



Ontario Influenza Bulletin | 2011-2012

SURVEILLANCE SEASON (September 1, 2011 – September 1, 2012)

This issue of the Ontario Influenza Bulletin is the final Bulletin for the 2011-2012 season. This bulletin also provides information on the surveillance period from August 19, 2012 to September 1, 2012 (weeks 34 and 35). Unless otherwise specified, **the data presented are for weeks 34 and 35**; data extraction and analysis for this issue of the Bulletin occurred on Wednesday September 5, 2012. In order to enable our readers to better assess influenza activity in Ontario, we have combined various sources of information in the following table. **Please note that Public Health Ontario will continue to publish abbreviated versions of the Ontario Influenza Bulletin on alternating weeks until November 2012. [Influenza Activity Maps](#) are available on the weeks that the Bulletin is not published.**

Assessment of Influenza and Other Respiratory Virus Activity in Ontario

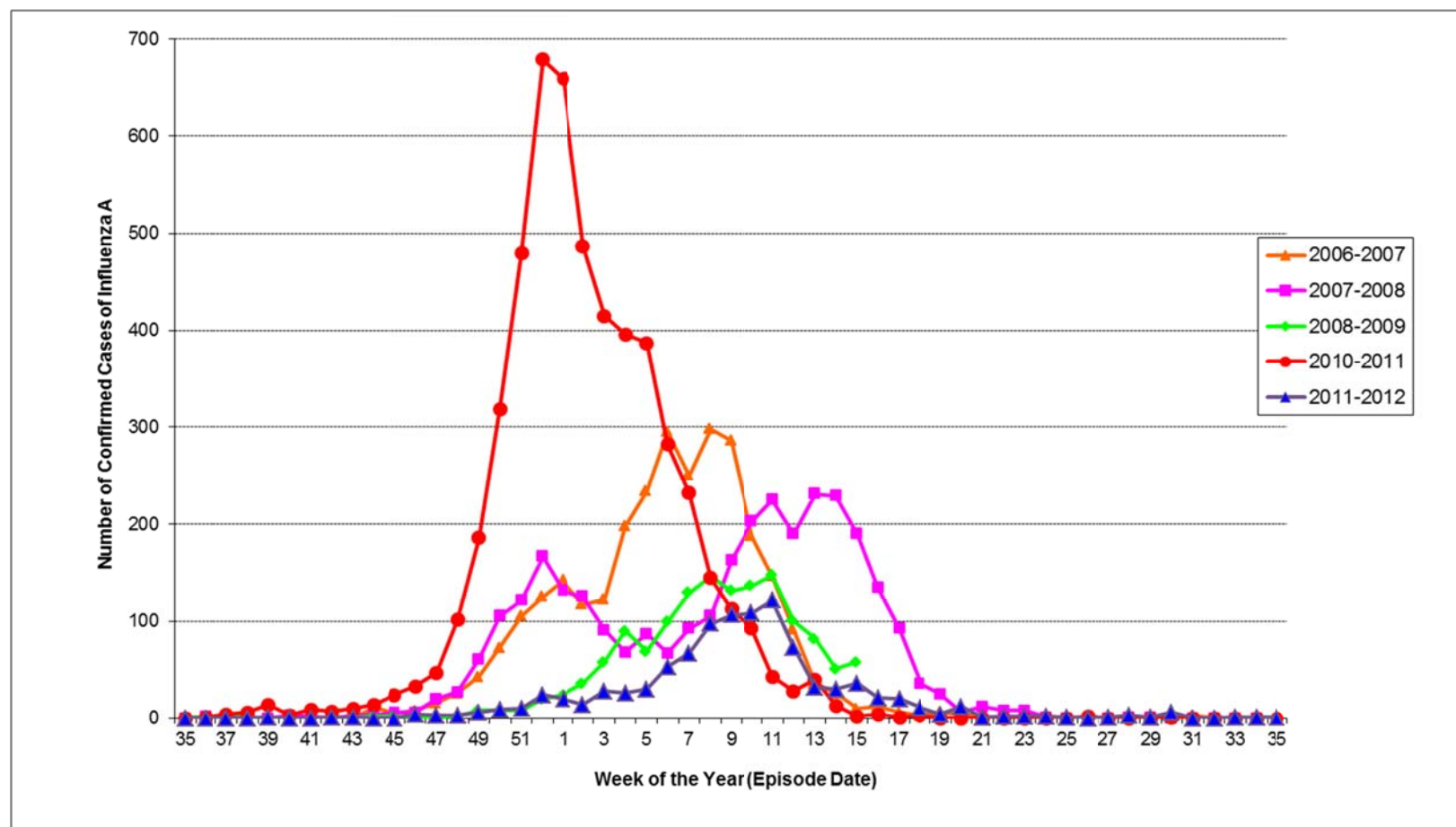
Measure of Activity	Assessment of measure compared to previous assessment period (Lower, Similar, Higher)	Reasoning behind assessment
Laboratory Confirmed Influenza Cases*	Slightly higher	Three new influenza cases were reported in weeks 34 and 35, which is higher than the number reported in weeks 32 and 33 (0). The percent positivity for influenza in Ontario was slightly higher in weeks 34 and 35 at 0.79% compared to 0.00% for weeks 32 and 33 (Table 3).
Respiratory virus activity	Enterovirus/rhinovirus activity is similar	Among all circulating respiratory viruses (Table 3), enterovirus/rhinovirus had the highest percent positivity in weeks 34 and 35 at 9.95%, which is similar to weeks 32 and 33 at 9.87%.
Institutional Respiratory Infection Outbreaks	Similar	Nine (9) new institutional respiratory infection outbreaks were reported in weeks 34 and 35. This is similar to the number of new institutional respiratory infection outbreaks reported in weeks 32 and 33 (8 outbreaks). One hundred and forty (140) institutional influenza outbreaks have been reported to date this season (Table 4).
Influenza Activity Levels Reported by Health Units	Higher	For week 35, Toronto reported 'sporadic' level influenza activity while the remaining regions reported no influenza activity (Figure 5).
Influenza-Like Illness (ILI) Consultation Rate reported by Sentinels	Higher	The provincial ILI consultation rate increased from 9.83/1,000 patient visits in week 34 to 28.02/1,000 patient visits in week 35. This rate is higher than the consultation rate for week 35 from the previous year.
OVERALL ASSESSMENT FOR VIRUS ACTIVITY	Influenza activity in Ontario was slightly higher compared to the previous weeks.	Overall, the indicators show that influenza activity was slightly higher during weeks 34 and 35 compared to weeks 32 and 33.

*This is the number of cases by **reported** date from iPHIS and should be interpreted with caution as there is a lag between the onset of illness and reporting to public health.

Summary of current and season- to- date influenza activity

- Overall, influenza activity for the 2011-2012 season from September 1, 2011, to September 1, 2012, was lower than the same period in previous years:
 - A total of 3940 influenza cases were reported for the 2011-2012 surveillance season to date.
 - The majority of influenza cases reported for the 2011-2012 season were influenza B, which accounted for 74.5% (2937/3940) of cases this season. While influenza B was the dominant influenza type, A(H1N1)pdm09 was the dominant influenza A subtype.
 - Compared to the 2010-2011 season, fewer influenza cases and outbreaks were reported. Influenza B activity reached the highest level of activity seen in over five seasons.
 - For the 3927 cases for which age is known, children under 5 years (864 cases) and adults 65 years of age and older (974 cases) accounted for 46.8% (1838/3927) of influenza cases reported to date. The highest number of cases (640) occurred in the 1 to 4 year age group, which represents 16.3% of cases.
 - There were 1223 hospitalizations and 79 deaths reported among lab-confirmed cases of influenza reported in Ontario, which is fewer than compared to the 2010-2011 season. Among influenza cases that have been hospitalized, 24.7% (302/1223) were children under 5 years and 35.0% (428/1223) were adults over the age of 65 years (Table 2).
 - There were 140 institutional influenza outbreaks reported this season, including 29 outbreaks of influenza A, 108 outbreaks of influenza B and three combined influenza A and B outbreaks.
- Highlights of the cause(s) of ILI in Ontario from September 1, 2011 to September 1, 2012:
 - Influenza B was the dominant circulating influenza virus for the 2011-2012 season. Of the 965 influenza B isolates characterized at the National Microbiology Laboratory, 505 (35.0%) were of a strain (B/Wisconsin/01/2010-like) and lineage that is different from the influenza B component of this season's trivalent influenza vaccine.
 - Respiratory syncytial virus had the highest percent positivity for the season at 9.57%. Influenza B had the second highest percent positivity among specimens submitted for testing in the season (6.50%), and enterovirus had the third highest percent positivity (5.09%). Influenza A had a 2.29% percent positivity for the season overall.

Figure 1: Confirmed cases of influenza A in Ontario by episode date reported from Sep. 1, 2006 to Sep. 1, 2012[†]



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2012/09/05].

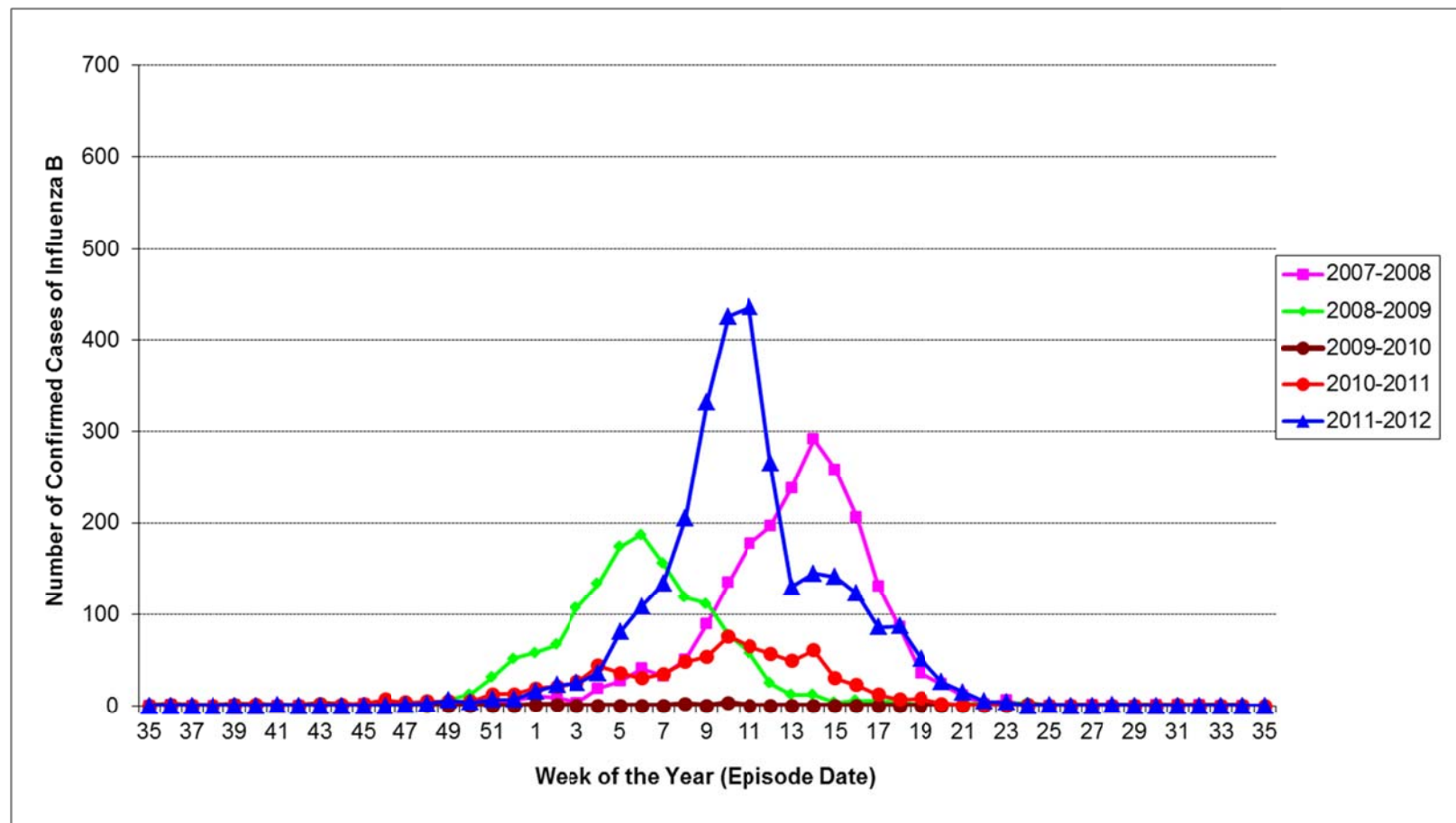
[†] Episode Date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date). Case counts based on episode dates may not be the same as case counts based on reported dates.

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 Sept 1, 2012[†]



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2012/09/05].

[†] 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). Case counts based on episode dates may not be the same as case counts based on reported dates.

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

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Table 1: Cumulative confirmed cases of influenza by health unit and health region with a reported date from September 1, 2011 – September 1, 2012

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	3	0	5	8
	Thunder Bay District	0	1	0	2	0	11	14
	TOTAL NORTH WEST	0	1	0	5	0	16	22
North East	Algoma	1	0	0	3	0	39	43
	North Bay Parry Sound District	2	5	0	1	0	55	63
	Porcupine	0	0	0	0	0	30	30
	Sudbury & District	1	0	0	0	0	36	37
	Timiskaming	2	0	0	0	0	3	5
	TOTAL NORTH EAST	6	5	0	4	0	163	178
Eastern	City of Ottawa	5	45	0	3	0	94	147
	Eastern Ontario	2	4	0	5	0	45	56
	Hastings & Prince Edward Counties	7	2	0	9	0	34	52
	Kingston, Frontenac, Lennox & Addington	4	5	0	1	0	33	43
	Leeds, Grenville And Lanark District	0	1	0	2	0	14	17
	Renfrew County And District	3	2	0	0	0	8	13
	TOTAL EASTERN	21	59	0	20	0	228	328
Central East	Durham Region	21	8	0	6	0	76	111
	Haliburton, Kawartha, Pine Ridge	8	9	1	6	0	49	73
	Peel Region	82	33	4	19	1	408	547
	Peterborough County-City	2	2	0	0	0	24	28
	Simcoe Muskoka District	19	8	0	15	0	199	241
	York Region	22	24	0	11	0	112	169
	TOTAL CENTRAL EAST	154	84	5	57	1	868	1169
Toronto	Toronto	169	62	1	75	3	708	1018
	TOTAL TORONTO	169	62	1	75	3	708	1018
South West	Chatham-Kent	0	0	0	1	0	11	12
	Elgin-St. Thomas	1	0	0	1	0	12	14
	Grey Bruce	5	1	0	1	0	46	53
	Huron County	0	0	0	0	0	30	30
	Lambton County	0	0	0	0	0	12	12
	Middlesex-London	6	19	0	9	0	74	108
	Oxford County	2	3	0	2	0	25	32
	Perth District	3	1	0	2	0	41	47
	Windsor-Essex County	1	7	0	7	0	18	33
	TOTAL SOUTH WEST	18	31	0	23	0	269	341
Central West	Brant County	0	5	0	1	0	20	26
	City Of Hamilton	19	42	0	5	0	203	269
	Haldimand-Norfolk	0	2	0	1	0	22	25
	Halton Region	20	19	0	6	0	136	181
	Niagara Region	9	2	0	4	0	124	139
	Waterloo Region	20	11	0	10	0	118	159
	Wellington-Dufferin-Guelph	8	4	0	11	0	62	85
	TOTAL CENTRAL WEST	76	85	0	38	0	685	884
	TOTAL ONTARIO	444	327	6	222	4	2937	3940

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2012/09/05].

*Includes indeterminate, untypeable and other subtypes

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Table 2. Number of hospitalizations and deaths among influenza cases by age group from September 1, 2011 – September 1, 2012

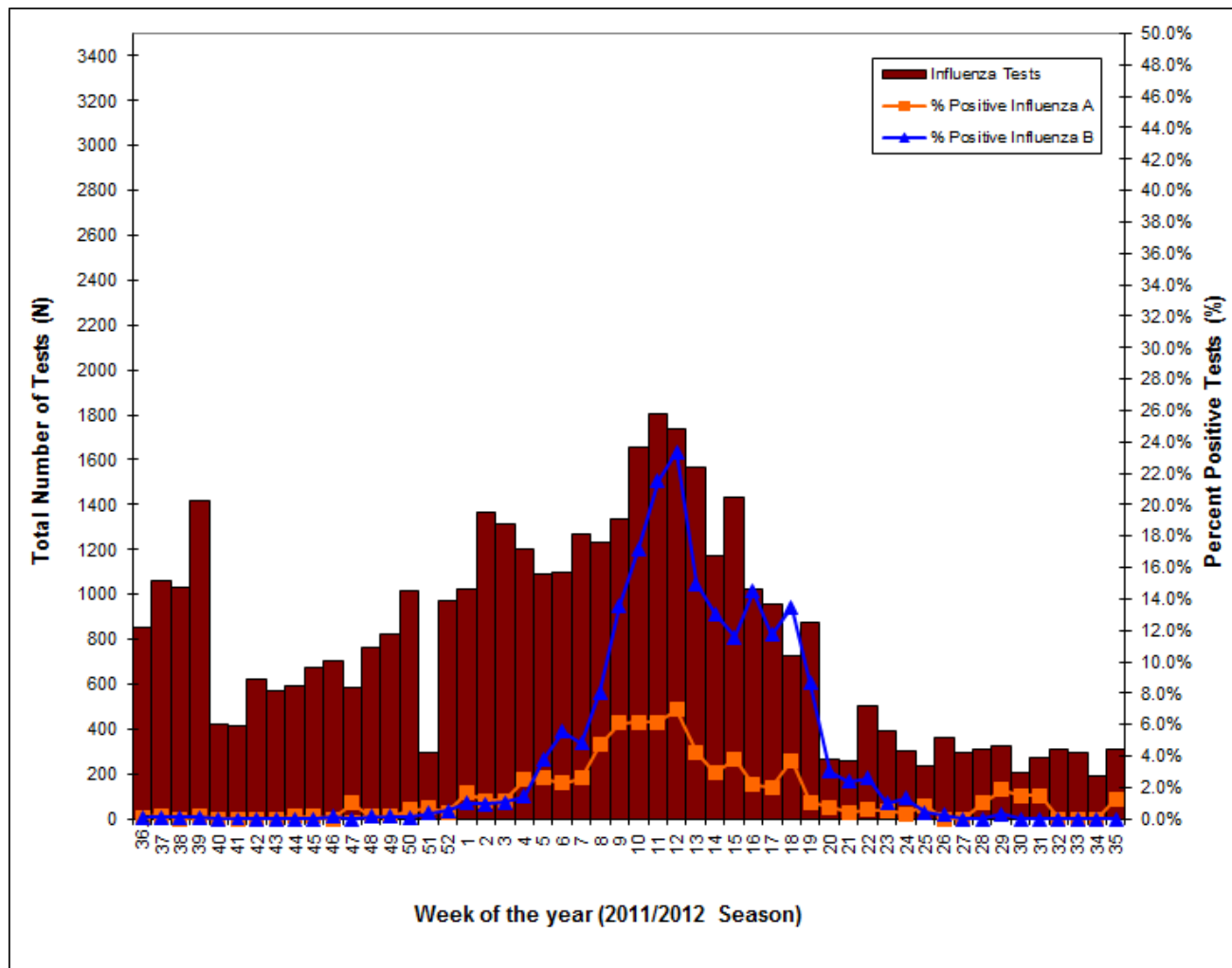
Age Group	Number of Hospitalizations	Cumulative Rate per 100,000	Number of Deaths	Cumulative Rate per 100,000
<1	100	73.30	1	0.73
1-4	202	36.63	1	0.18
5-14	159	10.52	1	0.07
15-24	19	1.07	0	0.00
25-44	110	2.95	2	0.05
45-64	203	5.53	10	0.27
65+	428	23.60	63	3.47
Total	1223*	9.27	79*	0.60

Source: Ontario Ministry of Health and Long-Term Care (MOHLTC), integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2012/09/05]. Population data obtained from IntelliHEALTH Ontario, retrieved by Public Health Ontario [2012/01/13].

* The total numbers and cumulative rates of hospitalizations and deaths each include two cases and one case of unknown age, respectively.

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Figure 3: Total number of influenza tests performed and percent of positive tests in Ontario by report week*, 2011-2012 season



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 35, 2012. Please note that the last version received from PHAC as of 4:00PM on September 6, 2012, 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. Number of respiratory specimens tested by all methods for influenza and other respiratory viruses and percent positivity, Ontario: Weeks 34 and 35

Detected viruses	Number and percent positive specimens			Total number of specimens tested		
	Week 34 n (%)	Week 35 n (%)	Cumulative n (%)	Week 34 n	Week 35 n	Cumulative n
Influenza A (all)	0 (0)	4 (1.28)	4 (0.79)	194	312	506
Influenza B	0 (0)	0 (0)	0 (0.00)	194	312	506
Parainfluenza virus	14 (7.25)	14 (4.84)	28 (5.81)	193	289	482
Adenovirus	0 (0)	2 (0.69)	2 (0.41)	193	289	482
Respiratory syncytial virus	2 (1.04)	0 (0)	2 (0.41)	193	299	492
Enterovirus/rhinovirus	26 (13.47)	16 (6.99)	42 (9.95)	193	229	422
Human metapneumovirus	0 (0)	0 (0)	0 (0.00)	80	150	230
Coronavirus	0 (0)	0 (0)	0 (0.00)	80	90	170

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: Weeks 34 & 35, 2012. Please note that the last version received from PHAC as of 3:00 PM on September 6, 2012 was used.

Note: Total numbers reported include late reports from previous weeks; therefore totals may not be equal to the sum of the weekly numbers.

Note: Cumulative numbers for the season are available through FluWatch: <http://www.phac-aspc.gc.ca/fluwatch/>

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Table 4: Institutional respiratory infection outbreaks in Ontario: new outbreaks* in week 34 and 35 and total outbreaks for the 2011-2012 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)	1	11.1
RSV	0	0.0
Combined Outbreaks [†]	0	0.0
Other organisms ^α	0	0.0
Entero/rhinovirus	2	22.2
No organism identified/reported	6	66.7
TOTAL	9	100.0
Total Respiratory Infection Outbreaks of the Season to date**		
Influenza A (All subtypes)	29	4.0
Influenza B	108	14.7
Influenza A and B	3	0.4
Parainfluenza (All types)	43	5.9
RSV	60	8.2
Combined Outbreaks [†]	66	9.0
Other organisms ^α	100	13.6
Entero/rhinovirus	175	23.8
No organism identified/reported	150	20.4
TOTAL	734	100.0
Types of Institutions – All Outbreaks **		
Long-Term Care Homes	485	66.1
Hospitals	40	5.4
Retirement Homes	82	11.2
Other	4	0.5
Not Reported	123	16.8
TOTAL	734	100.0

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2012/09/05]

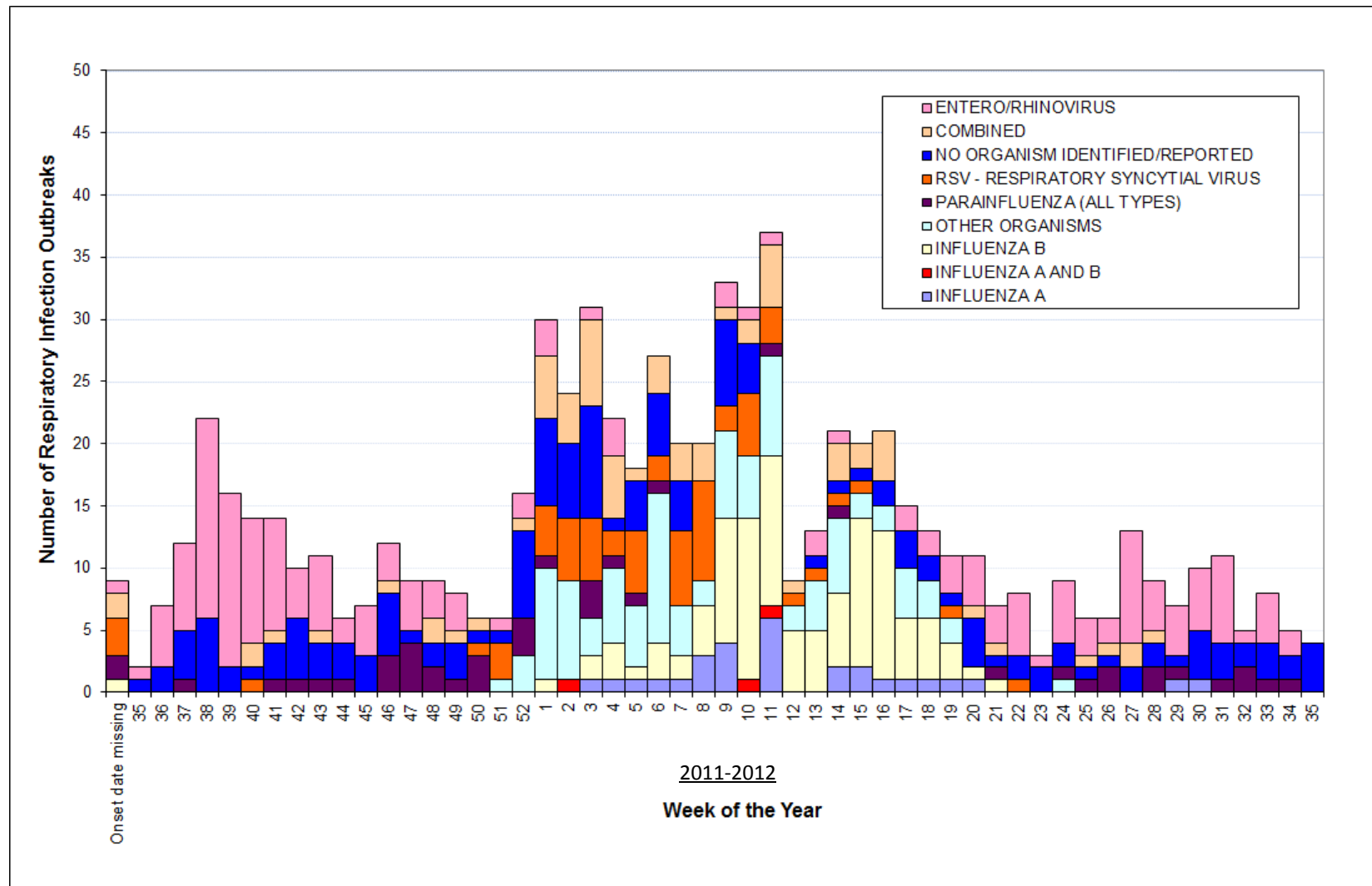
* New outbreaks are those in which the date of onset of illness in the first case occurred and was recorded through iPHIS in the current surveillance period; i.e. August 19, 2012 – September 1, 2012

** Season to date includes all outbreaks in which the date of onset of illness in the first case occurred up to week 35, 2012.

[†] 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.

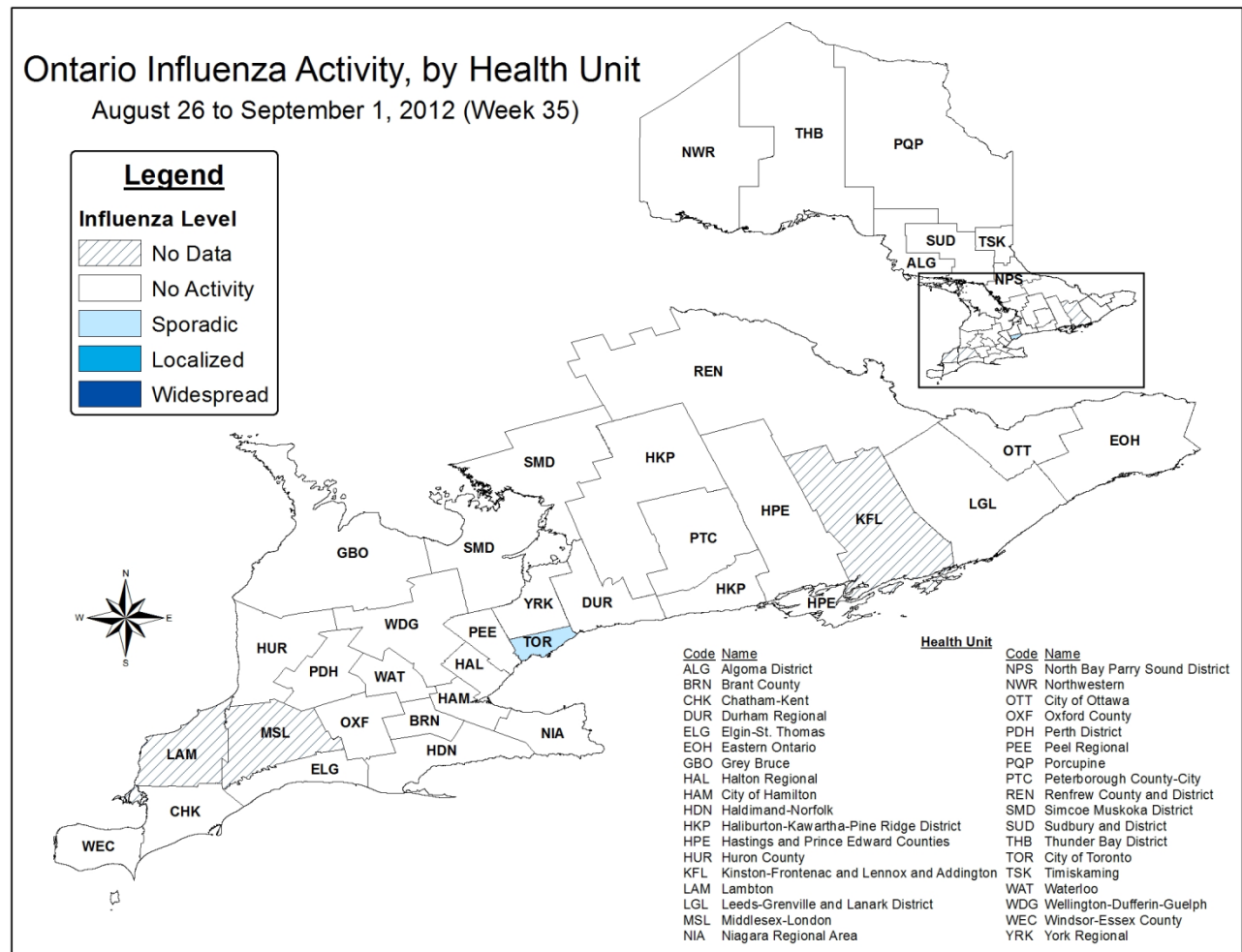
Figure 4: Institutional respiratory infection outbreaks in Ontario by onset of illness in the first case: Total outbreaks for the 2011-2012 season by causative organism



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2012/09/05]

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Figure 5: Influenza activity* levels in Ontario by health unit for week 35, 2012

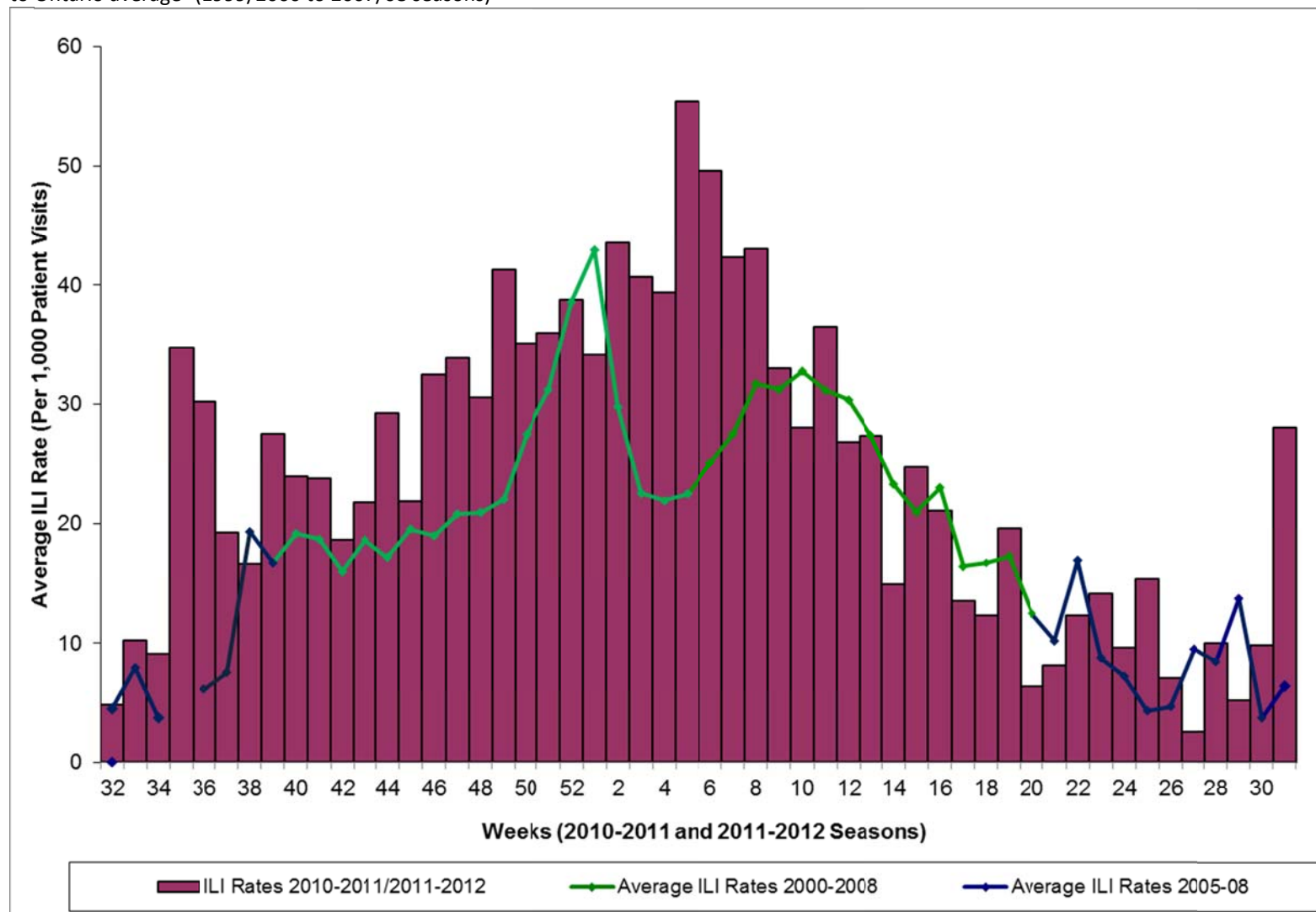


Source: Public Health Ontario [Provincial Influenza Activity Report (Appendix C) Database]

* Influenza activity levels are assigned by local public health units and reported to Public Health Ontario 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 click here for [detailed definitions for the 2011-2012 season](#).

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



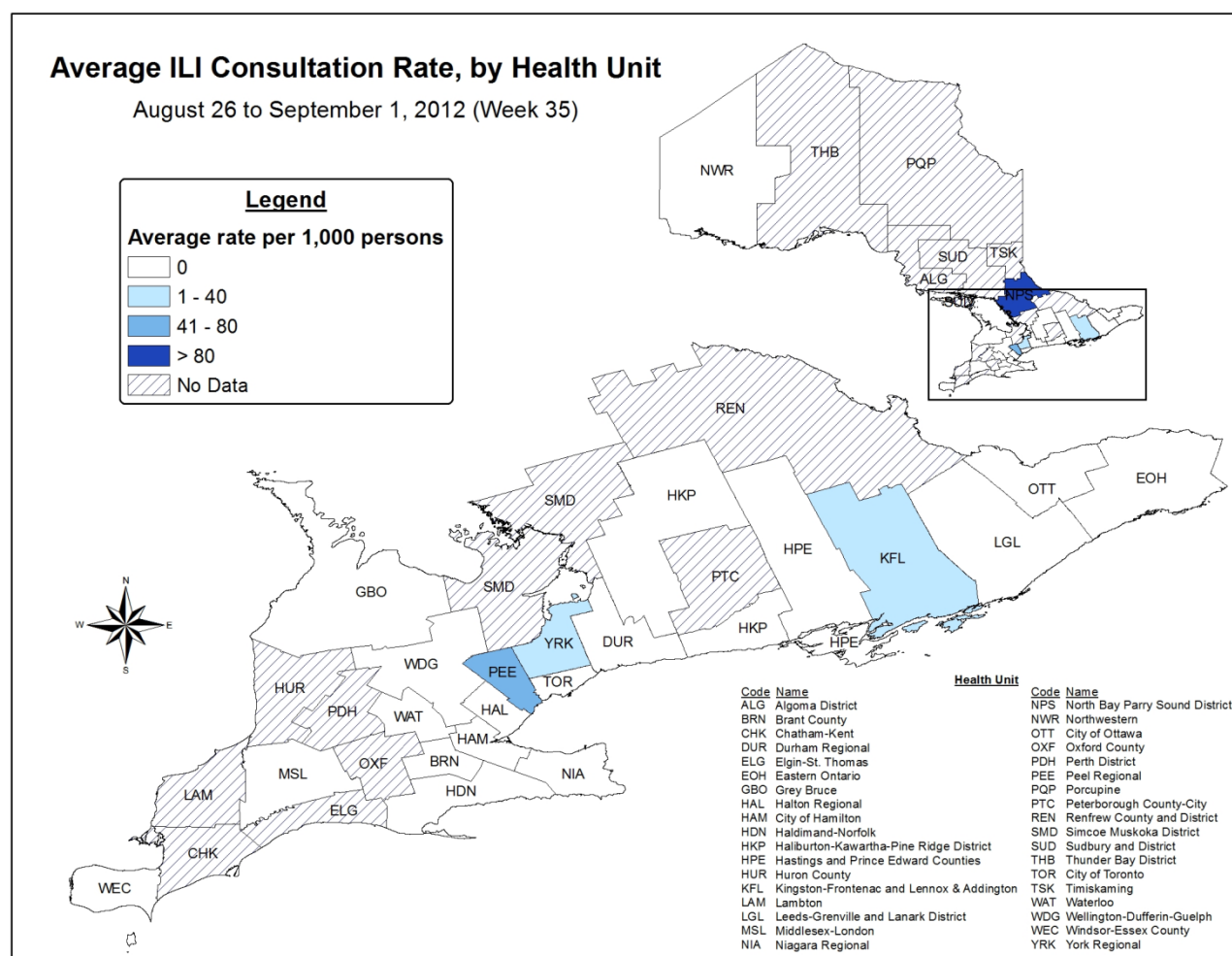
Source: Public Health Agency of Canada

* Sentinel information is reported to Public Health Agency of Canada; 40 sentinels reported in week 35.

[†] 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 ILI consultation rate (per 1,000 patient visits) by health unit as reported by sentinels* in Ontario, for week 35



Source: Public Health Agency of Canada

* Sentinels report ILI and patient data to the Public Health Agency of Canada; 40 sentinels reported in week 35, of which all were matched to a health unit and represented in the above map.

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

Table 5: Average influenza-like illness consultation rate (per 1,000 patient visits) by age group as reported by sentinels* in Ontario, for week 35

Age Category	0 – 4	5 – 19	20 – 64	65 +	Unknown	TOTAL
Number of ILI Consultations	3	5	14	4	0	26
ILI Consultation Rate (per 1,000 patient visits)	49.18	54.35	25.45	17.78	0.00	28.02

Source: Public Health Agency of Canada

* Sentinel information is reported to the Public Health Agency of Canada; 40 sentinels reported in week 35.