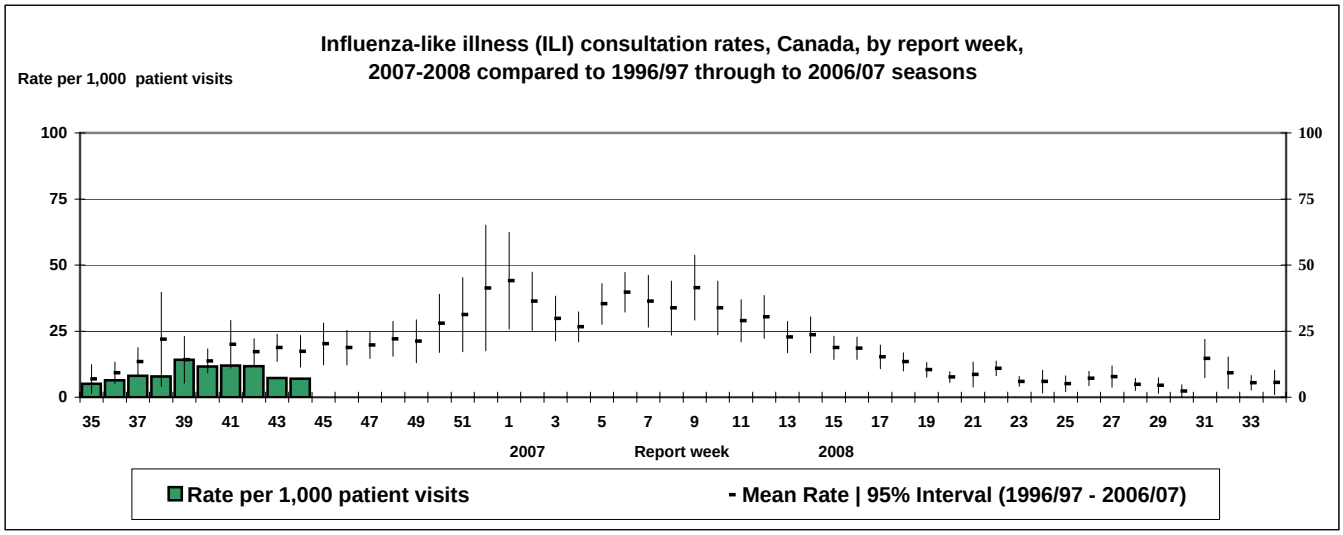
Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, **based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and outbreaks.** Please refer to detailed definitions on the last page. For areas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



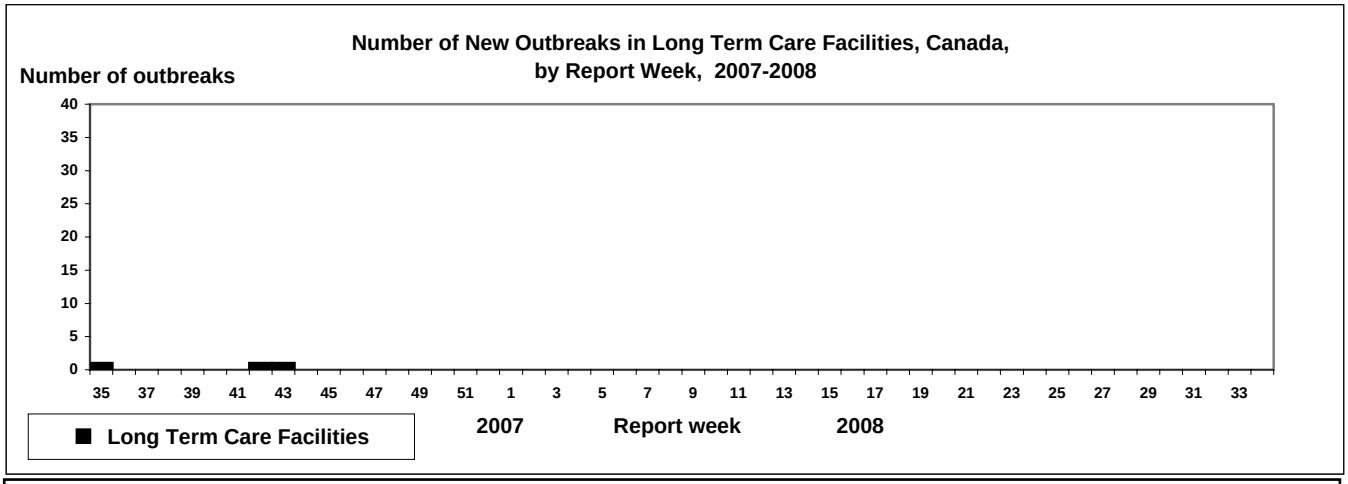




NACI recommends that the trivalent vaccine for the 2007-2008 season in Canada contain A/Solomon Islands/3/2006 (H1N1)-like virus; an A/Wisconsin/67/2005 (H3N2)-like virus; and a B/Malaysia/2506/2004-like virus.



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



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 2007-2008 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 2007-2008 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