



Ontario Influenza Bulletin | 2011-2012

SURVEILLANCE WEEK 47 (November 20, 2011 – November 26, 2011)

This issue of the Ontario Influenza Bulletin provides information on the surveillance period from November 20, 2011 to November 26, 2011 (week 47). **All data are for week 47** and data extraction and analysis for this issue of the Bulletin occurred on November 30, 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 and Other Respiratory Virus Activity in Ontario

Measure of Activity	Assessment of measure compared to previous week (Lower, Similar, Higher)	Reasoning behind assessment
Laboratory Confirmed Influenza Cases	Higher	Five new (5) influenza cases were reported* in week 47, which is higher than week 46 (1). The percent positivity of laboratory tests for influenza in Ontario was 1.0% for week 47, higher than week 46 (0.1%) (Figure 3).
Respiratory virus activity	Enterovirus activity is higher	Among circulating respiratory viruses, enterovirus had the highest percent positivity at 9.98% (Table 2).
Institutional Respiratory Infection Outbreaks	No Change	No new institutional influenza outbreaks were reported, however there were two new institutional respiratory infection outbreaks reported for week 47, including one enterovirus outbreak.
Influenza Activity Levels Reported by Health Units	Higher	Middlesex-London, Toronto, Simcoe-Muskoka, and Hamilton health units reported 'sporadic' level influenza activity, while the remaining health units either reported no activity or did not report for week 47 which is higher than week 46.
ILI Consultation Rate reported by Sentinels	Slightly higher	The provincial ILI consultation rate increased from 18.58/1,000 patient visits in week 46 to 21.71/1,000 patient visits in week 47. This rate is similar to the average rate for week 47 from previous years.
OVERALL ASSESSMENT FOR VIRUS ACTIVITY	Influenza activity in Ontario was slightly <i>higher</i> compared to the previous week.	Overall, the indicators show that influenza activity was <i>slightly higher</i> during week 47 compared to week 46.
Measure of Severity for Influenza		
Hospitalizations Among Lab Confirmed Cases of Influenza	Higher	There were three hospitalized case reported* from November 20 to November 26, which is more than the number (1) reported from November 13 to November 19.
Deaths Among Lab Confirmed Cases of Influenza	No Change	No deaths were reported* from November 20 to November 26, which is the same as the number reported from November 13 to November 19.

*This is the number of cases by **reported** date from iPHIS and needs to be interpreted with caution as there is a lag between the onset of illness, hospital admission or death and when this information is reported to public health.

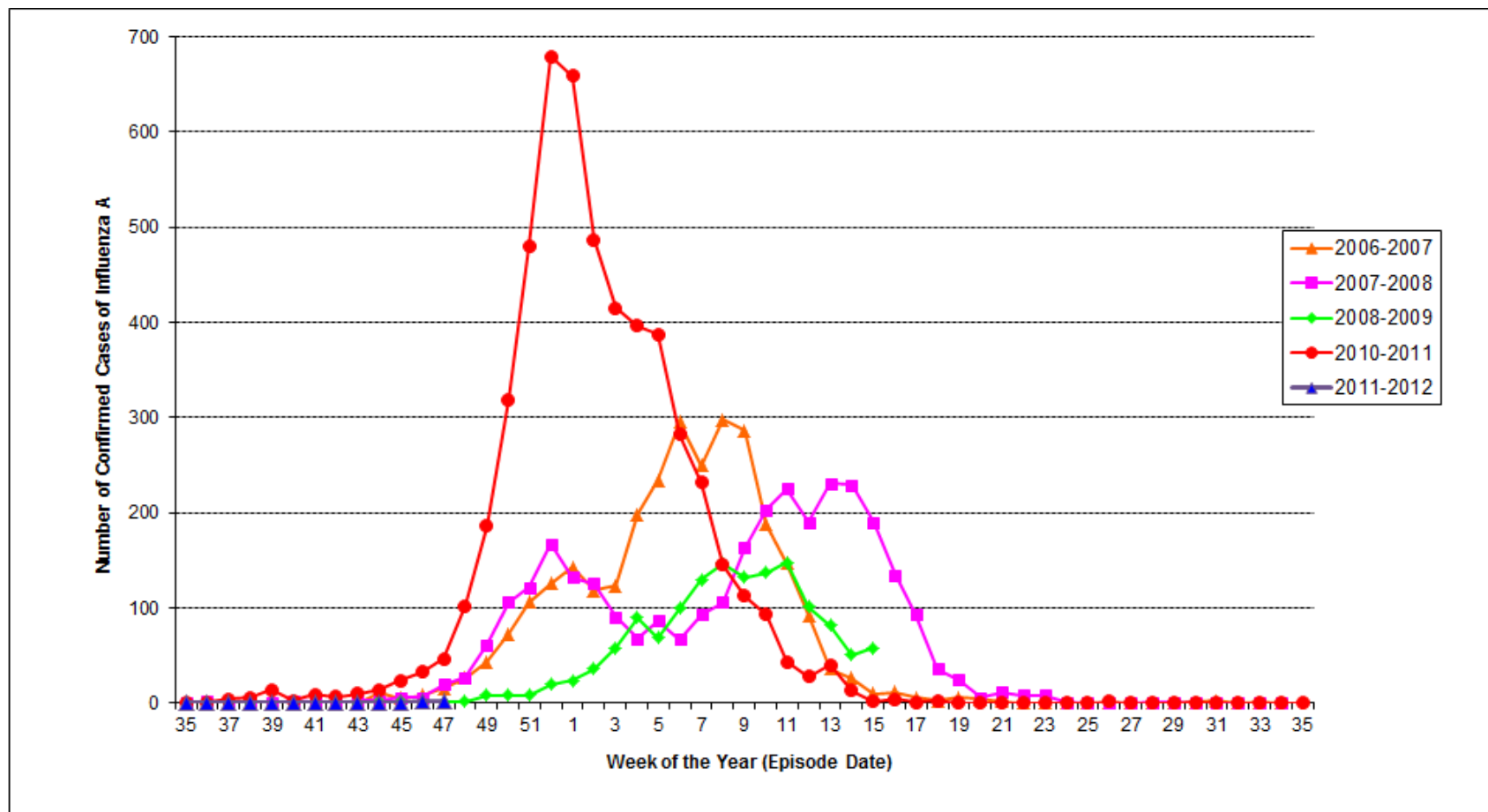
Summary of current and season to date influenza activity

- There has been little to no influenza activity for the 2011-2012 season to date although activity appears to be increasing:
 - Influenza activity appears to be increasing in Ontario. Five cases of influenza were identified from Middlesex-London (2), Toronto (1), Simcoe-Muskoka (1) and Hamilton (1) health units in week 47. Prior to week 47 only four cases had been identified since September 1. A total of 9 influenza cases have been identified for the 2011-2012 surveillance season to date. Cases have been identified in several health units around the province (Table 1). Currently, the majority of cases reported to date have been identified with the H3 subtype (6/9).
 - Of the cases of influenza that have been reported, 66.7% (6/9) have been hospitalized.
 - Compared to the same period in the 2010-2011 season, fewer cases and fewer influenza A outbreaks were reported this season from September 1 to November 26.
- The majority of ILI activity in Ontario from September 1 to November 26, 2011 can be attributed to entero/rhinovirus.
 - The majority of outbreaks (~60.8%) had entero/rhinovirus identified as the causative organism (Table 3).
 - Enterovirus has had the highest percent positivity among laboratory tests of respiratory samples for the current week and for the season to date (Table 2). Enterovirus activity in week 47 (9.98% positivity) increased in comparison to week 46 (6.44% positivity).

Information on surveillance weeks for the 2011/12 season, ILI definitions, and links to surveillance reports from other jurisdictions can now be found at:

<http://www.oahpp.ca/resources/flubulletin.html>

Figure 1: Confirmed cases of influenza A in Ontario by episode date, reported from Sep. 1, 2006 to Nov. 26, 2011[†]



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/30].

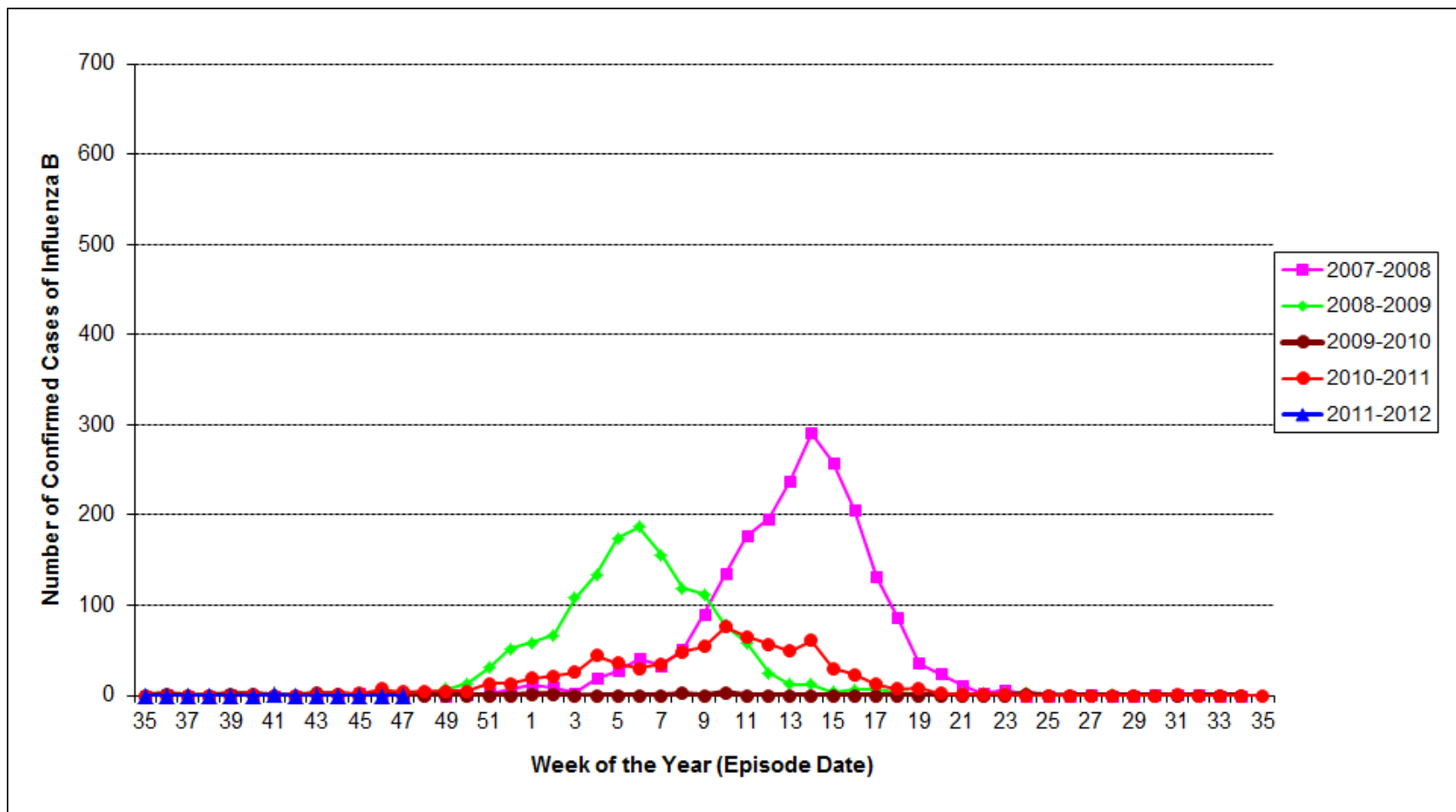
[†] Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)

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 influenza season. Additionally, all cases from the 2009-10 influenza season were excluded from this graph due to its incomparability to a regular influenza season as a result of the influenza A(H1N1)pdm09 pandemic.

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

Note: Interpret tail of 2011-2012 line with caution due to reporting lags.

Figure 2: Confirmed cases of influenza B in Ontario by episode date reported from Sep. 1, 2007 to Nov. 26, 2011[†]



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/30].

[†] 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: Interpret tail of 2011-2012 line with caution due to reporting lags.

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Table 1: Confirmed cases with a reported date during week 47 and cumulative cases (in brackets) of influenza by health unit and health region since September 1, 2011

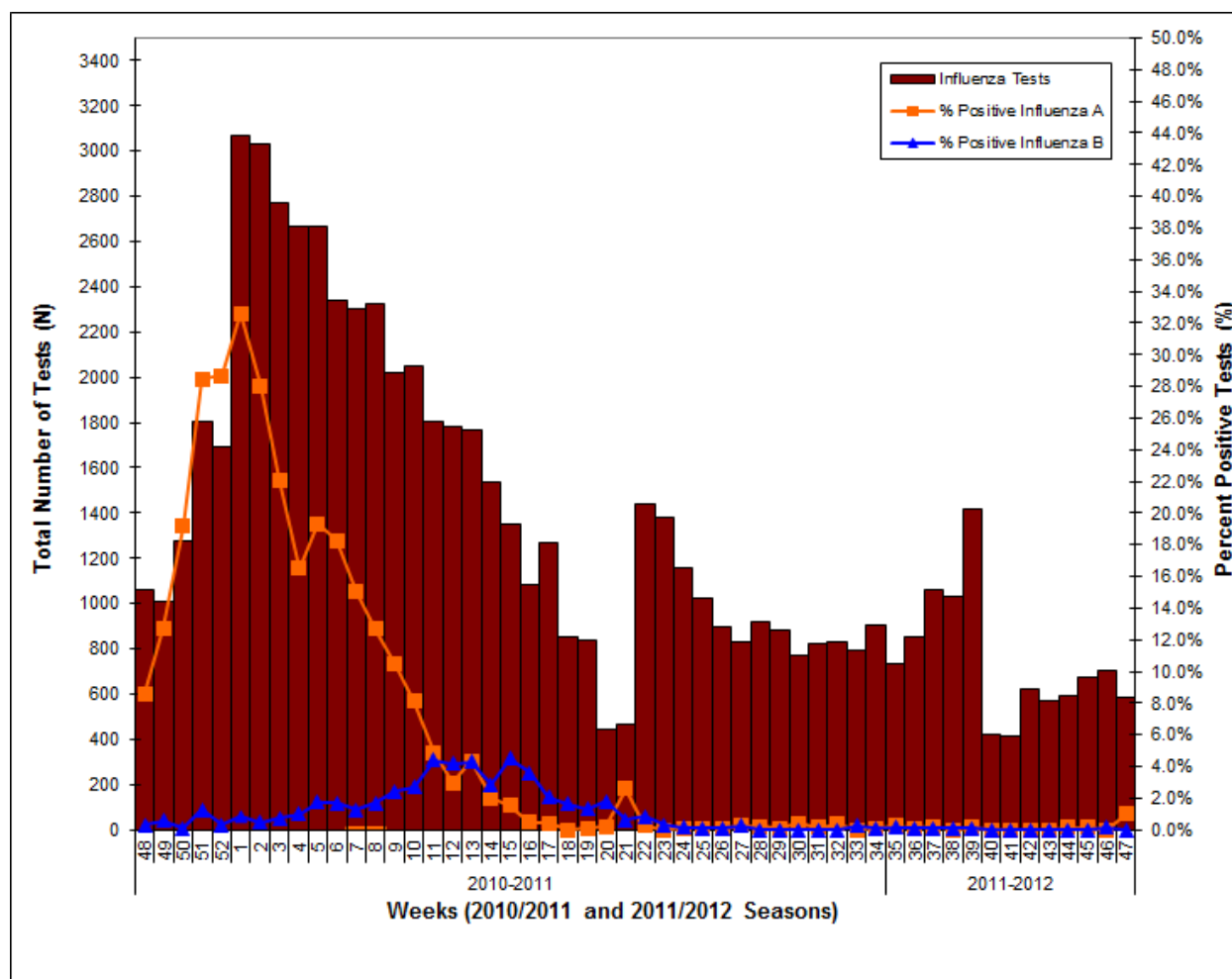
Region	Health Unit	Influenza A				Influenza A & B	Influenza B	TOTAL
		(H1N1) pdm09	No Subtype/Not Subtyped	Other*	H3			
North West	Northwestern	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Thunder Bay District	0 (0)	0 (0)	0 (0)	0 (1)	0 (0)	0 (0)	0 (1)
	TOTAL NORTH WEST	0 (0)	0 (0)	0 (0)	0 (1)	0 (0)	0 (0)	0 (1)
North East	Algoma	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	North Bay Parry Sound District	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Porcupine	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Sudbury & District	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Timiskaming	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	TOTAL NORTH EAST	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Eastern	City of Ottawa	0 (0)	0 (0)	0 (0)	0 (1)	0 (0)	0 (0)	0 (1)
	Eastern Ontario	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Hastings & Prince Edward Counties	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Kingston, Frontenac, Lennox & Addington	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Leeds, Grenville And Lanark District	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Renfrew County And District	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	TOTAL EASTERN	0 (0)	0 (0)	0 (0)	0 (1)	0 (0)	0 (0)	0 (1)
Central East	Durham Region	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Haliburton, Kawartha, Pine Ridge	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Peel Region	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Peterborough County-City	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Simcoe Muskoka District	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	1 (1)
	York Region	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	TOTAL CENTRAL EAST	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	1 (1)
Toronto	Toronto	1 (1)	0 (0)	0 (0)	0 (1)	0 (0)	0 (1)	1 (3)
	TOTAL TORONTO	1 (1)	0 (0)	0 (0)	0 (1)	0 (0)	0 (1)	1 (3)
South West	Chatham-Kent	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Elgin-St. Thomas	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Grey Bruce	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Huron County	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Lambton County	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Middlesex-London	0 (0)	0 (0)	0 (0)	2 (2)	0 (0)	0 (0)	2 (2)
	Oxford County	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Perth District	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Windsor-Essex County	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	TOTAL SOUTHWEST	0 (0)	0 (0)	0 (0)	2 (2)	0 (0)	0 (0)	2 (2)
Central West	Brant County	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	City Of Hamilton	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
	Haldimand-Norfolk	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Halton Region	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Niagara Region	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Waterloo Region	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Wellington-Dufferin-Guelph	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	TOTAL CENTRAL WEST	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
	TOTAL ONTARIO	1 (1)	1 (1)	0 (0)	3 (6)	0 (0)	0 (1)	5 (9)

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/30].

*includes indeterminate, untypeable and other subtypes

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Figure 3: Total number of influenza tests performed and percent of positive tests in Ontario, by report week*



Source: Public Health Agency of Canada. These data have been obtained from the Respiratory Virus Detection tables of the Public Health Agency of Canada from 16 labs in Ontario and do not include data from late reports to PHAC for the current season: Week 47, 2011. Please note that the last version received from PHAC as of 1:50PM on December 1, 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/>

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Table 2. Number of respiratory specimens tested by all methods for influenza and other respiratory viruses and percent positivity, week 47

Detected viruses	Number and percent positive specimens		Total number of specimens tested	
	Current n (%)	Cumulative n (%)	Current n	Cumulative n
Influenza A (all)	6 (1.02)	9 (0.15)	587	6148
Influenza B	0 (0)	1 (0.02)	587	6148
Parainfluenza virus	42 (8.73)	323 (6.2)	481	5209
Adenovirus	14 (2.91)	69 (1.32)	481	5209
Respiratory Syncytial Virus	19 (3.93)	78 (1.48)	484	5274
Enterovirus	48 (9.98)	533 (12.82)	481	4156
Human metapneumovirus	0 (0)	4 (0.14)	178	2774
Coronavirus	4 (2.34)	12 (0.7)	171	1721

Source: CIRID, Public Health Agency of Canada. These data have been obtained from the Respiratory Virus Detection tables of Public Health Agency of Canada from 16 labs in Ontario and do not include data from late reports to PHAC for the current season: Week 47, 2011. Please note that the last version received from PHAC as of 1:50PM on November 30, 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/>

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Table 3: Institutional respiratory infection outbreaks in Ontario: new outbreaks* in week 47 and total outbreaks for the season**

Institutional Respiratory Infection Outbreaks		
New Outbreaks*	N	% (of outbreaks)
Influenza A (All subtypes)	0	0.0
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	0	0.0
RSV	0	0.0
Combined Outbreaks [†]	0	0.0
Other organisms ^α	0	0.0
Entero/rhinovirus	1	50.0
No organism identified	1	50.0
TOTAL	2	100.0
Total Respiratory Infection Outbreaks of the Season to date**	N	% (of outbreaks)
Influenza A (All subtypes)	0	0.0
Influenza B	0	0.0
Influenza A and B	0	0.0
Parainfluenza (All types)	5	4.0
RSV	1	0.8
Combined Outbreaks [†]	4	3.2
Other organisms ^α	0	0.0
Entero/rhinovirus	76	60.8
No organism identified	39	31.2
TOTAL	125	100.0
Types of Institutions – All Outbreaks **	N	% (of outbreaks)
Long-Term Care Homes	81	64.8
Hospitals	9	7.2
Retirement Homes	16	12.8
Other	0	0.0
Not Reported	19	15.2
TOTAL	125	100.0

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/30]

* 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. November 20, 2011 – November 26, 2011

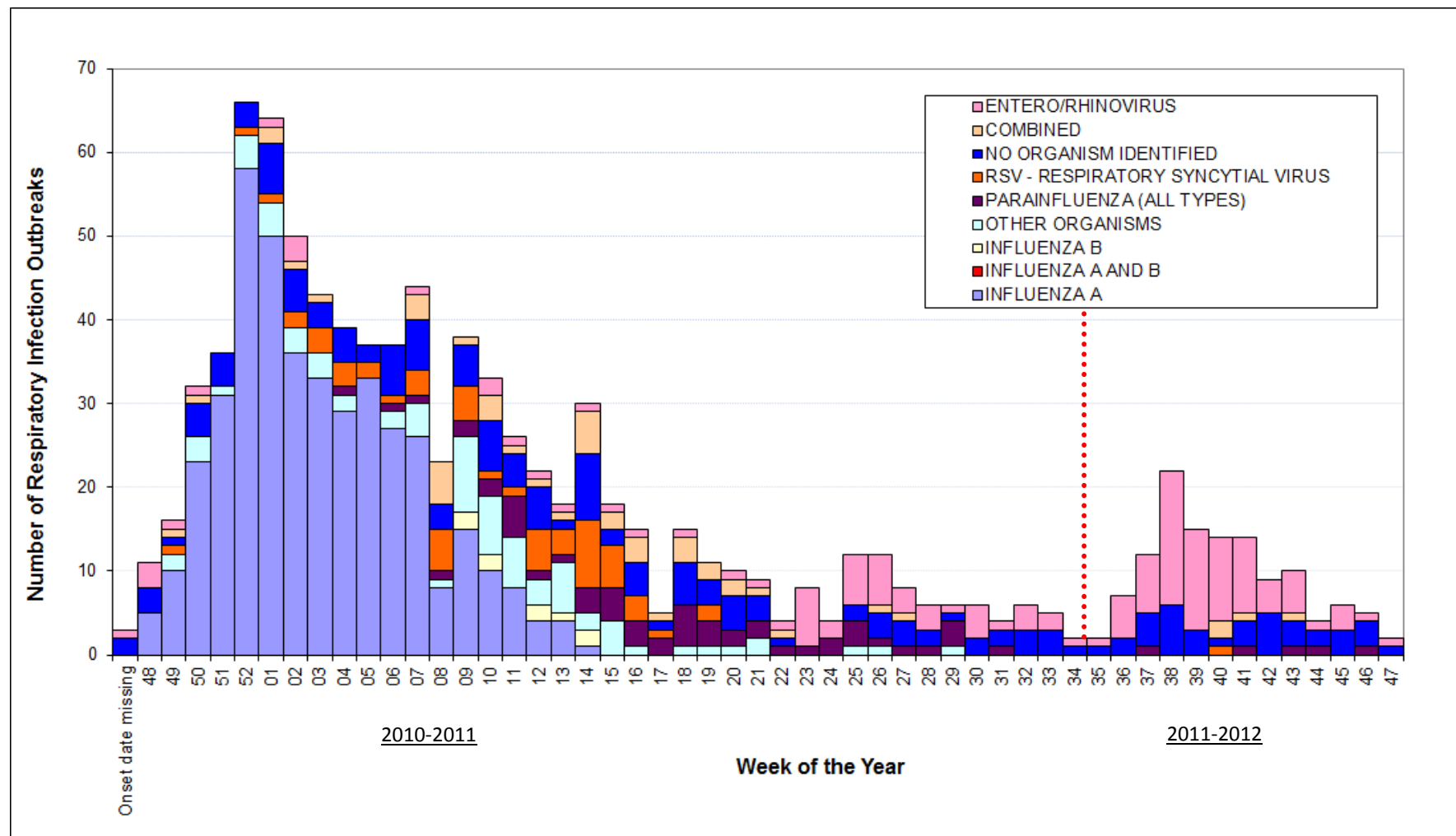
** Season to date includes all outbreaks in which the date of onset of illness in the first case occurred up to Week 47.

[†] 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.

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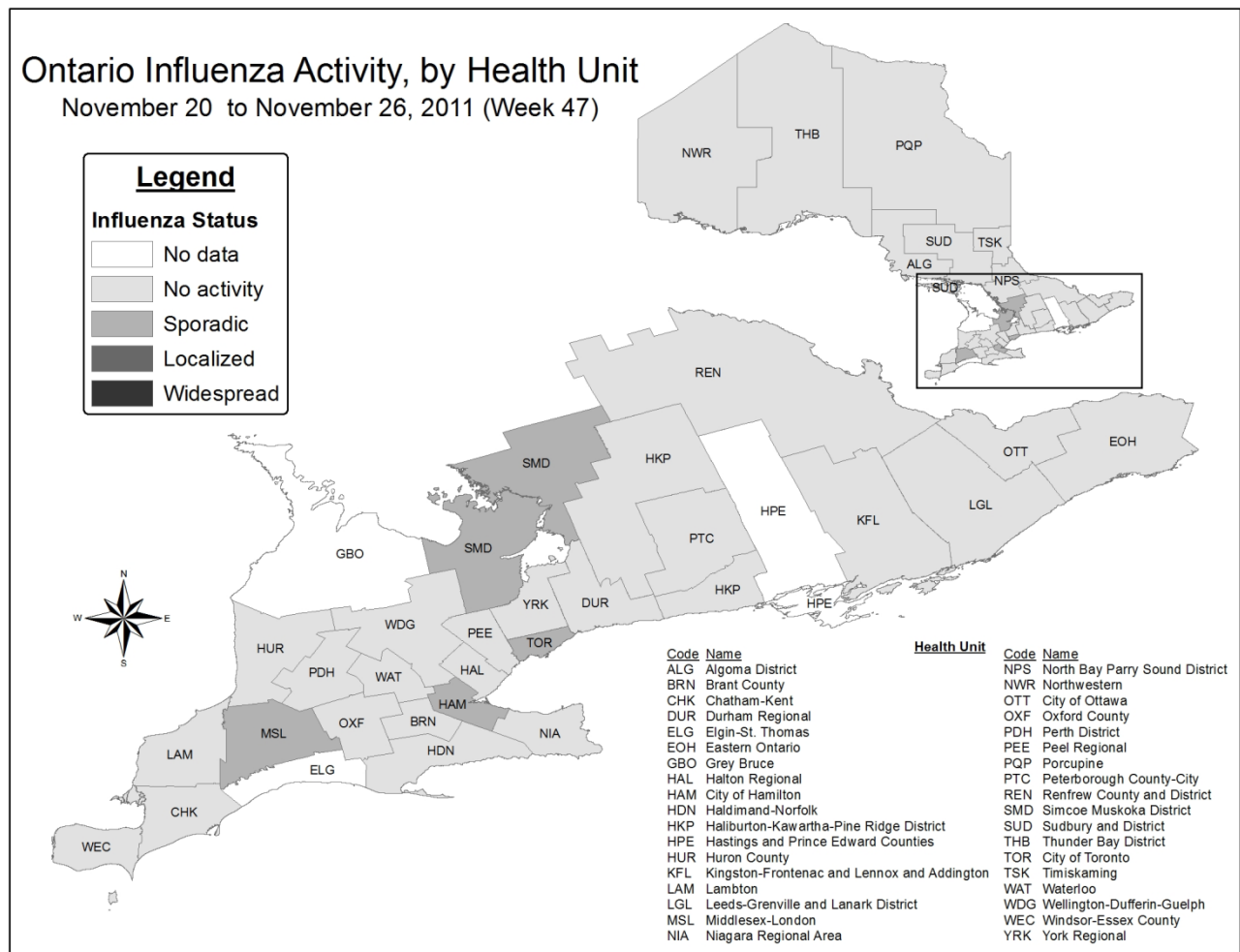
Figure 4: Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total outbreaks up to and including week 47 of the 2011-2012 season by causative organism



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/30]

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Figure 5: Influenza activity* levels in Ontario by health unit for week 47, 2011

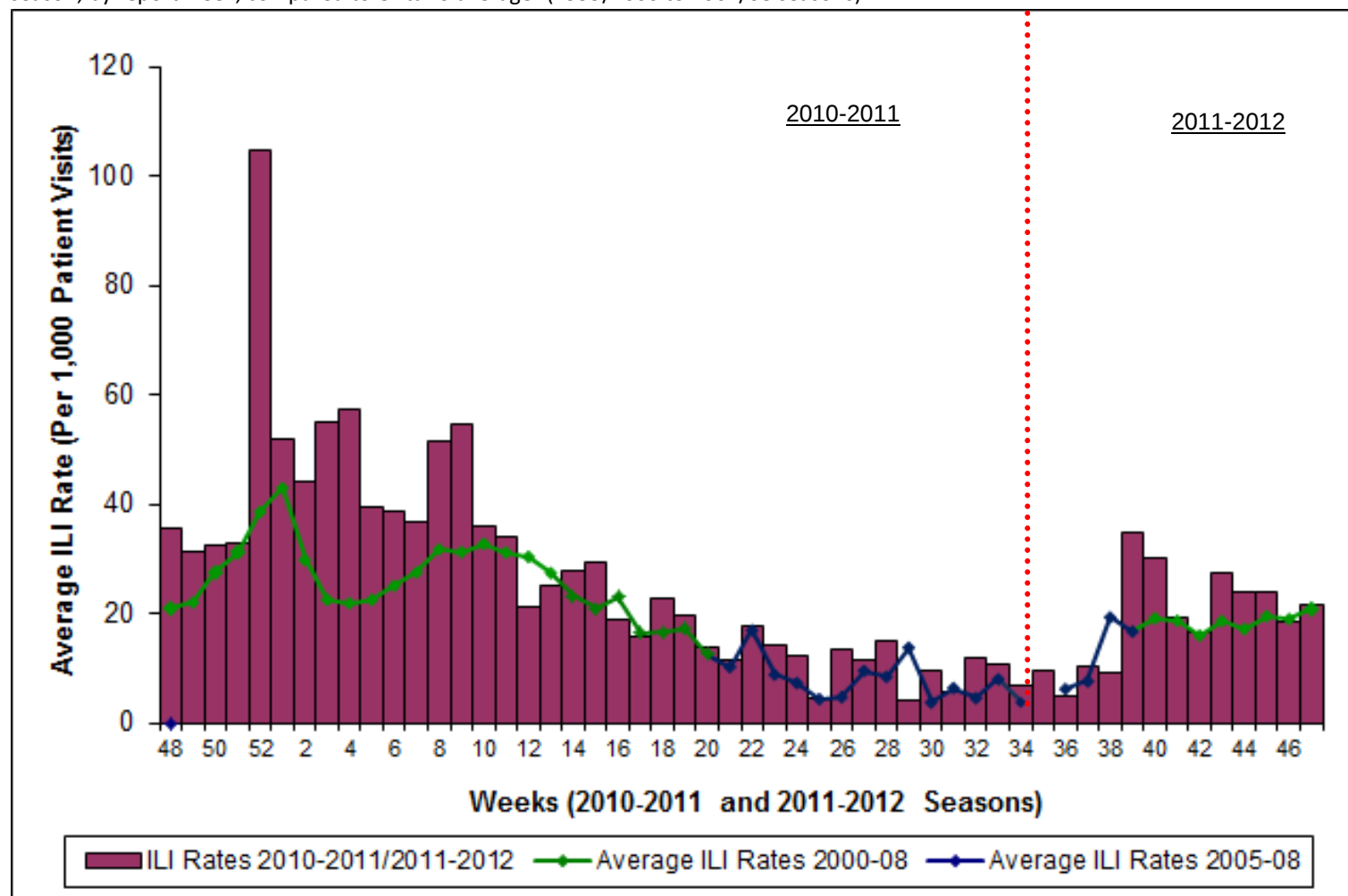


Source: MOHLTC [Provincial Influenza Activity Report (Appendix C) Database]

* 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 respiratory infection outbreaks. Please refer to detailed definitions for the 2011-2012 season included in the Appendix-1]

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Figure 6: Average influenza-like illness (ILI) consultation rate (per 1,000 patient visits) reported by sentinels* in Ontario up to week 47 of the 2011-2012 surveillance season, by report week, compared to Ontario average[†] (1999/2000 to 2007/08 seasons).



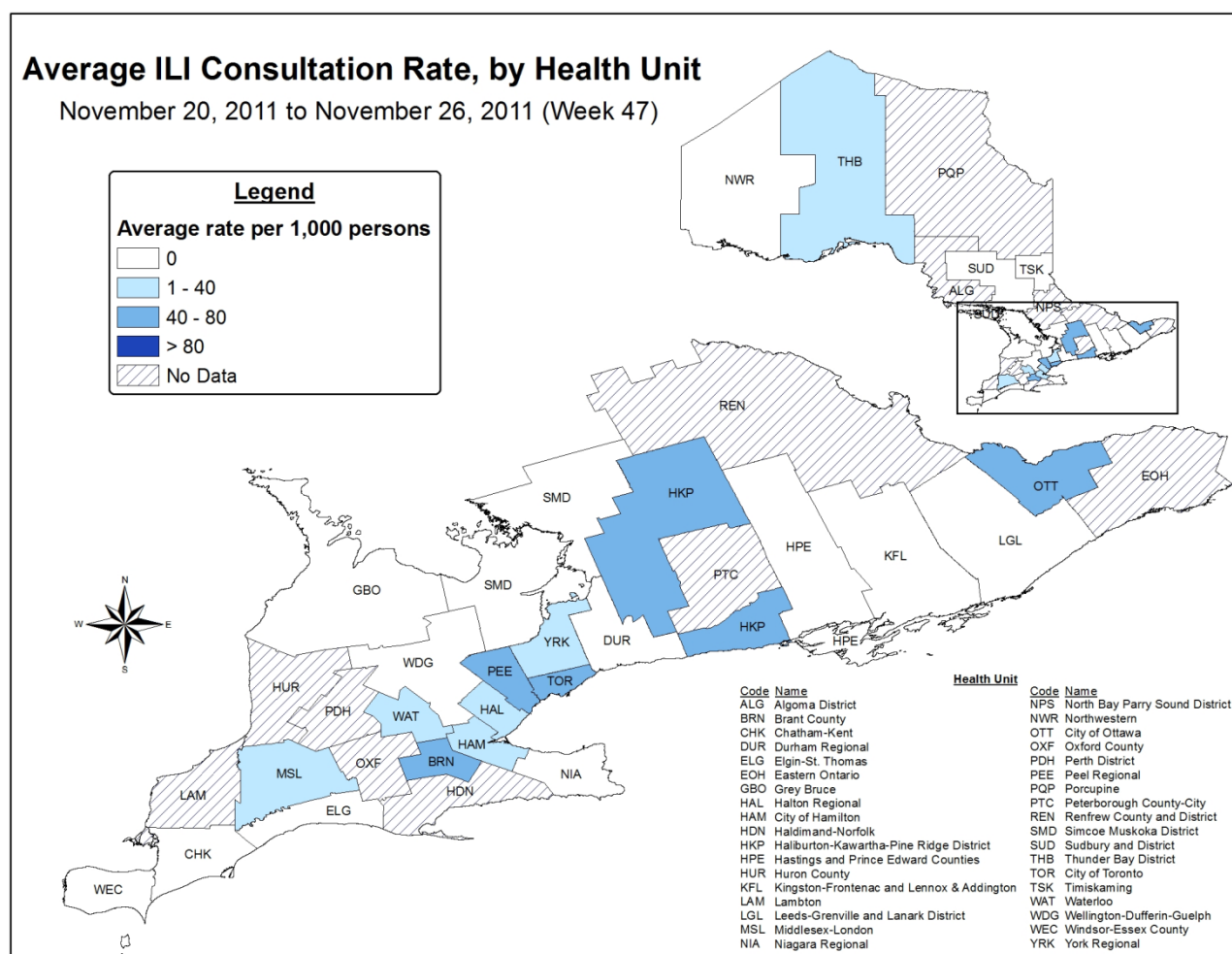
Source: Public Health Agency of Canada

* Sentinel information is reported to Public Health Agency of Canada, 80 sentinels reported in Week 47. The large increase in week 52 of last season may be due to a combination of factors including: a true increase in influenza activity, reduced office hours, fewer routine visits, and significantly fewer sentinels reporting compared to normal (only 49 sentinels reported in the last week of December, 2010, compared to at least 80 physicians normally reporting during any given week in the influenza season).

[†] No data were available for mean rate calculations for 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.

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Figure 7: Average influenza-like illness consultation rate (per 1,000 patient visits) by health unit as reported by sentinels * in Ontario, for week 47



Source: Public Health Agency of Canada

* Sentinels report ILI and patient data to the Public Health Agency of Canada; 84 sentinels reported in week 47, of which 80 were matched to a health unit and represented in the above map.

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

Table 4: Average influenza-like illness consultation rate (per 1,000 patient visits) by age group as reported by sentinels*in Ontario, for Week 47.

Age Category	0 – 4	5 – 19	20 – 64	65 +	Unknown	TOTAL
Number of ILI Consultations	16	10	20	8	0	54
ILI Consultation Rate (per 1,000 patient visits)	96.39	36.63	14.79	13.99	0.00	21.71

Source: Public Health Agency of Canada

* Sentinel information is reported to the Public Health Agency of Canada; 80 sentinels reported in week 47.

APPENDIX - I

Table 1: NML strain characterization, influenza isolates in Ontario and Canada, September 1, 2011 to November 24, 2011.

	Ontario	Canada
Influenza A (H3N2) A/Perth/16/2009-like	1	7
Influenza A(H1N1)pdm09 A/California/07/09-like	0	0
Influenza B B/Brisbane/60/2008-like	0	3
Influenza B B/Wisconsin/01/2010-like	0	2

Source: Influenza

and Respiratory Viruses Section, National Microbiology Laboratory (NML)
Please note that the last version received from PHAC as of 12:30PM on November 24, 2011 was used.

Table 2: Amantadine, Oseltamivir and Zanamivir susceptibility assays completed on Canadian influenza isolates by NML, September 1, 2011 to November 24, 2011.

Influenza strains	Amantadine				Oseltamivir				Zanamivir			
	Ontario		Canada		Ontario		Canada		Ontario		Canada	
	R	S	R	S	R	S	R	S	R	S	R	S
Influenza A (H3N2)	4	0	7	0	0	1	0	7	0	1	0	7
Influenza A(H1N1)pdm09	0	0	0	0	0	0	0	0	0	0	0	0
Influenza B	NA	NA	NA	NA	0	0	0	5	0	0	0	5

(R-Resistant, S- Susceptible, NA-Not applicable)

Source: Influenza and Respiratory Viruses Section, National Microbiology Laboratory (NML)

Please note that the last version received from PHAC as of 12:30PM on November 24, 2011 was used.