

SURVEILLANCE WEEK 1 (January 2, 2011– January 8, 2011)

This issue of the Ontario Influenza Bulletin provides information on the surveillance period from January 2, 2010 to January 8, 2011 (Week 1). **All data are for week 1** and data extraction and analysis for this issue of the Bulletin occurred on January 12, 2011 unless otherwise specified.

In order to enable our readers to better assess influenza activity in Ontario, we have combined various sources of information in the following table.

Assessment of Influenza Activity in Ontario

Measure	Assessment of measure compared to previous week (Lower, Similar, Higher)	Reasoning behind assessment
Laboratory Confirmed Cases	Higher	Seven hundred and twenty influenza cases were reported in week 1, which is higher than week 52* (336 influenza cases). The percent positivity of laboratory tests for influenza A in Ontario was 32.6% for week 1. This is higher than week 52 (28.7%) (Figure 6). Other respiratory viruses continue to circulate in Ontario (Table 5).
Influenza Outbreaks	Lower	19 new institutional influenza A outbreaks were reported for the current reporting weeks from Toronto (8), Central West (6), South West (1), and Central East (4) health regions.
Influenza Activity Levels Reported by Health Units	Higher	Toronto reported 'widespread' level influenza activity. Central East, Central West, Eastern and South West regions reported 'localized' level influenza activity; the North West and North East regions reported sporadic activity for week 1. By health unit, seven reported widespread activity, 14 reported localized activity and the remainder reported sporadic activity, no activity or did not report for week 1 (Figure 9).
ILI Consultation Rate reported by Sentinel Physicians	Lower	The overall ILI consultation rate has decreased from 104.80/1,000 patient visits in Week 52 to 51.68/1,000 patient visits in Week 1. Please note only 49 sentinels reported in week 52 while 114 sentinels reported in Week 1 (Figure 12). The ILI rate is higher than the average rate for week 1 from previous years.
Hospitalizations Among Lab Confirmed Cases of Influenza	Higher	There were 113 new hospitalized cases reported from January 2 to January 8, which is higher than the 74 that were reported from December 19 to January 1.
Deaths Among Lab Confirmed Cases of Influenza	Higher	Twelve deaths were reported from January 2 to January 8, which is more than the six that were reported from December 19 to January 1.
OVERALL ASSESSMENT	Influenza activity in Ontario is <i>slightly higher</i> compared to the previous week.	Overall, the indicators show that influenza activity was <i>slightly higher</i> during week 1 compared to week 52.

*Counts from previous weeks may be updated and therefore may not match reports in earlier Bulletins

Produced by: Surveillance Section, Public Health Protection and Prevention Branch

Overall, influenza activity in Ontario during week 1, 2010, was slightly higher when compared to week 52, 2010. Ontario health units reported 720 new confirmed cases of influenza A for the current week through the integrated Public Health Information System (iPHIS). A total of 341 institutional respiratory infection outbreaks have been reported in 2010 up to Week 1, including 19 new influenza A outbreaks from Toronto (8), Central West (6), South West (1), and Central East (4) health regions. For week 1, Toronto reported widespread influenza activity; Central East, Central West, Eastern and South West health regions reported 'localized' level influenza activity; and the North West and North East health regions reported sporadic activity. The ILI rate is higher than the average rate for week 1 from previous years.

For a definition of 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 Michael Whelan (michael.whelan@ontario.ca, 416-327-9174).

Table 1: Summary of confirmed influenza cases and institutional influenza outbreaks by health region (Week 1, 2010-2011)

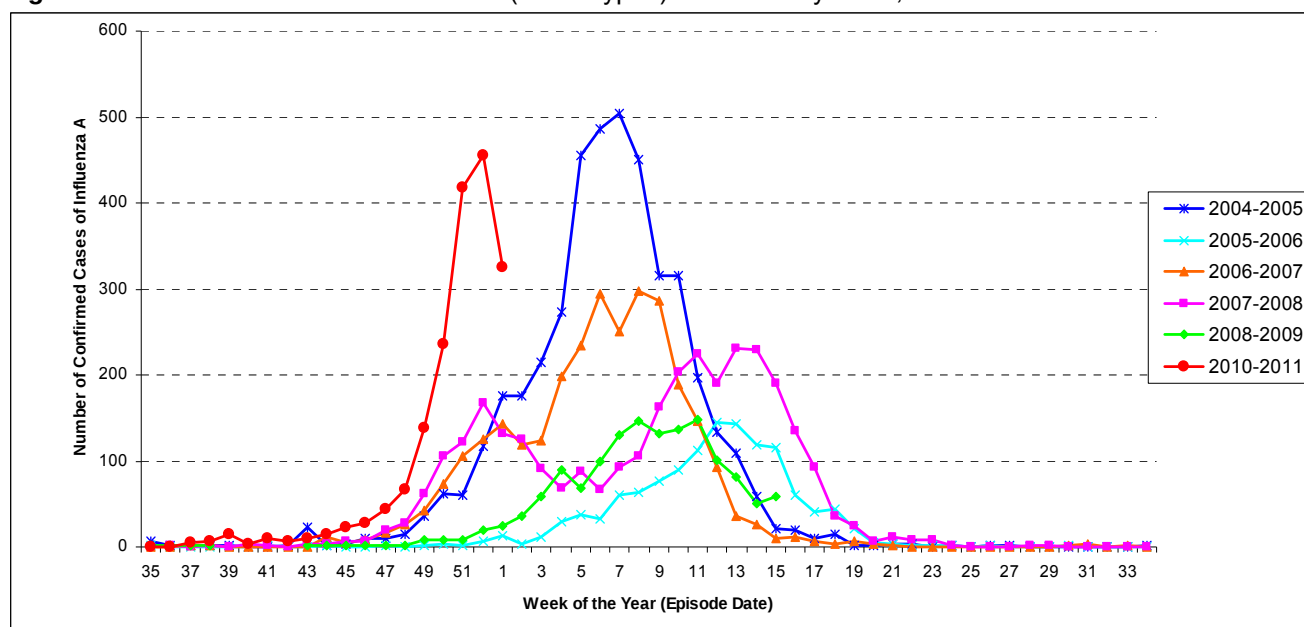
Confirmed influenza cases*†	HEALTH REGION							TOTAL
	North West	North East	Eastern	Central East	Toronto	South West	Central West	
Pandemic (H1N1) 2009	0	0	0	9	2	0	4	15
Influenza A (Not Subtyped/No Subtype)	2	3	14	90	110	40	135	394
Influenza A (Seasonal H1)	0	0	0	0	0	0	0	0
Influenza A (Seasonal H3)	1	4	11	105	105	13	59	298
Influenza A** (Other)	0	0	0	0	0	0	0	0
Influenza B	0	0	1	5	4	0	3	13
Influenza A & B	0	0	0	0	0	0	0	0
Total new cases	3	7	26	209	221	53	201	720
Institutional outbreaks of Influenza A‡	0	0	0	4	8	1	6	19
Institutional outbreaks of Influenza B‡	0	0	0	0	0	0	0	0

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011].

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

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

** Includes indeterminate, untypeable and other subtypes. Note: Several influenza A cases have been reported as seasonal H1N1; however, these cases have been classified as 'No subtype/not subtyped' in this table until the subtype has been verified.

Figure 1: Confirmed cases of Influenza A (all subtypes) in Ontario by week, 2004-2010[†]*

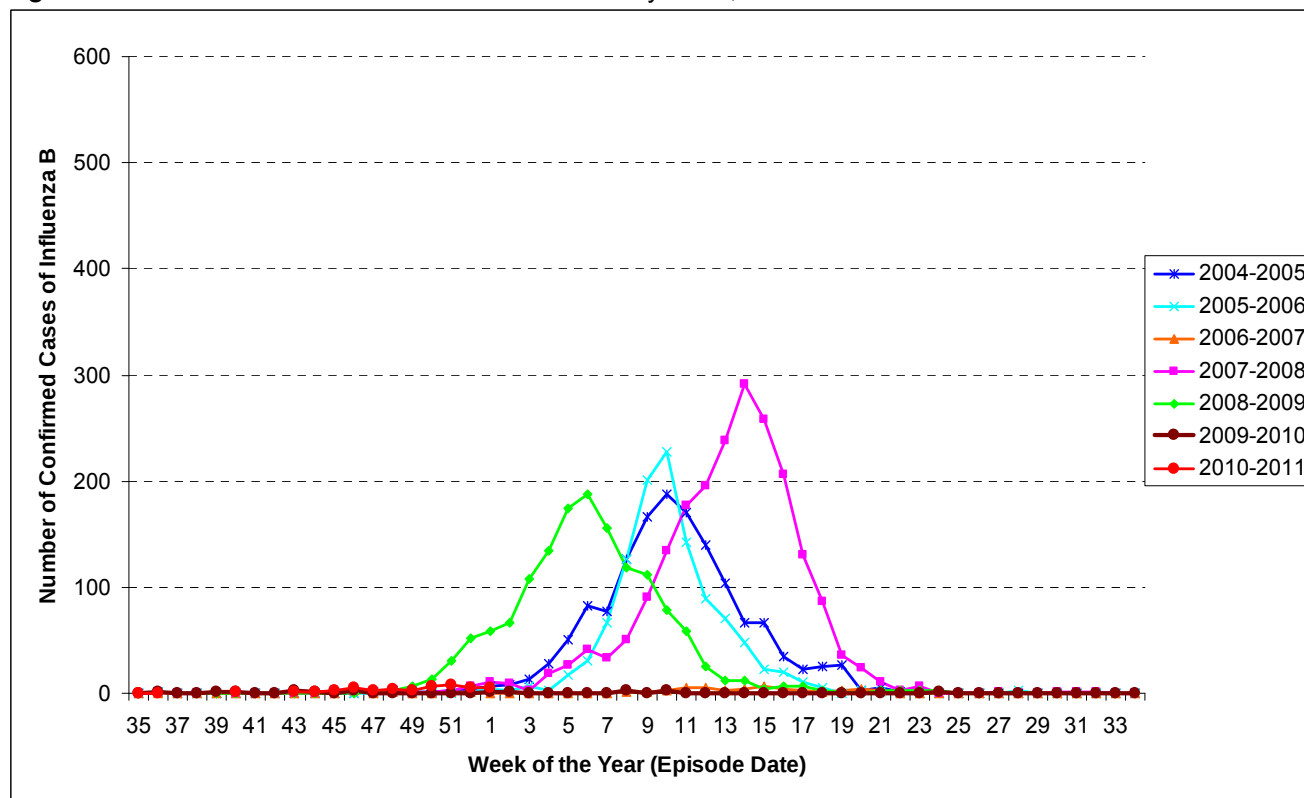
SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011].

[†] 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)

Note: Cases from weeks 15 and onwards during the 2008-09 season were excluded because of the pH1N1 pandemic. Seasonal influenza cases occurring during this period may have been detected due to heightened surveillance for all influenza-like illness, therefore this period is not comparable to a regular flu season.

Note: All cases from the 2009-10 influenza season were excluded from this graph due to its incomparability to a regular flu season as a result of the pH1N1 pandemic.

Note: Week 53 of the 2008-09 season has been removed for continuity in displaying trends.

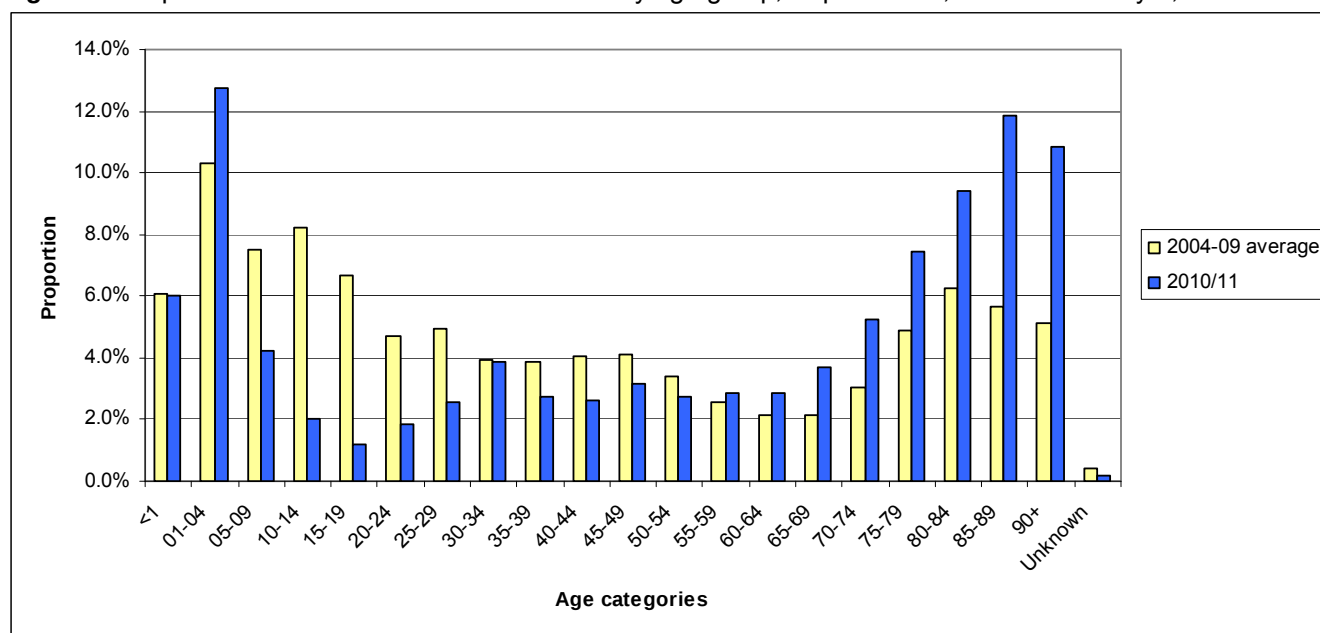
Figure 2: Confirmed cases of Influenza B in Ontario by week, 2004-2010[†]

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011].

[†] 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)

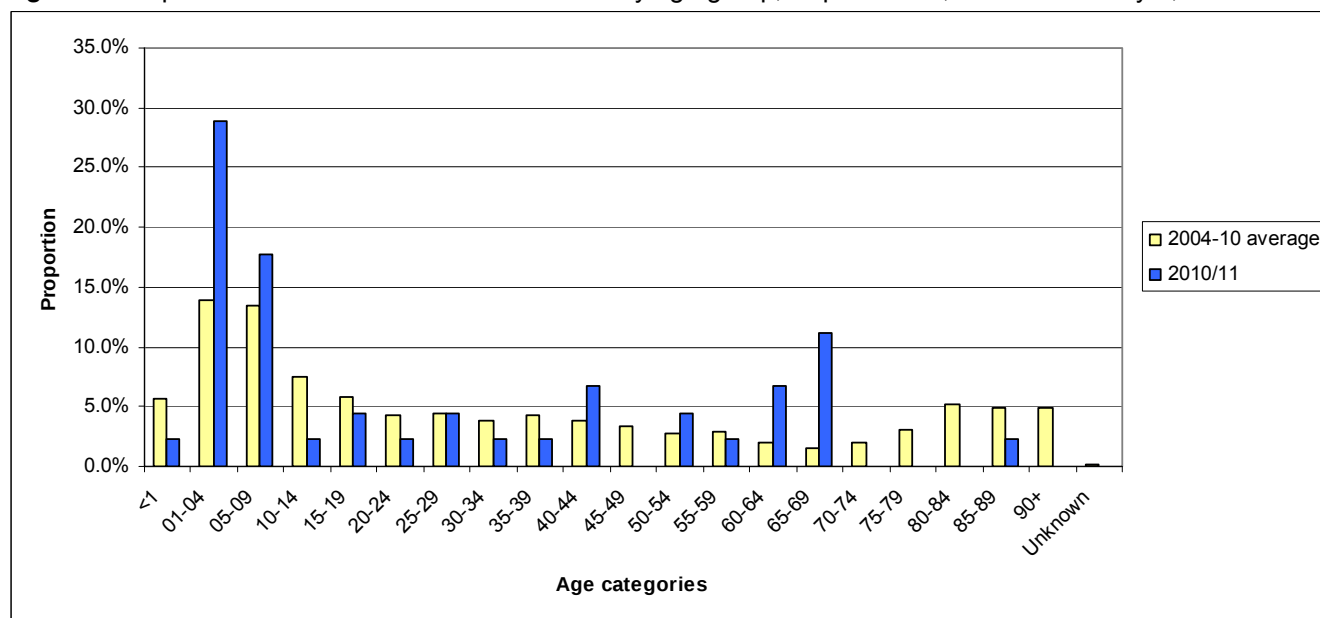
Note: Week 53 of the 2008-09 season has been removed for continuity in displaying trends.

Figure 3. Proportion of influenza A cases in Ontario by age group, September 1, 2004 to January 8, 2010



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011].
Note: The 2009-10 influenza season has been excluded since the majority were pandemic H1N1 cases. These counts were excluded for comparability of seasonal influenza between the seasons.

Figure 4. Proportion of influenza B cases in Ontario by age group, September 1, 2004 to January 8, 2010



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011].

Table 2: Confirmed cases of influenza by health unit & health region with a reported date during Week 1, 2010-2011

Region	Health Unit	Influenza A					Influenza A & B	Influenza B	TOTAL
		pH1N1	No Subtype/ Not Subtyped	Other*	H1	H3			
North West	Northwestern	0	2	0	0	1	0	0	3
	Thunder Bay District	0	0	0	0	0	0	0	0
	TOTAL NORTH WEST	0	2	0	0	1	0	0	3
North East	Algoma	0	0	0	0	1	0	0	1
	North Bay Parry Sound District	0	2	0	0	2	0	0	4
	Porcupine	0	0	0	0	1	0	0	1
	Sudbury & District	0	0	0	0	0	0	0	0
	Timiskaming	0	1	0	0	0	0	0	1
	TOTAL NORTH EAST	0	3	0	0	4	0	0	7
Eastern	City of Ottawa	0	9	0	0	2	0	1	12
	Eastern Ontario	0	1	0	0	2	0	0	3
	Hastings & Prince Edward Counties	0	0	0	0	3	0	0	3
	Kingston, Frontenac, Lennox & Addington	0	1	0	0	4	0	0	5
	Leeds, Grenville And Lanark District	0	1	0	0	0	0	0	1
	Renfrew County And District	0	2	0	0	0	0	0	2
	TOTAL EASTERN	0	14	0	0	11	0	1	26
Central East	Durham Region	1	5	0	0	9	0	2	17
	Haliburton, Kawartha, Pine Ridge	1	4	0	0	10	0	0	15
	Peel Region	0	54	0	0	36	0	2	92
	Peterborough County-City	0	4	0	0	4	0	0	8
	Simcoe Muskoka District	5	7	0	0	24	0	0	36
	York Region	2	16	0	0	22	0	1	41
	TOTAL CENTRAL EAST	9	90	0	0	105	0	5	209
Toronto	Toronto	2	110	0	0	105	0	4	221
	TOTAL TORONTO	2	110	0	0	105	0	4	221
South West	Chatham-Kent	0	0	0	0	0	0	0	0
	Elgin-St. Thomas	0	4	0	0	0	0	0	4
	Grey Bruce	0	3	0	0	0	0	0	3
	Huron County	0	2	0	0	6	0	0	8
	Lambton County	0	1	0	0	0	0	0	1
	Middlesex-London	0	12	0	0	0	0	0	12
	Oxford County	0	8	0	0	3	0	0	11
	Perth District	0	9	0	0	4	0	0	13
	Windsor-Essex County	0	1	0	0	0	0	0	1
	TOTAL SOUTHWEST	0	40	0	0	13	0	0	53
Central West	Brant County	0	4	0	0	0	0	0	4
	City Of Hamilton	0	67	0	0	21	0	0	88
	Haldimand-Norfolk	0	3	0	0	1	0	0	4
	Halton Region	1	13	0	0	18	0	2	34
	Niagara Region	0	4	0	0	4	0	1	9
	Waterloo Region	0	37	0	0	12	0	0	49
	Wellington-Dufferin-Guelph	3	7	0	0	3	0	0	13
	TOTAL CENTRAL WEST	4	135	0	0	59	0	3	201
	TOTAL ONTARIO	15	394	0	0	298	0	13	720

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011]

*includes indeterminate, untypeable and other subtypes

Note: Several influenza A cases have been reported as seasonal H1N1; however, these cases have been classified as 'No subtype/not subtyped' in this table until the subtype has been verified

Table 3: Cumulative* confirmed cases of influenza by health unit & health region with a reported date between September 1, 2010 – January 8, 2011

Region	Health Unit	Influenza A					Influenza A & B	Influenza B	TOTAL Cumulative
		pH1N1	No Subtype/ Not Subtyped	Other*	H1	H3			
North West	Northwestern	0	8	0	0	5	0	0	13
	Thunder Bay District	0	0	0	0	0	0	1	1
	TOTAL NORTH WEST	0	8	0	0	5	0	1	14
North East	Algoma	0	0	0	0	1	0	0	1
	North Bay Parry Sound District	0	11	0	0	5	0	0	16
	Porcupine	0	0	0	0	2	0	0	2
	Sudbury & District	0	0	0	0	0	0	0	0
	Timiskaming	0	1	0	0	0	0	0	1
	TOTAL NORTH EAST	0	12	0	0	8	0	0	20
Eastern	City of Ottawa	0	12	0	0	4	0	1	17
	Eastern Ontario	0	1	0	0	5	0	0	6
	Hastings & Prince Edward Counties	0	0	0	0	8	0	1	9
	Kingston, Frontenac, Lennox & Addington	0	2	0	0	7	0	0	9
	Leeds, Grenville And Lanark District	0	1	0	0	0	0	0	1
	Renfrew County And District	0	2	0	0	1	0	0	3
	TOTAL EASTERN	0	18	0	0	25	0	2	45
Central East	Durham Region	7	13	0	0	31	0	6	57
	Haliburton, Kawartha, Pine Ridge	2	5	0	0	20	0	0	27
	Peel Region	3	100	0	0	114	0	7	224
	Peterborough County-City	0	6	0	0	4	0	0	10
	Simcoe Muskoka District	7	15	0	0	43	0	0	65
	York Region	5	43	0	0	73	0	4	125
	TOTAL CENTRAL EAST	24	182	0	0	285	0	17	508
Toronto	Toronto	25	287	2	0	410	0	15	739
	TOTAL TORONTO	25	287	2	0	410	0	15	739
South West	Chatham-Kent	0	1	0	0	0	0	0	1
	Elgin-St. Thomas	0	5	0	0	1	0	0	6
	Grey Bruce	0	5	0	0	0	0	0	5
	Huron County	0	11	0	0	7	0	0	18
	Lambton County	0	1	0	0	1	0	0	2
	Middlesex-London	1	26	0	0	7	0	0	34
	Oxford County	0	9	0	0	12	0	0	21
	Perth District	0	11	0	0	18	0	0	29
	Windsor-Essex County	0	2	0	0	0	0	1	3
	TOTAL SOUTHWEST	1	71	0	0	46	0	1	119
Central West	Brant County	1	5	0	0	2	0	0	8
	City Of Hamilton	0	133	0	0	29	0	1	163
	Haldimand-Norfolk	0	4	0	0	2	0	0	6
	Halton Region	1	21	0	0	51	0	5	78
	Niagara Region	0	10	0	0	16	0	1	27
	Waterloo Region	0	64	0	0	23	0	2	89
	Wellington-Dufferin-Guelph	4	8	0	0	18	0	0	30
	TOTAL CENTRAL WEST	6	245	0	0	141	0	9	401
	TOTAL ONTARIO	56	823	2	0	920	0	45	1846

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011].

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

*includes indeterminate, untypeable and other subtypes

Note: Several influenza A cases have been reported as seasonal H1N1; however, these cases have been classified as 'No subtype/not subtyped' in this table until the subtype has been verified

Hospitalizations and deaths among laboratory confirmed influenza cases, Sep. 1, 2010 – Jan. 8, 2011

As of January 8, 2011, 302 hospitalizations and 22 deaths have been reported among lab confirmed influenza cases reported in Ontario for the 2010-2011 season. Most of the hospitalizations and all of the deaths have occurred in influenza A cases. The highest rates of hospitalization have been observed in people under the age of five and 65 years of age and older.

Table 4a. Incidence of hospitalizations among lab confirmed influenza cases in Ontario, Sep. 1, 2010 – Jan. 8, 2011

Age Group	Influenza A		Influenza B		Total Influenza	
	Number*	Rate/100,000	Number	Rate/100,000	Number	Rate/100,000
<1	25	18.32	0	0.00	25	18.32
1-4	34	6.17	3	0.54	37	6.71
5-14	15	0.99	1	0.07	16	1.06
15-24	6	0.34	0	0.00	6	0.34
25-44	22	0.59	2	0.05	24	0.64
45-64	31	0.84	1	0.03	32	0.87
65+	160	8.82	0	0.00	160	8.82
TOTAL	293	2.22	7	0.05	300	2.27

Source (incidence): Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [13/01/2011]

Source (incidence): Ontario population projections for 2010: Ontario Ministry of Health and Long-Term Care, Public Health Planning Database (PHPDB), extracted [30/11/2010]

* Two hospitalizations with unknown age were excluded

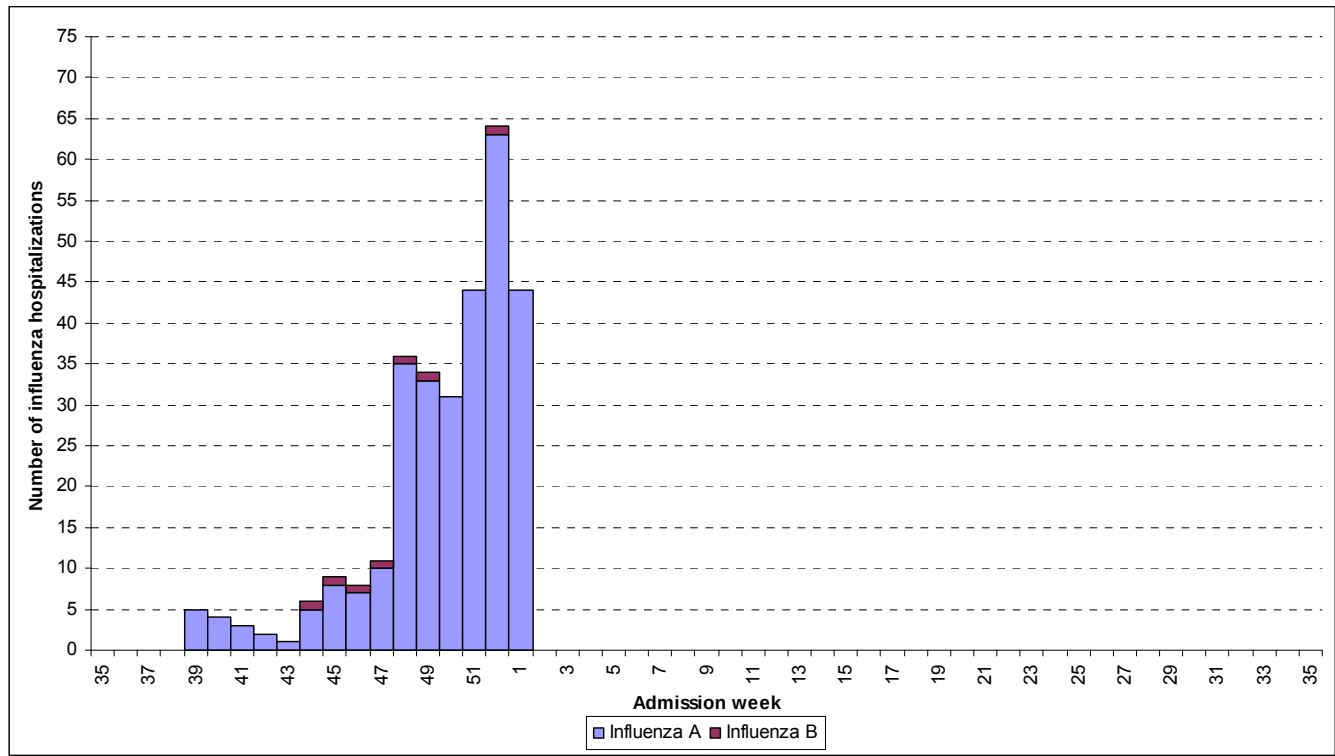
Table 4b. Incidence of deaths among lab confirmed influenza cases in Ontario, Sep. 1, 2010 – Jan. 8, 2011

Age Group	Influenza A		Influenza B		Total Influenza	
	Number	Rate/100,000	Number	Rate/100,000	Number	Rate/100,000
<1	0	0.00	0	0.00	0	0.00
1-4	1	0.18	0	0.00	1	0.18
5-14	0	0.00	0	0.00	0	0.00
15-24	0	0.00	0	0.00	0	0.00
25-44	0	0.00	0	0.00	0	0.00
45-64	4	0.11	0	0.00	4	0.11
65+	17	0.94	0	0.00	17	0.94
TOTAL	22	0.17	0	0.00	22	0.17

Source (incidence): Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [13/01/2011]

Source (incidence): Ontario population projections for 2010: Ontario Ministry of Health and Long-Term Care, Public Health Planning Database (PHPDB), extracted [30/11/2010]

Figure 5: Hospitalized influenza cases by type and admission week in Ontario, Sep. 1, 2010 – Jan 8, 2011



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [13/01/2011]

Note: Interpret tail with caution due to reporting lags

Influenza Subtype(s) *:

During week 1, a total of 7358 results of isolate testing were received by the Public Health Agency of Canada, 1843 isolates tested positive for influenza A and 36 isolates tested positive for influenza B. Of the reported influenza A isolates, 1002 isolates were from Ontario (54.4%), 706 isolates were from Quebec (38.3%), 65 isolates were from Alberta (3.5%), and 36 isolates were from Manitoba (2.0%). Twenty-six of the reported influenza B isolates were from Ontario (72.2%), six were from Quebec (16.7%) and four were from Alberta (11.1%).

Antigenic Characterization (National)†:

Since September 1, 2010, the National Microbiology Laboratory (NML) has antigenically characterized 121 influenza viruses (79 H3N2, 21 H1N1 and 21 B viruses) that were received from Canadian laboratories.

Influenza A (H3N2):

The 79 influenza A (H3N2) viruses characterized were related to A/Perth/16/2009-like, which is the influenza A/H3N2 component recommended for the 2010-11 influenza vaccine.

Influenza A (H1N1):

The 21 influenza A (H1N1) viruses characterized were antigenically related to the pandemic vaccine virus A/California/7/2009, which is the recommended H1N1 component for the 2010-11 influenza vaccine.

Influenza B:

A total of 20/21 influenza B viruses characterized were antigenically related to B/Brisbane/60/08 (Victoria lineage), which is the recommended influenza B component for the 2010-11 influenza vaccine. One influenza B virus was antigenically related to B/Florida/04/2006-like, which belongs to the B/Yamagata lineage and was the recommended influenza B component for the 2008/2009 influenza vaccine.

Antigenic Characterization (Provincial)†:

Since September 1, 2010, the National Microbiology Laboratory (NML) has antigenically characterized the following strains from Ontario: 42 influenza A /Perth/16/2009-like (H3N2), 13 influenza A/California/7/2009 and 13 influenza B/Brisbane/60/2008-like.

Antiviral Resistance and Sensitivity (National)†:

a) Amantadine:

A total of 98 H3N2 isolates and the eight pandemic H1N1 isolates tested for resistance to amantadine were found to be resistant. One H3N2 isolate was sensitive to amantadine.

b) Oseltamivir:

A total of 105 influenza isolates (64 H3N2, 21 B and 20 pandemic H1N1) were tested for resistance to oseltamivir by phenotypic assay and/or sequencing. All 64 H3N2, 21 B and 20 pandemic H1N1 isolates were sensitive to oseltamivir.

c) Zanamivir:

A total of 105 influenza isolates (64 H3N2, 21 B and 20 pandemic H1N1) were tested for resistance to zanamivir by phenotypic assay. All 64 H3N2, 21 B and 20 pandemic H1N1 isolates were sensitive to zanamivir.

Antiviral Resistance and Sensitivity (Provincial)†:

a) Amantadine:

Of the 49 H3N2 and six pandemic H1N1 isolates tested, 48 influenza A (H3N2) isolates and all of the pandemic H1N1 isolates were resistant to amantadine. One H3N2 isolate was sensitive to amantadine.

b) Oseltamivir:

Of the 27 H3N2, 13 influenza B and 13 pandemic H1N1 isolates tested, all influenza A (H3N2), influenza B and pandemic H1N1 isolates were sensitive to oseltamivir.

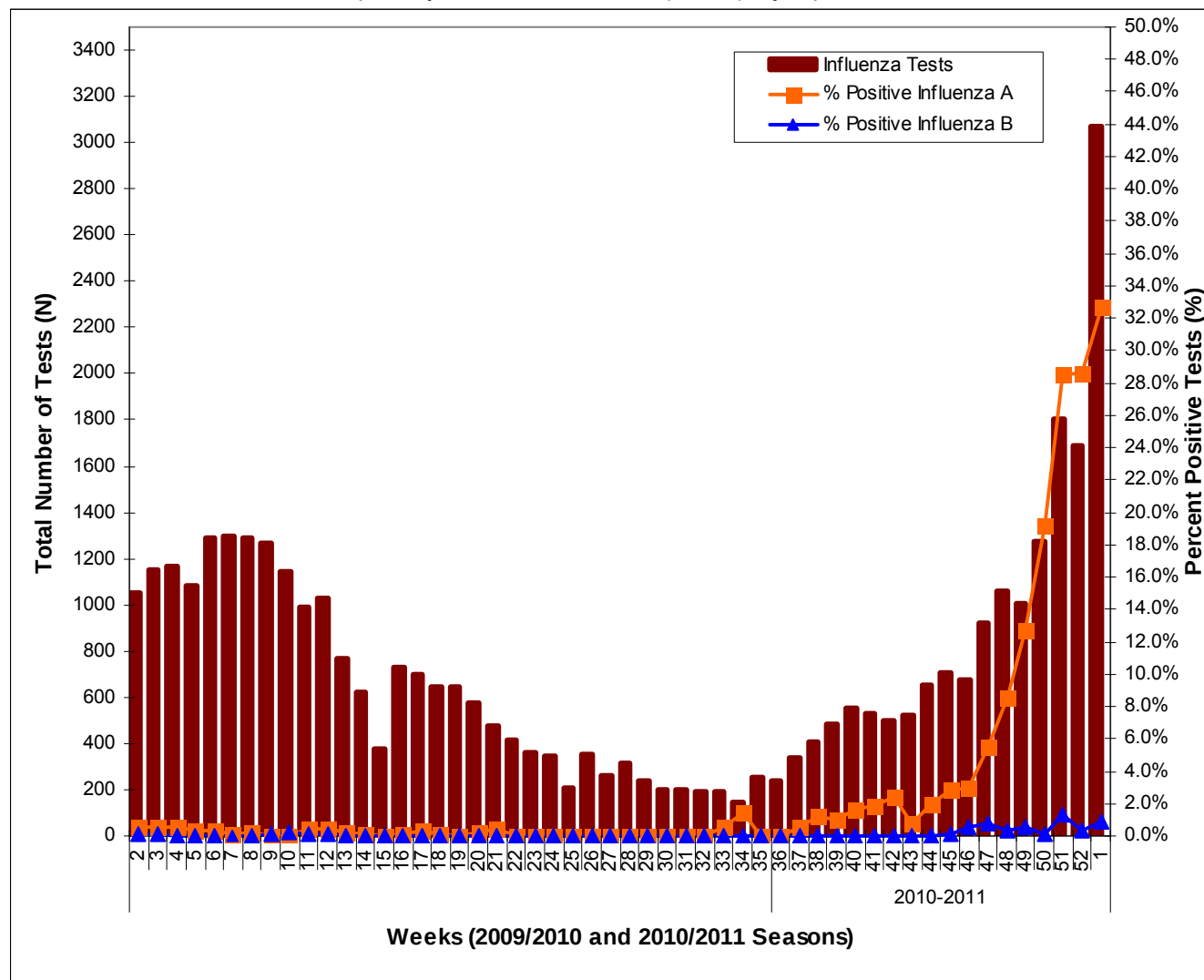
c) Zanamivir:

Of the 27 H3N2, 13 influenza B and 13 pandemic H1N1 isolates tested, all influenza A (H3N2), influenza B and pandemic H1N1 isolates were sensitive to zanamivir.

†National Antigenic Characterization and Antiviral Resistance data are current as of January 13, 2011.

* 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 1, 2010. Please note that the last version received from PHAC as of 4:00PM on January 13, 2010 was used.

Figure 6: 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. These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada from 17 labs in Ontario and do not include data from late reports to PHAC for the current season: Week 1, 2010. Please note that the last version received from PHAC as of 4:00PM on January 13, 2011 was used.

* Total numbers reported include late reports from previous seasons; 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 5: Summary of other respiratory virus detections/isolations in Ontario in Week 1

Organism Name	Number of Positive Tests	Number of Tests	% Positive
Respiratory Syncytial Virus	86	1942	4.43
Parainfluenza (all types)	9	1833	0.49
Adenovirus	17	1840	0.92
Human Metapneumovirus	14	822	1.70
Rhinovirus	36	1459	2.47
Coronavirus	20	654	3.06

SOURCE: These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada from 17 labs in Ontario and do not include data from late reports to PHAC: Week 1, 2010. Please note that the last version received from PHAC as of 4:00PM on January 13, 2010 was used.

Table 6: Institutional respiratory infection outbreaks in Ontario: new outbreaks* in Weeks 1 and total outbreaks for the season**

Institutional Respiratory Infection Outbreaks		
New Outbreaks*	N	% (of outbreaks)
Influenza A (All subtypes)	19	86.4
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	0	0.0
RSV	0	0.0
Other organisms ^a	0	0.0
Combined Outbreaks [†]	0	0.0
Enterovirus	0	0.0
No organism identified	3	13.6
TOTAL	22	100.0
Total Respiratory Infection Outbreaks of the Season to date**	N	% (of outbreaks)
Influenza A (All subtypes)	126	37.0
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	3	0.9
RSV	3	0.9
Combined Outbreaks [†]	7	2.1
Other organisms ^a	9	2.6
Enterovirus	126	37.0
No organism identified	67	19.6
TOTAL	341	100.0
Types of Institutions – All Outbreaks **	N	% (of outbreaks)
Long-Term Care Homes	200	58.7
Hospitals	21	6.2
Retirement Homes	40	11.7
Other	0	0.0
Unknown	80	23.5
TOTAL	341	100.0

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [12/01/2011]

* New outbreaks are those in which the date of onset of illness in the first case occurred and was recorded through iPHIS in the current surveillance period; i.e. January 2, 2010 – January 8, 2011

** Season to date includes all outbreaks in which the date of onset of illness in the first case occurred up to Week 1.

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

^a Other organisms include outbreaks involving other aetiological agents, such as human metapneumovirus, adenovirus and coronavirus.

Table 7: Outbreak related complications in institutional respiratory infection outbreaks in Ontario during the surveillance season*[†]

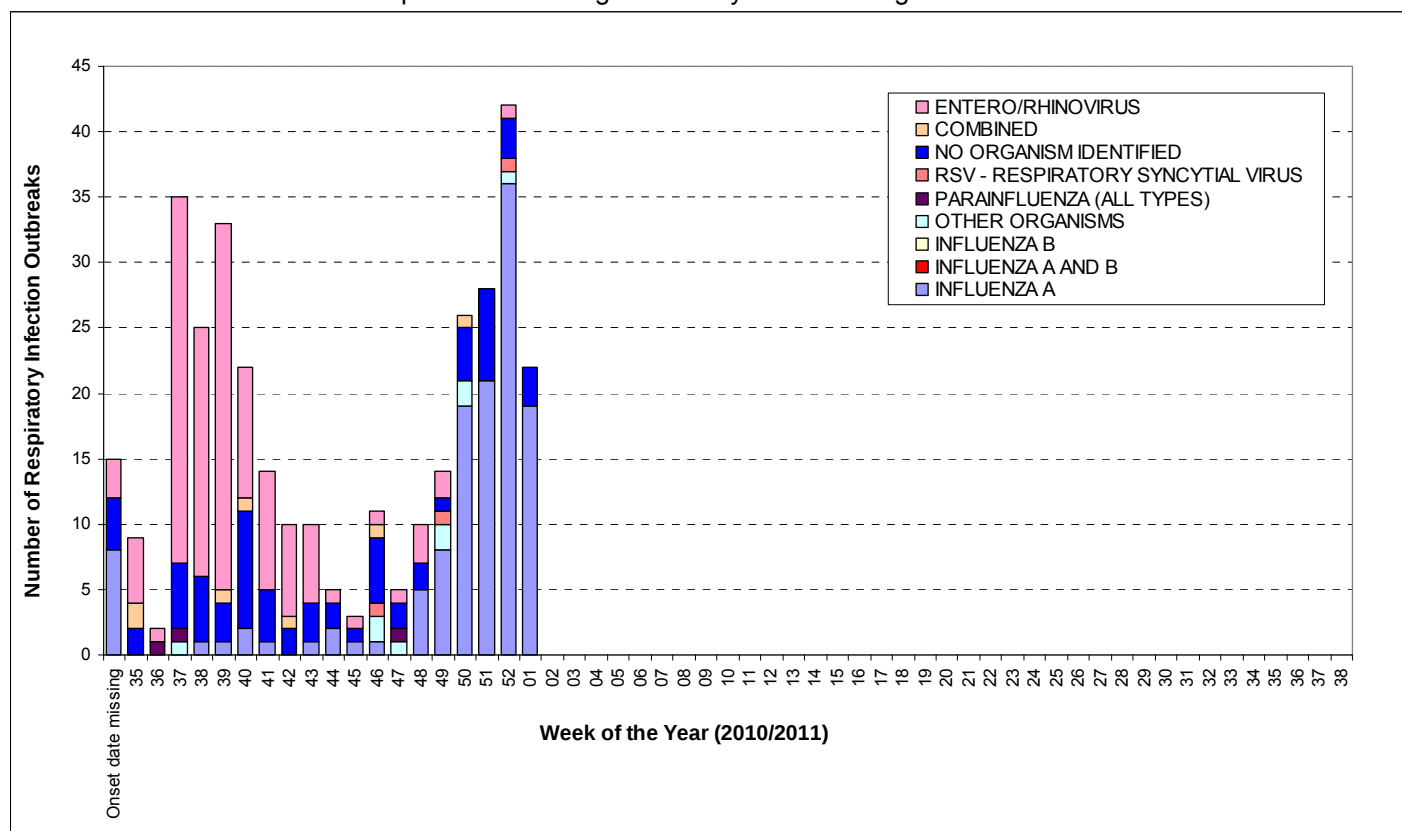
Outbreak Related Cases – All Outbreaks	N	% (of total cases)
Residents	3960	72.6
Patients	161	3.0
Staff	1333	24.4
Total Cases	5454	100.0
Deaths		% (of cases per role)
Residents	99	2.5
Patients	2	1.2
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)		% (of cases per role)
Residents	110	2.8
Patients	6	3.7
Staff	1	0.1
Hospitalizations		% (of cases per role)
Residents	204	5.2
Staff	2	0.2
Outbreak Related Cases – All Influenza Outbreaks	N	% (of total cases)
Residents	1496	75.3
Patients	55	2.8
Staff	435	21.9
Total Cases	1986	100.0
Deaths		% (of cases per role)
Residents	54	3.6
Patients	1	0.2
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)		% (of cases per role)
Residents	47	3.1
Patients	5	1.1
Staff	0	0.0
Hospitalizations		% (of cases per role)
Residents	121	8.1
Staff	0	0.0

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [12/01/2011]

* Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2010 – January 8, 2011

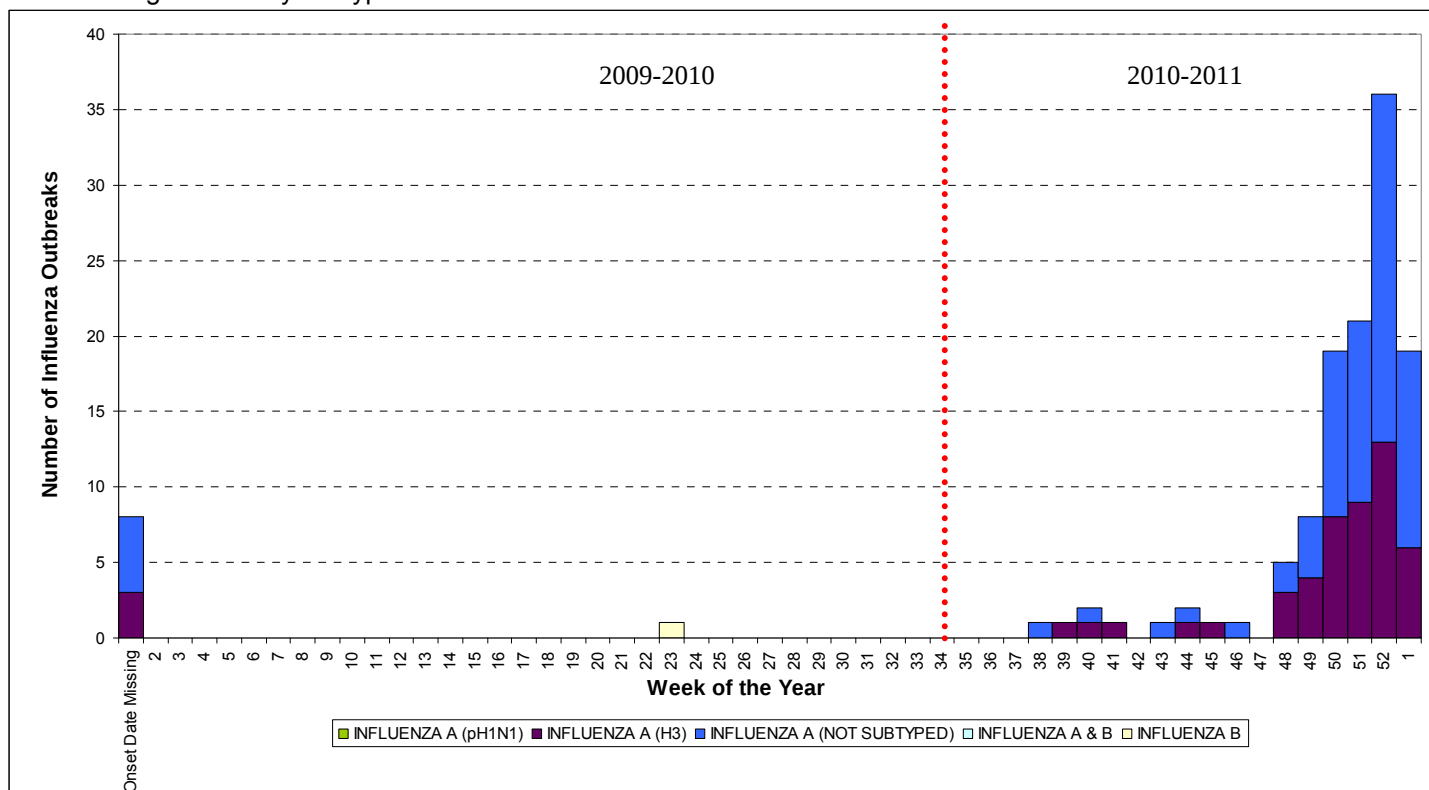
[†] Outbreak related case counts are based on aggregate case counts submitted for each outbreak and include laboratory and epidemiologically linked cases.

Figure 7: Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total outbreaks up to and including Week 1 by causative organism



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [12/01/2011]

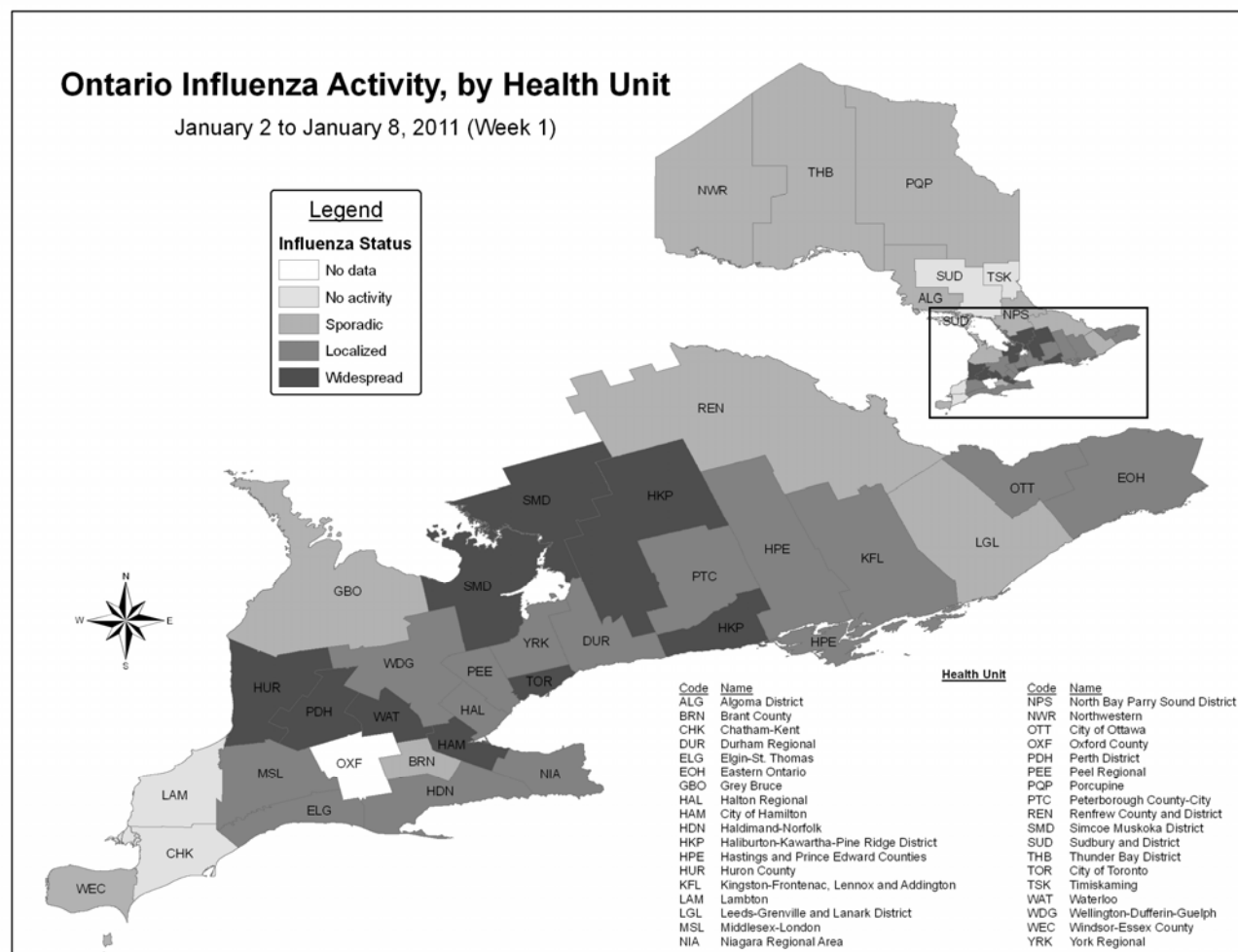
Figure 8: Institutional influenza outbreaks in Ontario by onset of illness in the first case: Total outbreaks up to and including Week 1 by subtype*



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [12/01/2011]

*School outbreaks are not included in this chart.

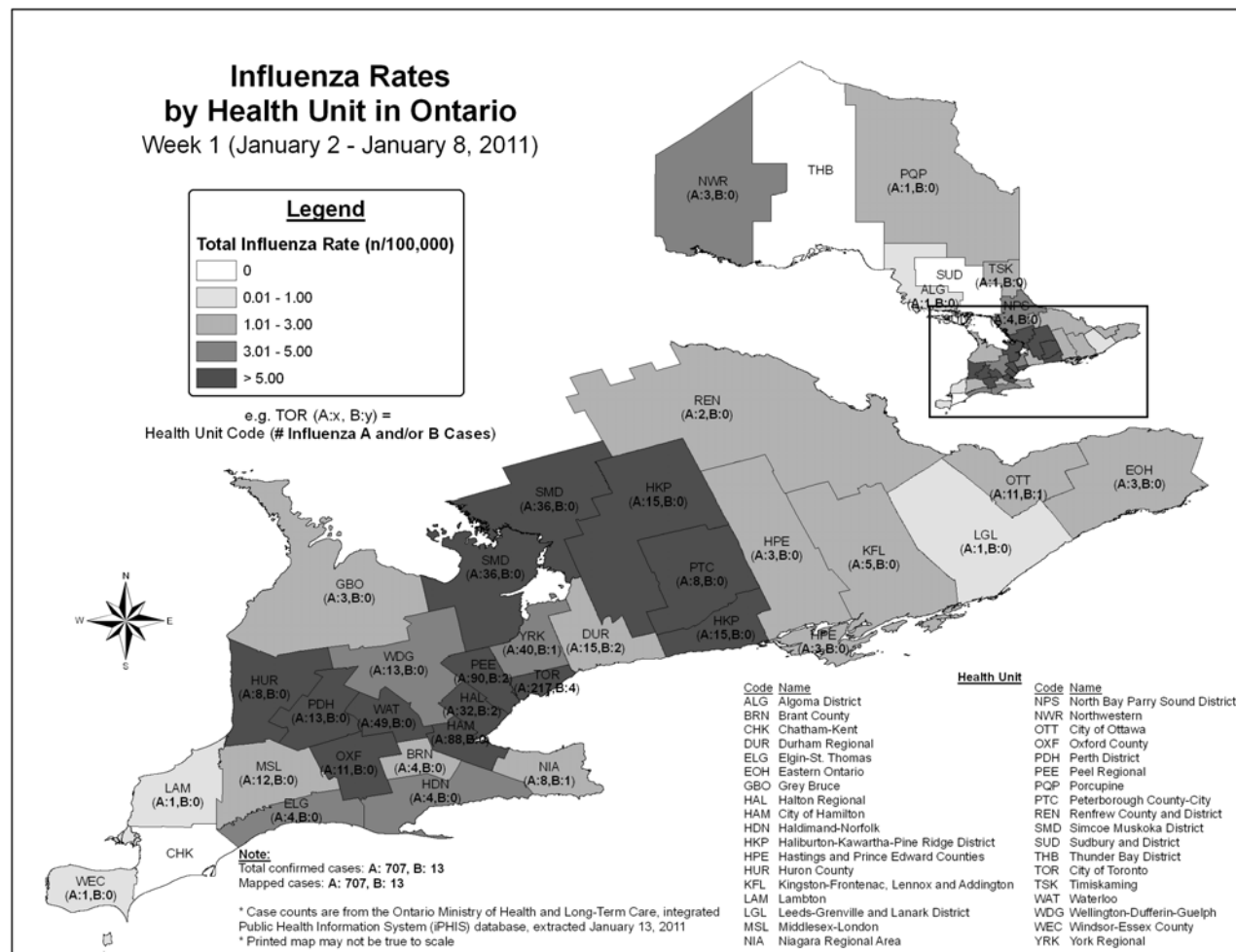
Figure 9: Influenza activity* levels in Ontario by health unit for Week 1, 2011



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

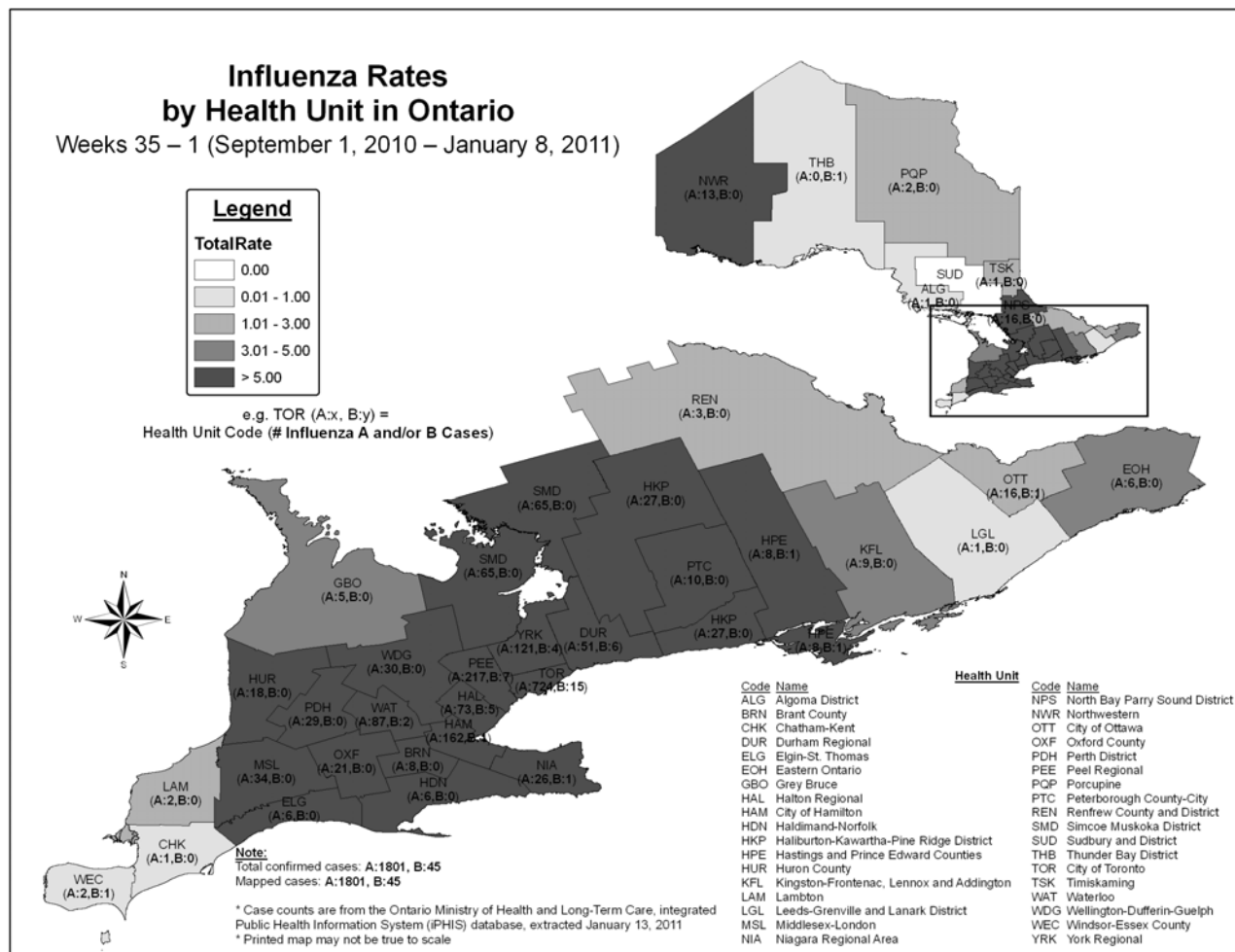
* Influenza activity levels are assigned by local public health units and reported to the MOHLTC by the Tuesday following the end of the surveillance week at 4 pm. Activity levels are assigned based on laboratory confirmations, ILI reports from various sources, and laboratory confirmed institutional outbreaks. Please refer to detailed definitions for the 2010-2011 season included in the Appendix-1]

Figure 10: Influenza incidence rates and counts in Ontario by health unit for Week 1, 2011



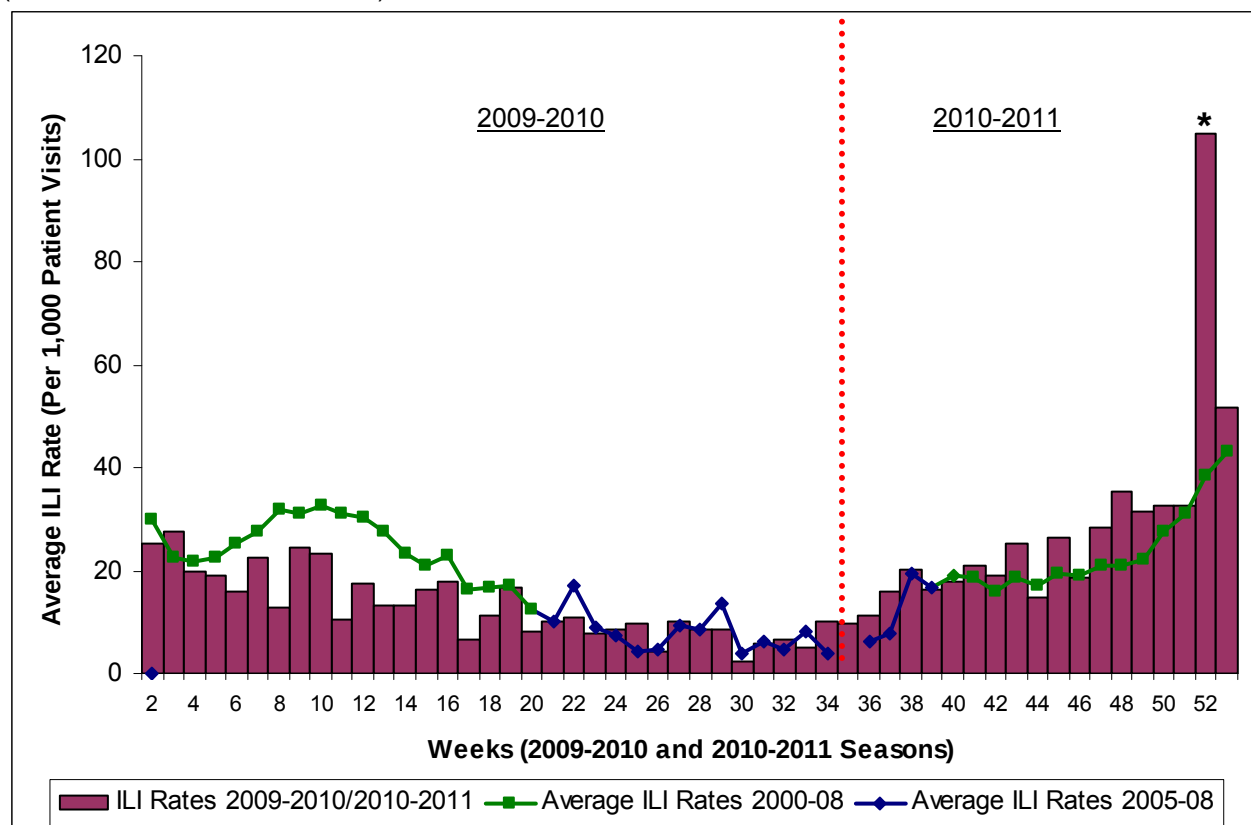
Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011]

Figure 11: Influenza cumulative incidence rates and counts in Ontario by health unit, Weeks 35 - 1 (September 1, 2010 – January 8, 2011)



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [13/01/2011]

Figure 12: Average influenza-like illness (ILI) consultation rate (per 1,000 patient visits) reported by sentinel physicians* in Ontario up to the 2010-11 surveillance season, by report week, compared to Ontario average† (1999/2000 to 2007/08 seasons).

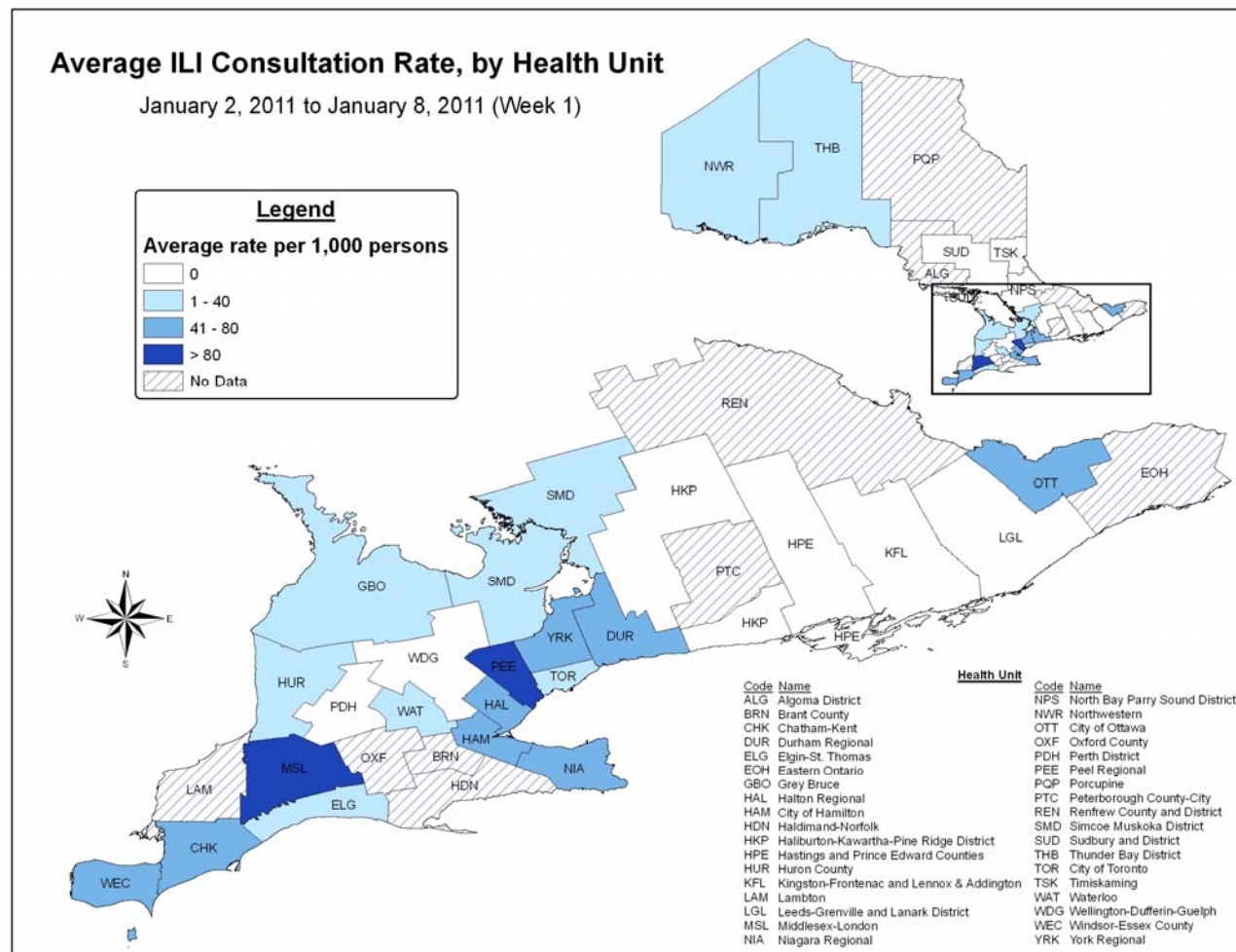


Source: Public Health Agency of Canada

* Sentinel physician information is reported to Public Health Agency of Canada, 49 sentinels reported in week 52 and 114 sentinels reported in Week 1. The large increase in week 52 may be due to a combination of factors including: a true increase in influenza activity, reduced physician hours, fewer routine visits, and significantly fewer sentinel physicians reporting compared to normal (only 49 physicians reported in the last week of December, compared to at least 80 physicians normally reporting during any given week in the influenza season).

† 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 was reported once every two weeks, on even weeks only.

Figure 13: Average influenza-like illness consultation rate (per 1,000 patient visits) by health unit as reported by sentinel physicians* in Ontario, for Week 1.



Source: Public Health Agency of Canada

* Sentinel physicians report ILI and patient data to the Public Health Agency of Canada; 114 sentinels reported in week 1 of which all were matched to a health unit and represented in the above map.

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

Table 8: Average influenza-like illness consultation rate (per 1,000 patient visits) by age group as reported by sentinel physicians* in Ontario, for Week 1.

Age Category	0 – 4	5 – 19	20 – 64	65 +	Unknown	TOTAL
ILI Sum	27	31	75	16	0	149
ILI Consultation Rate (per 1,000 patient visits)	121.08	105.80	46.87	20.86	0.00	51.68

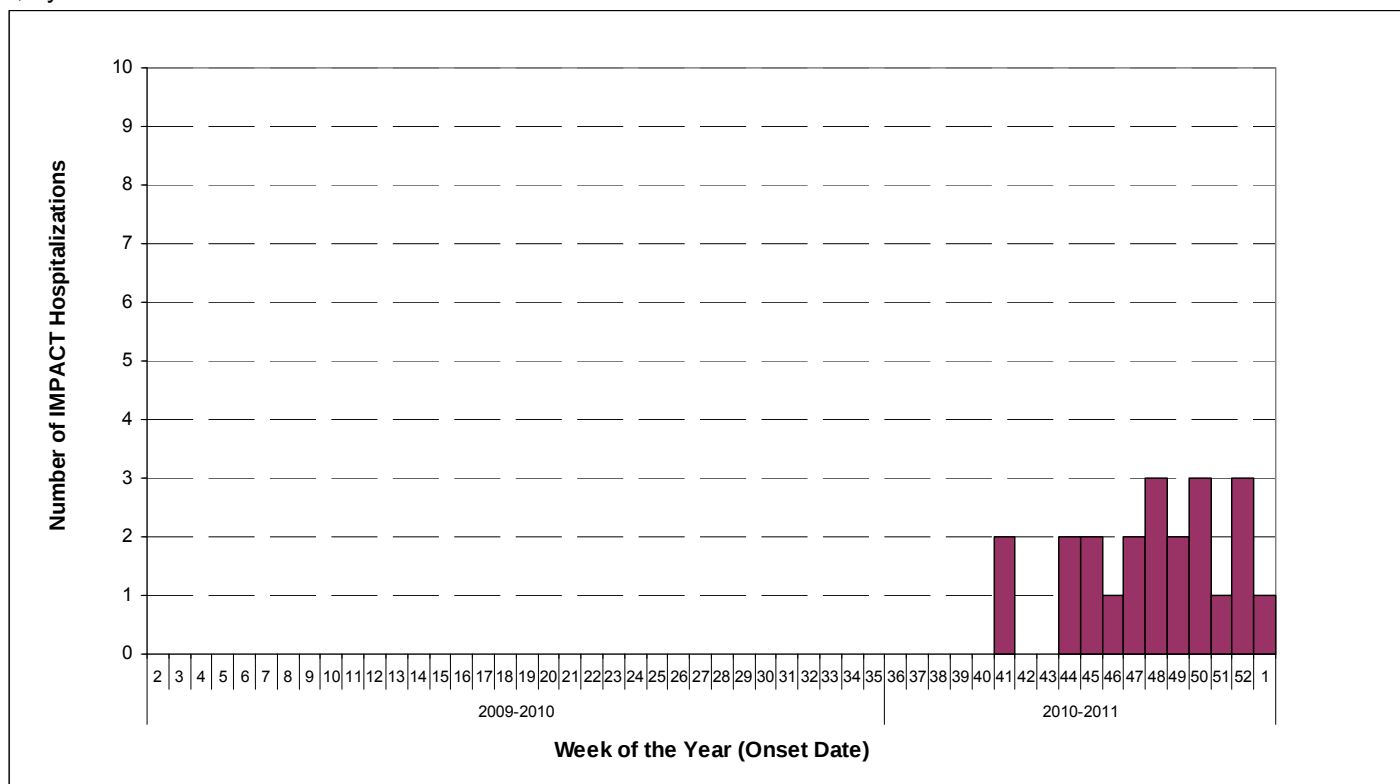
Source: Public Health Agency of Canada

Sentinel physician information is reported to the Public Health Agency of Canada; 114 sentinels reported in week 1.

Immunization Monitoring Program ACTive (IMPACT) is a pediatric hospital-based national active surveillance network for adverse events following immunization and selected infectious diseases in children, including influenza-associated pediatric hospitalizations and complements the [Canadian Adverse Event Following Immunization Surveillance System](#) (CAEFISS). It involves 12 Canadian centres, two of which are in Ontario (Children's Hospital of Eastern Ontario in Ottawa and the Hospital for Sick Children, Toronto).

Reports of adverse events following immunization are reported to the Vaccine Safety Unit at the Immunization Division of the Public Health Agency of Canada. Note that the number of IMPACT hospitalizations presented in this week's bulletin has been updated with the latest data received from PHAC.

Figure 14: Number of influenza A related hospitalizations in Ontario reported through IMPACT up to Week 1, by onset date.



Source: Public Health Agency of Canada

***Note:** The numbers of IMPACT hospitalizations presented reflect the latest data received at the time of publication, thus lower numbers of cases reported in recent weeks may be attributed in part to reporting delays.

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/en/pro/programs/publichealth/flu/bulletins/2010/default.aspx>

When referencing material from the Ontario Influenza Bulletin please use the following format:
Ontario Ministry of Health and Long-Term Care, Ontario Influenza Bulletin 2010-2011 Season, Surveillance Week ##. <URL>
2. Ontario Agency for Health Protection and Promotion
OAHPP Weekly Laboratory Surveillance Update
<http://www.oahpp.ca/SRI%20Bulletin.php>
3. Public Health Agency of Canada
Issues of FluWatch can be accessed at:
www.phac-aspc.gc.ca/fluwatch/
4. United States Centers for Disease Control and Prevention
<http://www.cdc.gov/flu/weekly/fluactivity.htm>
5. European Influenza Surveillance Scheme
<http://www.ecdc.europa.eu/en/activities/surveillance/EISN/Pages/home.aspx>

INFORMATION ABOUT H1N1 INFLUENZA (HUMAN SWINE INFLUENZA)

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>

Influenza Surveillance Weeks 2010-2011 and date of submission of Appendix C

WEEKS	START	END	Appendix C Submission to MOHLTC
WK2	9-Jan-11	15-Jan-11	18-Jan-11
WK3	16-Jan-11	22-Jan-11	25-Jan-11
WK4	23-Jan-11	29-Jan-11	1-Feb-11
WK5	30-Jan-11	5-Feb-11	8-Feb-11
WK6	6-Feb-11	12-Feb-11	15-Feb-11
WK7	13-Feb-11	19-Feb-11	22-Feb-11
WK8	20-Feb-11	26-Feb-11	1-Mar-11
WK9	27-Feb-11	5-Mar-11	8-Mar-11
WK10	6-Mar-11	12-Mar-11	15-Mar-11
WK11	13-Mar-11	19-Mar-11	22-Mar-11
WK12	20-Mar-11	26-Mar-11	29-Mar-11
WK13	27-Mar-11	2-Apr-11	5-Apr-11
WK14	3-Apr-11	9-Apr-11	12-Apr-11
WK15	10-Apr-11	16-Apr-11	19-Apr-11
WK16	17-Apr-11	23-Apr-11	26-Apr-11
WK17	24-Apr-11	30-Apr-11	3-May-11
WK18	1-May-11	7-May-11	10-May-11
WK19	8-May-11	14-May-11	17-May-11
WK20	15-May-11	21-May-11	24-May-11
WK21	22-May-11	28-May-11	31-May-11
WK22	29-May-11	4-Jun-11	7-Jun-11
WK23	5-Jun-11	11-Jun-11	14-Jun-11
WK24	12-Jun-11	18-Jun-11	21-Jun-11
WK25	19-Jun-11	25-Jun-11	28-Jun-11
WK26	26-Jun-11	2-Jul-11	5-Jul-11
WK27	3-Jul-11	9-Jul-11	12-Jul-11
WK28	10-Jul-11	16-Jul-11	19-Jul-11
WK29	17-Jul-11	23-Jul-11	26-Jul-11

WEEKS	START	END	Appendix C Submission to MOHLTC
WK30	24-Jul-11	30-Jul-11	2-Aug-11
WK31	31-Jul-11	6-Aug-11	9-Aug-11
WK32	7-Aug-11	13-Aug-11	16-Aug-11
WK33	14-Aug-11	20-Aug-11	23-Aug-11
WK34	21-Aug-11	27-Aug-11	30-Aug-11
WK35	28-Aug-11	3-Sep-11	6-Sep-11

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

§Health units have been requested to consider laboratory confirmed pH1N1 outbreaks in camps in their region when evaluating ILI activity levels

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.