

SURVEILLANCE WEEK 18 (May 3, 2009– May 9, 2009)

This issue of the Ontario Influenza Bulletin provides information on the surveillance period from May 3, 2009-May 9, 2009, (Week 18). The analysis for this issue occurred on May 14, 2009, therefore all data is current to that date unless otherwise specified.

Overall, influenza activity in Ontario during week 18, 2009 was higher than week 17, 2009. There were 155 confirmed cases of influenza reported through iPHIS from health units. There were three new reports of institutional influenza outbreaks. For week 18, North West reported 'no activity', North East health region reported 'sporadic' level activity while the remaining health regions reported 'localized' level activity.

Novel H1N1 Influenza A virus Update

To date, there have been 187 confirmed cases of Novel H1N1 Influenza A virus in Ontario and 496 confirmed cases in Canada.

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.dsouza1@ontario.ca, 416-212-5323) or Anne-Luise Winter (anne-luise.winter@ontario.ca, 416-327-7301).

Table 1: Summary of confirmed influenza cases and institutional influenza outbreaks by health region (Week 18, 2009).

Confirmed influenza cases*	HEALTH REGION							TOTAL
	North West	North East	Eastern	Central East	Toronto	South West	Central West	
Influenza A	0	4	11	53	52	5	28	153
Influenza B	0	0	0	1	1	0	0	2
Influenza A & B	0	0	0	0	0	0	0	0
Total new cases	0	4	11	54	53	5	28	155
Institutional influenza outbreaks†	0	0	1	0	1	1	0	3

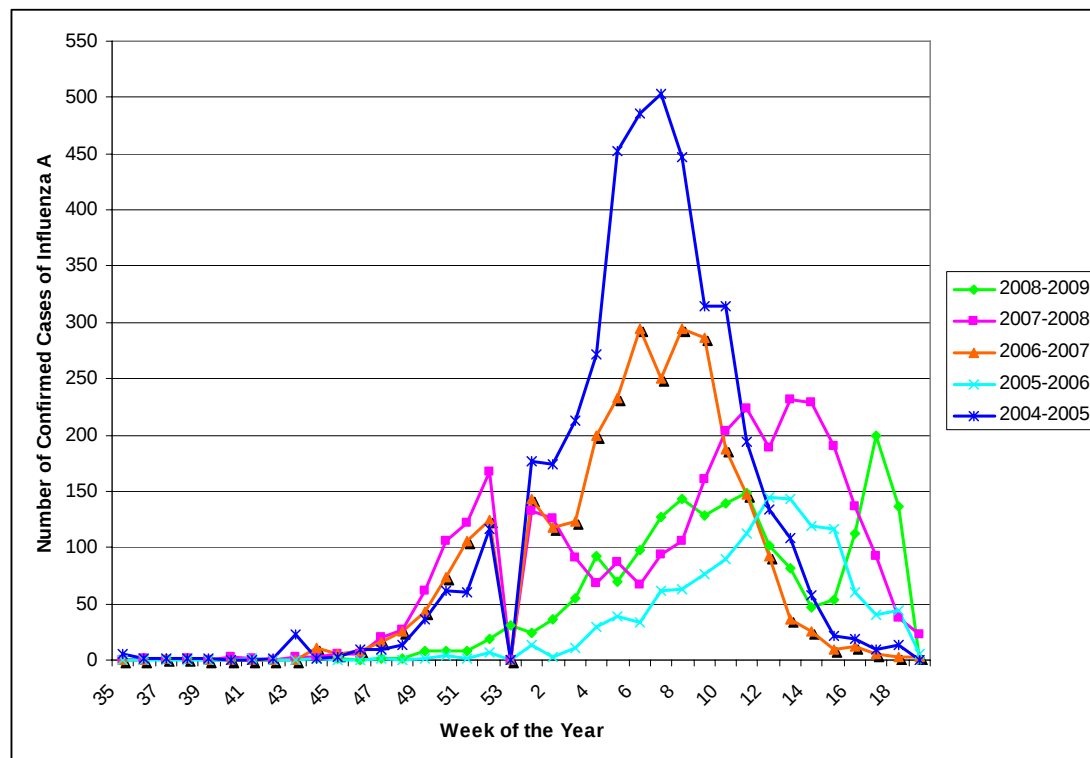
SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [14/05/2009].

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

† These data have been obtained from the FluWatch report of the Public Health Agency of Canada for Week 17, 2009.

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

Figure 1: Confirmed Cases of Influenza A in Ontario by week between September 1 and May 9, 2004-2009[†]



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/05/2009].

[†] 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 2: Confirmed cases of influenza by health unit & health region, with an episode date[†] during Week 18, 2008-09

Region	Health Unit	Confirmed Influenza			
		Influenza A	Influenza A & B	Influenza B	TOTAL
North West	Northwestern	0	0	0	0
	Thunder Bay District	0	0	0	0
	TOTAL NORTH WEST	0	0	0	0
North East	Algoma	2	0	0	2
	North Bay Parry Sound District	1	0	0	1
	Porcupine	0	0	0	0
	Sudbury & District	0	0	0	0
	Timiskaming	1	0	0	1
	TOTAL NORTH EAST	4	0	0	4
Eastern	City of Ottawa	8	0	0	8
	Eastern Ontario	0	0	0	0
	Hastings & Prince Edward Counties	0	0	0	0
	Kingston, Frontenac, Lennox & Addington	0	0	0	0
	Leeds, Grenville And Lanark District	3	0	0	3
	Renfrew County And District	0	0	0	0
	TOTAL EASTERN	11	0	0	11
Central East	Durham Region	8	0	0	8
	Haliburton, Kawartha, Pine Ridge	0	0	0	0
	Peel Region	30	0	1	31
	Peterborough County-City	0	0	0	0
	Simcoe Muskoka District	4	0	0	4
	York Region	11	0	0	11
	TOTAL CENTRAL EAST	53	0	1	54
Toronto	Toronto	52	0	1	53
	TOTAL TORONTO	52	0	1	53
South West	Chatham-Kent	0	0	0	0
	Elgin-St. Thomas	0	0	0	0
	Grey Bruce	0	0	0	0
	Huron County	0	0	0	0
	Lambton County	0	0	0	0
	Middlesex-London	2	0	0	2
	Oxford County	1	0	0	1
	Perth District	1	0	0	1
	Windsor-Essex County	1	0	0	1
	TOTAL SOUTHWEST	5	0	0	5
Central West	Brant County	0	0	0	0
	City Of Hamilton	4	0	0	4
	Haldimand-Norfolk	0	0	0	0
	Halton Region	15	0	0	15
	Niagara Region	2	0	0	2
	Waterloo Region	3	0	0	3
	Wellington-Dufferin-Guelph	4	0	0	4
	TOTAL CENTRAL WEST	28	0	0	28
	TOTAL ONTARIO	153	0	2	155

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [14/05/2009].

[†] 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, 2008 – May 9, 2009

Region	Health Unit	Confirmed Influenza			
		Influenza A	Influenza A & B	Influenza B	TOTAL
North West	Northwestern	2	0	7	9
	Thunder Bay District	3	0	7	10
	TOTAL NORTH WEST	5	0	14	19
North East	Algoma	2	0	10	12
	North Bay Parry Sound District	15	0	74	89
	Porcupine	17	0	30	47
	Sudbury & District	12	0	7	19
	Timiskaming	3	0	5	8
	TOTAL NORTH EAST	49	0	126	175
Eastern	City Of Ottawa	128	2	56	186
	Eastern Ontario	14	0	39	53
	Hastings & Prince Edward Counties	10	0	19	29
	Kingston, Frontenac, Lennox & Addington	30	0	32	62
	Leeds, Grenville And Lanark District	17	0	22	39
	Renfrew County And District	9	0	10	19
	TOTAL EASTERN	208	2	178	388
Central East	Durham Region	71	1	60	132
	Haliburton, Kawartha, Pine Ridge	71	0	49	120
	Peel Region	242	0	141	383
	Peterborough County-City	29	0	10	39
	Simcoe Muskoka District	62	0	77	139
	York Region	94	0	43	137
	TOTAL CENTRAL EAST	569	1	380	950
Toronto	Toronto	486	2	241	729
	TOTAL TORONTO	486	2	241	729
South West	Chatham-Kent	5	0	4	9
	Elgin-St. Thomas	2	0	1	3
	Grey Bruce	20	1	54	75
	Huron County	13	0	33	46
	Lambton County	5	0	6	11
	Middlesex-London	28	0	9	37
	Oxford County	14	0	9	23
	Perth District	23	0	12	35
	Windsor-Essex County	32	0	32	64
	TOTAL SOUTHWEST	142	1	160	303
Central West	Brant County	20	0	19	39
	City Of Hamilton	112	0	96	208
	Haldimand-Norfolk	6	0	10	16
	Halton Region	89	0	59	148
	Niagara Region	57	0	56	113
	Waterloo Region	115	0	85	200
	Wellington-Dufferin-Guelph	50	0	41	91
	TOTAL CENTRAL WEST	449	0	366	815
	TOTAL ONTARIO	1,908	6	1,465	3,379

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [14/05/2009].

* 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 18, a total of 8033 isolates were received by the Public Health Agency of Canada, with 298 testing positive for influenza A and 72 positive for influenza B. 117 of the reported influenza A isolates were from British Columbia (39.3%), 63 were from Alberta (21.1%), 35 were from Quebec (11.8%) and 25 (8.4%) were from Ontario. Forty-six of the influenza B isolates were from Alberta (63.9%), 11 were from Quebec (15.3%), 6 were from Saskatchewan (8.3%) and 5 were from Quebec (6.9%).*

Antigenic Characterization (National):

Current FluWatch information is not available at this time.

Antigenic Characterization (Provincial):

Current FluWatch information is not available at this time.

Antiviral Resistance (National):

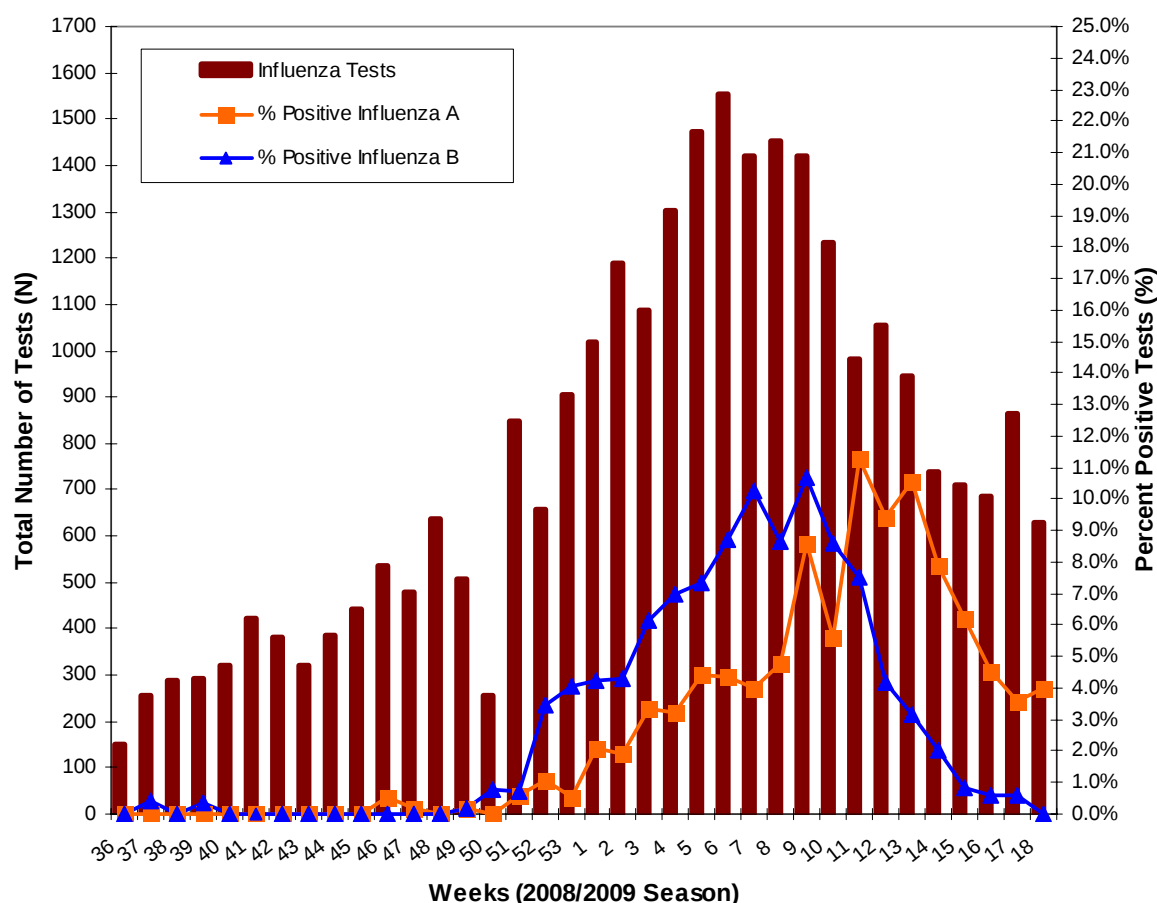
Current FluWatch information is not available at this time.

Antiviral Resistance (Provincial):

Current FluWatch information is not available at this time.

* These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada and do not include data from late reports to PHAC: Week 18, 2009

Figure 4: Total number of influenza tests performed and percent of positive tests in Ontario reported to the Centre for Immunization and Respiratory Infectious Diseases (CIRID), 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 18 and Total Outbreaks for the Season**

Institutional Respiratory Infection Outbreaks		
New Outbreaks*	N	% (of outbreaks)
Influenza A	3	30.0
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	0	0.0
RSV	0	25.0
Other organisms	0	0.0
No organism identified	7	70.0
TOTAL	10	100.0
Total Respiratory Infection Outbreaks of the Season to date**	N	% (of outbreaks)
Influenza A	62	10.9
Influenza B	17	3.0
Influenza A and B	1	0.2
Parainfluenza (All types)	23	4.1
RSV	47	8.3
Combined Outbreaks [†]	0	0.0
Other organisms	31	5.5
No organism identified	386	68.1
TOTAL	567	100.0
Types of Institutions (All Outbreaks) **	N	% (of outbreaks)
Long-Term Care Homes	358	63.1
Hospitals	19	3.4
Retirement Homes	47	8.3
Other	2	0.4
Unknown	141	24.9
TOTAL	567	100.0

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [14/05/2009]

* 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. May 3, 2009 – May 9, 2009

** Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2008 – May 9, 2009

[†] Combined outbreaks include outbreaks in which more than one non-influenza organism has been identified (e.g. RSV, parainfluenza, rhinovirus, etc.)

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	6985	74.1
Patients	324	3.4
Staff	2047	21.7
Total Cases	9430	100.0
Deaths		% (of cases per role)
Residents	142	2.0
Patients	10	3.1
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)		% (of cases per role)
Residents	244	3.5
Patients	27	8.3
Staff	9	0.4
Hospitalizations		% (of cases per role)
Residents	277	4.0
Staff	1	0.1
Outbreak Related Complications (Influenza Outbreaks)	N	% (of total cases)
Total Cases		
Residents	936	71.3
Patients	27	2.1
Staff	322	24.5
Total Cases	1313	100.0
Deaths		% (of cases per role)
Residents	23	2.5
Patients	0	0.0
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)		% (of cases per role)
Residents	47	5.0
Patients	3	11.1
Staff	5	1.6
Hospitalizations		% (of cases per role)
Residents	63	6.7
Staff	0	0.0

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [14/05/2009]

* Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2008 – May 9, 2009

Figure 5: Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total Outbreaks from September 1, 2008 – May 9, 2009 by causative organism

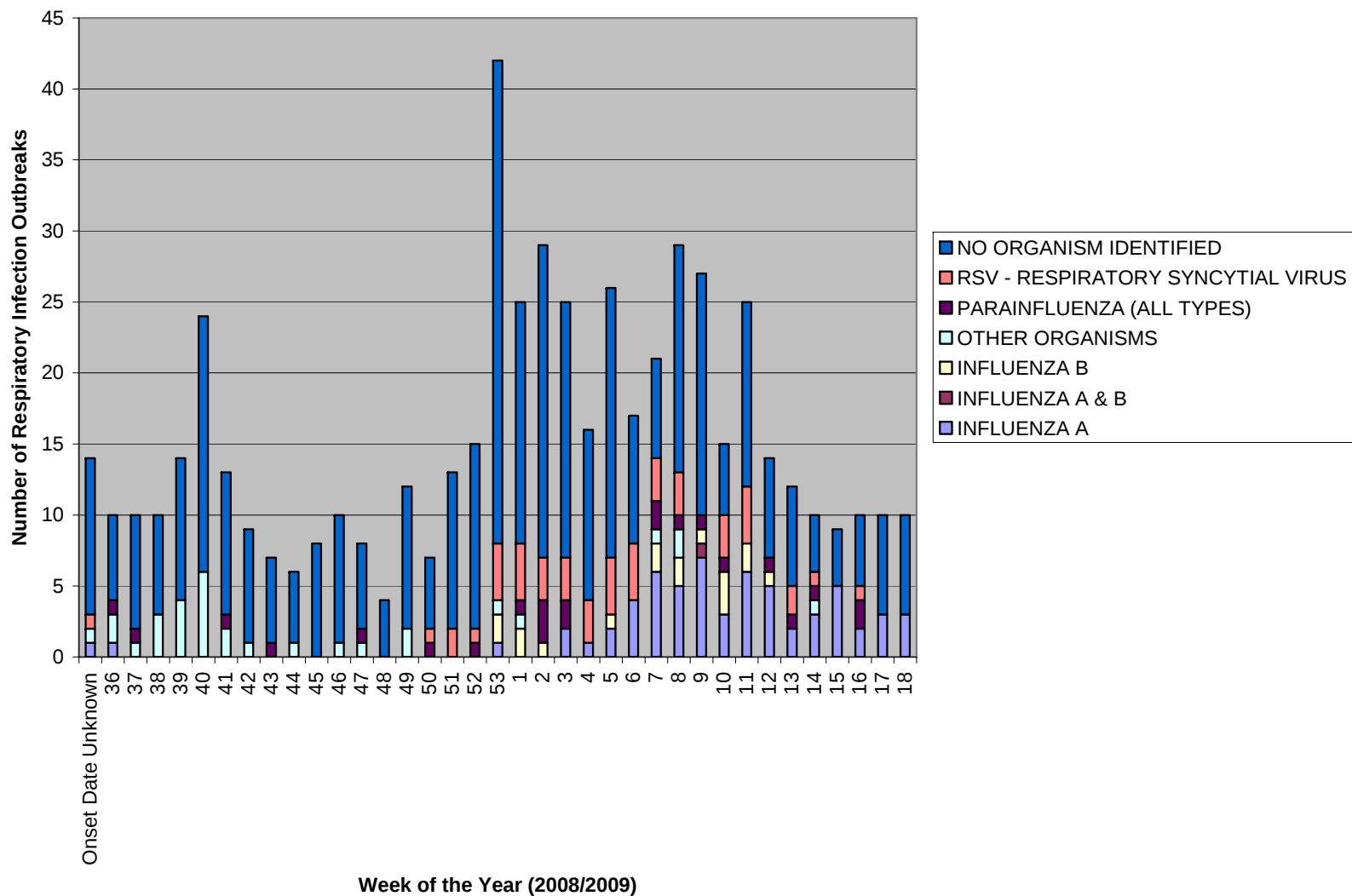


Figure 6: Influenza Activity* levels in Ontario by health unit for Week 18, 2009

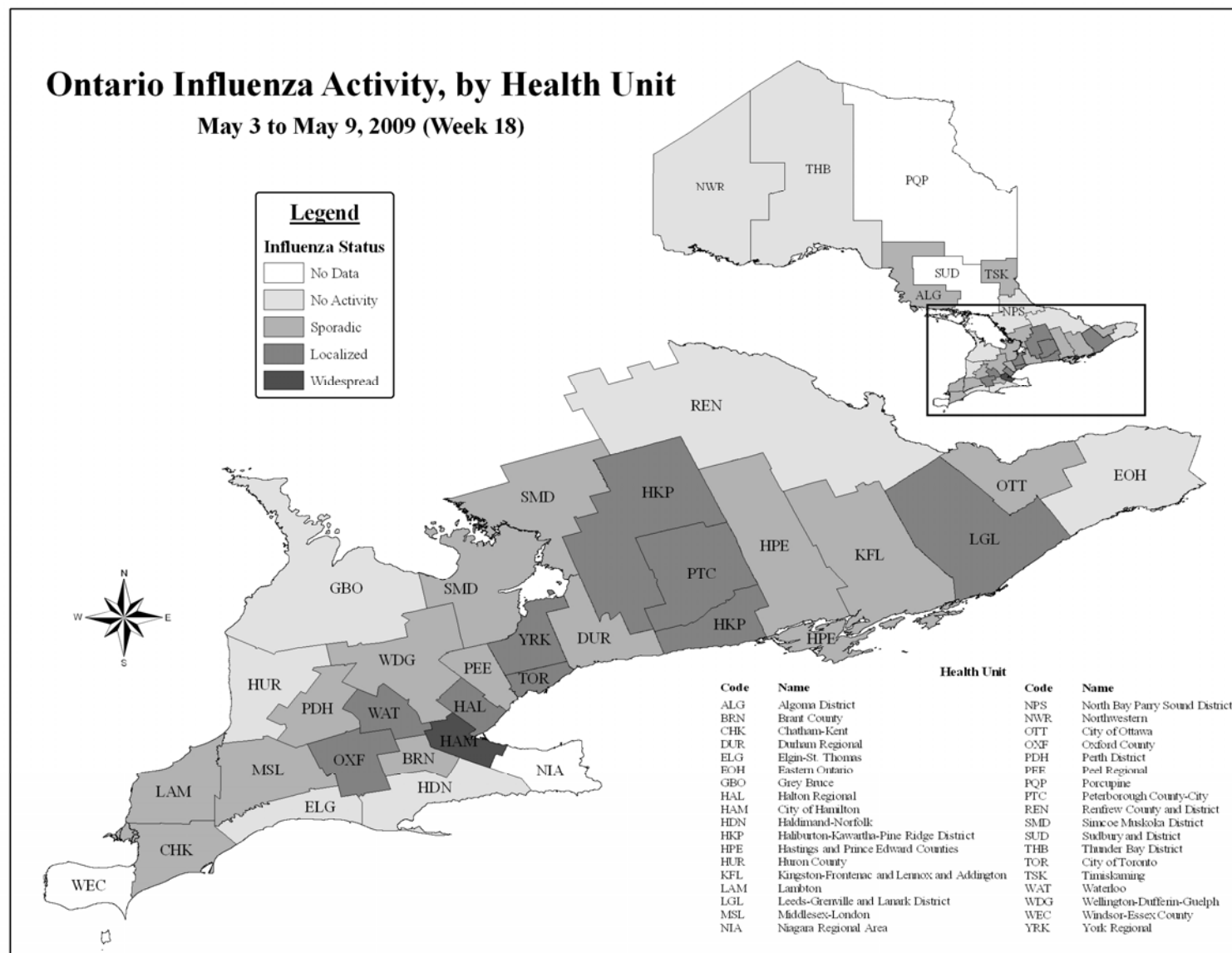
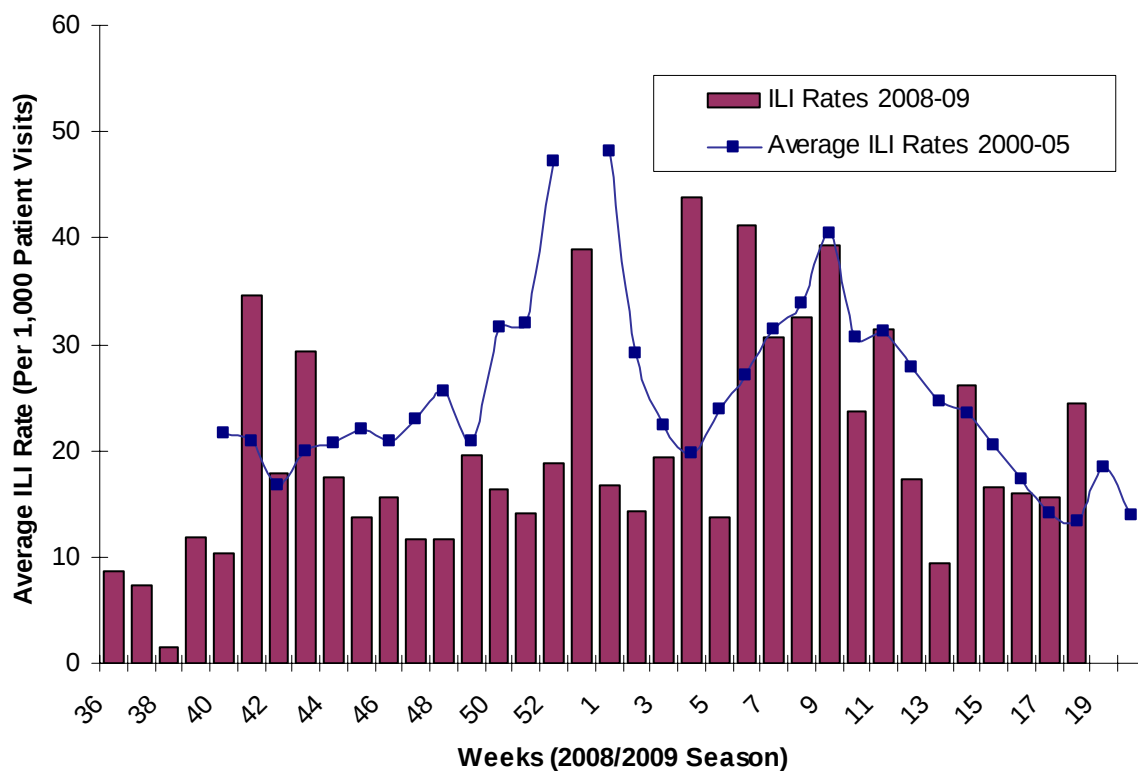


Figure 7: Average influenza-like illness (ILI) consultation rate (per 1,000 patient visits) reported by sentinel physicians* in Ontario in 2008- 2009 season, by report week, compared to Ontario average† (1999/2000 to 2004/05 seasons).



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.

Note: For Week 41, the number of sentinel physicians reporting is lower than previous years, which may affect the average ILI rate for this period.

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 18.

Postal Code	0 – 4	5 – 19	20 – 64	65 +	Unknown
K1L8H2	0	0	0	0	0
K2P1V3	0	0	0	0	1
K1V2G2	3	0	2	0	0
K2G6E2	0	1	4	0	0
K0H2N0	0	0	1	0	0
K7H2W6	0	0	0	0	0
K0H2P0	0	1	1	0	0
K0K2T0	0	0	0	0	0
L1A3W4	0	0	0	0	0
K0L1H0	2	0	0	0	0
K0M1A0	0	0	0	0	0
L1S2H6	0	0	0	0	0
L1B1H8	0	0	0	0	0
L4L4Y7	0	0	0	0	0
L4J7Y3	0	0	0	0	0
M5M1B2	0	0	0	0	0
M4X1W4	0	0	0	0	0
M4E1V8	0	0	1	1	0
M8Y1W3	0	0	1	0	0
M2J2Z1	0	0	0	0	0
M9W6N5	0	0	0	0	0
M8V2Z5	0	0	0	0	0
L5J2W4	0	0	0	0	0
L5G3H5	0	0	0	0	0
L4Y2N8	0	0	0	0	0
K0C2K0	0	1	0	1	0
L6W2A4	0	1	2	0	0
L6V4H6	0	0	1	0	0
L9W1G2	0	0	0	0	0
L6L2X4	0	0	0	0	0
L7R1M6	1	0	1	0	0
L9H1V1	0	1	1	0	0
L0R1H0	0	0	0	0	0
L8W3J6	0	0	0	0	0
L2E7H1	0	0	0	0	0
L3M1P2	0	1	1	0	0
N0A1H0	0	0	0	0	0
N3R7K8	0	0	0	0	0
N2M3B5	0	0	0	0	0
N5H1K9	0	0	0	0	0
N0P2K0	0	0	0	0	0
N0P2C0	0	0	0	0	0
N0R1G0	0	0	0	1	0
N6C2R5	0	0	0	0	0
N0M1L0	0	0	0	0	0
N0C1E0	0	0	0	0	0
P0A1C0	0	0	0	0	0
P0M2L0	0	0	0	0	0
P6B1Y5	0	0	0	0	0
P0W1E0	3	0	2	0	0
P9N3W7	0	0	0	0	0
P8N2Z6	0	0	0	0	0
ILI Sum	9	6	18	3	1
ILI Consultation Rate (per 1,000 patient visits)	87.38	40.82	24.36	7.16	9.43

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.

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_08/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
<http://www.cdc.gov/flu/weekly/fluactivity.htm>
4. European Influenza Surveillance Scheme
http://www.eiss.org/cgi-files/bulletin_v2.cgi

INFORMATION ABOUT Novel H1N1 Influenza A virus

1. CDC (Human swine flu investigation)
<http://www.cdc.gov/swineflu/investigation.htm>
2. PHAC (Human swine flu investigation)
http://www.phac-aspc.gc.ca/alert-alerte/swine_200904-eng.php
3. WHO Swine Flu general info
<http://www.who.int/csr/disease/swineflu/en/index.html>
4. Ontario Ministry of Health (Important Health Notices)
<http://www.health.gov.on.ca/english/providers/program/emu/ihn.html>

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 and NO outbreaks detected** within the health unit/ influenza surveillance area, within the prior week, although sporadically occurring ILI may or may not be present.†

Sporadic: Sporadically (infrequently) occurring **ILI and at least one lab-confirmed influenza* case with NO outbreaks** detected within the health unit area.†

Localized: sporadically occurring **ILI and lab-confirmed influenza* together with outbreaks of ILI** in schools and work sites, or laboratory-confirmed influenza in residential institutions occurring in < 50% of the health unit . Outbreaks affect a single and/or adjacent geographic area within the health unit jurisdiction, e.g. outbreaks in a nursing home and a school in close proximity to each other.†

Widespread: sporadically occurring **ILI and lab-confirmed influenza* together with outbreaks of ILI** in schools and work sites, or laboratory-confirmed influenza in residential institutions occurring in > 50% of the health unit. Outbreaks affect multiple and non-adjacent geographic areas within the health unit jurisdiction, such as two or more regions of the health unit, two or more municipalities, two or more electoral wards, etc.†

* 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 2008-2009 and date of submission of Appendix C

WEEKS	START	END	Appendix C Submission to MOHLTC
WK19	10-May-09	16-May-09	19-May-09
WK20	17-May-09	23-May-09	26-May-09
WK21	24-May-09	30-May-09	2-Jun-09
WK22	31-May-09	6-Jun-09	9-Jun-09
WK23	7-Jun-09	13-Jun-09	16-Jun-09
WK24	14-Jun-09	20-Jun-09	23-Jun-09
WK25	21-Jun-09	27-Jun-09	30-Jun-09
WK26	28-Jun-09	4-Jul-09	7-Jul-09
WK27	5-Jul-09	11-Jul-09	14-Jul-09
WK28	12-Jul-09	18-Jul-09	21-Jul-09
WK29	19-Jul-09	25-Jul-09	28-Jul-09
WK30	26-Jul-09	1-Aug-09	4-Aug-09
WK31	2-Aug-09	8-Aug-09	11-Aug-09
WK32	9-Aug-09	15-Aug-09	18-Aug-09
WK33	16-Aug-09	22-Aug-09	25-Aug-09
WK34	23-Aug-09	29-Aug-09	1-Sep-09
WK35	30-Aug-09	5-Sep-09	8-Sep-09