

Ontario Respiratory Virus Bulletin | 2013-2014

SURVEILLANCE WEEK 3 (January 12, 2014 – January 18, 2014)

This issue of the Ontario Respiratory Virus Bulletin provides information on the surveillance period from January 12 to January 18, 2014 (Week 3). Unless otherwise specified, **data presented are for Week 3** and data extraction and analysis for this issue of the Bulletin occurred on Wednesday, January 22, 2014. Weekly production of this expanded version of the bulletin will continue throughout the influenza season until May 2014, and then an abbreviated version will be published on alternate weeks.

Assessment of Influenza Activity in Ontario

Measure of activity	Assessment of measure compared to the previous week (Lower, Similar, Higher)	Reasoning behind assessment
Laboratory confirmed influenza cases ^{1,2}	Lower	There were 825 influenza cases (809 influenza A and 16 influenza B) reported ¹ in week 3 (Table 1), which was less than the number of influenza cases reported in week 2 (906 influenza A and 21 influenza B). Percent positivity ² of laboratory tests for all influenza types in Ontario was 26.7% for week 3 (Table 3), which was slightly lower than percent positivity in week 2 (28.4%).
Influenza outbreaks ³	Similar	There were thirteen new institutional respiratory outbreaks reported in week 3: five influenza A, one respiratory syncytial virus and seven respiratory outbreaks for which no organism was reported (Table 4). There were five influenza A outbreaks reported in week 2.
Influenza activity levels reported by health units	Similar	Nineteen health units reported 'sporadic', fourteen reported 'localized', and one reported 'widespread' levels of influenza activity in week 3 (Figure 6). In week 2, 20 health units reported 'sporadic', 12 reported 'localized', and one reported 'widespread' levels of influenza activity.
OVERALL ASSESSMENT	Slightly lower	Overall, the indicators show that influenza activity for week 3 was slightly lower than week 2.
Measures of severity for influenza		
Hospitalizations and deaths among lab confirmed cases of influenza ¹	Lower	There were 317 hospitalized cases reported in week 3, which was lower than the 382 hospitalized cases reported in week 2. There were 12 deaths reported in week 3, which was lower than the 26 deaths reported in week 2 (Table 2).

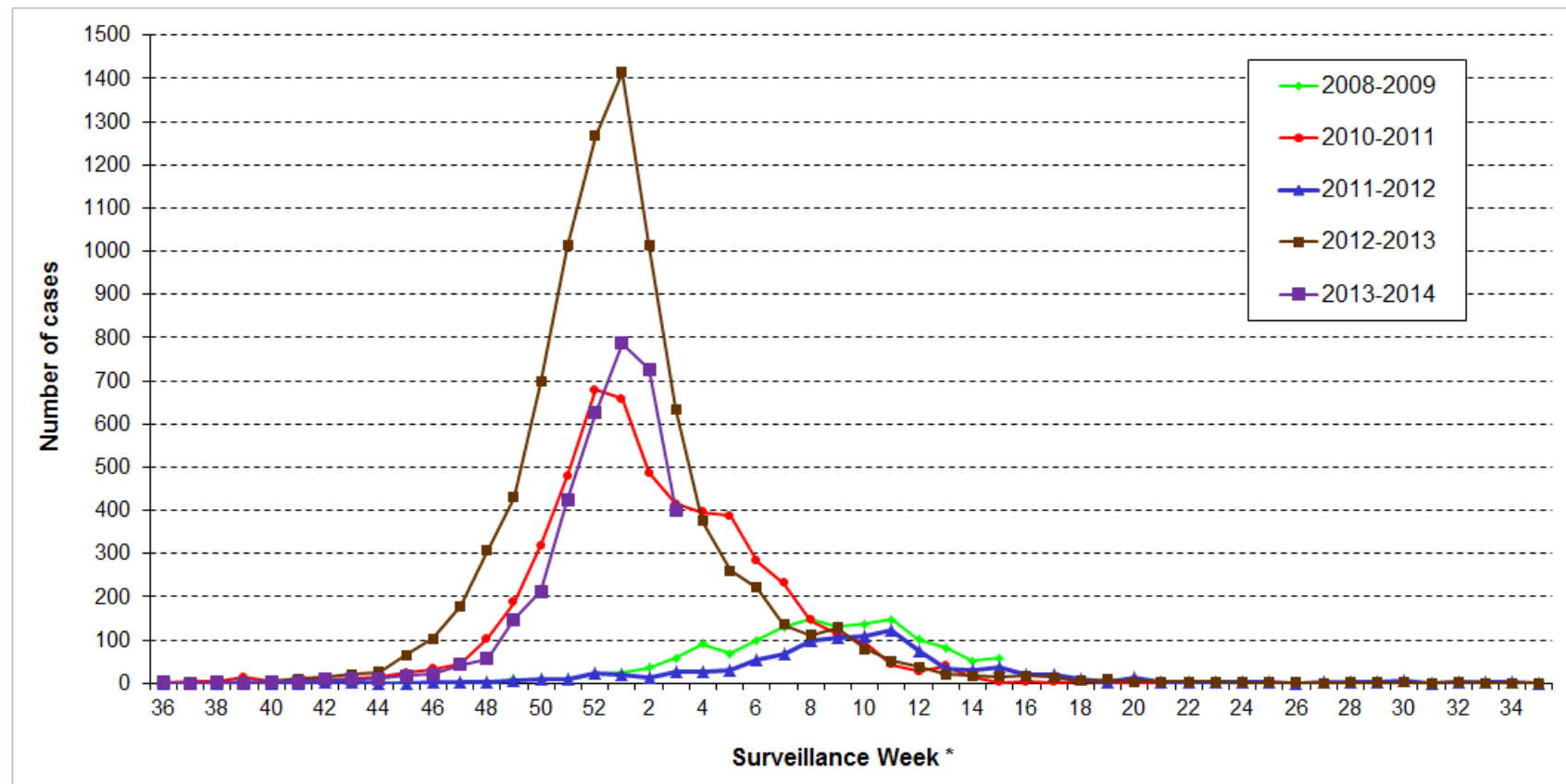
¹ The number of **reported** cases needs to be interpreted with caution because there is a lag between the onset of illness, hospital admission or death and when this information is reported to public health. ² Positivity among specimens submitted for testing to Ontario laboratories reporting to the Centre for Immunization and Respiratory Infectious Diseases (CIRID). ³ The number of new outbreaks reported for the current week is based on the onset date of illness for the first case in an outbreak.

Summary of current and season-to-date respiratory virus activity in Ontario

- Influenza activity in the 2013-2014 season to date has started to decline. Based on laboratory findings, influenza A is currently the predominant circulating influenza type and H1N1pdm09 is the predominant circulating subtype.
 - ‘Sporadic’ influenza activity during week 3 was reported by the majority of health units across the province and at least one health unit within each health unit region (Figure 6).
 - ‘Localized’ influenza activity during week 3 was reported by the following health units: Thunder Bay District; North Bay Parry Sound District; Sudbury & District; Eastern Ontario; Kingston, Frontenac, Lennox & Addington; Renfrew County and District; Peel Region; Simcoe Muskoka District; Elgin-St. Thomas; Middlesex-London; Haldimand-Norfolk; City of Halmilton; Niagara Region; and Toronto (Figure 6).
 - ‘Widespread’ influenza activity during week 3 was reported by City of Ottawa.
 - In week 3, there were a total of thirteen new institutional respiratory outbreaks, five of which were reported as influenza A (Table 4).
 - The percent positivity¹ for influenza A and influenza B in week 3 was 26.1% and 0.6%, respectively (Table 3, Appendix: Figure I).
 - A total of 3428 laboratory-confirmed influenza cases has been reported for the 2013-2014 surveillance season to date. Among these cases, the majority (97.5%, 3344/3428) were influenza A (Table 1).
 - In the season to date, 1179 hospitalizations and 57 deaths have been reported among laboratory-confirmed influenza cases (Table 2). The majority of hospitalizations have occurred among influenza A cases (97.7%, 839/1179).
 - In week 3, the influenza-like illness (ILI) consultation rate was 76.3 per 1,000 patient visits (Figure 8, Table 5).²
- Among all other circulating respiratory viruses² in week 3 (Table 3):
 - Coronavirus had the highest percent positivity (8.8%), which was higher compared to the previous week (4.9%).
 - Respiratory syncytial virus had the second highest percent positivity (6.1%), which was slightly lower compared to the previous week (8.0%).

¹ Based on positivity among specimens submitted for testing to laboratories reporting to the Public Health Agency of Canada’s Centre for Immunization and Respiratory Infectious Diseases (CIRID).² Small numbers of sentinels reporting can make the ILI consultation rates unstable. Please interpret these data cautiously.

Figure 1. Number of reported confirmed cases of **influenza A** by surveillance week: Ontario, September 1, 2008 to January 18, 2014



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2014/01/22].

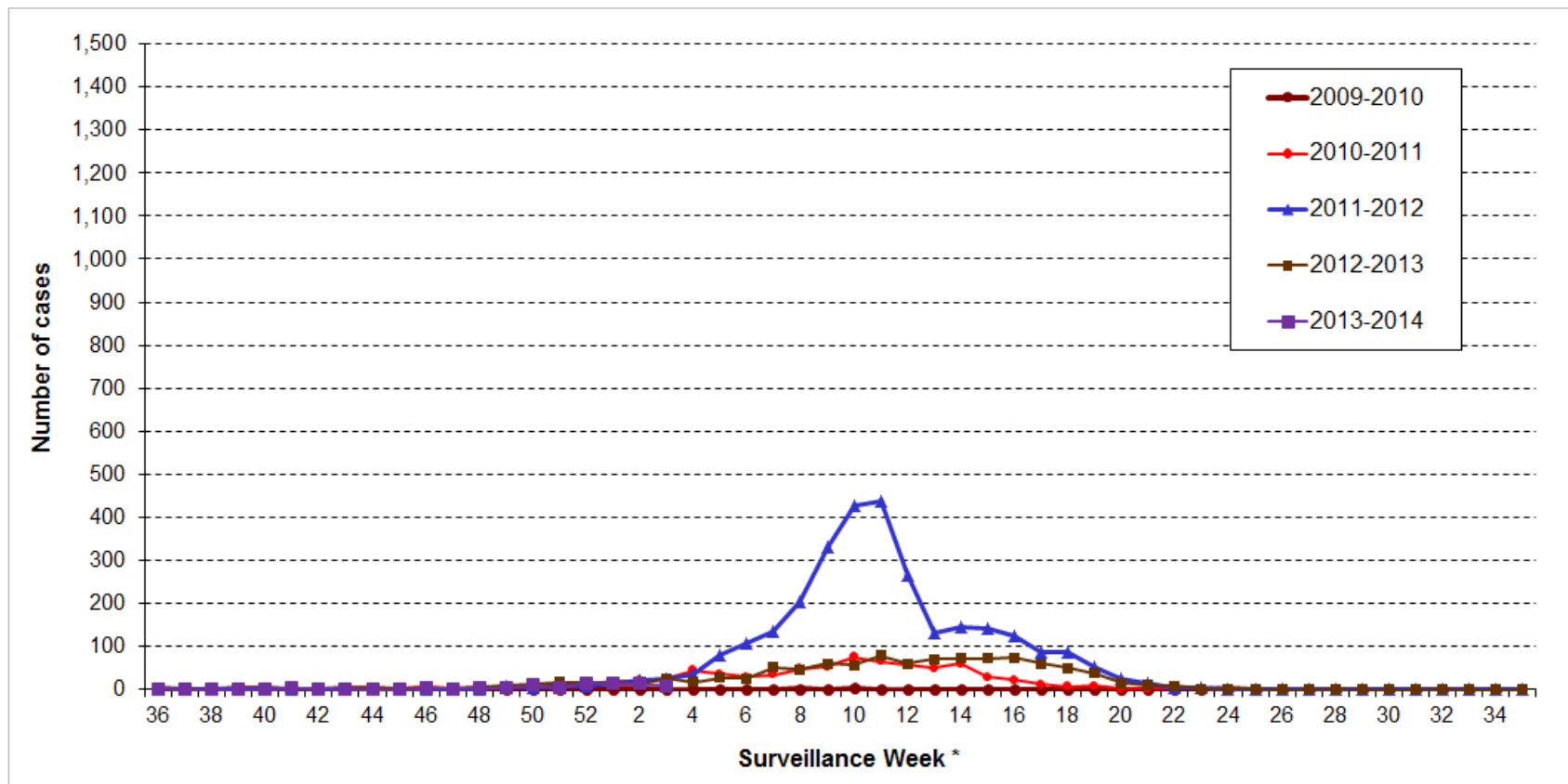
Notes:

Interpret most recent case counts for the current season with caution due to reporting lags.

*Cases are assigned to a particular surveillance week based on the episode date entered in iPHIS for the case. 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.

Cases with an episode date after week 15 in the 2008-2009 season, as well as all cases from the 2009-2010 influenza season, were excluded from this graph based on the assumption that the influenza burden during the pandemic period is not comparable to a regular influenza season. Week 53 of the 2008-2009 season has been removed for continuity in displaying trends.

Figure 2. Number of reported confirmed cases of **influenza B** by surveillance week: Ontario, September 1, 2009 to January 18, 2014



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2014/01/22].

Notes:

Interpret most recent case counts for the current season with caution due to reporting lags.

*Cases are assigned to a particular reporting week based on the episode date entered in iPHIS for the case. 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.

Table 1. Number of reported confirmed influenza cases by health unit and health region: Ontario, surveillance week 3 and cumulative total (in parentheses) for the 2013-2014 season

Health Unit and Region	Influenza A				Influenza A & B	Influenza B	TOTAL
	(H1N1) pdm09	No subtype available	Other *	H3			
Northwestern	0 (4)	14 (35)	0 (0)	0 (0)	0 (0)	0 (1)	14 (40)
Thunder Bay District	2 (35)	11 (63)	0 (0)	0 (0)	0 (0)	0 (0)	13 (98)
TOTAL NORTH WEST	2 (39)	25 (98)	0 (0)	0 (0)	0 (0)	0 (1)	27 (138)
Algoma	7 (14)	8 (37)	1 (1)	0 (0)	0 (0)	0 (0)	16 (52)
North Bay Parry Sound District	8 (31)	49 (125)	0 (0)	0 (0)	0 (0)	1 (5)	58 (161)
Porcupine	0 (4)	3 (9)	0 (0)	0 (0)	0 (0)	0 (0)	3 (13)
Sudbury & District	2 (15)	17 (69)	0 (0)	0 (0)	0 (0)	0 (0)	19 (84)
Timiskaming	0 (1)	0 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (2)
TOTAL NORTH EAST	17 (65)	77 (241)	1 (1)	0 (0)	0 (0)	1 (5)	96 (312)
City of Ottawa	0 (39)	19 (133)	0 (0)	0 (9)	0 (0)	0 (0)	19 (181)
Eastern Ontario	1 (18)	10 (28)	0 (1)	1 (9)	0 (0)	0 (1)	12 (57)
Hastings & Prince Edward Counties	1 (4)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	2 (7)
Kingston, Frontenac, Lennox & Addington	2 (26)	11 (37)	0 (0)	0 (14)	0 (0)	0 (6)	13 (83)
Leeds, Grenville And Lanark District	0 (15)	6 (20)	0 (0)	0 (0)	0 (0)	2 (2)	8 (37)
Renfrew County And District	0 (4)	7 (23)	0 (0)	2 (3)	0 (0)	0 (0)	9 (30)
TOTAL EASTERN	4 (106)	54 (244)	0 (1)	3 (35)	0 (0)	2 (9)	63 (395)
Durham Region	3 (46)	23 (60)	0 (0)	1 (3)	0 (0)	0 (0)	27 (109)
Haliburton, Kawartha, Pine Ridge	6 (19)	18 (32)	0 (0)	0 (1)	0 (0)	0 (1)	24 (53)
Peel Region	20 (130)	74 (166)	0 (0)	0 (18)	0 (0)	2 (12)	96 (326)
Peterborough County-City	3 (14)	6 (13)	0 (0)	0 (0)	0 (0)	0 (1)	9 (28)
Simcoe Muskoka District	19 (87)	26 (71)	0 (0)	0 (1)	0 (0)	0 (1)	45 (160)
York Region	10 (72)	38 (67)	0 (1)	0 (3)	0 (0)	2 (8)	50 (151)
TOTAL CENTRAL EAST	61 (368)	185 (409)	0 (1)	1 (26)	0 (0)	4 (23)	251 (827)
Toronto	41 (391)	92 (227)	0 (0)	2 (37)	0 (0)	6 (27)	141 (682)
TOTAL TORONTO	41 (391)	92 (227)	0 (0)	2 (37)	0 (0)	6 (27)	141 (682)
Chatham-Kent	5 (26)	7 (30)	0 (0)	0 (0)	0 (1)	0 (1)	12 (58)
Elgin-St. Thomas	3 (16)	4 (19)	0 (0)	0 (0)	0 (0)	0 (0)	7 (35)
Grey Bruce	3 (14)	24 (46)	0 (0)	0 (0)	0 (0)	0 (0)	27 (60)
Huron County	1 (8)	3 (7)	0 (0)	0 (0)	0 (0)	0 (0)	4 (15)
Lambton County	1 (18)	6 (10)	0 (0)	0 (0)	0 (0)	0 (1)	7 (29)
Middlesex-London	2 (24)	25 (113)	0 (1)	0 (0)	0 (0)	0 (1)	27 (139)
Oxford County	2 (4)	0 (11)	0 (0)	0 (1)	0 (0)	0 (0)	2 (16)
Perth District	3 (7)	1 (9)	0 (0)	1 (1)	0 (0)	0 (2)	5 (19)
Windsor-Essex County	3 (97)	13 (66)	0 (0)	0 (0)	0 (0)	0 (0)	16 (163)
TOTAL SOUTH WEST	23 (214)	83 (311)	0 (1)	1 (2)	0 (1)	0 (5)	107 (534)
Brant County	4 (8)	6 (16)	0 (0)	0 (1)	0 (0)	0 (0)	10 (25)
City Of Hamilton	1 (10)	40 (128)	0 (0)	0 (3)	0 (0)	2 (11)	43 (152)
Haldimand-Norfolk	0 (5)	4 (8)	0 (0)	0 (1)	0 (0)	0 (0)	4 (14)
Halton Region	7 (33)	19 (67)	0 (0)	0 (1)	0 (0)	0 (1)	26 (102)
Niagara Region	0 (25)	15 (41)	0 (0)	0 (2)	0 (0)	0 (0)	15 (68)
Waterloo Region	1 (23)	23 (84)	0 (0)	0 (3)	0 (0)	1 (1)	25 (111)
Wellington-Dufferin-Guelph	2 (34)	15 (34)	0 (0)	0 (0)	0 (0)	0 (0)	17 (68)
TOTAL CENTRAL WEST	15 (138)	122 (378)	0 (0)	0 (11)	0 (0)	3 (13)	140 (540)
TOTAL ONTARIO	163 (1321)	638 (1908)	1 (4)	7 (111)	0 (1)	16 (83)	825 (3428)

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2014/01/22].

Notes: Case counts above are based on 'Reported Date', which was the date the health unit was notified of the case. As a result, weekly case counts above will not necessarily correspond to case counts for influenza in Figures 1 and 2, which are based on the Episode Date. The cumulative count (in parentheses) includes laboratory-confirmed cases with a 'Reported Date' between September 1, 2013 and the last day of the current surveillance week. * The 'Other' influenza A category includes indeterminate, untypeable and other subtypes.

Table 2. Hospitalizations and deaths among confirmed influenza cases by age group: Ontario, week 3 and cumulative for the 2013-2014 season

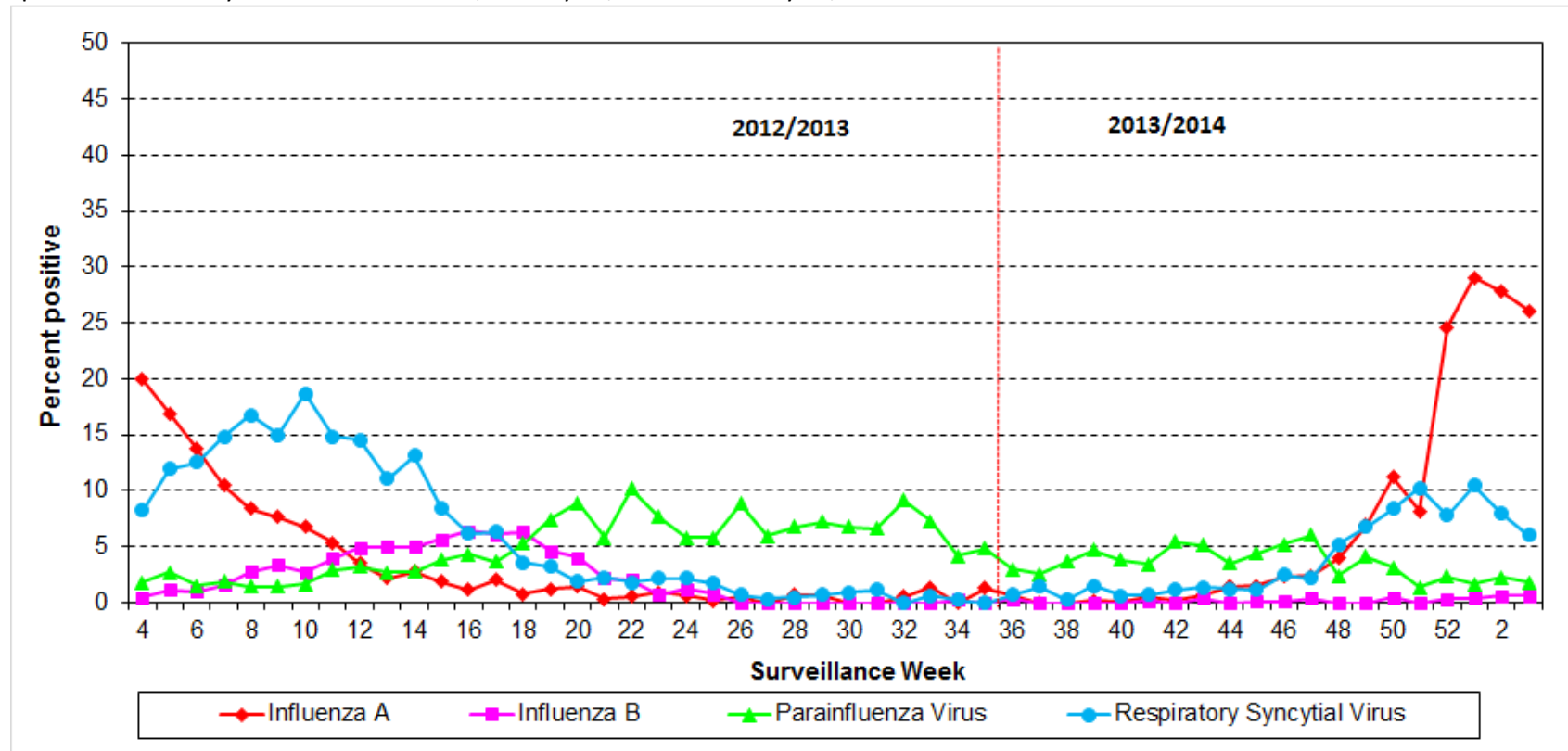
Age Group	HOSPITALIZATIONS		DEATHS	
	Weekly Count	Cumulative count (rate per 100,000)	Weekly count	Cumulative count (rate per 100,000)
<1	24	104 (73.5)	0	1 (0.7)
1 – 4	43	155 (26.9)	1	1 (0.2)
5 – 14	9	42 (2.8)	0	1 (0.1)
15 – 24	7	41 (2.3)	1	1 (0.1)
25 – 44	43	147 (4.0)	2	4 (0.1)
45 – 64	99	355 (9.4)	5	23 (0.6)
65+	92	335 (17.0)	3	26 (1.3)
Unknown	0	0 (n/a)	0	0 (n/a)
Total	317	1179 (8.7)	12	57 (0.4)

Sources:

Case data: Ontario Ministry of Health and Long-Term Care (MOHLTC), integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2014/01/22].

Population data: Population Estimates 1986-2012, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, extracted by Public Health Ontario [2013/09/16]

Figure 3. Percentage of respiratory viral pathogens (influenza A, influenza B, parainfluenza virus, and respiratory syncytial virus) detected among specimens tested by all methods: Ontario, January 20, 2013 to January 18, 2014



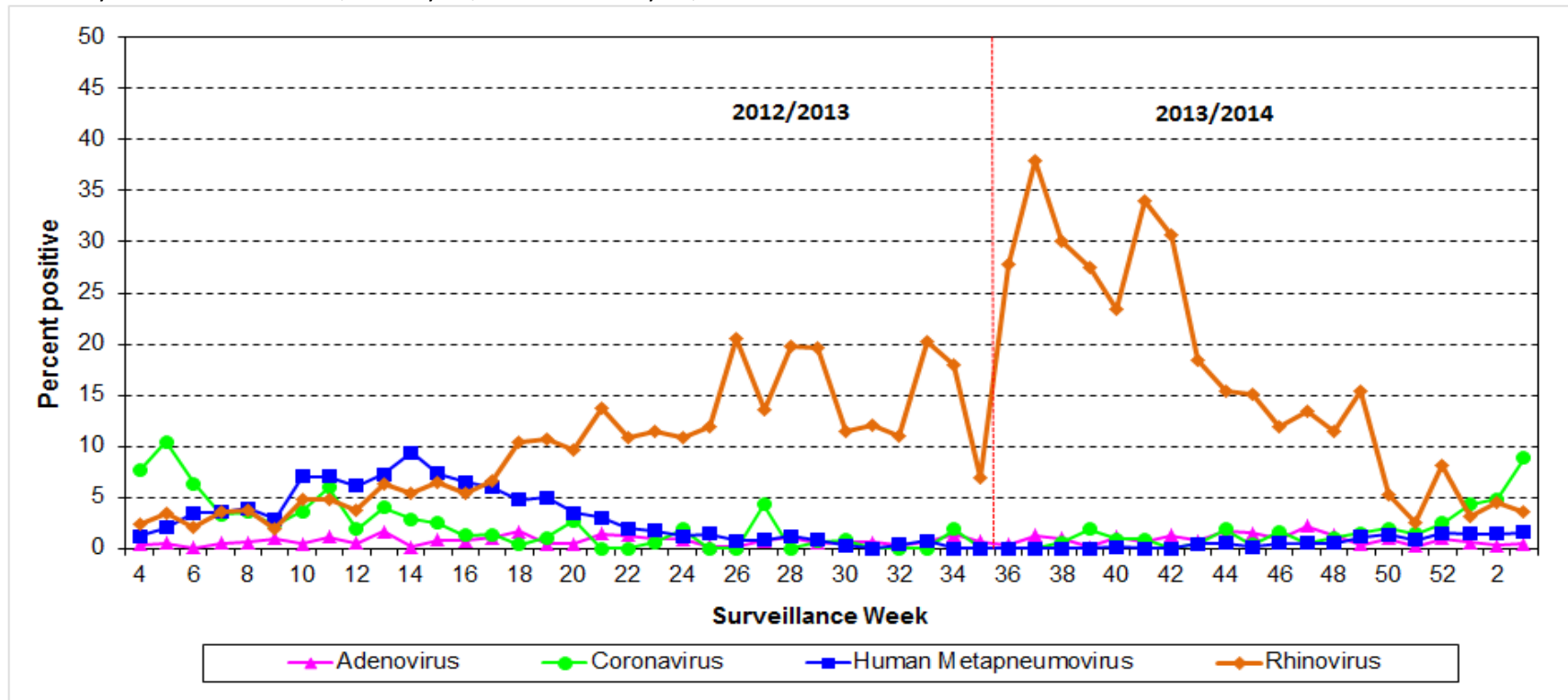
Source: These data have been obtained from the Public Health Agency of Canada's (PHAC) Centre for Immunization and Respiratory Infectious Diseases (CIRID) respiratory virus detection tables as of January 22, 2014; they are based on data submitted to PHAC from 16 laboratories in Ontario.

Notes:

The numbers reported in this figure represent results submitted to the CIRID by 16 participating laboratories in Ontario, including 11 Public Health Ontario Laboratories (PHOLs) and five hospital-based laboratories. In week 3, 14 of Ontario's 16 participating laboratories submitted results. Interpret results for week 51 with caution as only four laboratories in Ontario, three of which were hospital-based laboratories, submitted results to the CIRID. Results above are assigned to a particular surveillance week based on when test results are reported to PHAC; these data are not updated when results are submitted late for previous surveillance weeks. These data represent the number of specimens tested, which may not necessarily correspond with the number of patients as more than one specimen may have been submitted per patient.

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

Figure 4. Percentage of respiratory viral pathogens (adenovirus, coronavirus, human metapneumovirus, and rhinovirus) detected among specimens tested by all methods: Ontario, January 20, 2013 to January 18, 2014



Source: These data have been obtained from the Public Health Agency of Canada's (PHAC) Centre for Immunization and Respiratory Infectious Diseases (CIRID) respiratory virus detection tables as of January 22, 2014; they are based on data submitted to PHAC from 16 laboratories in Ontario.

Notes:

The numbers reported in this figure represent results submitted to the CIRID by 16 participating laboratories in Ontario, including 11 Public Health Ontario Laboratories and five hospital-based laboratories. Fourteen of Ontario's 16 participating laboratories submitted results in surveillance week 3. Interpret results for week 51 with caution as only four laboratories in Ontario, three of which were hospital-based laboratories, submitted results to the CIRID. Results above are assigned to a particular surveillance week based on when test results are reported to PHAC; these data are not updated when results are submitted late for previous surveillance weeks. These data represent the number of specimens tested, which may not necessarily correspond with the number of patients as more than one specimen may have been submitted per patient.

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

Table 3. Number and percent positivity of respiratory specimens tested by all methods for influenza and other respiratory viruses: Ontario, week 3 and cumulative for the 2013-2014 season

Detected viruses	Current Surveillance Week			Cumulative for Season*		
	Number positive	Number tested	Percent positive	Number positive	Number tested	Percent positive
Influenza (All)	843	3,155	26.7%	3,570	24,867	14.4%
Influenza A	824	3,155	26.1%	3,497	24,867	14.1%
Influenza B	19	3,155	0.6%	73	24,867	0.3%
Parainfluenza virus	46	2,576	1.8%	620	20,529	3.0%
Adenovirus	12	2,576	0.5%	171	20,529	0.8%
Respiratory syncytial virus	174	2,865	6.1%	1,330	23,133	5.7%
Rhinovirus	29	804	3.6%	913	7,982	11.4%
Human metapneumovirus	37	2,341	1.6%	187	19,594	1.0%
Coronavirus	47	532	8.8%	131	5,229	2.5%

Source: These data have been obtained from the Public Health Agency of Canada's (PHAC) Centre for Immunization and Respiratory Infectious Diseases (CIRID) respiratory virus detection tables as of January 22, 2014; they are based on data submitted to PHAC from 16 participating laboratories in Ontario.

Notes:

*Cumulative numbers include counts from August 25, 2013 (surveillance week 35) because PHAC's CIRID data include week 35 as part of the 2013-2014 season.

The data in this table are based on the date on which test results are reported. Cumulative counts reported include late reports from previous weeks; however, the current week will not include data from laboratories that submit late reports. Therefore, weekly counts from previous weeks may not equal the cumulative count.

In surveillance week 3, 14 of Ontario's 16 participating laboratories submitted results.

These data represent the number of specimens tested, which may not necessarily correspond with the number of patients as more than one specimen may have been submitted per patient.

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

Table 4. Institutional respiratory infection outbreaks: Ontario, week 3 and total for the 2013-2014 season to date¹

Institutional Respiratory Infection Outbreaks		
New outbreaks (Week 3) ²	Number of outbreaks	Percentage (%) of total
Influenza A	5	38.5
Influenza B	0	0.0
Influenza A and B	0	0.0
Enterovirus/rhinovirus	0	0.0
Parainfluenza (All types)	0	0.0
Respiratory Syncytial Virus (RSV)	1	7.7
Combined outbreaks ³	0	0.0
Other organisms ⁴	0	0.0
No organism identified	7	53.8
TOTAL	13	100.0
Cumulative outbreaks (season to date) ¹	N	
Influenza A	43	13.6
Influenza B	3	0.9
Influenza A and B	0	0.0
Enterovirus/rhinovirus	111	35.1
Parainfluenza (All types)	25	7.9
Respiratory Syncytial Virus (RSV)	24	7.6
Combined outbreaks ³	12	3.8
Other organisms ⁴	18	5.7
No organism identified	80	25.3
TOTAL	316	100.0
Types of institutions for cumulative outbreaks		
Long-Term Care Homes	206	65.2
Hospitals	24	7.6
Retirement Homes	37	11.7
Other ⁵	0	0.0
Unknown	49	15.5
TOTAL	316	100.0

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2014/01/22].

Notes:

¹ Season to date includes all outbreaks in which the date of onset of illness for the first case associated with the outbreak occurred between September 1, 2013 (Week 36) and the current reporting week, as well as outbreaks in which the date of onset of illness for the first case is missing.

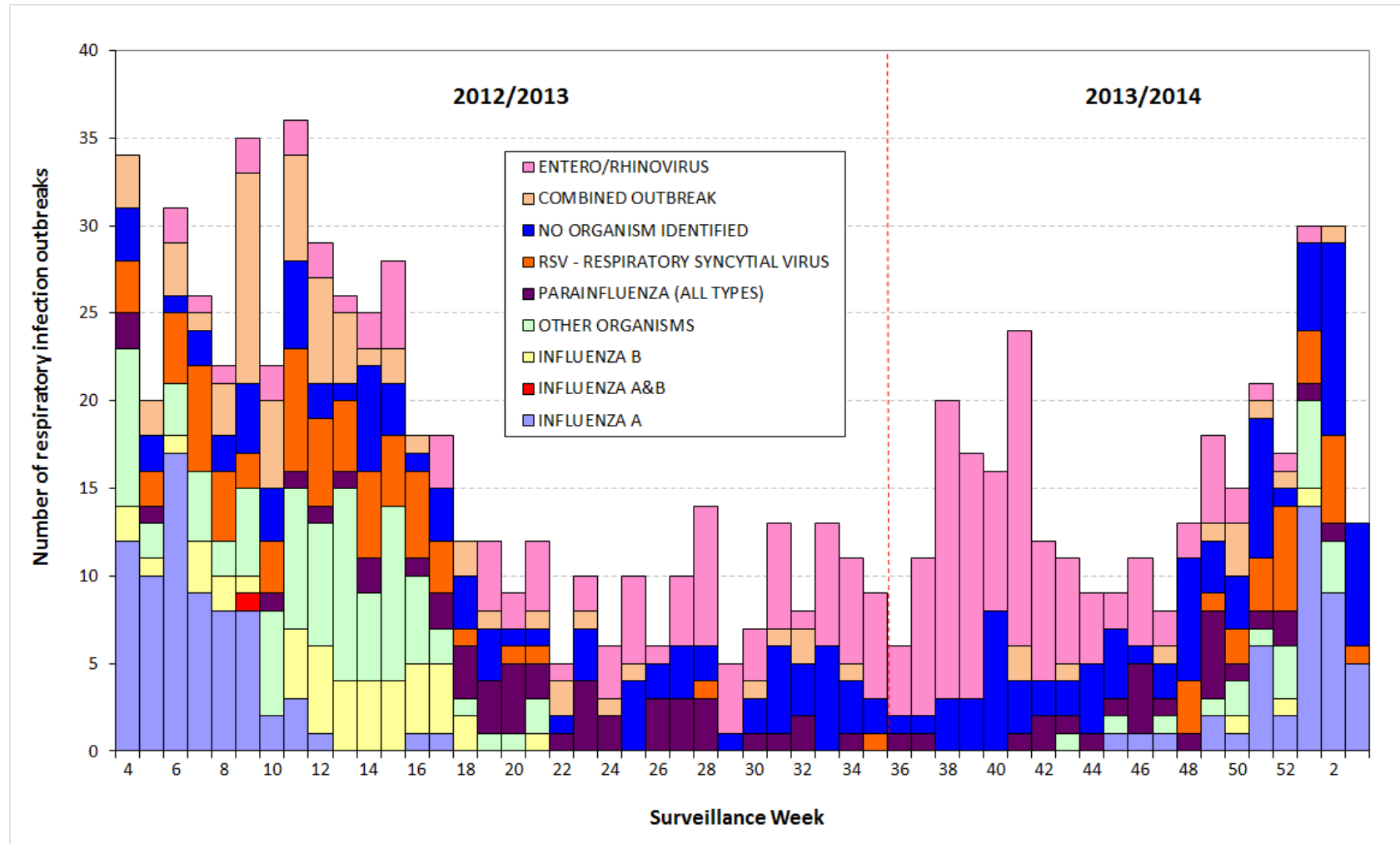
² New outbreaks are those in which the date of onset of illness in the first case occurred and was recorded in iPHIS in the current surveillance period; i.e. January 12 – January 18, 2014 (Week 3).

³ Combined outbreaks include outbreaks in which more than one non-influenza organism has been identified (e.g. RSV, parainfluenza, rhinovirus, etc.).

⁴ Other organisms include outbreaks involving other aetiological agents, such as human metapneumovirus, adenovirus, and coronavirus.

⁵ Other types of institutions include: correctional facilities, group homes, shelters, and facilities operating under the *Developmental Services Act*. Note that school-based respiratory outbreaks are not captured in this table.

Figure 5. Institutional respiratory infection outbreaks by week of illness onset in the first case: Ontario, January 20, 2013 to January 18, 2014

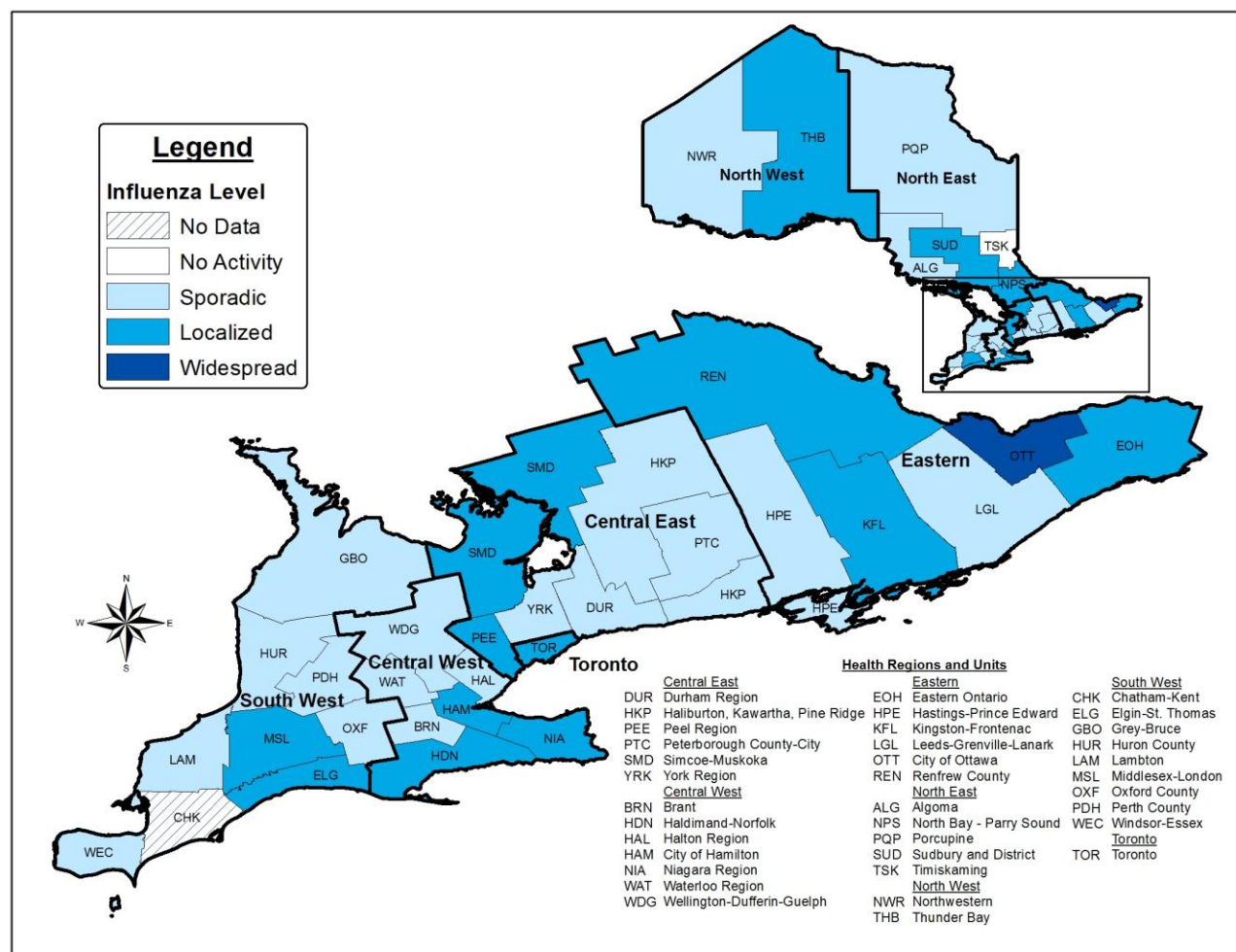


Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2014/01/22].

Notes:

Institutional respiratory infection outbreaks for which the date of onset of illness for the first case was missing were excluded in this figure. However, these outbreaks are counted in the cumulative outbreaks section of Table 4.

Figure 6. Influenza activity levels reported by public health units: Ontario, January 12 to January 18, 2014 (Week 3)



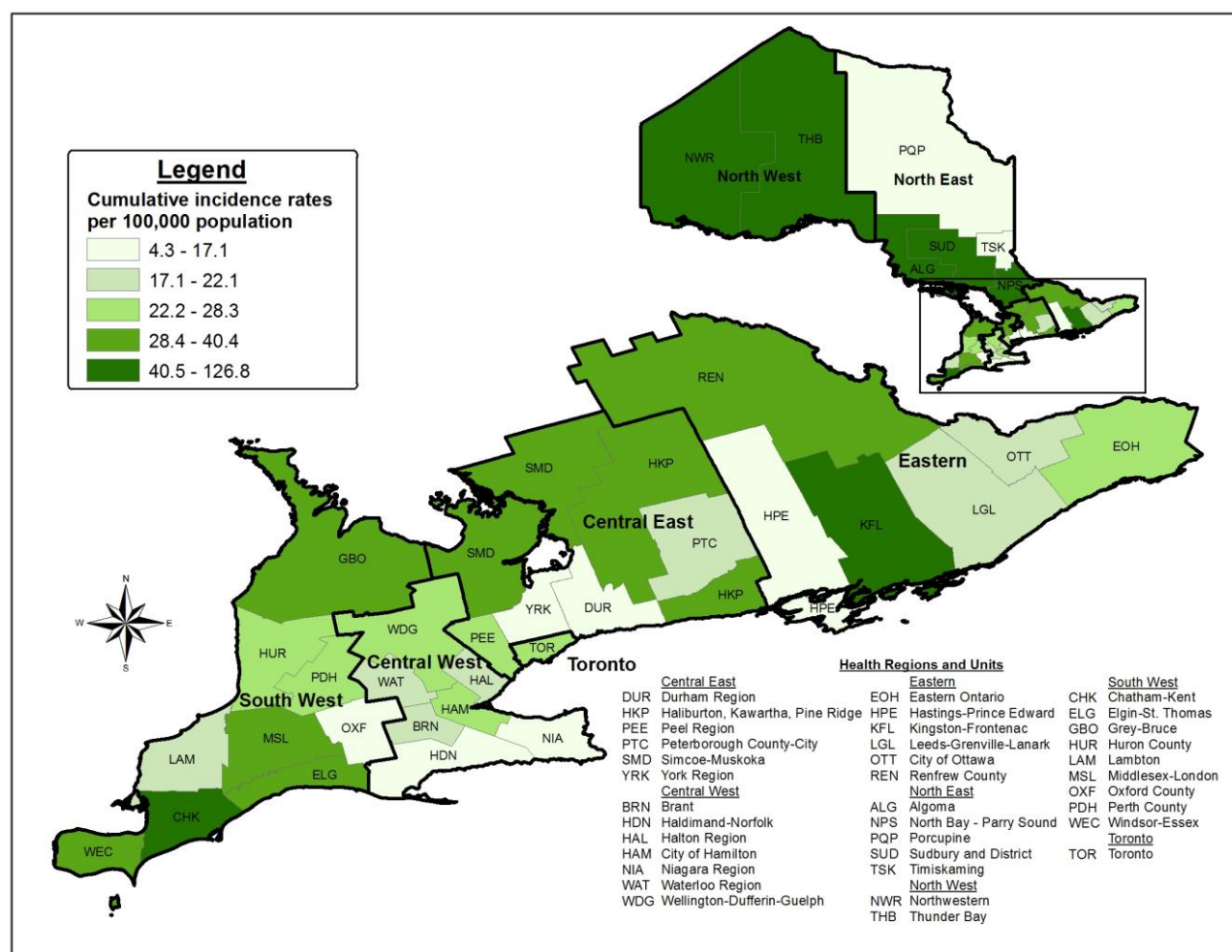
Source: Public Health Ontario [Provincial Influenza Activity Report (Appendix C) Database]

Notes:

Influenza activity levels are assigned by local public health units and reported to Public Health Ontario by the Tuesday following the end of each surveillance week at 4:00 p.m. 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 2013-2014 season](#).

Activity levels reported for a particular surveillance week may not necessarily correspond to the number of new outbreaks reported in the same week in Table 3 because ongoing outbreaks from previous weeks, as well as laboratory confirmed outbreaks in schools, may be included in the assessment of the activity level.

Figure 7. Influenza cumulative incidence rates for the 2013-2014 surveillance season to date, by health unit: Ontario, September 1, 2013 – January 18, 2014



Data sources:

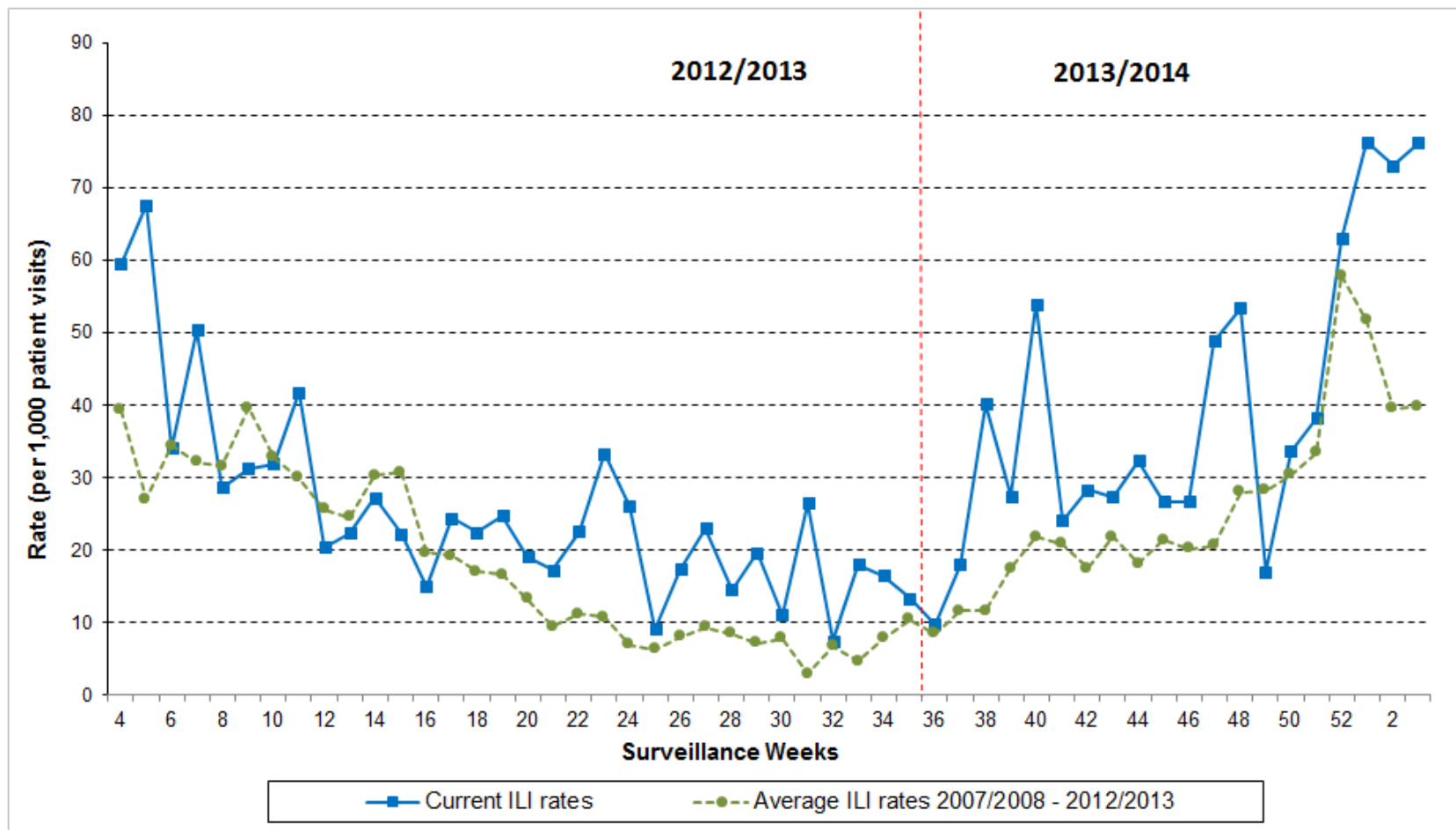
Case counts: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2014/01/22].

Population data: The population counts were derived from population projections estimated as of 2012, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO [2013/09/16].

Note:

The cumulative count includes laboratory-confirmed cases with a 'Reported Date' between September 1, 2013 and the last day of the current surveillance week.

Figure 8. Influenza-like-illness (ILI) consultation rate (per 1,000 patient visits) reported by sentinels by surveillance week compared to historical average (2007/2008 - 2012/2013 seasons): Ontario, January 20, 2013 to January 18, 2014



Source: Public Health Agency of Canada, FluWatch ILI sentinel surveillance reporting

Notes:

Due to small numbers of sentinel sites reporting, readers are advised to review overall trends and place less emphasis on week-to-week fluctuations. Ontario average ILI rates include data from the 2007-2008 to the 2012-2013 seasons, excluding ILI rates during the time period of the influenza pandemic in Ontario (April 2009 to January 2010) due to the incomparability of those rates to a regular influenza season.

Table 5. Influenza-like illness (ILI) consultation rate (per 1,000 patient visits) by age group as reported by sentinel sites: Ontario, week 3

Age Category	0 – 4	5 – 19	20 – 64	65 +	Unknown	TOTAL
Number of Patients with ILI	19	12	77	22	0	130
Number of Total Consultations	121	145	967	472	0	1705
<i>ILI Consultation Rate (per 1,000 patient visits)</i>	157.0	82.8	79.6	46.6	0.0	76.3

Source: Public Health Agency of Canada, FluWatch ILI sentinel surveillance reporting

Notes:

Sentinel information is reported to the Public Health Agency of Canada; 64 sentinel physician sites reported in week 3. ILI consultation rates presented in Table 5 should be interpreted with caution, as small numbers of sentinel sites reporting can result in unstable ILI rates.

APPENDIX**Table I.** Strain characterization completed on influenza isolates at the National Microbiology Laboratory: Ontario and Canada, September 1, 2013 to January 23, 2014

Influenza strains	Ontario	Canada
Influenza A (H3N2) A/Texas/50/2012-like	20	29
Influenza A (H1N1)pdm09 A/California/07/2009-like	154	356
Influenza B B/Brisbane/60/2008-like	1	5
Influenza B B/Massachusetts/02/2012-like	17	38

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

Notes:

The influenza strains recommended by the World Health Organization (WHO) for the Northern Hemisphere vaccine for the [2013-2014 season](#) are: A/California/7/2009-like (A H1N1pdm09-like virus); A/Texas/50/2012-like virus; and B/Massachusetts/02/2012-like virus (Yamagata lineage).

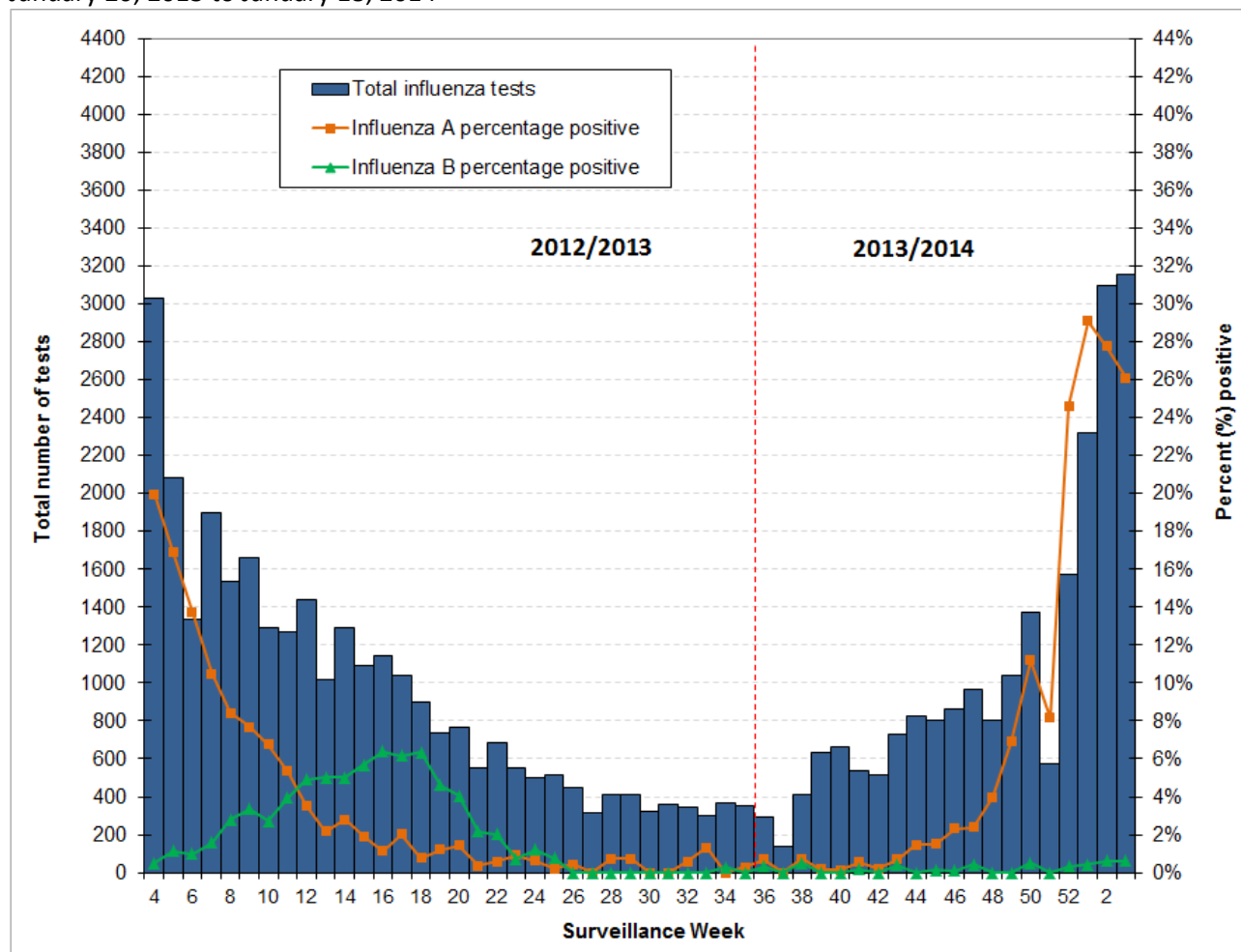
Table II. Amantadine, oseltamivir and zanamivir susceptibility assays completed on influenza isolates at the National Microbiology Laboratory: Ontario and Canada, September 1, 2013 to January 23, 2014

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)	23	0	31	0	0	19	0	25	0	19	0	25
Influenza A (H1N1)pdm09	103	0	223	0	0	112	0	262	0	111	0	256
Influenza B	NA	NA	NA	NA	0	14	0	39	0	14	0	39

(R = Resistant, S = Susceptible, NA = Not Applicable)

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

Figure I. Total number of influenza tests performed and percent of positive tests by report week: Ontario, January 20, 2013 to January 18, 2014



Source: These data have been obtained from the Public Health Agency of Canada's (PHAC) Centre for Immunization and Respiratory Infectious Diseases (CIRID) respiratory virus detection tables as of January 22, 2014; they are based on data submitted to PHAC from 16 laboratories in Ontario.

Notes:

The numbers reported in this figure represent results submitted to the CIRID by 16 participating laboratories in Ontario, including 11 Public Health Ontario Laboratories and five hospital-based laboratories. In surveillance week 3, 14 of Ontario's 16 participating laboratories submitted results.

Interpret results for week 51 with caution as only four laboratories in Ontario, three of which were hospital-based laboratories, submitted results to the CIRID.

Results above are assigned to a particular surveillance week based on when test results are reported to PHAC; these data are not updated when results are submitted late for previous surveillance weeks.

These data represent the number of specimens tested, which may not necessarily correspond with the number of patients as more than one specimen may have been submitted per patient.

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