

Ontario Influenza Bulletin

2006-2007 Season

SURVEILLANCE WEEK 11 (March 11 -17) 2007

This issue of the Ontario Influenza Bulletin provides information on the surveillance period from March 11 - 17, 2007, (Week 11). The analysis for this issue occurred on Thursday March 22, 2007, therefore all data is current to that date unless otherwise specified.

Overall, influenza activity in Ontario during Week 11, 2007 was slightly lower compared to the previous week. Sixty three sporadically occurring cases of influenza A were reported through iPHIS from health units, while 3 new institutional outbreaks of influenza A were reported. Only Toronto reported 'widespread' influenza activity, while Central East, Central West, Eastern, North East, and South West regions reported 'localized' influenza activity levels. North West was the only region to report 'sporadic' influenza activity.

For a definition of influenza-like illness (ILI) activity levels and links to websites providing current influenza information from other sources, please refer to the attached Appendix- I. If you would like to provide feedback on the Bulletin, please contact Christine D'Souza (christine.dsouza@moh.gov.on.ca, 416-212-5323) or Anne-Luise Winter (anne-luise.winter@moh.gov.on.ca, 416-327-7301).

Table 1: Summary of confirmed influenza cases and institutional influenza outbreaks by health region (Week 11, 2007).

Confirmed Influenza cases*	HEALTH REGION							TOTAL
	North West	North East	Eastern	Central East	Toronto	South West	Central West	
Influenza A	0	8	24	11	13	1	5	62
Influenza B	0	0	0	0	1	0	0	1
Influenza A & B	0	0	0	0	0	0	0	0
Total new cases	0	8	24	11	14	1	5	63
Institutional influenza outbreaks‡	0	1	0	1	1	0	0	3

SOURCE: MOHLTC [iPHIS, Health Unit Reports to PHD]

* Includes reports of sporadically occurring influenza through iPHIS, as well as cases in institutional outbreaks, with dates of onset in the surveillance period.

‡ Confirmed outbreaks in institutions with onset date of symptoms during the surveillance period.

Table 2: Confirmed cases of influenza by health unit & health region, with an episode date[†] during Week 11, 2007.

Region	Health Unit	Confirmed Influenza		
		Influenza A	Influenza B	TOTAL
North West	Northwestern	0	0	0
	Thunder Bay District	0	0	0
	TOTAL NORTH WEST	0	0	0
North East	Algoma	2	0	2
	North Bay Parry Sound District	5	0	5
	Porcupine	1	0	1
	Sudbury & District	0	0	0
	Timiskaming	0	0	0
	TOTAL NORTH EAST	8	0	8
Eastern	City of Ottawa	19	0	19
	Eastern Ontario	2	0	2
	Hastings & Prince Edward Counties	0	0	0
	Kingston, Frontenac, Lennox & Addington	0	0	0
	Leeds, Grenville And Lanark District	3	0	3
	Renfrew County And District	0	0	0
	TOTAL EASTERN	24	0	24
Central East	Durham Region	1	0	1
	Haliburton, Kawartha, Pine Ridge	4	0	4
	Peel Region	4	0	4
	Peterborough County-City	1	0	1
	Simcoe Muskoka District	1	0	1
	York Region	0	0	0
	TOTAL CENTRAL EAST	11	0	11
Toronto	Toronto	13	1	14
	TOTAL TORONTO	13	1	14
South West	Chatham-Kent	0	0	0
	Elgin-St. Thomas	0	0	0
	Grey Bruce	1	0	1
	Huron County	0	0	0
	Lambton County	0	0	0
	Middlesex-London	0	0	0
	Oxford County	0	0	0
	Perth District	0	0	0
	Windsor-Essex County	0	0	0
	TOTAL SOUTHWEST	1	0	1
Central West	Brant County	0	0	0
	City Of Hamilton	2	0	2
	Haldimand-Norfolk	0	0	0
	Halton Region	0	0	0
	Niagara Region	1	0	1
	Waterloo Region	1	0	1
	Wellington-Dufferin-Guelph	1	0	1
	TOTAL CENTRAL WEST	5	0	5
	TOTAL ONTARIO	62	1	63

SOURCE: MOHLTC [iPHIS, Health Unit Reports have been extracted using CRN at PHD]

[†] Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)

Table 3: Cumulative* confirmed cases of influenza by health unit & health region with an episode date[†] between September 1, 2006 – March 17, 2007

Region	Health Unit	Confirmed Influenza		
		Influenza A	Influenza B	TOTAL
North West	Northwestern	33	0	33
	Thunder Bay District	14	0	14
	TOTAL NORTH WEST	47	0	47
North East	Algoma	17	0	17
	North Bay Parry Sound District	70	0	70
	Porcupine	44	0	44
	Sudbury & District	33	0	33
	Timiskaming	1	0	1
	TOTAL NORTH EAST	165	0	165
Eastern	City Of Ottawa	92	0	92
	Eastern Ontario	11	0	11
	Hastings & Prince Edward Counties	28	0	28
	Kingston, Frontenac, Lennox & Addington	84	1	85
	Leeds, Grenville And Lanark District	23	0	23
	Renfrew County And District	5	0	5
	TOTAL EASTERN	243	1	244
Central East	Durham Region	62	0	62
	Haliburton, Kawartha, Pine Ridge	123	1	124
	Peel Region	165	2	167
	Peterborough County-City	89	0	89
	Simcoe Muskoka District	97	0	97
	York Region	94	0	94
	TOTAL CENTRAL EAST	630	3	633
Toronto	Toronto	456	2	458
	TOTAL TORONTO	456	2	458
South West	Chatham-Kent	8	0	8
	Elgin-St. Thomas	5	0	5
	Grey Bruce	43	1	44
	Huron County	30	0	30
	Lambton County	11	0	11
	Middlesex-London	44	0	44
	Oxford County	18	0	18
	Perth District	38	0	38
	Windsor-Essex County	20	0	20
	TOTAL SOUTHWEST	217	1	218
Central West	Brant County	20	0	20
	City Of Hamilton	240	2	242
	Haldimand-Norfolk	20	0	20
	Halton Region	98	0	98
	Niagara Region	72	0	72
	Waterloo Region	115	0	115
	Wellington-Dufferin-Guelph	78	0	78
	TOTAL CENTRAL WEST	643	2	645
	TOTAL ONTARIO	2,401	9	2,410

SOURCE: MOHLTC [iPHIS, Health Unit Reports have been extracted using CRN at PHD]

* Cumulative case counts include late reports and records that are otherwise reconciled. Therefore, cumulative counts may not equal new cases plus previous cumulative value.

† Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)

Influenza Subtype(s):

During Week 11, 3932 isolates were received by the Public Health Agency of Canada, with a total of 633 testing positive for influenza A and 59 for influenza B. The majority of influenza A isolates (202) were from Quebec (31.9%), while 201 (31.8%) were from Ontario, and 72 (11.4%) from Alberta. Fifty-five influenza B isolates were from Quebec (93.2%), while 2 (3.4%) were from Alberta and 1 (1.7%) was from both Ontario and British Columbia.*

Antigenic Characterization:

The National Microbiology Laboratory (NML) has characterized 658 influenza viruses for the 2006-2007 influenza season: 210 (32%) A/New Caledonia/20/1999(H1N1)-like, 413 (63%) A/Wisconsin/67/05(H3N2)-like, 7 (1%) B/Malaysia/2506/2004-like, and 28 (4%) B/Shanghai/361/2002-like. All but the B/Shanghai/361/2002-like strain are included in the composition of the 2006-2007 Canadian influenza vaccine. Of the influenza A viruses characterized, 80% of the A(H1N1) viruses were from the West while the majority of the A(H3N2) viruses were from Ontario (58%) and British Columbia (24%).**

Antiviral Resistance:

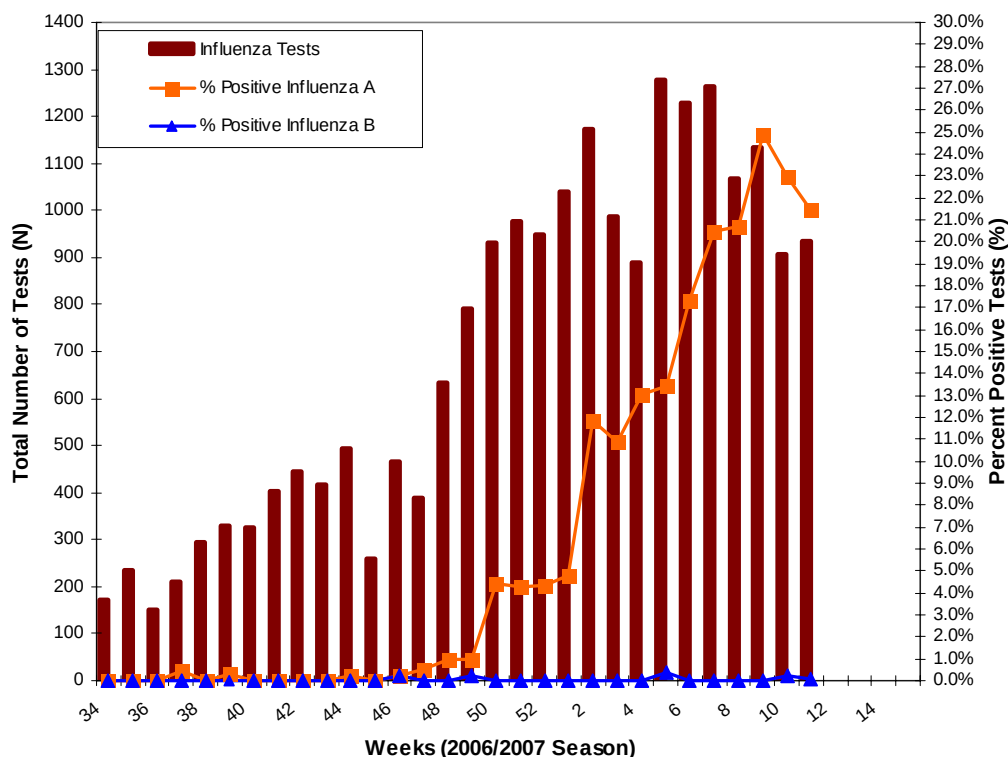
Since the start of the season, the NML has tested 662 influenza A isolates (195 H1N1, 467 H3N2) for amantadine resistance. One (0.5% or 1/194) of the H1N1 isolates tested were resistant to amantadine (the resistant isolate originated from Ontario). Of the H3N2 isolates tested, 30.8% (144/467) of the H3N2 isolates were resistant (see PHAC recommendation: www.phac-aspc.gc.ca/media/nr-rp/2006/20061101-amantadine_e.htm). Of the 558 isolates (529 influenza A, 29 influenza B) tested for oseltamivir resistance, none were found to be resistant.**

Note: Based on the World Health Organization recommendations, Canada's National Advisory Committee on Immunization (NACI) recommended the **2006-2007** influenza vaccine contain an **A/New Caledonia-like**, an **A/Wisconsin-like** & a **B/Malaysia-like** virus strain.

* These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada for Week 11, 2007.

** These data have been obtained from the FluWatch report of the Public Health Agency of Canada for week 10, 2007.

Figure 1: Total number of influenza tests performed and percent of positive tests in Ontario reported to the Centre for Infectious Disease Prevention and Control (CIDPC), by report week*.



Source: Public Health Agency of Canada

* Total numbers reported include late reports; therefore totals may not be equal to the sum of the weekly numbers.

Note: Cumulative numbers for season to date are available through FluWatch: <http://www.phac-aspc.gc.ca/fluwatch/>

Table 4a: Institutional respiratory infection outbreaks in Ontario: New Outbreaks* in Week 11 and Total Outbreaks for the Season**

Institutional Respiratory Infection Outbreaks		
New Outbreaks*	N	% (of outbreaks)
Influenza A	3	50.0
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	0	0.0
RSV	0	0.0
Other organisms	0	0.0
No organism identified	3	50.0
TOTAL	6	100
Total Respiratory Infection Outbreaks of the Season to date**	N	% (of outbreaks)
Influenza A	138	24.5
Influenza B	1	0.2
Parainfluenza (All types)	21	3.7
RSV	77	13.7
Other organisms	27	4.8
No organism identified	299	53.1
TOTAL	563	100
Types of Institutions (All Outbreaks) **	N	% (of outbreaks)
Long-Term Care Homes	385	68.4
Hospitals	35	6.2
Retirement Homes	52	9.2
Other	2	0.4
Unknown	89	15.8
TOTAL	563	100

SOURCE: MOHLTC [iPHIS, Health Unit Reports have been extracted using CRN at PHD]

* New outbreaks are those in which the date of onset of illness in the first case occurred and recorded through iPHIS in the current surveillance period; i.e. March 11 -17, 2007

** Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2006 – March 17, 2007

Table 4b: Outbreak Related Complications in institutional respiratory infection outbreaks in Ontario during the Surveillance Season*

Outbreak Related Complications (All Outbreaks)	N	% (of total cases)
Total Cases		
Residents	6433	69.0
Patients	703	7.5
Staff	2184	23.4
Total Cases	9320	100
Deaths		% (of cases per role)
Residents	153	2.4
Patients	12	1.7
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)		% (of cases per role)
Residents	227	3.5
Patients	11	1.6
Staff	9	0.4
Hospitalizations		% (of cases per role)
Residents	277	4.3
Staff	1	0.1
Outbreak Related Complications (Influenza Outbreaks)	N	% (of total cases)
Total Cases		
Residents	1426	70.1
Patients	161	7.9
Staff	448	22.0
Total Cases	2035	100
Deaths		% (of cases per role)
Residents	48	3.4
Patients	2	1.2
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)		% (of cases per role)
Residents	74	5.2
Patients	6	3.7
Staff	3	0.7
Hospitalizations		% (of cases per role)
Residents	91	6.4
Staff	0	0.0

SOURCE: MOHLTC [iPHIS, Health Unit Reports have been extracted using CRN at PHD]

* Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2006 – March 17, 2007

Figure 2: Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total Outbreaks from September 1, 2006 – March 17, 2007 by causative organism

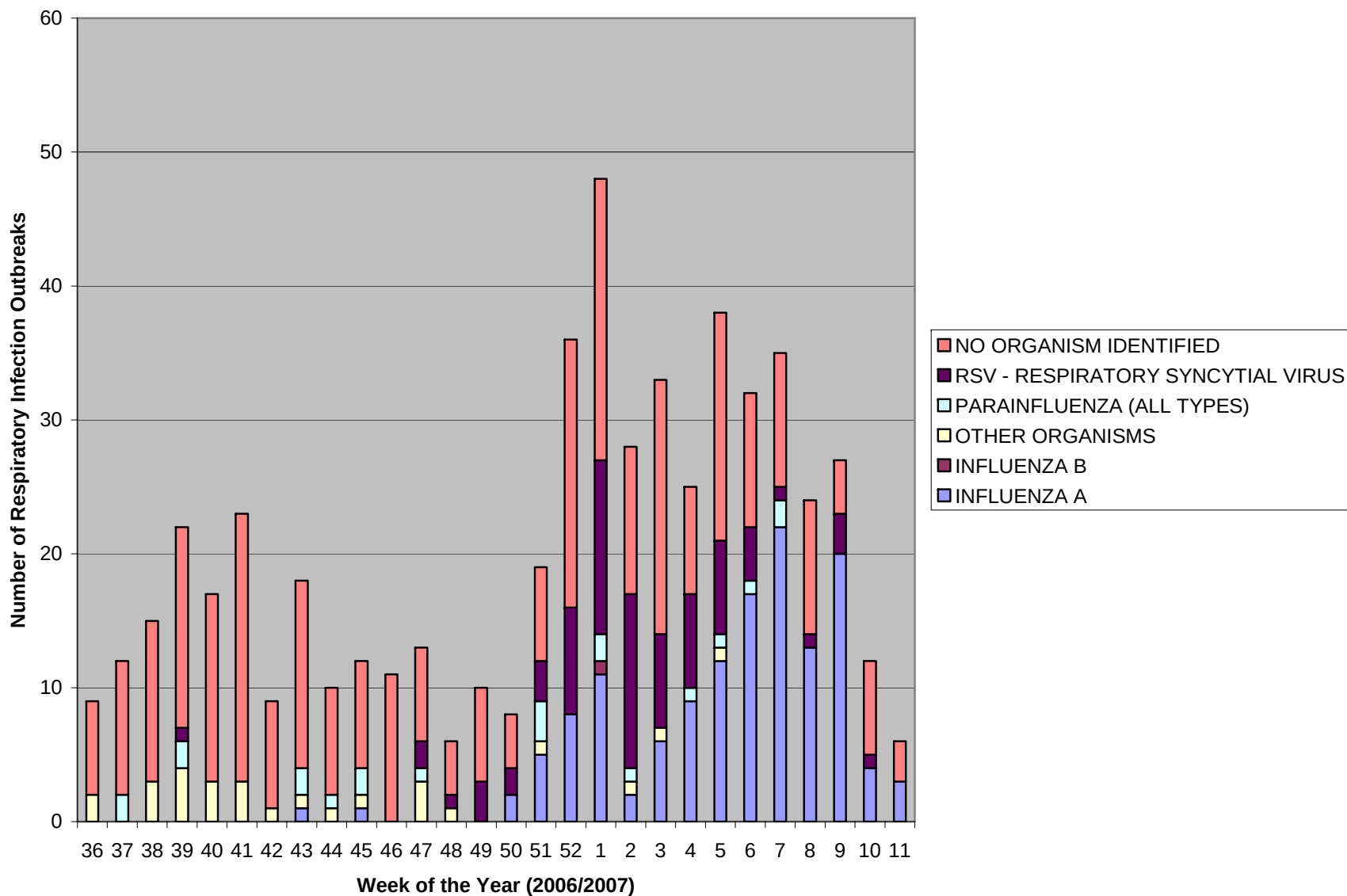
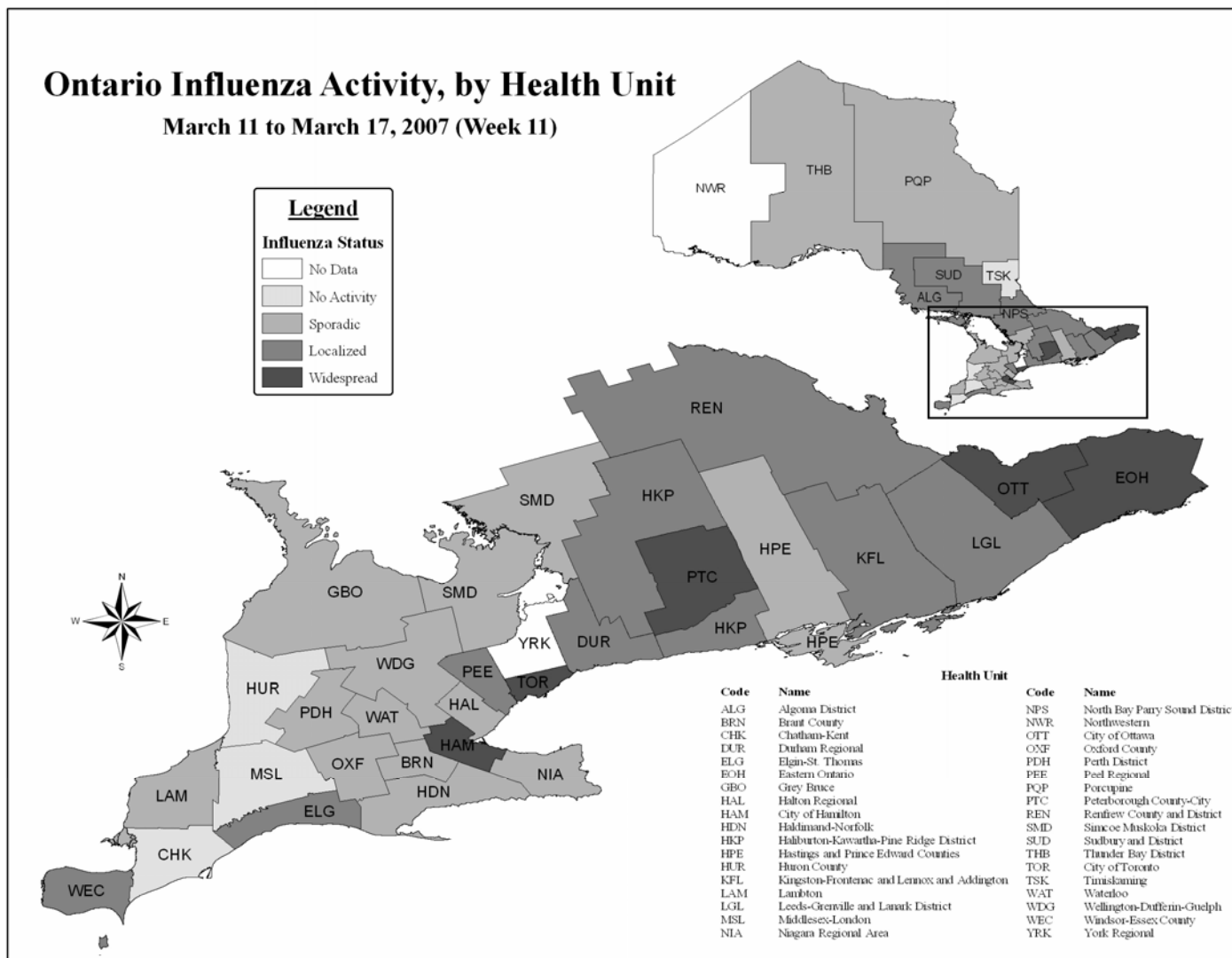


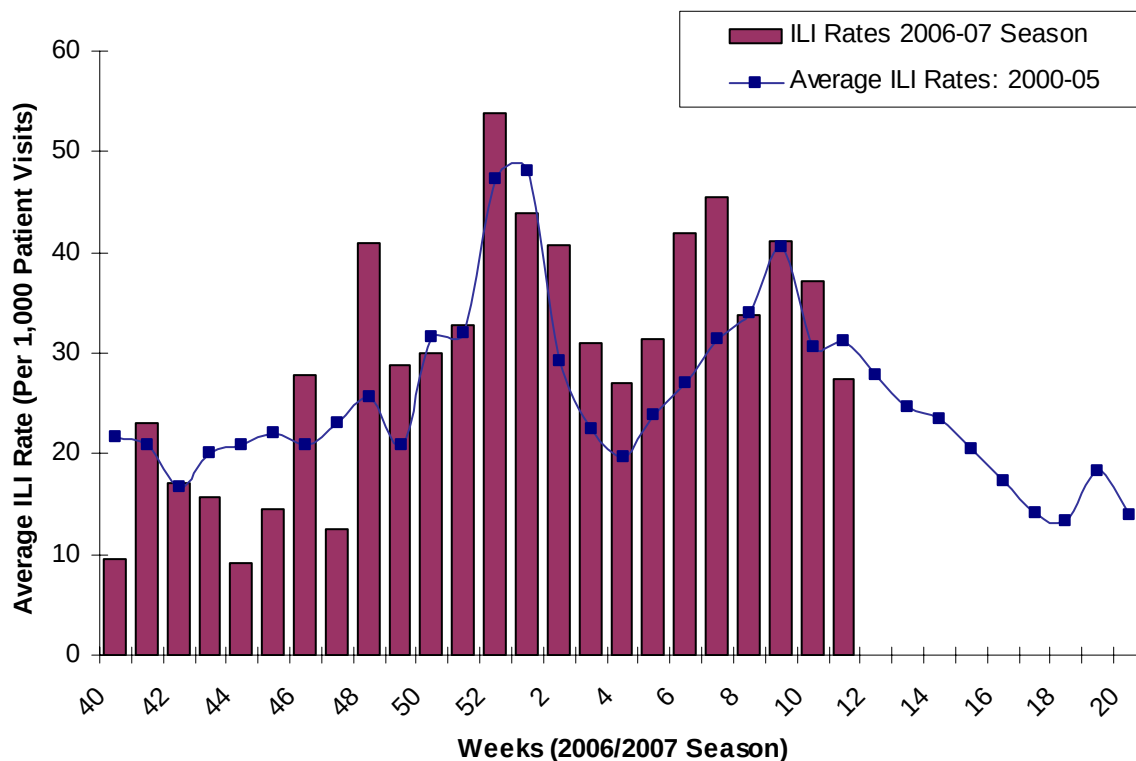
Figure 3: Influenza Activity* levels in Ontario by health unit & health region for Week 11



SOURCE: MOHLTC [Provincial Influenza Activity Report (Appendix C) Database]

* Influenza activity levels are assigned by local public health units and reported to the MOHLTC by the Tuesday following the end of the surveillance week at 4 pm. Activity levels are assigned based on laboratory confirmations, ILI reports from various sources, and laboratory confirmed institutional outbreaks. Please refer to detailed definitions for the 2006-2007 season included in the Appendix-1]

Figure 4: Average influenza-like illness (ILI) consultation rate (per 1,000 patient visits) reported by sentinel physicians* in Ontario in 2006- 2007 season, by report week, Compared to Ontario average[†] (1999/2000 to 2004/05 seasons).



Source: Public Health Agency of Canada

* Sentinel physician information is reported to Public Health Agency of Canada.

[†]No data available for mean rate in previous years for weeks 21 to 39 (1999-2000 through 2004-2005 seasons). During weeks 20-39, 2002-2003/2004-2005 seasons, ILI is reported once every two weeks, on even weeks only.

Table 5: Average Influenza-like illness consultation rate (per 1,000 patient visits) by age group and postal code as reported by Sentinel Physicians* in Ontario, for Week 11.

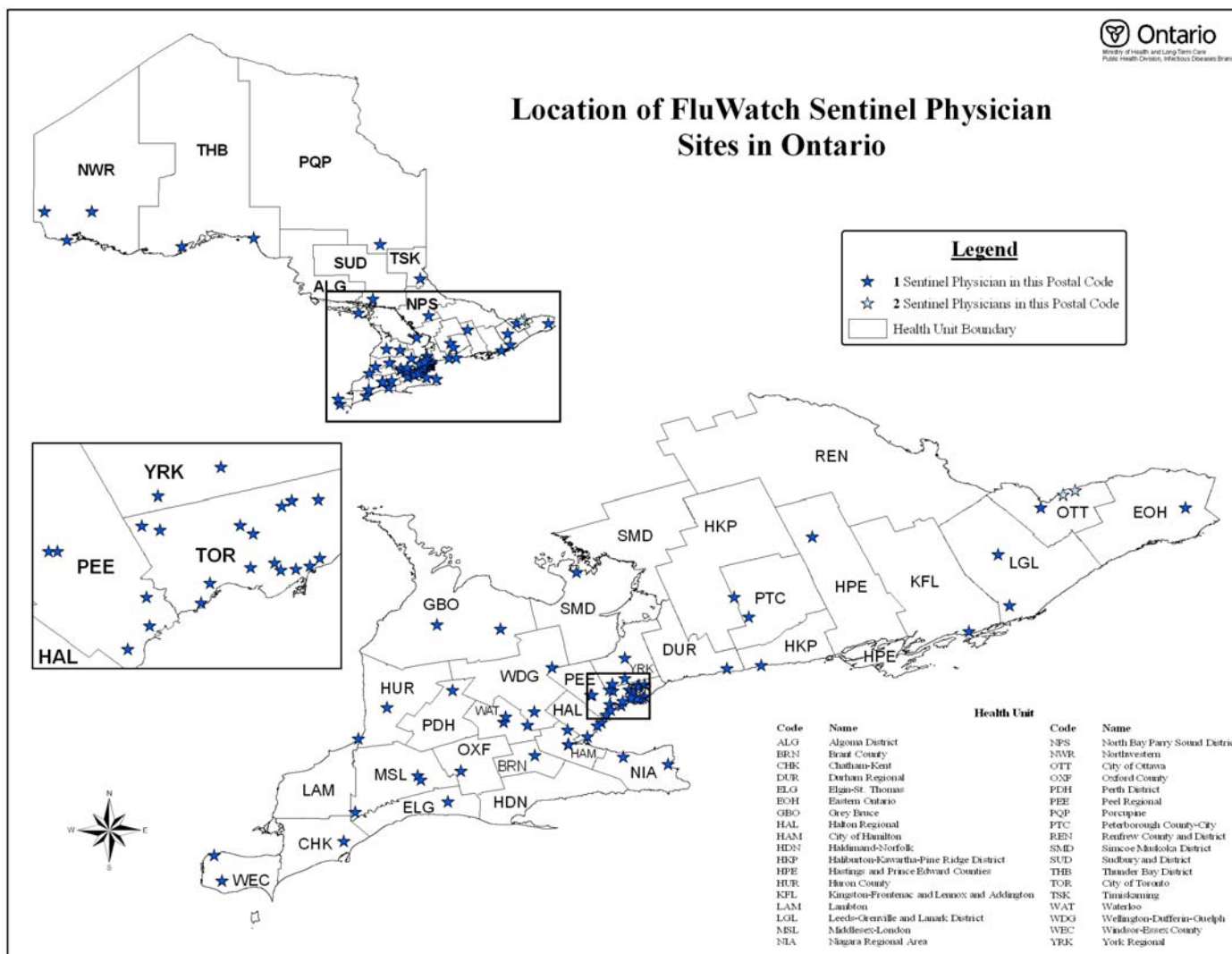
Postal Code	0 – 4	5 – 19	20 – 64	65 +	Unknown
K1L8H2	0	0	0	0	0
K2P1V3	0	0	0	0	0
K1J9M2	0	0	1	0	0
K0H2N0	0	1	1	1	0
K7H2W6	0	0	0	0	0
K7L1E9	0	0	0	0	0
K0L1C0	0	0	0	0	0
L1A3W4	0	0	0	0	0
L4L4Y7	0	0	0	0	0
L4J7Y3	0	0	0	0	0
L4G3W3	0	0	0	0	0
L4G7Y3	0	1	0	0	0
M5M1B2	0	0	0	0	0
M4X1W4	0	0	0	0	0
M6G4A1	0	0	0	0	0
M4E1V8	0	0	0	0	0
M8Y1W3	0	0	0	0	0
M2J2Z1	0	0	0	0	0
M3H1T1	0	0	0	0	0
M2K1E1	0	0	0	0	0
M9W6N5	0	0	0	0	0
M9W4L6	0	0	1	0	0
M8V2Z5	0	0	0	0	0
L5J2W4	0	0	1	0	0
L6W2A4	0	1	3	0	0
L6V4H6	0	0	0	0	0
L9W1G2	0	0	0	0	0
L6L2X4	0	0	0	0	0
L6L1X8	0	0	0	0	0
L7R1M6	0	0	0	0	0
L9H2G2	0	0	0	0	0
L0R1H0	0	0	0	0	0
L2E1Y3	0	0	0	0	0
L0R1B0	0	0	0	0	0
N3R7K8	0	0	0	0	0
N2G1P2	0	0	0	0	0
N0R1G0	0	0	0	0	0
N8X2G3	2	0	7	0	0
N0M1T0	0	0	0	0	0
N0L1Z0	0	0	0	0	0
N6C2R5	0	0	0	0	0
N0M1L0	0	0	0	0	0
N0G1L0	0	0	0	0	0
N0C1E0	0	0	0	0	0
P0P1S0	0	0	0	0	0
P0M2L0	0	0	5	1	0
P4N1C6	0	0	0	0	0
P7E1H5	0	0	3	0	0
P0T2E0	0	0	1	0	0
P0W1E0	0	0	0	0	0
P8N2Z6	0	0	0	0	0
ILI Sum	2	3	23	2	0
ILI Consultation Rate (per 1,000 patient visits)	31.25	31.58	36.22	6.71	0.00

Source: Public Health Agency of Canada

* Sentinel physician information is reported to the Public Health Agency of Canada

Note: The small numbers of sentinel physicians reporting at the local level make the ILI rates unstable. Please interpret these data correspondingly.

Figure 5: Geographic Distribution of Sentinel Physicians in Ontario



Source: National Research System (NaReS), College of Family Physicians of Canada

* Sentinel physician information is reported to the Public Health Agency of Canada

FURTHER INFORMATION

1. Ontario Ministry of Health and Long-Term Care
Previous issues of the *Ontario Influenza Bulletin* can be accessed at:
http://www.health.gov.on.ca/english/providers/program/pubhealth/flu/flu_05/flubul_mn.html
2. Public Health Agency of Canada
Issues of FluWatch can be accessed at:
www.phac-aspc.gc.ca/fluwatch/
3. United States Centers for Disease Control and Prevention
www.cdc.gov/flu/

INFORMATION ABOUT AVIAN INFLUENZA

For latest information on the status of avian influenza worldwide please use the following link:

Public Health Agency of Canada
<http://www.phac-aspc.gc.ca/h5n1/index.html>

APPENDIX - I

Definitions for influenza activity levels:

No Data: No activity report corresponding to the surveillance week was received at the Ministry of Health and Long-Term Care Call Centre by the Tuesday (at 4 p.m.) following the end of the surveillance period.

No Activity: **No laboratory confirmed* influenza cases(s) or outbreak detected during the past four weeks** within the influenza surveillance region, however, sporadically occurring ILI may be reported†

Sporadic: Sporadically occurring **ILI and laboratory confirmed influenza* case(s) with NO outbreaks** detected within the influenza surveillance region†

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

Widespread: sporadically occurring **ILI and laboratory confirmed influenza* case(s) together with outbreaks of ILI** in schools and/or 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 week

† Sub-regions within the province or territory as defined by the provincial/territorial epidemiologist

Influenza-Like Illness (ILI) Definitions:

A) 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.

B) ILI/Influenza outbreaks:

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.**

Influenza Surveillance Weeks 2006-2007 and date of submission of Appendix C

WEEKS	START	END	Appendix C Submission to MOHLTC
12	18-Mar-07	24-Mar-07	27-Mar-07
13	25-Mar-07	31-Mar-07	3-Apr-07
14	1-Apr-07	7-Apr-07	10-Apr-07
15	8-Apr-07	14-Apr-07	17-Apr-07
16	15-Apr-07	21-Apr-07	24-Apr-07
17	22-Apr-07	28-Apr-07	1-May-07
18	29-Apr-07	5-May-07	8-May-07
19	6-May-07	12-May-07	15-May-07
20	13-May-07	19-May-07	22-May-07
21	20-May-07	26-May-07	29-Jun-07
22	27-May-07	2-Jun-07	5-Jun-07
23	3-Jun-07	9-Jun-07	12-Jun-07
24	10-Jun-07	16-Jun-07	19-Jun-07
25	17-Jun-07	23-Jun-07	26-Jun-07
26	24-Jun-07	30-Jun-07	3-Jul-07
27	1-Jul-07	7-Jul-07	10-Jul-07
28	8-Jul-07	14-Jul-07	17-Jul-07
29	15-Jul-07	21-Jul-07	24-Jul-07
30	22-Jul-07	28-Jul-07	31-Aug-07
31	29-Jul-07	4-Aug-07	7-Aug-07
32	5-Aug-07	11-Aug-07	14-Aug-07
33	12-Aug-07	18-Aug-07	21-Aug-07
34	19-Aug-07	25-Aug-07	28-Sep-07
35	26-Aug-07	1-Sep-07	4-Sep-07