Ontario Influenza Bulletin

Ministry of Health and Long-Term Care

Public Health Branch

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Week #17: Week Ending April 26, 2003

Influenza Activity in Ontario

There was influenza activity reported in the province for the week ending April 26, 2003. Ten of the Ontario Public Health laboratories reported 1 influenza A and 2 influenza B cases during this surveillance period. The following upper respiratory isolates were also reported: 15 respiratory syncytial virus (RSV), 2 parainfluenza type 1 (PIV1), and 5 parainfluenza type 3 (PIV3) (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 April 20, 2002 (week 16)	Week Ending April 26, 2003 (week 17)
	Season to Date**	Season to Date***
***Laboratory Surveillance (isolates)Total**	**1872**	**817**
Influenza A	1120	789
Influenza B	604	28
Institutional Outbreaks	**126**	**25**
Other respiratory Viruses		
RSV	1836	1998
PIV1	118	130
PIV2	104	19
PIV3	17	329
PIV4	14	5
Other PIVs	2	2
Adenoviruses	125	152

*Centre for Infectious Disease Prevention and Control, Health Canada
** October 20, 2001- April 20, 2002
***Season to Date August 25, 2002 – April 26, 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	6	2
Durham	33	2
Eastern Ontario	8	0
Elgin St. Thomas	3	0
Grey Bruce	21	0
Haldimand-Norfolk	14	0
Haliburton-Kawartha	9	0
Halton	27	1
Hamilton-Wentworth	62	0
Hastings, Prince Edward	5	0
Huron	8	0
Kingston, Frontenac, Lennox and Addington	17	2
Lambton	8	0
Leeds	3	0
Middlesex-London	14	0
Muskoka-Parry Sound	8	0
Niagara	14	1
North Bay	8	1
Northwestern	2	0
Ottawa-Carlton	26	1
Oxford	21	0
Peel	109	8
Perth District	21	0
Peterborough	3	0
Porcupine	12	0
Renfrew	4	0
Simcoe	16	0
Sudbury	13	0
Wellington-Dufferin-Guelph	46	0
Windsor-Essex	4	0
Thunder Bay	3	6
Timiskaming	10	0
Toronto	148	13
York Region	46	0
Waterloo	27	0
Total	**790**	**38**

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	14.1	5.6	None
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	40.8	16.7	1 hospitalization 1 case pneumonia
Hastings & Prince Edward	Nursing Home	1	Influenza A	16.0	0	2 hospitalizations 3 cases pneumonia
Hamilton	**Long-Term Care Facility**	**1**	**Influenza A**	**N/A**	**N/A**	**N/A**
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**	**15.6**	**5.3**	**1 hospitalization** **1 death**
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
Porcupine	**Nursing Home**	**1**	**Influenza A**	**9.4**	**2.5**	**None**
Thunderbay	**LTCF within Acute Care Hospital**	**1**	**Influenza A**	**14.9**	**5.6**	**3 hospitalizations** **2 pneumonia**
Toronto	Nursing Home	3	Influenza A	12.2	0.5	None
			Influenza A	38.5	2.8	2 deaths 1 pneumonia
			Influenza A	**6.6**	**0.5**	**None Reported to Date**
	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 16 per 1,000 patients seen.

Laboratory Confirmations and Influenza Activity in the Rest of Canada
Parts of Manitoba and Ontario report localized activity. During the week ending April 26 (week 17), sentinel physicians reported 16 cases of influenza-like illness (ILI) per 1000 patient visits, which is at the expected value for this time of year. Health Canada received 1,213 reports of laboratory tests for influenza, including 32 (2.6%) influenza A detections and 53 (4.4%) influenza B detections. The National Microbiology Laboratory has antigenically characterised 437 influenza viruses to date; 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 39 reported outbreaks of laboratory-confirmed influenza in long term care facilities (LTCF). ***SARS:*** As of May 1, 2003, 149 probable and 199 suspect SARS cases have been reported to Health Canada. The last several probable cases were in health care workers in the Greater Toronto Area with the most recent probable case having an onset date of April 20, 2003. Of the 348 probable and suspect SARS cases identified to date, most (66%, 231 of 348) have either recovered at home or been discharged from hospital. An additional 37 of the 348 (11%) suspect and probable cases are currently stable or recovering at home. The case fatality rate in Canada is 6.6% of probable and suspect cases (23 deaths of 348 probable and suspect cases).

Source: **Health Canada Website on SARS :** <http://www.hc-sc.gc.ca/pphb-dgspsp/sars-sras/index.html>
AND
Health Canada, FluWatch: <http://www.hc-sc.gc.ca/pphb-dgspsp/fluwatch/index.html>

Influenza Activity in the United States
During week 16, influenza activity was reported as widespread in one state, regional in four states and sporadic in 32 states. Nine states reported no activity. ILI accounted for 1.0% of patient visits to sentinel physicians (below the national baseline of 1.9%). Sentinel cities reported 7.6% of deaths attributed to pneumonia and influenza (below the epidemic threshold of 7.9% for this week). The CDC received 600 reports of influenza tests, including 12 (2.0%) positive for influenza: 5 A (unsubtyped), 2 A(H1), and 5 influenza B. Since September 29, a total of 88,142 specimens have been tested for influenza; 10,148 (11.5%) were positive (5,647 influenza A and 4,501 influenza B). Of the 532 viruses antigenically characterized to date, 7/82 (9%) of influenza A (H3N2) isolates and 1/222 (<0.5%) 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
Influenza activity is at or below baseline levels in European countries which reported to EISS for week 17. Update on human infections with highly pathogenic avian influenza (AI) virus A/H7N7 during an outbreak in poultry in the Netherlands: 3 household contacts of confirmed cases developed A/H7-associated conjunctivitis while they had no direct exposure to infected poultry. All 3 had conjunctivitis as the most prominent presenting symptom, while one (a 12 year old child) additionally developed ILI. These results strongly suggest person to person transmission of AI A/H7N7 virus. At present, a cohort study is being conducted among confirmed cases and their household contacts in order to ascertain the extent of person to person transmission of AI and to identify risk factors. Another cohort study among poultry workers and poultry farmers will be conducted, in order to study risk factors for transmission of AI from poultry to humans. ***SARS:*** As of May 1, 2003, the WHO is reporting 5865 SARS cases in 27 countries and 391 SARS attributed deaths in 7 countries. The United Kingdom and the United States of America have been removed from the WHO list of areas with recent local transmission. In both countries, the last instance of local transmission occurred more than 20 days ago. Tianjin, China and Ulaanbaatar City, Mongolia, were added to the list.

Source: EISS (Europe): <http://www.eiss.org/cgi-files/bulletin_v2.cgi>
And
WHO: <http://oms2.b3e.jussieu.fr/flunet/news.html>
And
WHO press release: <http://www.who.int/csr/don/2003_04_03a/en/>

Vaccine and Strain Characterization
Since the last flu bulletin (volume 6 issue 19), 20 more influenza isolates in Ontario were characterized at the Health Canada Winnipeg Laboratory (Table 4). They were identified as 9 influenza A (H1N2) virus, and the hemagglutinin proteins of the influenza A (H1N2) viruses, 9 A/PANAMA/2007/99-like, 2 A/NewCaledonia/20/99-like.

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	39
	A/PANAMA/2007/99-like	2
	A(H1N2)	32
	B/Hong Kong/330/01-like	16
British Columbia	A/NewCaledonia/20/99-like	11
	A(H1N2)	18
	A/PANAMA/2007/99-like	6
	B/Hong Kong/330/01-like	17
Manitoba	A(H1N2)	7
	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)	6
	A/NewCaledonia/20/99-like	1
	B/Hong Kong/330/01-like	6
Nova Scotia	A(H1N2)	5
	B/Hong Kong/330/01-like	2
Ontario	**A/PANAMA/2007/99-like**	**14**
	A/NewCaledonia/20/99-like	**5**
	A(H1N2)	**133**

	B/Hong Kong/330/01-like	**7**
PEI	A(H1N2)	2
Quebec	A/NewCaledonia/20/99-like	2
	A/PANAMA/2007/99-like	3
	A(H1N2)	24
	B/Hong Kong/330/01-like	3
Saskatchewan	A(H1N2)	13
	A/NewCaledonia/20/99-like	4
	A/PANAMA/2007/99-like	2
	B/Hong Kong/330/01-like	16
Yukon	A(H1N2)	1
Total		**437**

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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 Acitvity Level by Health Unit
Week Ending April 26, 2003