



Ontario Influenza Bulletin | 2011-2012

SURVEILLANCE WEEK 45 (November 6, 2011 – November 12, 2011)

This issue of the Ontario Influenza Bulletin provides information on the surveillance period from November 6, 2011 to November 12, 2011 (week 45). **All data are for week 45** and data extraction and analysis for this issue of the Bulletin occurred on November 16, 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	Similar	One new (1) influenza case was reported* in week 45, which is similar to week 44 (1). The percent positivity of laboratory tests for influenza A in Ontario was 0.1% for week 45, similar to week 44 (0.2%) (Figure 3).
Respiratory virus activity	Enterovirus activity is slightly lower	Among other circulating respiratory viruses, enterovirus had the highest percent positivity at 8.25% (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 45.
Influenza Activity Levels Reported by Health Units	Slightly higher	Thunder Bay reported 'sporadic' level influenza activity while the remaining health units either reported no activity or did not report for week 45 which is slightly higher than week 44.
ILI Consultation Rate reported by Sentinels	Similar	The provincial ILI consultation rate decreased slightly from 23.95/1,000 patient visits in week 44 to 23.79/1,000 patient visits in week 45. This rate is higher than the average rate for week 45 from previous years.
OVERALL ASSESSMENT FOR VIRUS ACTIVITY	Influenza activity in Ontario was <i>similar</i> compared to the previous week.	Overall, the indicators show that influenza activity was <i>similar</i> during week 45 compared to week 44.
Measure of Severity for Influenza		
Hospitalizations Among Lab Confirmed Cases of Influenza	No Change	There was one hospitalized case reported* from November 6 to November 12, which is the same as the number (1) reported from October 30 to November 5.
Deaths Among Lab Confirmed Cases of Influenza	No Change	No deaths were reported* from November 6 to November 12, which is the same as the number reported from October 30 to November 5.

*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.

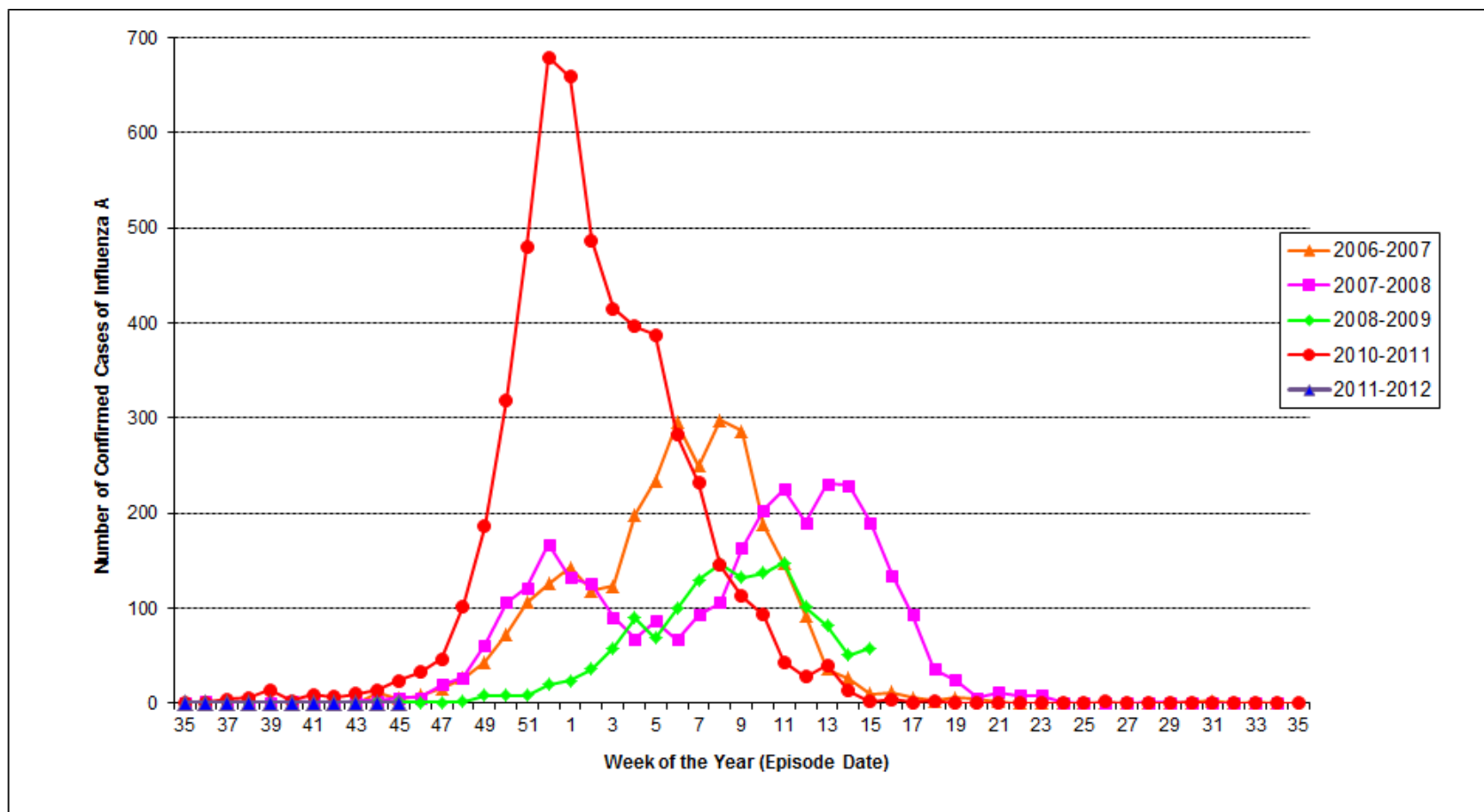
Summary of current and season to date influenza activity

- There has been little to no influenza activity for the 2011-2012 season to date
 - Three cases of influenza A/H3 have been reported as of November 12, 2011 (end of week 45). The cases have been from three different health units: Ottawa, Toronto, and Thunder Bay (Table 1).
 - One influenza B case has been preliminarily identified in Toronto and will be reflected in next week's Ontario Influenza Bulletin,
 - Compared to the 2010-2011 season, there were fewer cases reported and fewer influenza A outbreaks from September 1 to November 12 in the current 2011-2012 season.
- The majority of ILI activity in Ontario since the beginning of September to November 12, 2011 can be attributed to entero/rhinovirus.
 - The majority of outbreaks (~65%) 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 season to date (Table 2). However, enterovirus activity in week 45 (8.25% positivity) declined somewhat as compared to week 44 (10.34% 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. 12, 2011[†]



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/16].

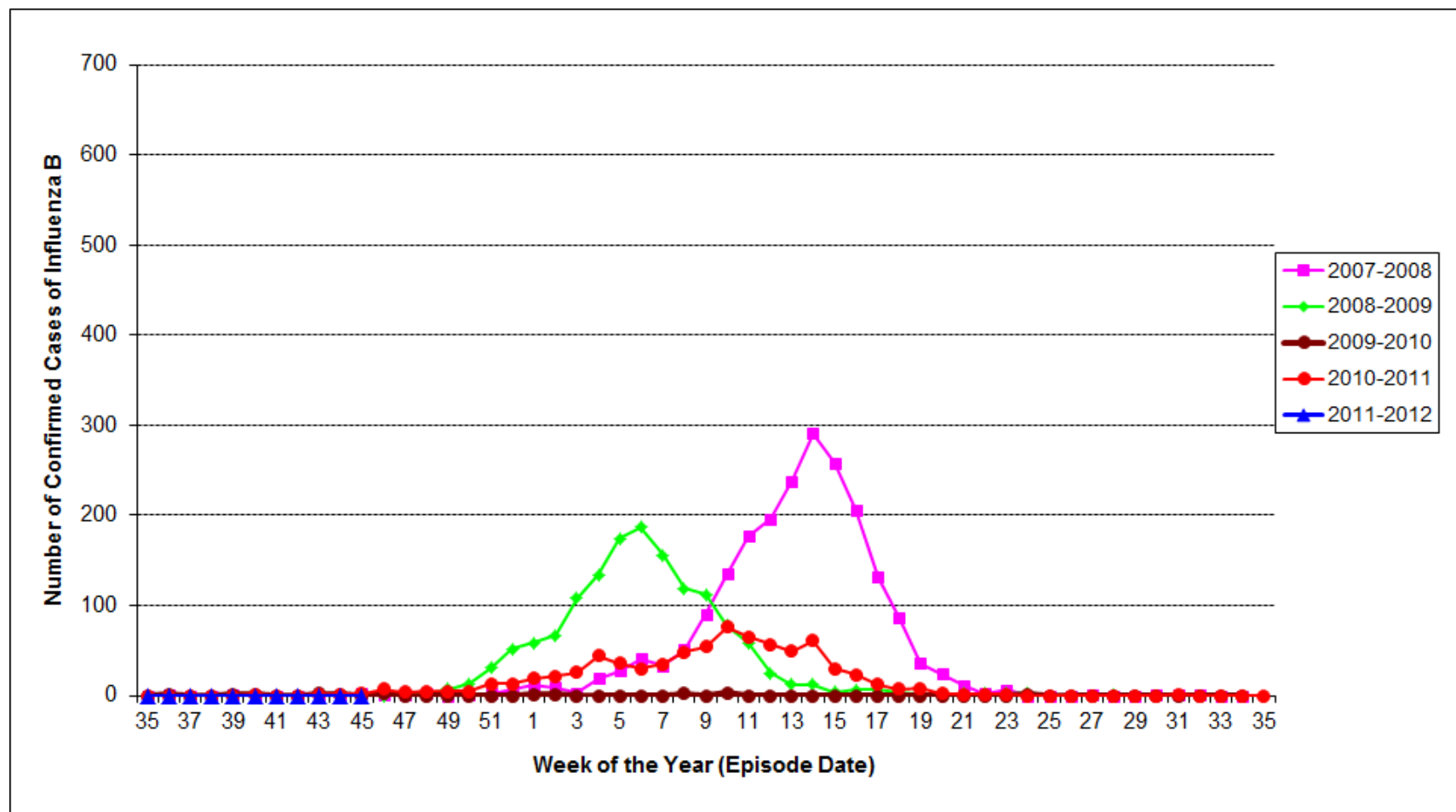
[†] Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date)

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. 12, 2011[†]



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/16].

[†] 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 45 and cumulative cases (in brackets) of influenza by health unit and health region since September 1, 2011

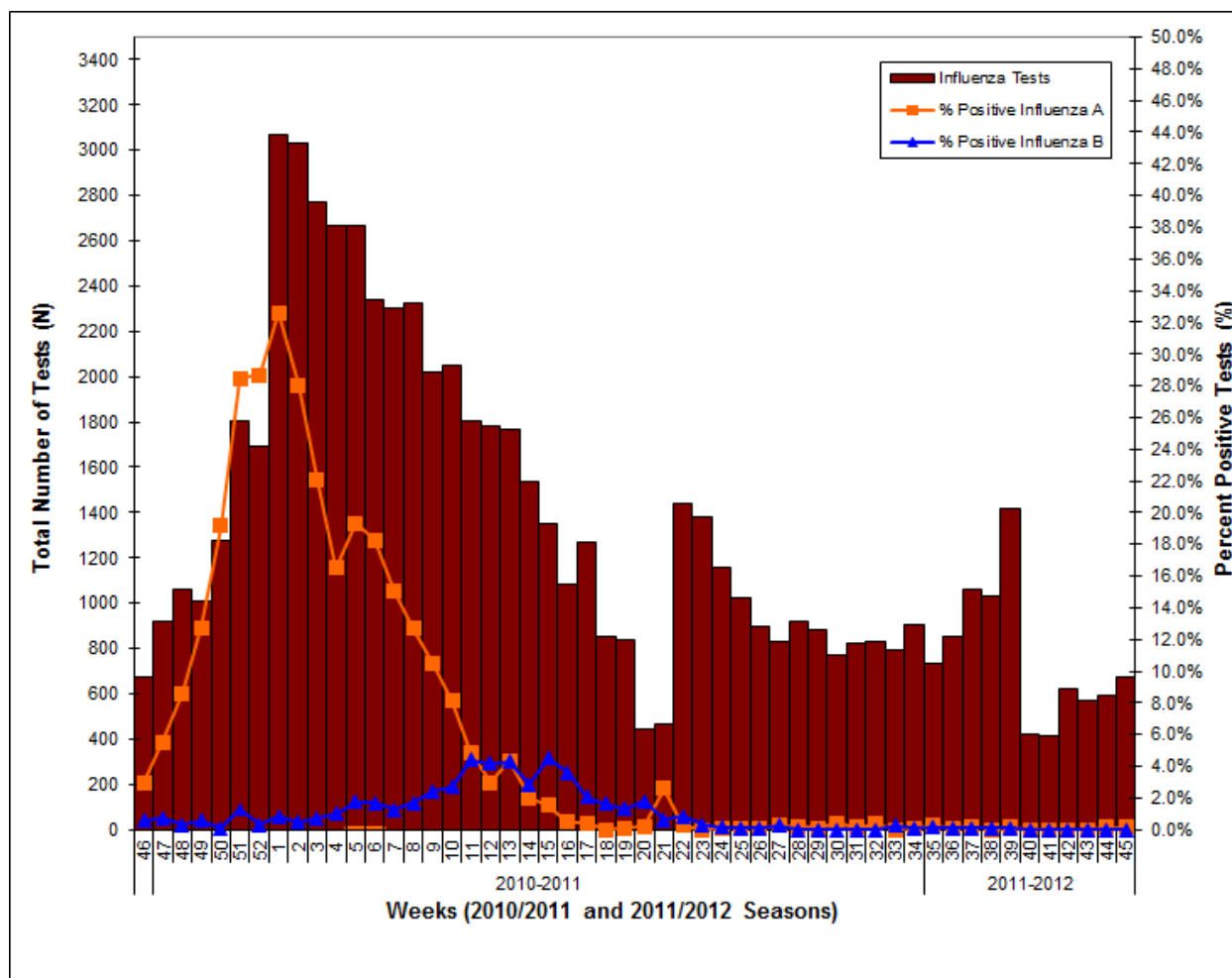
Region	Health Unit	Influenza A				Influenza A & B	Influenza B	TOTAL
		(H1N1) pdm09	No Subtype/Not Subtyped	Other*	H3			
North West	Northwestern	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Thunder Bay District	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	1 (1)
	TOTAL NORTH WEST	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	1 (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)	0 (0)	0 (0)	0 (0)	0 (0)
	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)	0 (0)	0 (0)	0 (0)	0 (0)
Toronto	Toronto	0 (0)	0 (0)	0 (0)	0 (1)	0 (0)	0 (0)	0 (1)
	TOTAL TORONTO	0 (0)	0 (0)	0 (0)	0 (1)	0 (0)	0 (0)	0 (1)
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)	0 (0)	0 (0)	0 (0)	0 (0)
	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)	0 (0)	0 (0)	0 (0)	0 (0)
Central West	Brant County	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	City Of Hamilton	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	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)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	TOTAL ONTARIO	0 (0)	0 (0)	0 (0)	1 (3)	0 (0)	0 (0)	1 (3)

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/16].

*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 45, 2011. Please note that the last version received from PHAC as of 1:50PM on November 17, 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 45

Detected viruses	Number and percent positive specimens		Total number of specimens tested	
	Current n (%)	Cumulative n (%)	Current n	Cumulative n
Influenza A (all)	1 (0.15)	3 (0.06)	675	4857
Influenza B	0 (0)	0 (0)	675	4857
Parainfluenza virus	26 (4.63)	257 (6.16)	562	4170
Adenovirus	9 (1.6)	41 (0.98)	562	4170
Respiratory Syncytial Virus	14 (2.49)	42 (0.99)	562	4226
Enterovirus	39 (8.25)	457 (14.1)	473	3240
Human metapneumovirus	1 (0.36)	4 (0.17)	281	2342
Coronavirus	3 (2.33)	8 (0.57)	129	1412

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 45, 2011. Please note that the last version received from PHAC as of 1:50PM on November 16, 2011 was used.

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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 45 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
Enterovirus/rhinovirus	0	0.0
No organism identified	2	100.0
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)	3	2.8
RSV	1	0.9
Combined Outbreaks [†]	3	2.8
Other organisms ^α	0	0.0
Enterovirus/rhinovirus	69	65.1
No organism identified	30	28.3
TOTAL	106	100.0
Types of Institutions – All Outbreaks **	N	% (of outbreaks)
Long-Term Care Homes	69	65.1
Hospitals	7	6.6
Retirement Homes	12	11.3
Other	0	0.0
Not Reported	18	17.0
TOTAL	106	100.0

SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/16]

* 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 6, 2011 – November 12, 2011

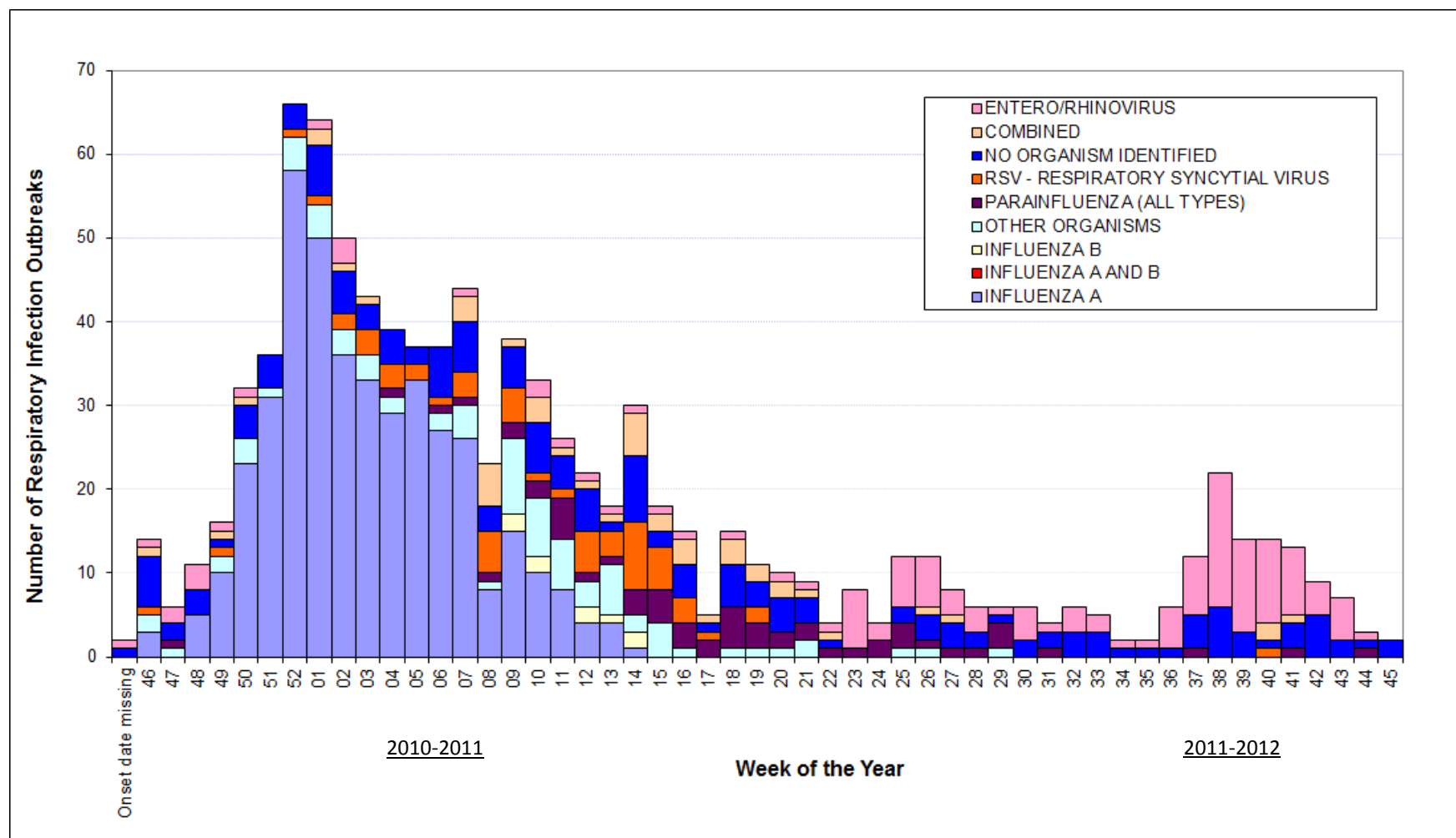
** Season to date includes all outbreaks in which the date of onset of illness in the first case occurred up to Week 45.

[†] 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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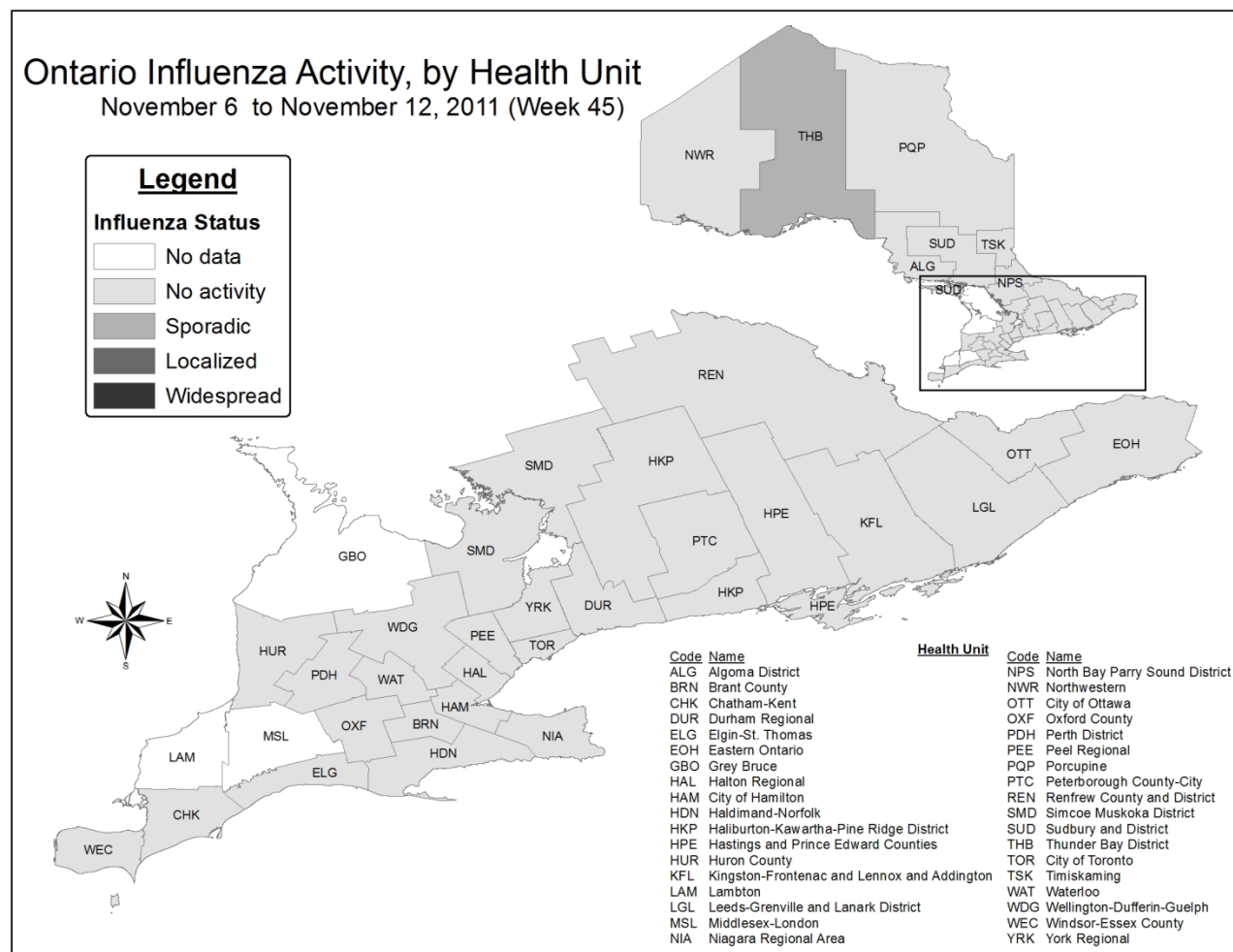
Figure 4: Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total outbreaks up to and including week 45 of the 2011-2012 season by causative organism



SOURCE: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2011/11/16]

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Figure 5: Influenza activity* levels in Ontario by health unit for week 45, 2011

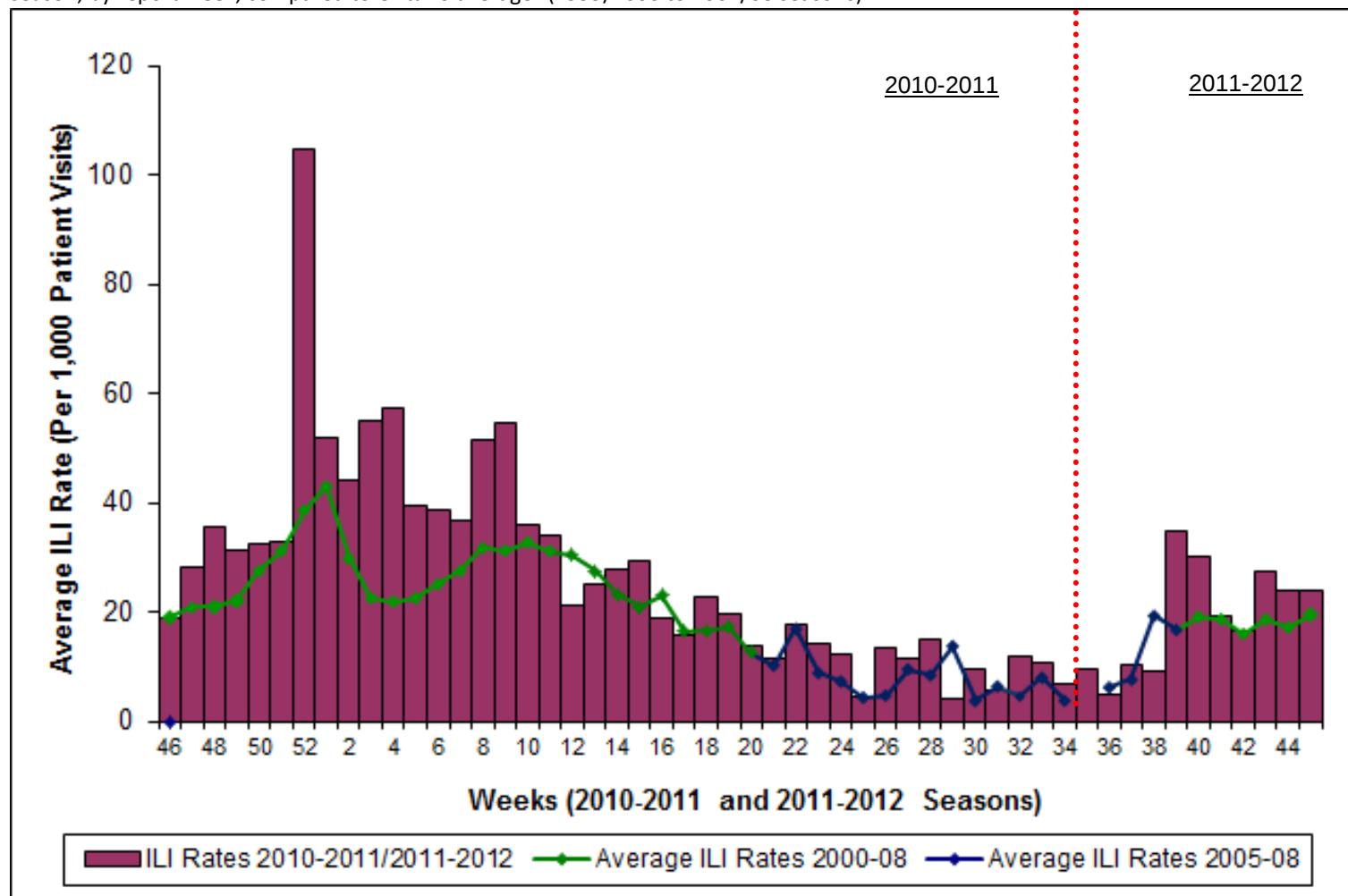


Source: MOHLTC [Provincial Influenza Activity Report (Appendix C) Database]

* 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 45 of the 2011-2012 surveillance season, by report week, compared to Ontario average[†] (1999/2000 to 2007/08 seasons).



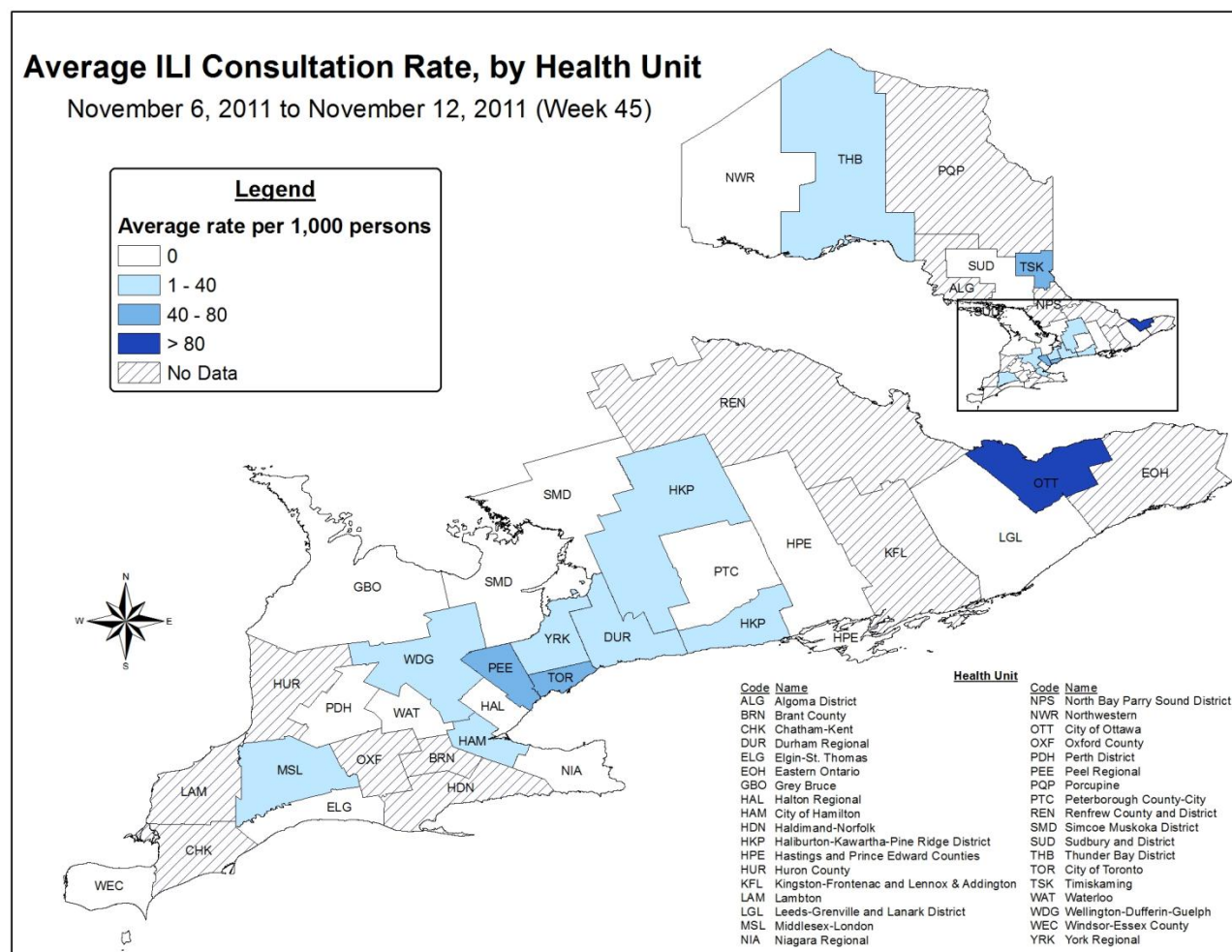
Source: Public Health Agency of Canada

* Sentinel information is reported to Public Health Agency of Canada, 72 sentinels reported in Week 45. 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 45



Source: Public Health Agency of Canada

* Sentinels report ILI and patient data to the Public Health Agency of Canada; 72 sentinels reported in week 45, of which 68 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 45.

Age Category	0 – 4	5 – 19	20 – 64	65 +	Unknown	TOTAL
Number of ILI Consultations	5	8	31	6	0	50
ILI Consultation Rate (per 1,000 patient visits)	40.00	35.40	24.96	11.79	0.00	23.79

Source: Public Health Agency of Canada

* Sentinel information is reported to the Public Health Agency of Canada; 72 sentinels reported in week 45.

APPENDIX - I

Table 1: NML strain characterization, influenza isolates in Ontario and Canada, September 1, 2011 to November 17, 2011.

	Ontario	Canada
Influenza A (H3N2) A/Perth/16/2009-like	1	4
Influenza A(H1N1)pdm09 A/California/07/09-like	0	0
Influenza B B/Brisbane/60/2008-like	0	1
Influenza B B/Wisconsin/01/2010-like	0	2

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

Table 2: Amantadine, Oseltamivir and Zanamivir susceptibility assays completed on Canadian influenza isolates by NML, September 1, 2011 to November 17, 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)	2	0	5	0	0	0	0	3	0	0	0	3
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	3	0	0	0	3

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

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