Ontario Influenza Bulletin 2010-2011 Season

Ontario

Ministry of Health & Long-Term Care
Public Health Division

SURVEILLANCE WEEK 5 (January 30, 2011– February 5, 2011)

This issue of the Ontario Influenza Bulletin provides information on the surveillance period from January 30, 2010 to February 5, 2011 (Week 5). **All data are for week 5** and data extraction and analysis for this issue of the Bulletin occurred on February 9, 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	Lower	Four hundred and twenty-four (424) influenza cases were reported* in week 5, which is lower than week 4 (475 influenza cases). The percent positivity of laboratory tests for influenza A in Ontario was 16.5% for week 5. This is lower than week 4 (22.1%) (Figure 6). Other respiratory viruses continue to circulate in Ontario (Table 5).
Influenza Outbreaks	Higher	12 new institutional influenza A outbreaks were reported for the current reporting week from, Central East (4), Central West (4), Toronto (2), Eastern (1) and South West (1) health regions.
Influenza Activity Levels Reported by Health Units	Slightly Lower	Toronto, Central East, Central West, Eastern, South West and North East regions reported 'localized' level influenza activity; the North West region reported sporadic activity for week 5. By health unit, three reported widespread activity, 20 reported localized activity and the remainder reported sporadic activity, no activity or did not report for week 5 (Figure 9).
ILI Consultation Rate reported by Sentinel Physicians	Lower	The overall ILI consultation rate has decreased from 57.16**/1,000 patient visits in Week 4 to 39.47/1,000 patient visits in Week 5. This rate is higher than the average rate for week 5 from previous years.
Hospitalizations Among Lab Confirmed Cases of Influenza	No change	There were 147 hospitalized cases reported* from January 30 to February 5, which is similar to the 142 that were reported from January 23 to January 29.
Deaths Among Lab Confirmed Cases of Influenza	Lower	Eleven deaths were reported* from January 30 to February 5, which is less than the 17 that were reported from January 23 to January 29.
OVERALL ASSESSMENT	Influenza activity in Ontario was *lower* compared to the previous week.	Overall, the indicators show that influenza activity was *lower* during week 5 compared to week 4.

*The number of **reported** cases needs to be interpreted with caution because there is a lag between the onset of illness, hospital admission or death and when this information is reported to public health.
**Please note that the ILI consultation rate from Week 4 has been updated.

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

Ontario Influenza Bulletin, 2010-2011
Surveillance Week 5 (January 30, 2011 – February 5, 2011)

Overall, influenza activity in Ontario during week 5, 2010, was lower when compared to week 4, 2010. Ontario health units reported 424 new laboratory confirmed cases of influenza for the current week through the integrated Public Health Information System (iPHIS). A total of 513 institutional respiratory infection outbreaks have been reported in the 2010/11 season up to Week 5, including 12 new influenza outbreaks from Central East (4), Central West (4), Toronto (2), Eastern (1), and South West (1) health regions. For week 5, Toronto, Central East, Central West, Eastern, South West and North East health regions reported 'localized' level influenza activity; and the North West health region reported sporadic activity. The ILI rate is higher than the average rate for week 5 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 5, 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	4	13	1	4	**22**
Influenza A (Not Subtyped/No Subtype)	0	7	35	28	31	50	84	**235**
Influenza A (Seasonal H1)	0	0	0	0	0	0	0	**0**
Influenza A (Seasonal H3)	2	10	14	52	19	17	33	**147**
Influenza A** (Other)	0	0	0	1	0	0	0	**1**
Influenza B	0	3	1	9	5	1	0	**19**
Influenza A & B	0	0	0	0	0	0	0	**0**
Total new cases	**2**	**20**	**50**	**94**	**68**	**69**	**121**	**424**
Institutional outbreaks of Influenza A‡	**0**	**0**	**1**	**4**	**2**	**1**	**4**	**12**
Institutional outbreaks of Influenza B‡	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

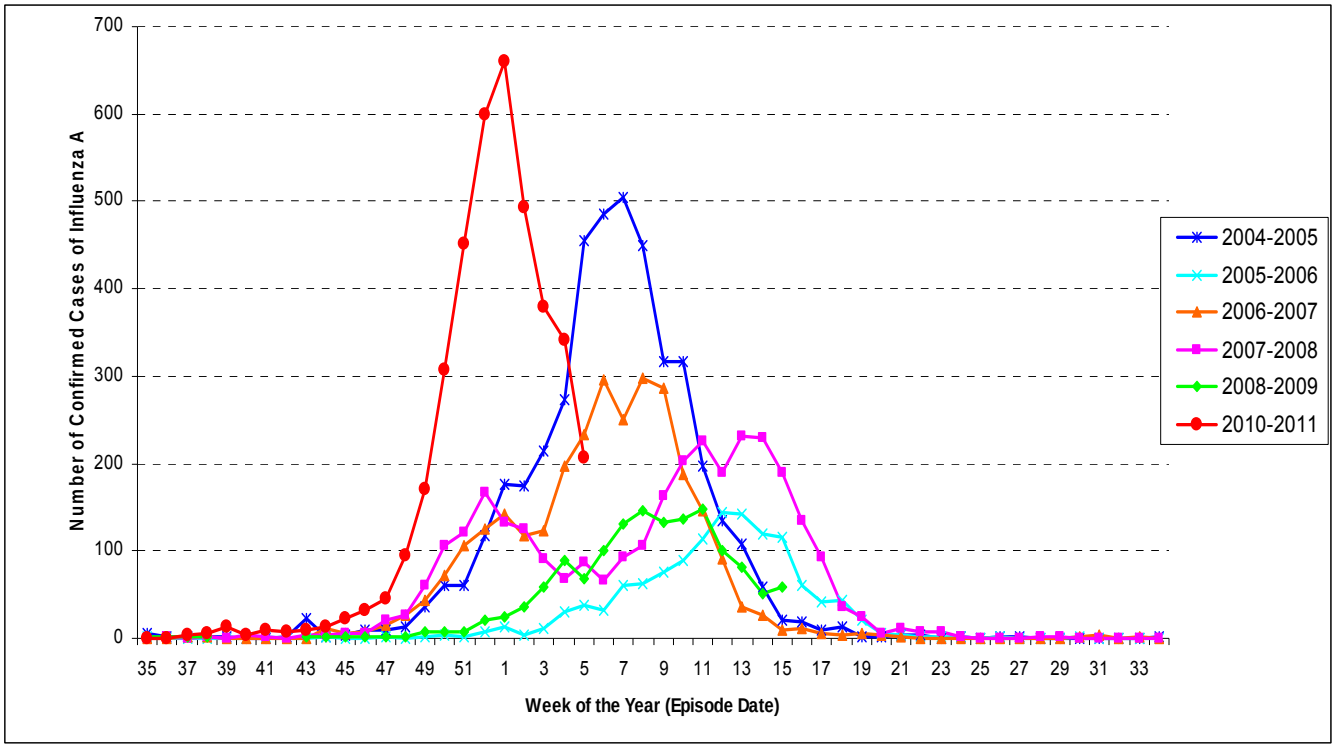
SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10].

* 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.

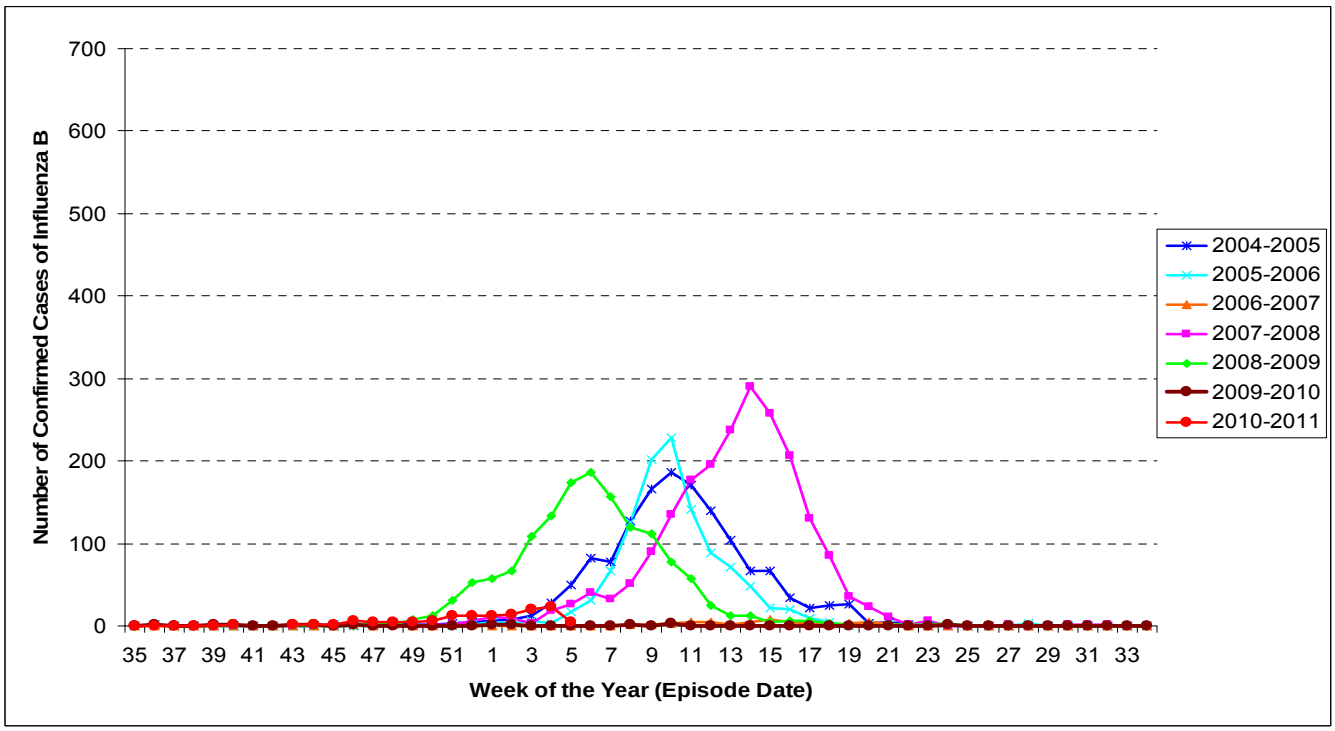
** Includes indeterminate, untypeable and other subtypes. Note: Several influenza A cases have been reported as seasonal H1N1; however, these cases have been classified as 'No subtype/not subtyped' in this table until the subtype has been verified.

Figure 1: Incidence of confirmed cases of influenza A in Ontario reported from Sep. 1, 2004 to Feb, 5, 2010†



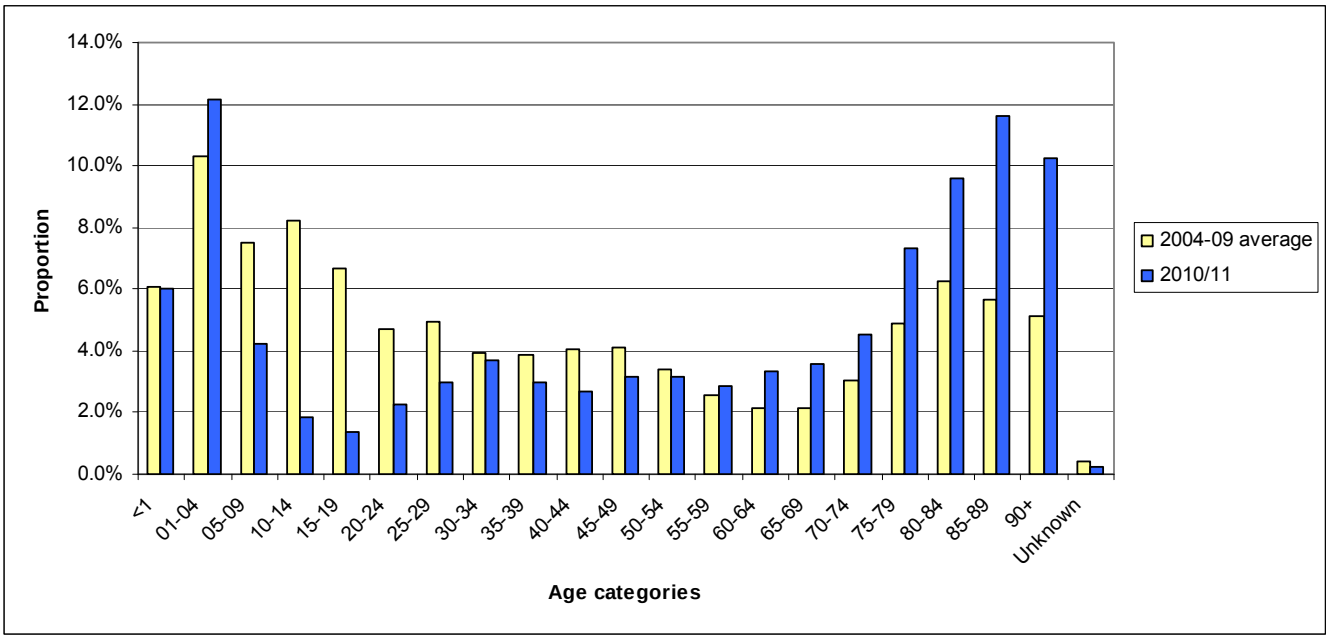
SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10].
† Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)
Note: Cases after week 14 in the 2008-09 season were excluded because seasonal influenza cases from 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. Additionally, 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.
Note: Interpret tail of 2010-2011 line with caution due to reporting lags.

Figure 2: Incidence of confirmed cases of influenza B in Ontario reported from Sep. 1, 2004 to Feb. 5, 2010†



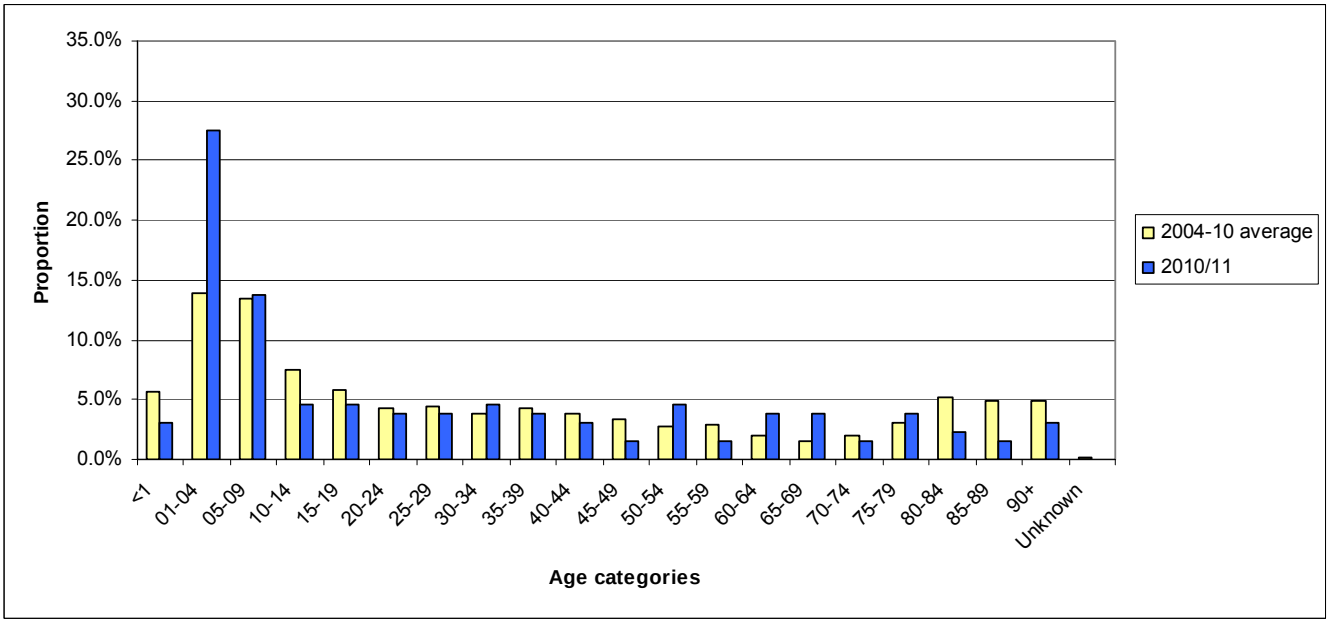
SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10].
† Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)
Note: Week 53 of the 2008-09 season has been removed for continuity in displaying trends.
Note: Interpret tail of 2010-2011 line with caution due to reporting lags.

Figure 3. Proportion of influenza A cases in Ontario by age group, Sep. 1, 2004 to Feb. 5, 2010



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10].
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, Sep. 1, 2004 to Feb. 5, 2010



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10].

Table 2: Confirmed cases of influenza by health unit & health region with a reported date during Week 5, 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	0	0	0	1	0	0	1
	Thunder Bay District	0	0	0	0	1	0	0	1
	TOTAL NORTH WEST	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**
North East	Algoma	0	0	0	0	2	0	0	2
	North Bay Parry Sound District	0	1	0	0	1	0	2	4
	Porcupine	0	0	0	0	2	0	0	2
	Sudbury & District	0	6	0	0	5	0	1	12
	Timiskaming	0	0	0	0	0	0	0	0
	TOTAL NORTH EAST	**0**	**7**	**0**	**0**	**10**	**0**	**3**	**20**
Eastern	City of Ottawa	0	24	0	0	1	0	0	25
	Eastern Ontario	0	5	0	0	4	0	0	9
	Hastings & Prince Edward Counties	0	0	0	0	3	0	1	4
	Kingston, Frontenac, Lennox & Addington	0	3	0	0	5	0	0	8
	Leeds, Grenville And Lanark District	0	3	0	0	0	0	0	3
	Renfrew County And District	0	0	0	0	1	0	0	1
	TOTAL EASTERN	**0**	**35**	**0**	**0**	**14**	**0**	**1**	**50**
Central East	Durham Region	0	7	0	0	6	0	0	13
	Haliburton, Kawartha, Pine Ridge	0	2	0	0	5	0	0	7
	Peel Region	2	10	0	0	12	0	4	28
	Peterborough County-City	1	0	0	0	20	0	0	21
	Simcoe Muskoka District	1	6	0	0	6	0	0	13
	York Region	0	3	1	0	3	0	5	12
	TOTAL CENTRAL EAST	**4**	**28**	**1**	**0**	**52**	**0**	**9**	**94**
Toronto	Toronto	13	31	0	0	19	0	5	68
	TOTAL TORONTO	**13**	**31**	**0**	**0**	**19**	**0**	**5**	**68**
South West	Chatham-Kent	0	3	0	0	0	0	0	3
	Elgin-St. Thomas	0	0	0	0	0	0	0	0
	Grey Bruce	0	2	0	0	8	0	0	10
	Huron County	0	2	0	0	3	0	0	5
	Lambton County	0	4	0	0	1	0	1	6
	Middlesex-London	0	31	0	0	5	0	0	36
	Oxford County	0	1	0	0	0	0	0	1
	Perth District	1	2	0	0	0	0	0	3
	Windsor-Essex County	0	5	0	0	0	0	0	5
	TOTAL SOUTHWEST	**1**	**50**	**0**	**0**	**17**	**0**	**1**	**69**
Central West	Brant County	0	3	0	0	0	0	0	3
	City Of Hamilton	0	51	0	0	11	0	0	62
	Haldimand-Norfolk	0	3	0	0	1	0	0	4
	Halton Region	0	8	0	0	1	0	0	9
	Niagara Region	0	2	0	0	12	0	0	14
	Waterloo Region	1	16	0	0	6	0	0	23
	Wellington-Dufferin-Guelph	3	1	0	0	2	0	0	6
	TOTAL CENTRAL WEST	**4**	**84**	**0**	**0**	**33**	**0**	**0**	**121**
	TOTAL ONTARIO	**22**	**235**	**1**	**0**	**147**	**0**	**19**	**424**

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10].
*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 – February 5, 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	7	0	0	15	0	1	23
	Thunder Bay District	0	2	0	0	6	0	1	9
	TOTAL NORTH WEST	**0**	**9**	**0**	**0**	**21**	**0**	**2**	**32**
North East	Algoma	0	3	0	0	13	0	0	16
	North Bay Parry Sound District	1	27	0	0	16	0	2	46
	Porcupine	0	1	0	0	14	0	0	15
	Sudbury & District	0	10	0	0	9	0	1	20
	Timiskaming	0	1	0	0	0	0	0	1
	TOTAL NORTH EAST	**1**	**42**	**0**	**0**	**52**	**0**	**3**	**98**
Eastern	City of Ottawa	0	65	0	0	13	0	2	80
	Eastern Ontario	0	11	1	0	36	0	0	48
	Hastings & Prince Edward Counties	0	4	0	0	33	0	2	39
	Kingston, Frontenac, Lennox & Addington	1	9	0	0	18	0	1	29
	Leeds, Grenville And Lanark District	1	6	0	0	1	0	0	8
	Renfrew County And District	0	2	0	0	2	0	0	4
	TOTAL EASTERN	**2**	**97**	**1**	**0**	**103**	**0**	**5**	**208**
Central East	Durham Region	10	28	0	0	78	0	8	124
	Haliburton, Kawartha, Pine Ridge	5	9	0	0	43	0	0	57
	Peel Region	23	150	0	0	219	0	28	420
	Peterborough County-City	3	15	0	0	51	0	1	70
	Simcoe Muskoka District	17	36	0	0	109	0	2	164
	York Region	12	85	1	0	116	0	12	226
	TOTAL CENTRAL EAST	**70**	**323**	**1**	**0**	**616**	**0**	**51**	**1061**
Toronto	Toronto	83	353	5	0	781	3	44	1269
	TOTAL TORONTO	**83**	**353**	**5**	**0**	**781**	**3**	**44**	**1269**
South West	Chatham-Kent	0	7	0	0	0	0	0	7
	Elgin-St. Thomas	2	8	0	0	5	0	0	15
	Grey Bruce	0	12	0	0	24	0	0	36
	Huron County	0	16	0	0	19	0	0	35
	Lambton County	0	8	0	0	4	0	1	13
	Middlesex-London	2	111	0	0	29	0	1	143
	Oxford County	0	13	0	0	21	0	0	34
	Perth District	1	7	0	0	39	0	1	48
	Windsor-Essex County	2	22	0	0	2	0	2	28
	TOTAL SOUTHWEST	**7**	**204**	**0**	**0**	**143**	**0**	**5**	**359**
Central West	Brant County	1	15	0	0	21	0	1	38
	City Of Hamilton	4	303	0	0	61	0	4	372
	Haldimand-Norfolk	1	16	0	0	16	0	0	33
	Halton Region	4	38	0	0	104	0	9	155
	Niagara Region	1	25	0	0	48	0	2	76
	Waterloo Region	10	142	0	0	56	0	4	212
	Wellington-Dufferin-Guelph	7	24	0	0	64	0	1	96
	TOTAL CENTRAL WEST	**28**	**563**	**0**	**0**	**370**	**0**	**21**	**982**
	TOTAL ONTARIO	**191**	**1591**	**7**	**0**	**2086**	**3**	**131**	**4009**

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10].

†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 – Feb. 5, 2011

As of February 5, 2011, 1194 hospitalizations and 90 deaths have been reported among lab confirmed influenza cases reported in Ontario for the 2010-2011 season. Most of the hospitalizations and 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. The highest rates of death have been seen in people 65 years of age and older.

Table 4a. Incidence of hospitalizations among lab confirmed influenza cases in Ontario, Sep. 1, 2010 – Feb. 5, 2011

	Influenza A*							Influenza B		All Influenza	
Age Group	pH1N1	No Subtype/ Not Subtyped	Other*	H1	H3	Total	Rate/ 100,000	Total	Rate/ 100,000	Total	Rate/ 100,000
<1	3	38	0	0	40	81	59.37	1	0.73	82	60.11
1-4	5	88	0	0	45	138	25.03	12	2.18	150	27.20
5-14	4	26	0	0	17	47	3.11	2	0.13	49	3.24
15-24	5	11	0	0	5	21	1.18	1	0.06	22	1.24
25-44	11	21	1	0	52	85	2.28	4	0.11	89	2.38
45-64	23	53	2	0	74	152	4.14	4	0.11	156	4.25
65+	10	231	1	0	394	636	35.06	8	0.44	644	35.50
TOTAL	**61**	**468**	**4**	**0**	**627**	**1160**	**8.79**	**32**	**0.24**	**1192**	**9.03**

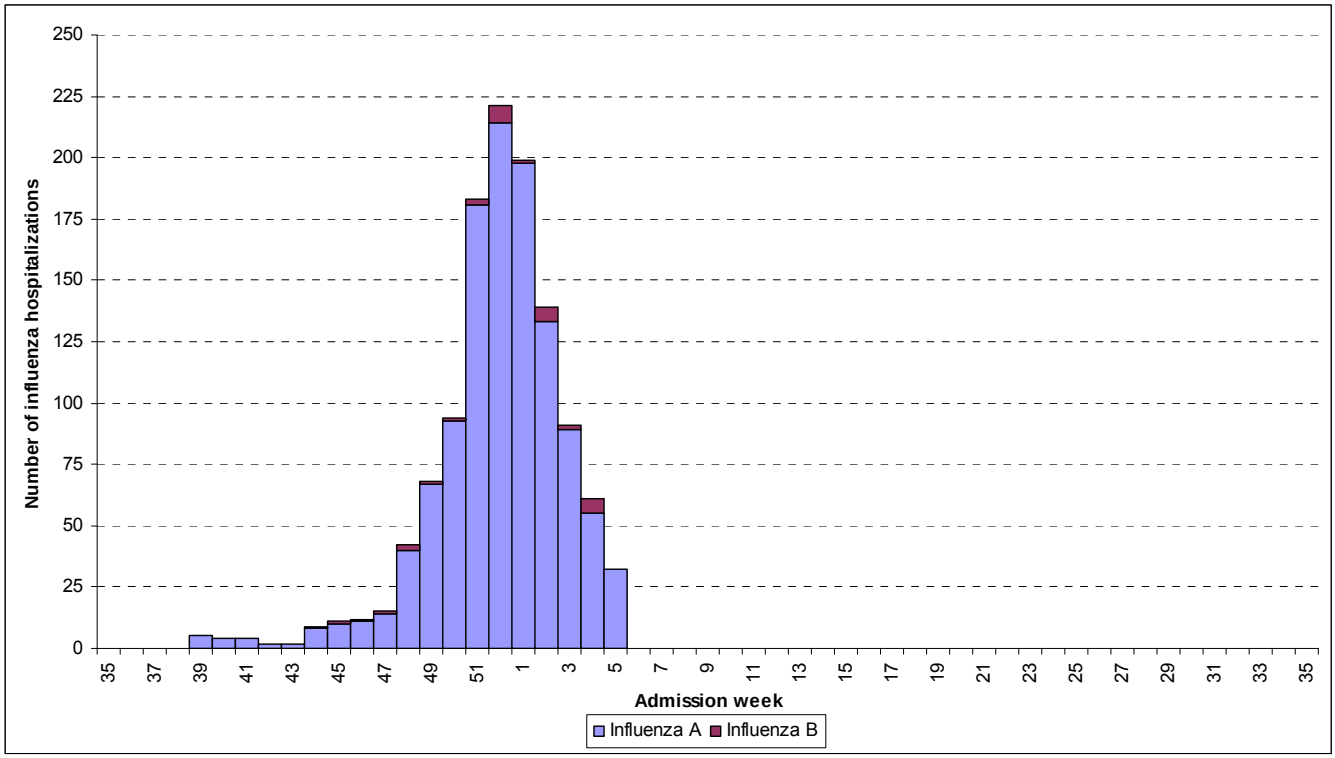
Source (incidence): Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [2011/02/09]
Source (incidence): Ontario population projections for 2010: Ontario Ministry of Health and Long-Term Care, Public Health Planning Database (PHPDB), extracted [2010/11/30]
***** Two hospitalizations with unknown age were excluded

Table 4b. Incidence of deaths among lab confirmed influenza cases in Ontario, Sep. 1, 2010 – Feb. 5, 2011

	Influenza A*							Influenza B		All Influenza	
Age Group	pH1N1	No Subtype/ Not Subtyped	Other*	H1	H3	Total	Rate/ 100,000	Total	Rate/ 100,000	Total	Rate/ 100,000
<1	0	1	0	0	0	1	0.73	0	0.00	1	0.73
1-4	1	2	0	0	0	3	0.54	0	0.00	3	0.54
5-14	1	0	0	0	0	1	0.07	0	0.00	1	0.07
15-24	0	0	0	0	0	0	0.00	0	0.00	0	0.00
25-44	2	2	0	0	2	6	0.16	0	0.00	6	0.16
45-64	1	4	1	0	7	13	0.35	0	0.00	13	0.35
65+	1	17	0	0	47	65	3.58	1	0.06	66	3.64
TOTAL	**6**	**26**	**1**	**0**	**56**	**89**	**0.67**	**1**	**0.01**	**90**	**0.68**

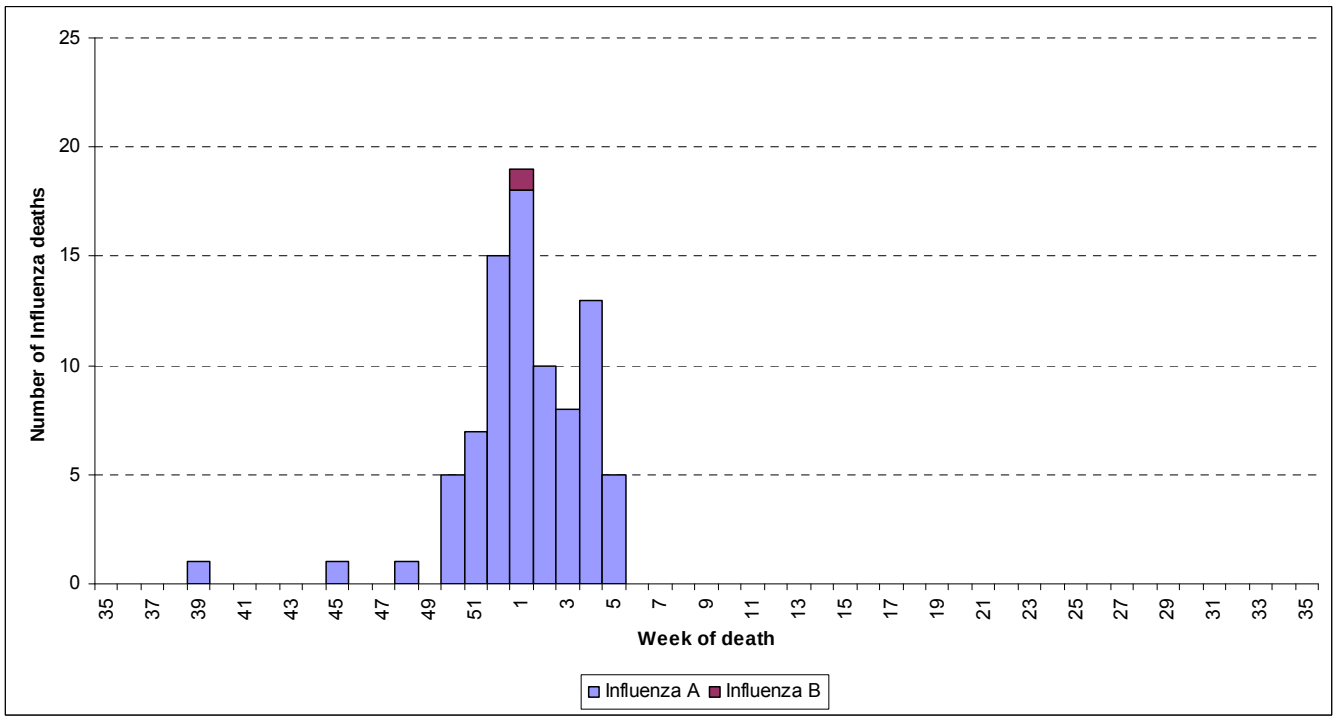
Source (incidence): Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [2011/02/09]
Source (incidence): Ontario population projections for 2010: Ontario Ministry of Health and Long-Term Care, Public Health Planning Database (PHPDB), extracted [2010/11/30]

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



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [2011/02/09]
Note: Interpret tail with caution due to reporting lags

Figure 5b: Deaths among influenza cases by type and admission week in Ontario, Sep. 1, 2010 – Feb. 5, 2011



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted at 8:30 am [2011/02/09]
Note: Interpret tail with caution due to reporting lags; 5 deaths with unknown death date were excluded from this graph.

Influenza Subtype(s) *:
During week 5, a total of 6,709 results of isolate testing were received by the Public Health Agency of Canada, 1,191 isolates tested positive for influenza A and 100 isolates tested positive for influenza B. Of the reported influenza A isolates, 515 isolates were from Ontario (43.2%), 442 isolates were from Quebec (37.1%), 84 isolates were from New Brunswick (7.1%) and 70 isolates were from Alberta (5.9%). Forty-seven of the reported influenza B isolates were from Ontario (47.0%), nineteen each were from Alberta and Quebec (19.0%), and eight were from British Columbia (8.0%).

Antigenic Characterization (National)†:
Since September 1, 2010, the National Microbiology Laboratory (NML) has antigenically characterized 228 influenza viruses (133 H3N2, 44 H1N1 and 51 B viruses) that were received from Canadian laboratories.

Influenza A (H3N2):
The 133 influenza A (H3N2) viruses characterized were antigenically 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 44 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 50/51 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: 56 influenza A /Perth/16/2009-like (H3N2), 21 influenza A/California/7/2009 and 36 influenza B/Brisbane/60/2008-like.

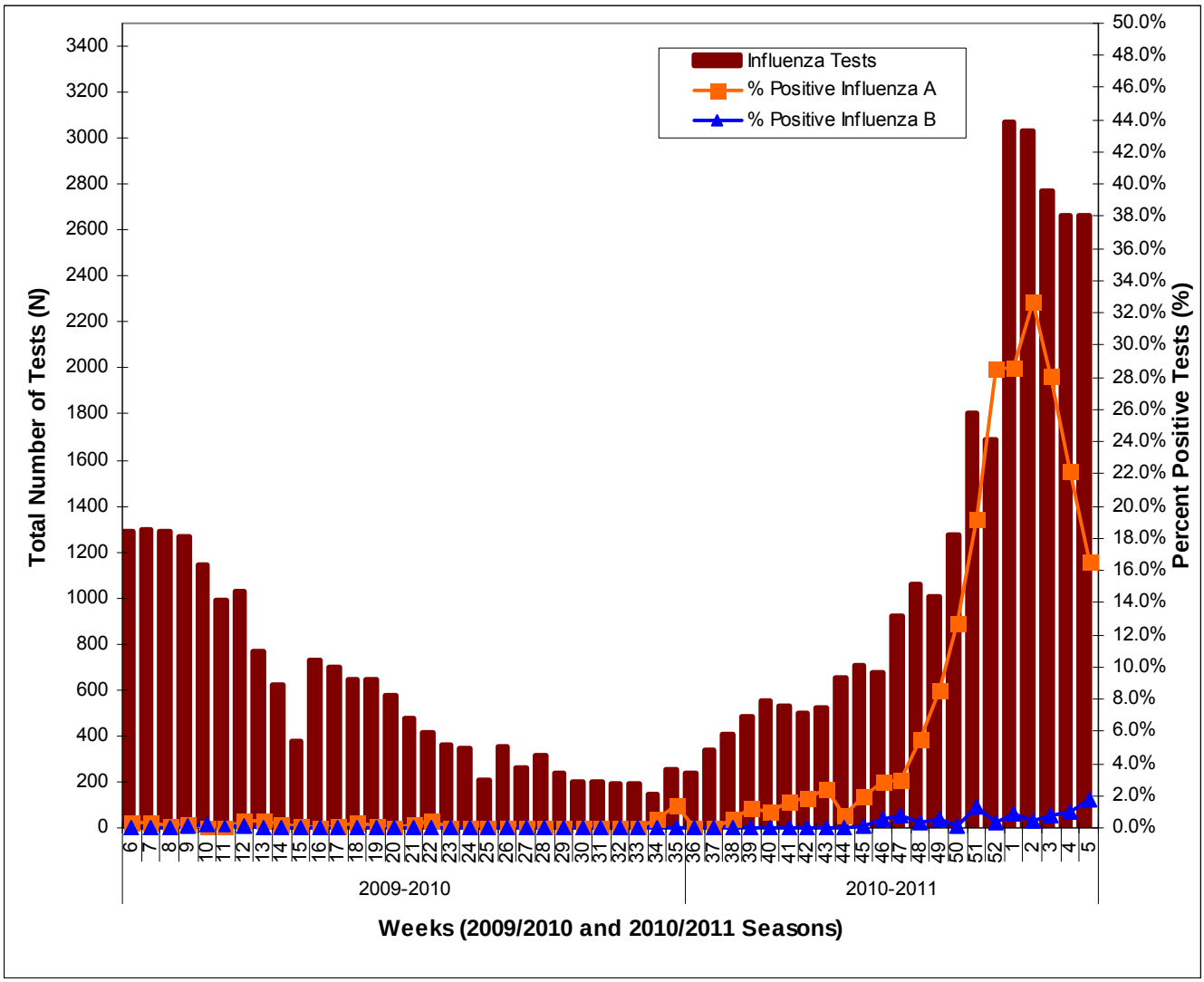
Antiviral Resistance and Sensitivity (National)†:
a) Amantadine:
A total of 199/200 H3N2 isolates and the 37 pandemic H1N1 isolates tested for resistance to amantadine were found to be resistant. One H3N2 isolate was sensitive to amantadine.
b) Oseltamivir:
A total of 193 influenza isolates (113 H3N2, 45 B and 35 pandemic H1N1) were tested for resistance to oseltamivir by phenotypic assay and/or sequencing. All 113 H3N2, 45 B and 35 pandemic H1N1 isolates were sensitive to oseltamivir.
c) Zanamivir:
A total of 189 influenza isolates (112 H3N2, 43 B and 34 pandemic H1N1) were tested for resistance to zanamivir by phenotypic assay. All 112 H3N2, 43 B and 34 pandemic H1N1 isolates were sensitive to zanamivir.

Antiviral Resistance and Sensitivity (Provincial)†:
a) Amantadine:
Of the 82 H3N2 and 18 pandemic H1N1 isolates tested, 81 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 41 H3N2, 34 influenza B and 18 pandemic H1N1 isolates tested, all influenza A (H3N2), influenza B and pandemic H1N1 isolates were sensitive to oseltamivir.
c) Zanamivir:
Of the 41 H3N2, 33 influenza B and 17 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 February 11, 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 5, 2011. Please note that the last version received from PHAC as of 4:00PM on February 10, 2011 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 5, 2011. Please note that the last version received from PHAC as of 4:00PM on February 10, 2011 was used.

* Total numbers reported include late reports from pervious 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 5

Organism Name	Number of Positive Tests	Number of Tests	% Positive
Respiratory Syncytial Virus	172	2047	8.40
Parainfluenza (all types)	22	1809	1.22
Adenovirus	15	1809	0.83
Human Metapneumovirus	9	708	1.27
Rhinovirus	14	1369	1.02
Coronavirus	24	572	4.20

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 4, 2011. Please note that the last version received from PHAC as of 4:00PM on February 10, 2011 was used.

Table 6: Institutional respiratory infection outbreaks in Ontario: new outbreaks* in Week 5 and total outbreaks for the season**

Institutional Respiratory Infection Outbreaks		
New Outbreaks*	**N**	**% (of outbreaks)**
Influenza A (All subtypes)	12	75.0
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	0	0.0
RSV	1	6.3
Other organisms [α]	0	0.0
Combined Outbreaks[†]	0	0.0
Entero/rhinovirus	0	0.0
No organism identified	3	18.8
TOTAL	***16***	***100.0***
Total Respiratory Infection Outbreaks of the Season to date**	**N**	**% (of outbreaks)**
Influenza A (All subtypes)	251	48.9
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	4	0.8
RSV	12	2.3
Combined Outbreaks[†]	9	1.8
Other organisms[α]	21	4.1
Entero/rhinovirus	132	25.7
No organism identified	84	16.4
TOTAL	***513***	***100.0***
Types of Institutions – All Outbreaks **	**N**	**% (of outbreaks)**
Long-Term Care Homes	298	58.1
Hospitals	36	7.0
Retirement Homes	65	12.7
Other	1	0.2
Unknown	113	22.0
TOTAL	***513***	***100.0***

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/09]

* 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 30, 2011 – February 5, 2011

** Season to date includes all outbreaks in which the date of onset of illness in the first case occurred up to Week 5.

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

[α] 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*†

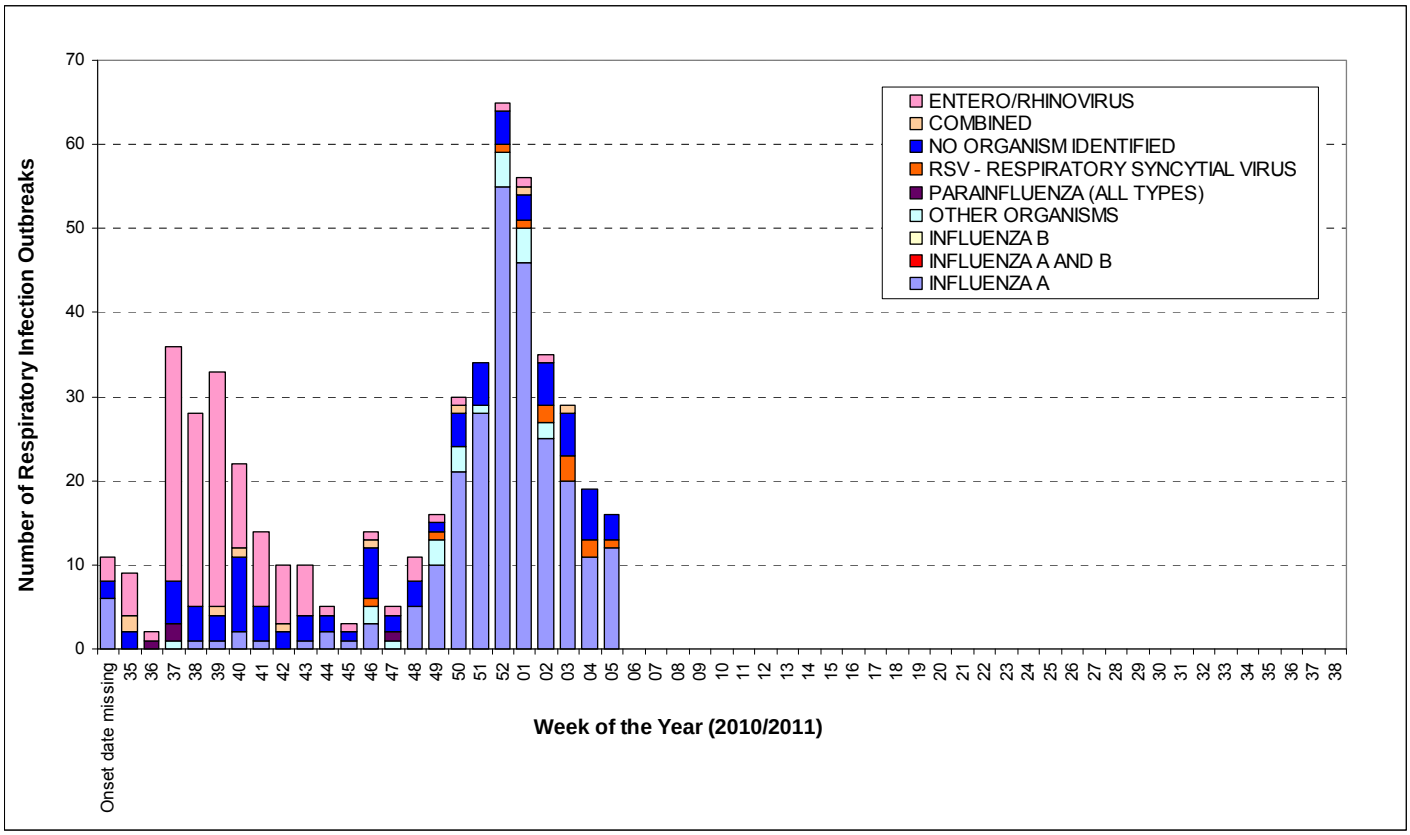
Outbreak Related Cases – All Outbreaks	**N**	**% (of total cases)**
Residents	5870	72.0
Patients	319	3.9
Staff	1962	24.1
Total Cases	**8151**	**100.0**
Deaths		**% (of cases per role)**
Residents	153	2.6
Patients	9	2.8
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)		**% (of cases per role)**
Residents	165	2.8
Patients	16	5.0
Staff	1	0.1
Hospitalizations		**% (of cases per role)**
Residents	317	5.4
Staff	2	0.1
Outbreak Related Cases – All Influenza Outbreaks	**N**	**% (of total cases)**
Residents	2927	73.5
Patients	156	3.9
Staff	898	22.6
Total Cases	**3981**	**100.0**
Deaths		**% (of cases per role)**
Residents	101	3.5
Patients	7	4.5
Staff	0	0.0
Pneumonia (Chest x-ray confirmed)		**% (of cases per role)**
Residents	96	3.3
Patients	11	7.1
Staff	0	0.0
Hospitalizations		**% (of cases per role)**
Residents	219	7.5
Staff	0	0.0

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/09]

* Season to date includes all outbreaks in which the date of onset of illness in the first case occurred from September 1, 2010 – February 5, 2011

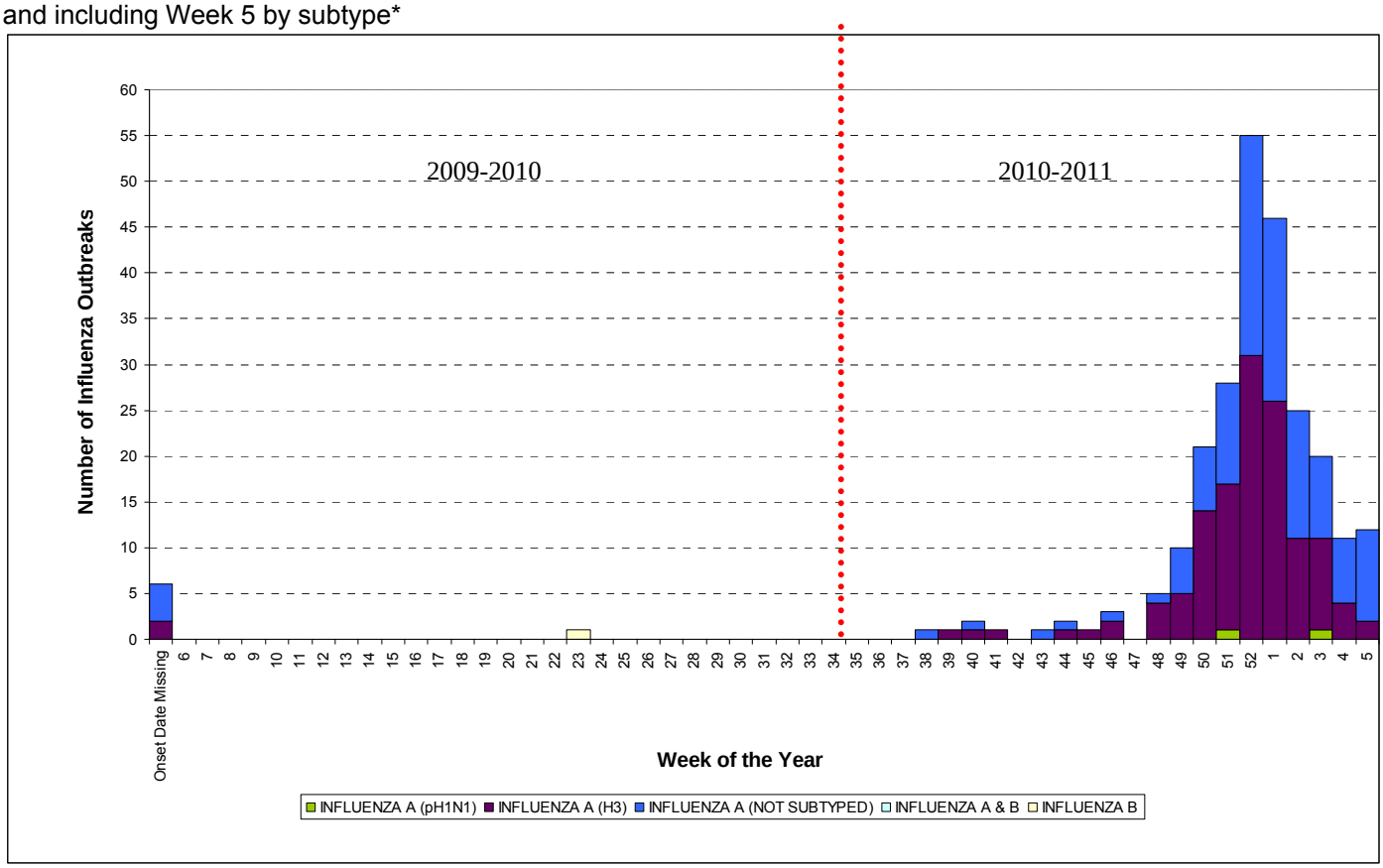
†Outbreak related case counts are based on aggregate case counts submitted for each outbreak and include laboratory and epidemiologically linked cases.

Figure 7: Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total outbreaks up to and including Week 5 by causative organism



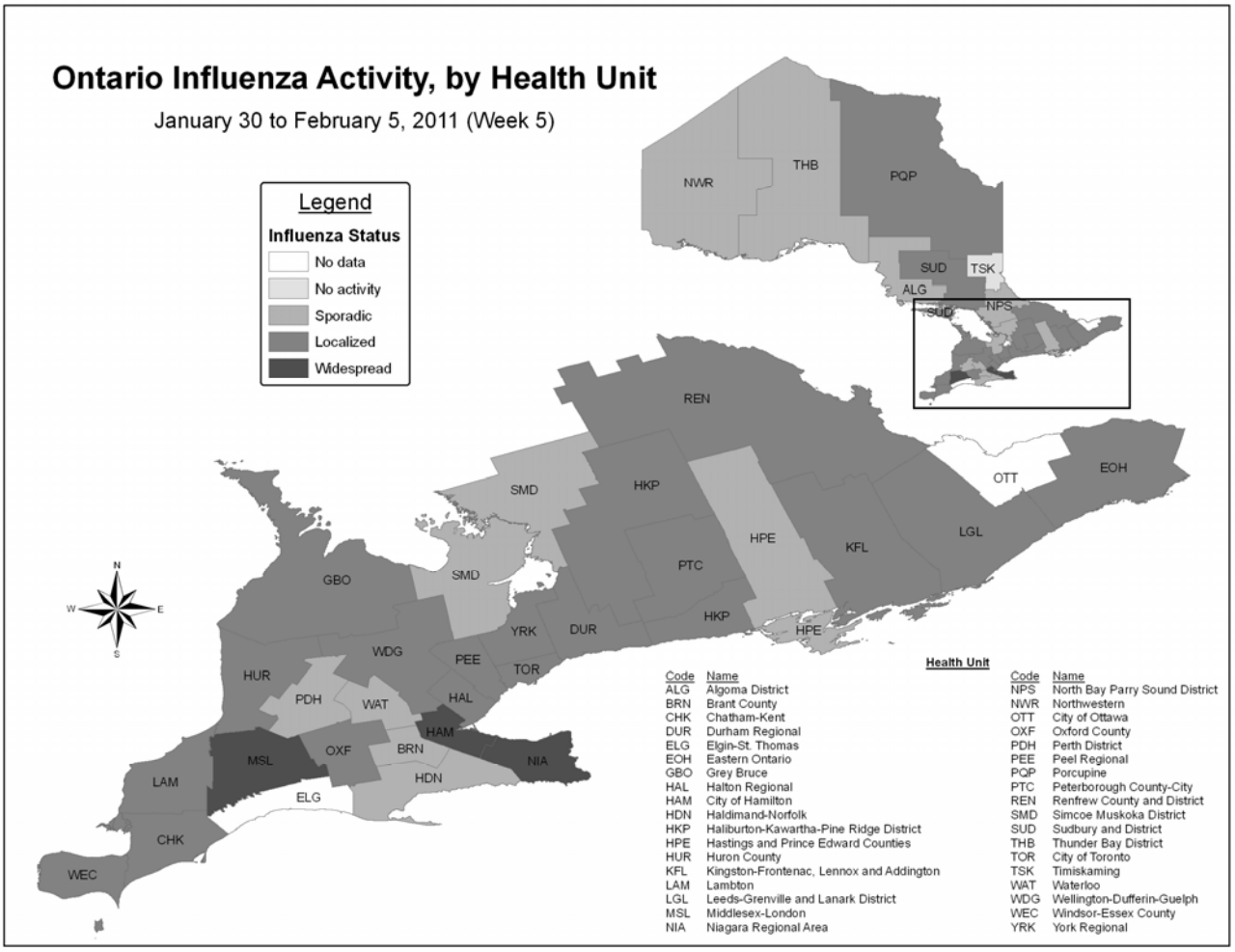
Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/09]

Figure 8: Institutional influenza outbreaks in Ontario by onset of illness in the first case: Total outbreaks up to and including Week 5 by subtype*



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/09]
*School outbreaks are not included in this chart.

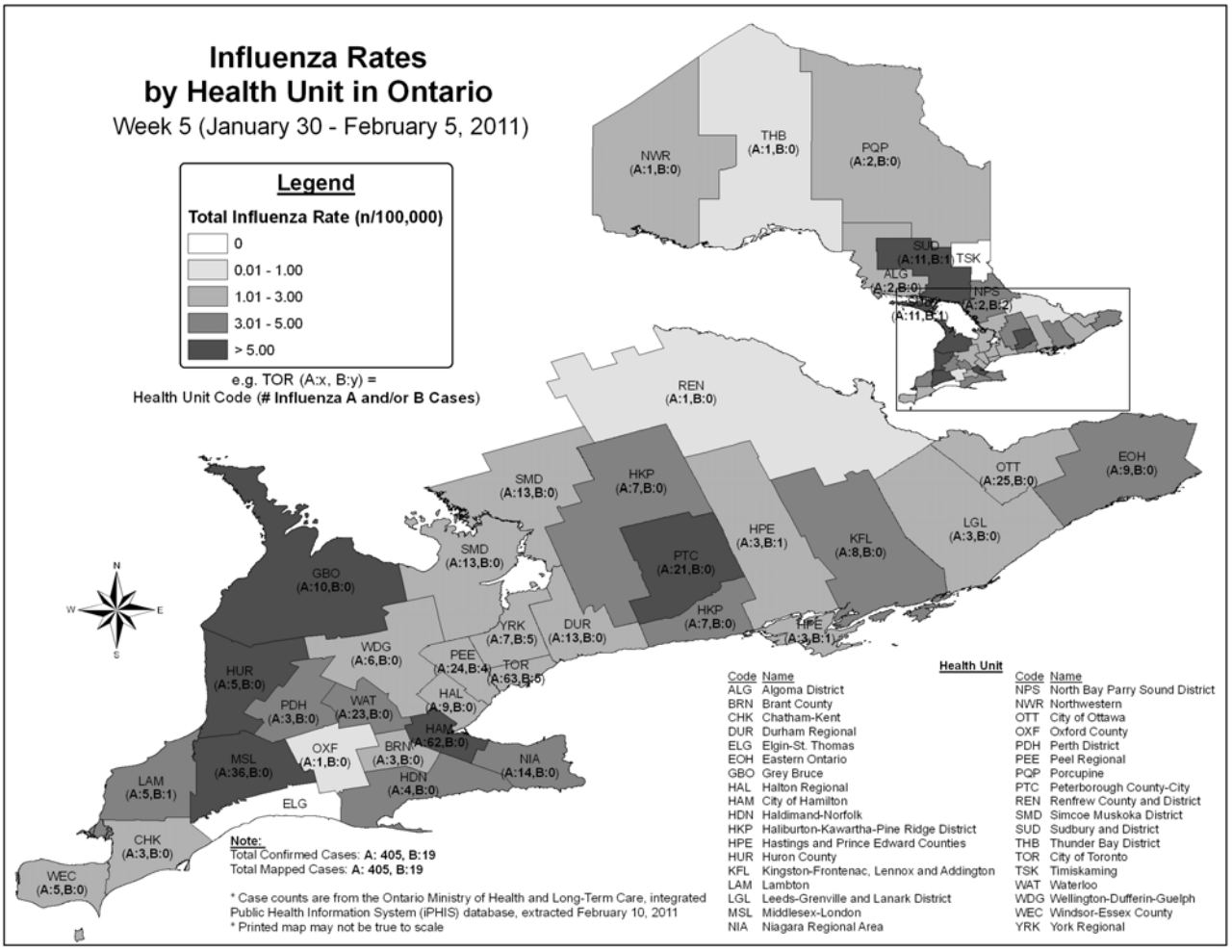
Figure 9: Influenza activity* levels in Ontario by health unit for Week 5, 2011



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

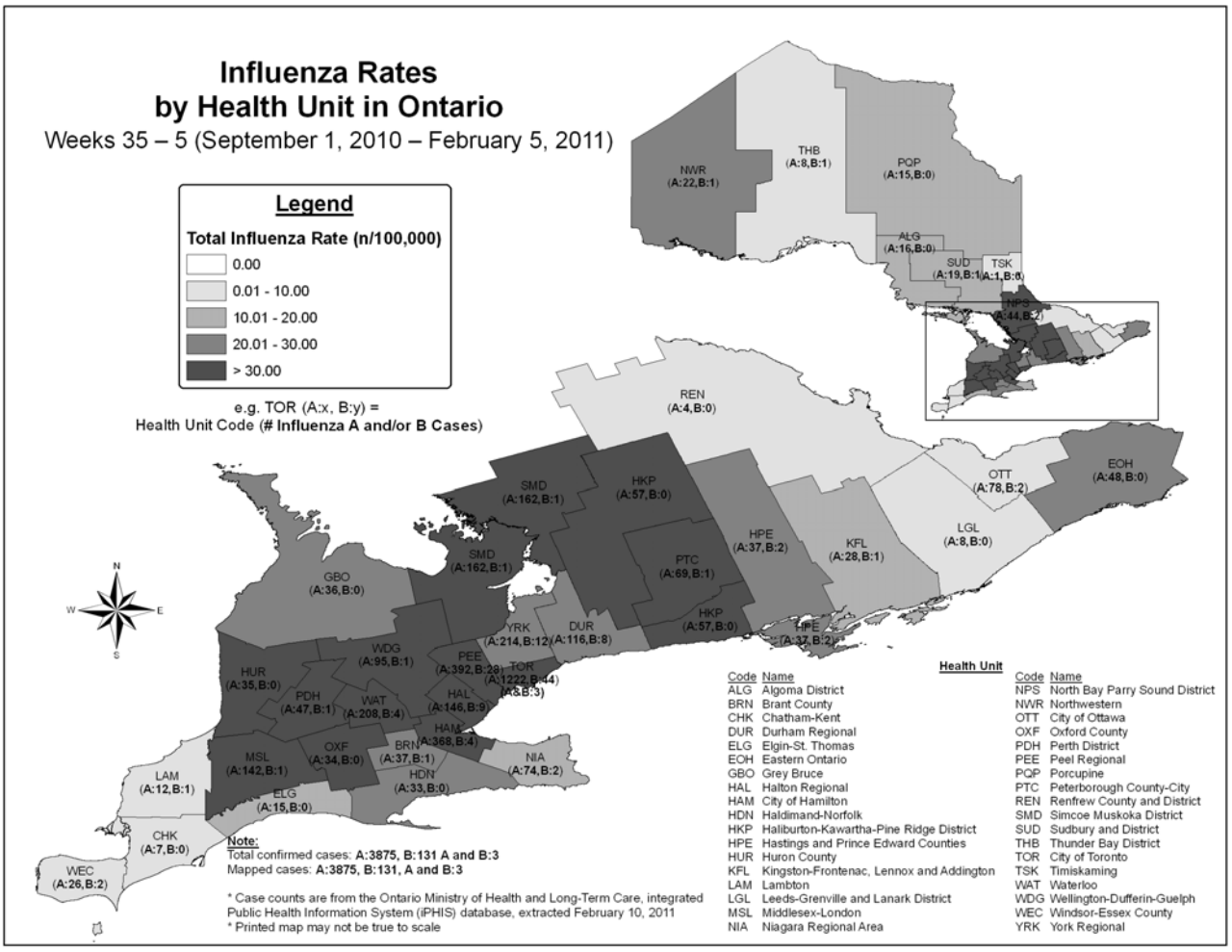
* Influenza activity levels are assigned by local public health units and reported to the MOHLTC by the Tuesday following the end of the surveillance week at 4 pm. Activity levels are assigned based on laboratory confirmations, ILI reports from various sources, and laboratory confirmed institutional 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 5, 2011



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10]

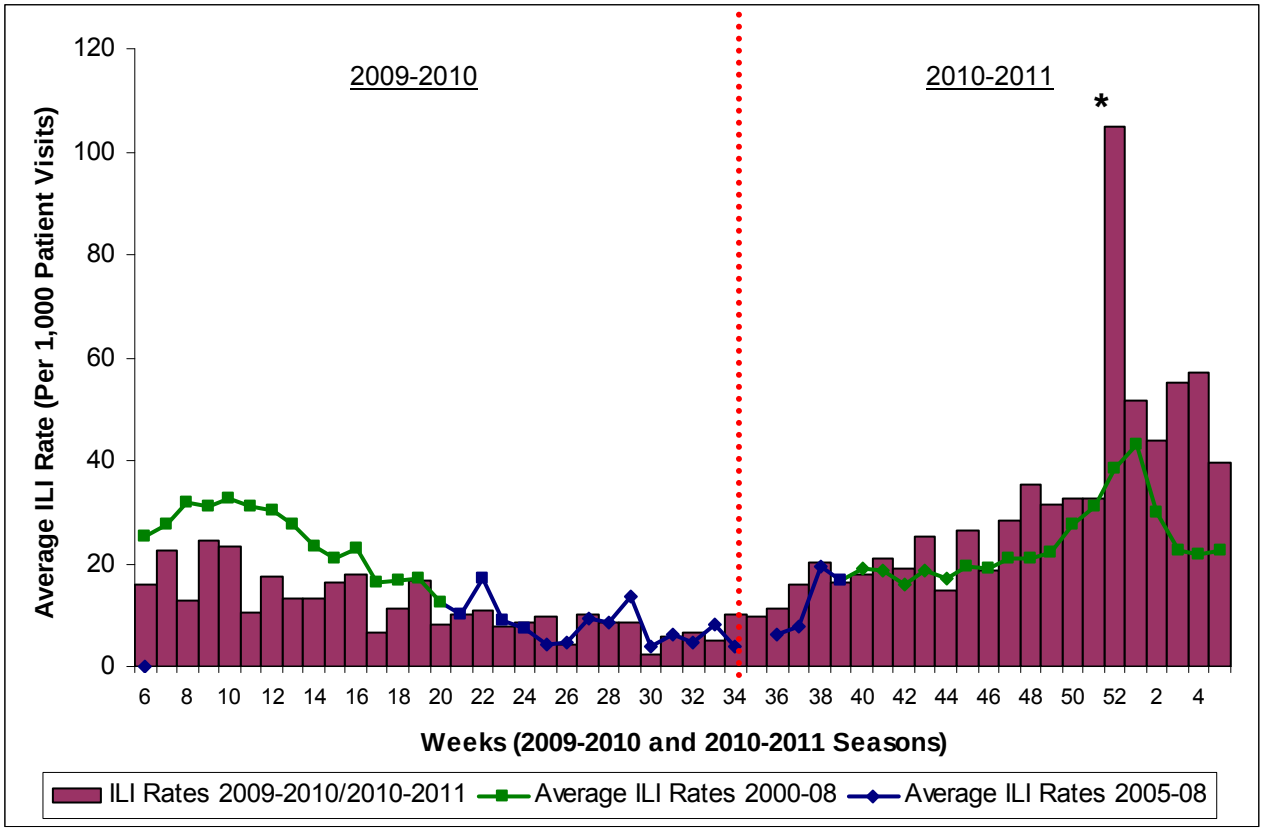
Figure 11: Influenza cumulative incidence rates and counts in Ontario by health unit, Week 35 to Week 5 (September 1, 2010 – February 5, 2011)*



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2011/02/10]

* Please note that the categories for this week's map have been changed to account for the increase in cumulative incidence rates and counts.

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).



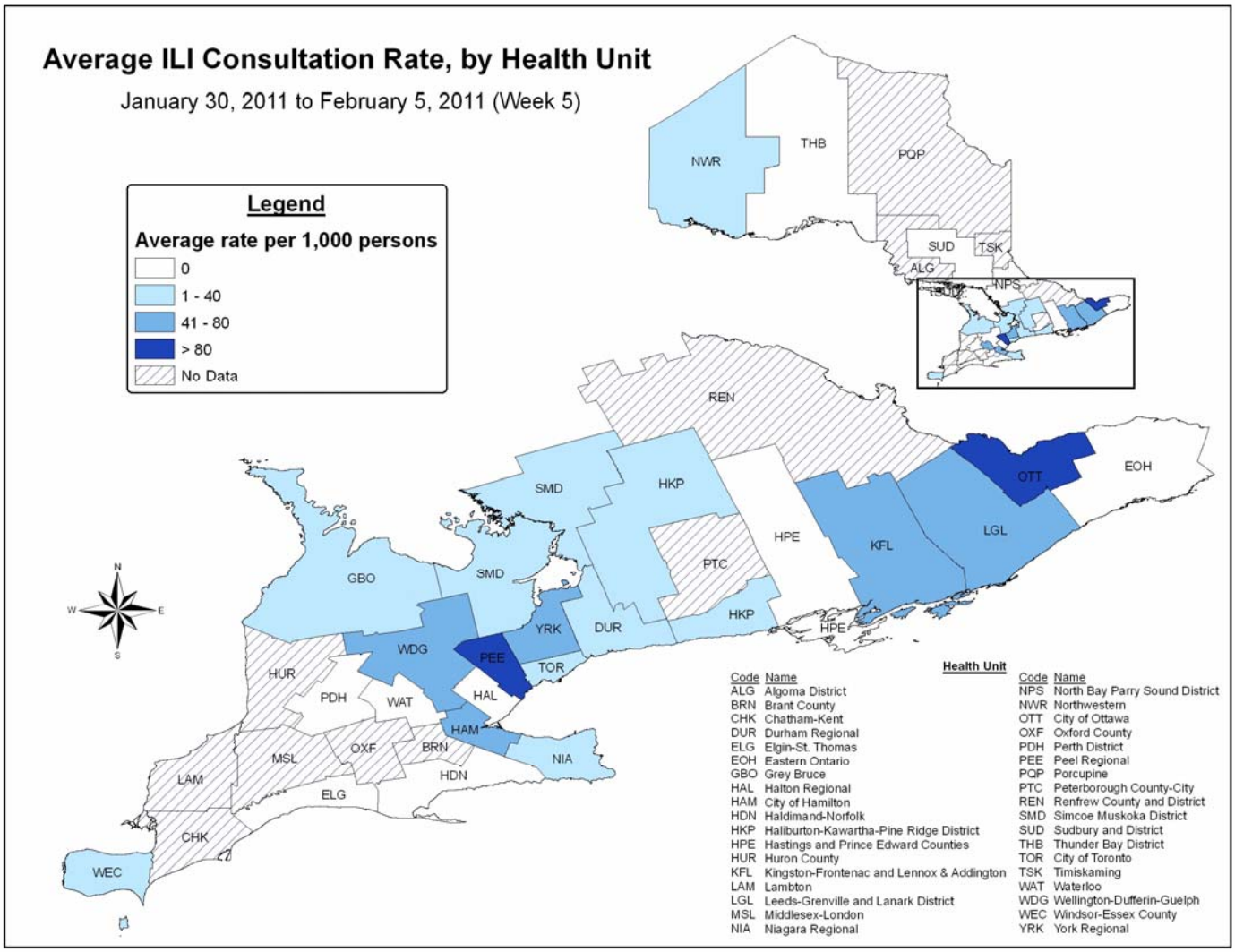
Source: Public Health Agency of Canada

* Sentinel physician information is reported to Public Health Agency of Canada, 97 sentinels reported in Week 5. 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.

**Please note that the ILI consultation rate for Week 4 has been updated due to several data errors identified in the original file.

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 5



Source: Public Health Agency of Canada

* Sentinel physicians report ILI and patient data to the Public Health Agency of Canada; 97 sentinels reported in week 5 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 5.

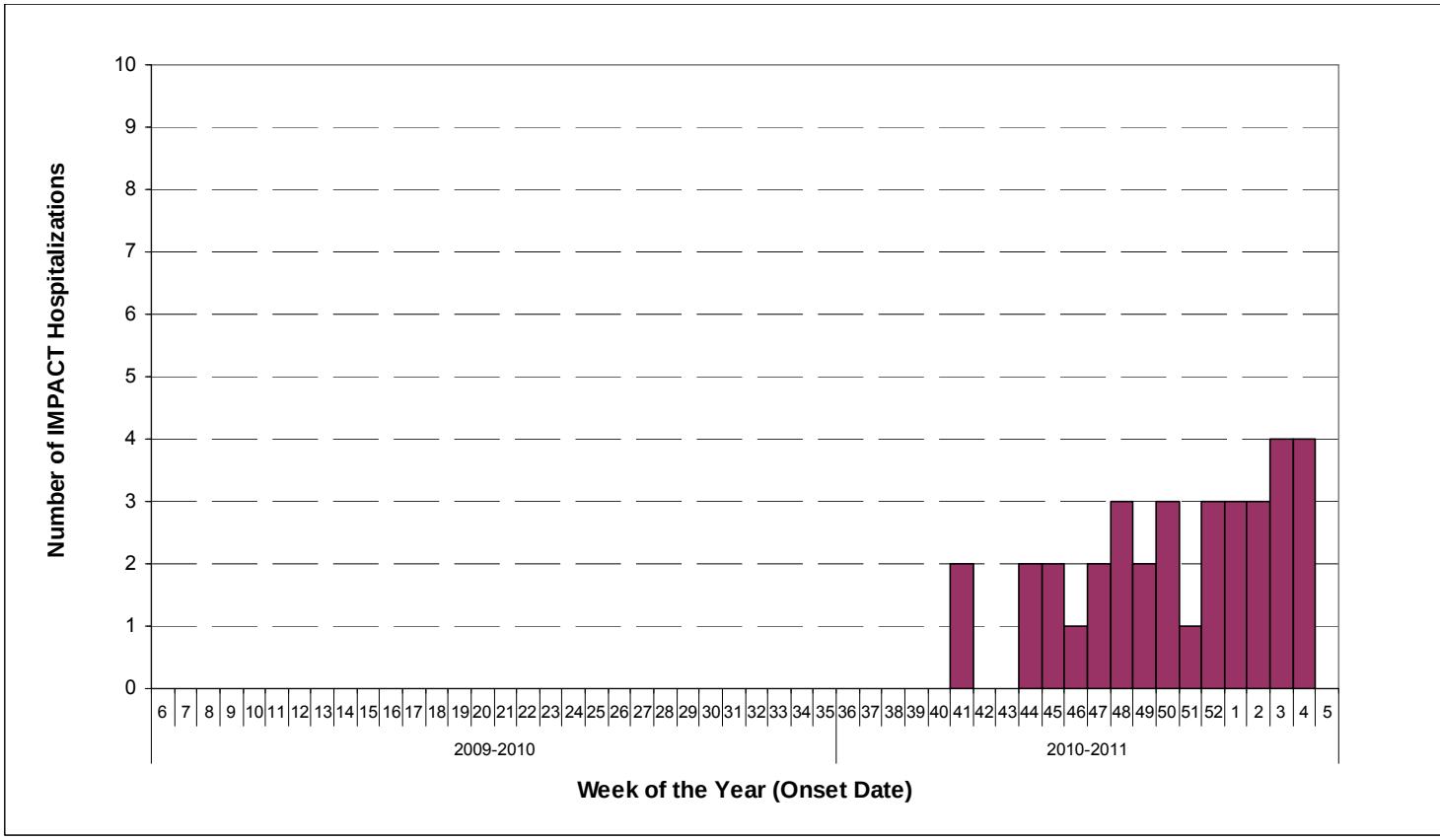
Age Category	0 – 4	5 – 19	20 – 64	65 +	Unknown	TOTAL
ILI Sum	18	15	61	8	0	102
ILI Consultation Rate (per 1,000 patient visits)	91.37	51.19	37.82	16.63	0.00	39.47

Source: Public Health Agency of Canada
Sentinel physician information is reported to the Public Health Agency of Canada; 97 sentinels reported in week 5.

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 5, 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
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**.