Ontario Influenza Bulletin

Ministry of Health and Long-Term Care

Public Health Branch

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Week #11: Week Ending March 15, 2003

Influenza Activity in Ontario

There was influenza activity reported in the province for the week ending March 15, 2003. Thirteen of the Ontario Public Health laboratories reported 4 influenza A and 1 influenza B cases during this surveillance period. The following upper respiratory isolates were also reported: 91 respiratory syncytial virus (RSV), 5 parainfluenza type 1 (PIV1), 6 parainfluenza type 3 (PIV3), 1 parainfluenza type 4 (PIV4)and 5 adenovirus (Table 1).

Table 1. Comparison of Influenza Activity in Ontario for the 2001-02 and 2002-03 Influenza Surveillance Seasons

Indicator	2001-02 Season	2002-03 Season
	Week Ending March 16, 2002	Week Ending March 15, 2003
	Season to Date**	Season to Date***
***Laboratory Surveillance (isolates)Total**	**1160**	**751**
Influenza A	665	740
Influenza B	495	11
Institutional Outbreaks	**126**	**21**
Other respiratory Viruses		
RSV	1654	1658
PIV1	112	120
PIV2	100	17
PIV3	15	297
PIV4	14	4
Other PIVs	2	1
Adenoviruses	102	127

*Centre for Infectious Disease Prevention and Control, Health Canada
** October 20, 2001- March 16, 2002
***Season to Date August 25, 2002 – March 15, 2003; consistency with Health Canada year round surveillance

Table 2. Season to Date Influenza Cases in Ontario Reported Through the Reportable Disease Information System (RDIS), 2002-2003

Health Unit	Number of Lab-Confirmed Influenza Cases	
	Type A	**Type B**
Algoma	6	0
Brant	5	0
Chatham-Kent	2	0
Durham	33	1
Eastern Ontario	8	0
Elgin St. Thomas	3	0
Grey Bruce	17	0
Haldimand-Norfolk	5	0
Haliburton-Kawartha	15	0
Halton	24	0
Hamilton-Wentworth	61	0
Hastings, Prince Edward	4	0
Huron	7	0
Kingston, Frontenac, Lennox and Addington	17	1
Leeds	2	0
Middlesex-London	9	0
Muskoka-Parry Sound	6	0
Niagara	12	1
North Bay	7	0
Ottawa-Carlton	20	0
Oxford	21	0
Peel	107	3
Perth District	20	0
Peterborough	3	0
Renfrew	4	0
Simcoe	16	0
Sudbury	6	0
Wellington-Dufferin-Guelph	44	0
Windsor-Essex	3	0
Thunder Bay	1	2
Timiskaming	2	0
Toronto	143	1
York Region	44	0
Waterloo	27	0
Total	**704**	**9**

Note: 2 additional cases of influenza A were reported by Peel Regional prior to August 25, 2002.

Table 3. Season-to-date Institutional Influenza Outbreaks by Health Unit in Ontario, 2002-2003 (August 25, 2002 – Present)

Health Unit	Type of Institution	# of Outbreaks	Organism Identified	RAR (%)	SAR (%)	Complications
Chatham Kent	Facility Operating Under Developmental Services Act	1	Influenza A	17.6	0	None
	Nursing Home	1	Influenza A	25.0	8.6	None Reported to Date
Eastern Ontario	Retirement Home	1	Influenza A	23.1	22.2	2 hospitalizations
Elgin St. Thomas	Home for the Aged	1	Influenza A	16.3	3.0	1 case pneumonia 1 death
Grey-Bruce	Retirement Home	1	Influenza A	16.0	0	None Reported to Date
Hastings & Prince Edward	Nursing Home	1	Influenza A	16.0	0	2 hospitalizations 3 cases pneumonia
Lambton	Nursing Home	1	Influenza A	25.5	6.7	5 cases pneumonia 4 hospitalizations 3 deaths
Middlesex-London	Nursing Home	1	Influenza A Panama	34.5	0	None
	Retirement Home	1	Influenza A	22.7	2.9	None
	Combined Nursing Home and Retirement Home	1	Influenza A	8.6	2.0	2 hospitalizations
Oxford County	Nursing Home	2	Influenza A	4.8	2.0	None
			Influenza A	25.2	0	3 deaths 2 hospitalizations 1 case pneumonia
Peel Regional *	Long-Term Care Facility	1	Influenza A Panama	20.9	8.3	1 death
Perth District	Long-Term Care Facility	1	Influenza A	40.4	11.3	None
Toronto	Nursing Home	2	Influenza A	12.2	0.5	None
			Influenza A	38.5	2.8	2 deaths 1 pneumonia
	Public Home for Aged	1	Influenza A	10.6	0.3	1 hospitalization
	Hospital	1	Influenza A	47.6	0.5	None
Timiskaming	Nursing Home	1	Influenza A	8.5	0	None
Wellington-Dufferin-Guelph	Nursing Home	1	Influenza A	2.3	0	None Reported to Date
York	Long-Term Care Facility	1	Influenza A H1N2	21.2	4.9	1 case pneumonia 1 death

RAR: Resident Attack Rate (# of residents ill/total number of residents)
SAR: Staff Attack Rate (# of staff ill/total number of staff)
*The outbreak within Peel Regional began prior to week 35 but into week 41 and thus has been included in the 2002-2003 season.

Federal FluWatch Sentinel Physician Surveillance Activity in Ontario
The rate of influenza-like illness (ILI) reported through the Federal FluWatch system was 26 per 1,000 patients seen.

Laboratory Confirmations and Influenza Activity in the Rest of Canada
British Columbia and parts of Saskatchewan report widespread influenza activity; Alberta, Nunavut and northern Saskatchewan report localized activity *(see map).* During the week ending March 8 (week 10), sentinel physicians reported 26 cases of influenza-like illness (ILI) per 1000 patient visits, which is below the expected rate for this time of year. Health Canada received 2,294 reports of laboratory tests for influenza, including 88 (3.8%) influenza A detections and 181 (7.9%) influenza B detections (see table). The National Microbiology Laboratory has antigenically characterised 293 influenza viruses to date (see pie chart); all viruses identified to date are closely related to the current vaccine strains. Other respiratory virus detections are within the expected range for this time of year. To date this season, there have been 26 reported outbreaks of laboratory-confirmed influenza in long term care facilities (LTCF), see graph. **Health Canada was alerted to cases of severe acute respiratory syndrome (SARS) of unknown origin in Canada on 13 March 2003.** As of 16 March 2003, seven cases of SARS were reported in Canada. In Ontario six cases, including two deaths and three hospitalisations in a single extended family, as well as an additional hospitalized case who had close contact with the family. A family index case had recently travelled to Hong Kong. British Columbia reported a single case of SARS in a BC resident returning from travel in south-east Asia, who became ill at the end of February.

Source: Health Canada, FluWatch: <http://www.hc-sc.gc.ca/pphb-dgspsp/fluwatch/index.html>

Influenza Activity in the United States
During week 09, influenza activity was reported as widespread in 14 states; regional in 20 states and sporadic in 12 states. ILI accounted for 2.3% of patient visits to sentinel physicians (above the national baseline of 1.9%). Sentinel cities reported 8.1% of deaths attributed to pneumonia and influenza (below the epidemic threshold of 8.3% for this week). The CDC received 2,086 reports of influenza tests, including 310 (14.9%) positive for influenza: 100 A (unsubtyped), 73 A(H1), 12 A(H3N2), and 125

influenza B. Since September 29, a total of 57,672 specimens have been tested for influenza; 5,807 (10.1%) were positive (2,575 influenza A and 3,232 influenza B). Of the 223 viruses antigenically characterized to date, 7/34 (21%) of influenza A (H3N2) isolates and 1/124 (<1%) of influenza B isolates showed reduced titres to current vaccine strains.

Source: Centers for Disease Control and Prevention: <http://www.cdc.gov/ncidod/diseases/flu/weekly.htm>

Influenza Activity in the World

On 12 March 2003 WHO issued a global alert about cases of SARS of unknown etiology occurring in Vietnam and Hong Kong Special Administrative Region (SAR). Since the beginning of March 2003, over 150 new cases of SARS, have been reported from: China (Guangdong province and Hong Kong SAR), Vietnam (City of Hanoi), Singapore and Canada (provinces of Ontario and British Columbia). To date, no link has been made between these outbreaks and reported cases of H5N1. Enhanced surveillance in Hong Kong has not shown any unusual increase in influenza activity nor detected any other H5 virus. During week 10, EISS reported a predominance of influenza A in Europe, with widespread activity in six countries. However, influenza B activity continues to predominate in western Europe. More than 99% of viruses identified through the EISS network so far this season are closely related to the 2002-2003 vaccine strains. Country reports to WHO indicate influenza activity in Russia decreased during week 10 but remains widespread.

Source: WHO, <http://oms2.b3e.jussieu.fr/flunet/news.html>
And EISS (Europe): <http://www.eiss.org/cgi-files/bulletin_v2.cgi>

Vaccine and Strain Characterization

Since the last flu bulletin (volume 6 issue 18), 11 more influenza isolates in Ontario were characterized at the Health Canada Winnipeg Laboratory (Table 4). They were identified as 1 influenza A (H1N2) virus, and the hemagglutinin proteins of the influenza A (H1N2) viruses, 5 A/PANAMA/2007/99-like, 1 A/NewCaledonia/20/99-like and 4 B/Hong Kong/330/01-like.

Since the last flu bulletin (volume 6 issue17), no more influenza isolates were characterized at the Health Canada Winnipeg Laboratory.

Table 4. Season-to-date Strain Identification and Characterization in Canada, 2002-2003*

Province/Territory	Strain Characterization	# of Strains Identified-to-date
Alberta	A/NewCaledonia/20/99-like	22
	A/PANAMA/2007/99-like	2
	A(H1N2)	16
	B/Hong Kong/330/01-like	10
British Columbia	A/NewCaledonia/20/99-like	4
	A(H1N2)	13
	A/PANAMA/2007/99-like	2
	B/Hong Kong/330/01-like	11
Manitoba	A(H1N2)	1
	B/Hong Kong/330/01-like	2
New Brunswick	A(H1N2)	4
	A/PANAMA/2007/99-like	3
	B/Hong Kong/330/01-like	5
Newfoundland	A(H1N2)	3
	B/Hong Kong/330/01-like	1
Nova Scotia	A(H1N2)	5
	B/Hong Kong/330/01-like	2
Ontario	**A/PANAMA/2007/99-like**	**5**
	A/NewCaledonia/20/99-like	**1**
	A(H1N2)	**124**
	B/Hong Kong/330/01-like	**6**
PEI	A(H1N2)	2
Quebec	A/NewCaledonia/20/99-like	2
	A/PANAMA/2007/99-like	3
	A(H1N2)	21
Saskatchewan	A(H1N2)	8
	A/PANAMA/2007/99-like	1
	B/Hong Kong/330/01-like	11
Total		**293**

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Influenza Vaccine Components and Protection for the 2002/03 Season

The National Advisory Committee on Immunization (NACI) recommended that the trivalent vaccine for the 2002-03 season contain an A/Panama/2007/99 (H3N2)-like virus, an A/New Caledonia/20/99 (H1N1)-like virus, and either B/Hong Kong/330/2001-like virus or B/Shangdong/7/97-like antigens.

Influenza A(H1N2) are the majority of influenza strains identified thus far in Ontario. For influenza A (H1N2) virus, the hemagglutinin proteins of the H1 proteins is similar antigenically to the current vaccine strain A/NewCaledonia/20/99 (H1N1) and the N2 proteins is similar antigenically to the current strain A/Panama/2007/99(H3N2). Therefore, current vaccine strains will provide good protection against the H1N2 strain.

Visit the Ministry of Health and Long-Term Care website weekly for the current issue, or back issues, of the Ontario Influenza Bulletin: http://www.gov.on.ca/MOH/english/program/pubhealth/flu_bul/flubul_mn.html

Influenza Activity by Health Unit
Week Ending March 15, 2003