

Ontario Respiratory Virus Bulletin | 2014-2015

SURVEILLANCE WEEK 9 (March 1, 2015 – March 7, 2015)

This issue of the Ontario Respiratory Virus Bulletin provides information on the surveillance period from March 1 to March 7, 2015 (Week 9). Unless otherwise specified, **data presented in this issue of the bulletin are for Week 9** and data extraction occurred on Wednesday, March 11, 2015.

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	Lower	There were 329 influenza cases (266 influenza A, 60 influenza B and 3 cases with both influenza A and B detected) reported ¹ in Week 9, which was lower than the 369 influenza cases reported in Week 8 (320 influenza A and 49 influenza B).
Percent positivity for influenza ²	Lower	Percent positivity ² of laboratory tests for all influenza types in Week 9 was 16.7%, which was lower than the percent positivity in Week 8 (18.2%).
Institutional Influenza outbreaks ³	Higher	There were 12 new influenza outbreaks reported in Week 9 which was higher than the number of influenza outbreaks reported in Week 8 (10).
Influenza activity levels reported by health units	Higher	In Week 9, 3 health units reported 'widespread' activity, 27 reported 'localized' activity, and 4 reported 'sporadic' activity. In Week 8, 4 health units reported 'widespread' activity, 23 reported 'localized' activity, and 8 reported 'sporadic' activity.
OVERALL ASSESSMENT	Lower	Overall, the indicators show that influenza activity for Week 9 was lower compared to Week 8.
Measures of severity for influenza		
Hospitalizations among laboratory-confirmed cases of influenza ¹	Lower	There were 126 hospitalized cases reported in Week 9, which was lower than the 169 hospitalized cases reported in Week 8.
Deaths among laboratory-confirmed cases of influenza ¹	Lower	There were 14 deaths reported in Week 9, which was lower than the 37 deaths reported in Week 8.

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. Case counts are based on the date the case was reported to the health unit. 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 meeting the provincial outbreak definition, as reported in iPHIS.

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

Influenza activity in Ontario during week 9 was moderate overall, but lower compared to week 8.

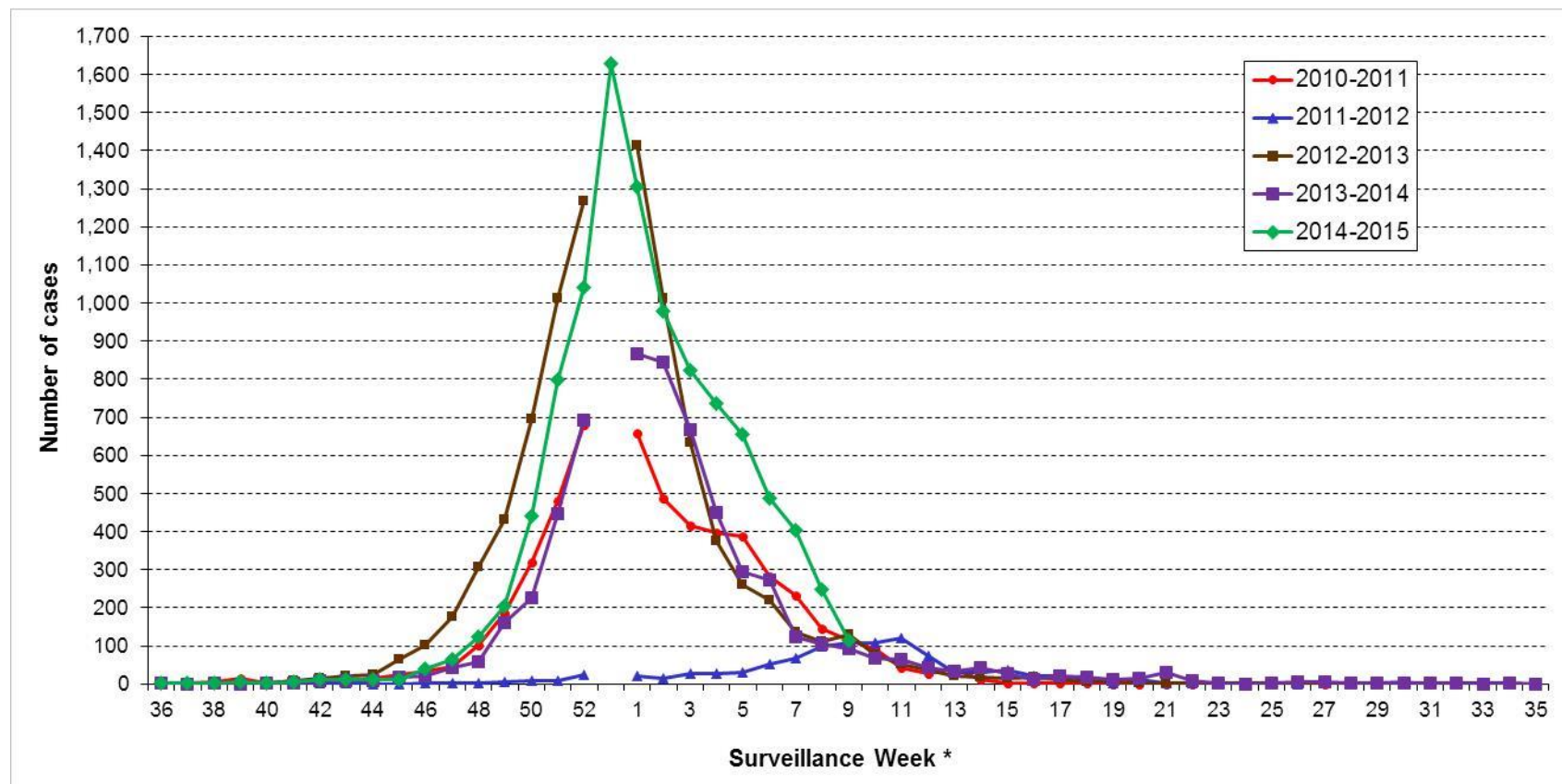
- Influenza A percent positivity was 14.0% in Week 9, which was lower than Week 8 (15.9%); Influenza B percent positivity was 2.7% in Week 9, which was similar to Week 8 (2.2%).¹
- For the 2014-2015 surveillance season to date, 10,475 laboratory-confirmed influenza cases² have been reported. Among these cases, the majority (97.0%, 10,165/10,475) were influenza A (Table 1). Of the 3,635 reported influenza A cases with subtype available, 99.4% (3,613/3,635) were H3N2.
- Of the 1,333 institutional respiratory infection outbreaks reported to date in the 2014-2015 season, influenza was detected in 947; 930 were influenza A, 10 were influenza B, and in seven both influenza A and B were detected. Of the 403 influenza A outbreaks with subtype information reported, all were H3N2.
- In the season to date, 3,028 hospitalizations³ and 225 deaths have been reported among laboratory-confirmed influenza cases. The majority of hospitalizations (98.3%, 2,977/3,028) and all of the deaths occurred in influenza A cases. Additionally, 92.4% (208/225) of the deaths and 75.4% (2,284/3,028) of the hospitalizations were in individuals 65 years of age and older.
- Among other circulating non-influenza respiratory viruses identified through laboratory testing:
 - Coronavirus was the most common circulating non-influenza respiratory virus in Week 9. The percent positivity for coronavirus was 11.9% in Week 9 compared to 10.3% in Week 8.
 - Respiratory syncytial virus (RSV) was the second most common circulating non-influenza respiratory virus in Week 9. The percent positivity for RSV was 9.0% in Week 9 compared to 8.1% in Week 8.

¹ Based on percent 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). Due to rounding percentages presented here may not add up to the overall influenza percent positivity presented on page 1.

² These data do not include approximately 1,200 cases in total for weeks 52, 53 and 1 of the 2014-2015 season as they were not reported through iPHIS.

³ These data do not include approximately 410 hospitalized laboratory-confirmed cases in total for weeks 52, 53 and 1, as they were not reported through iPHIS.

Figure 1. Number of reported confirmed cases of **influenza A** by surveillance week: Ontario, September 1, 2010 to March 7, 2015



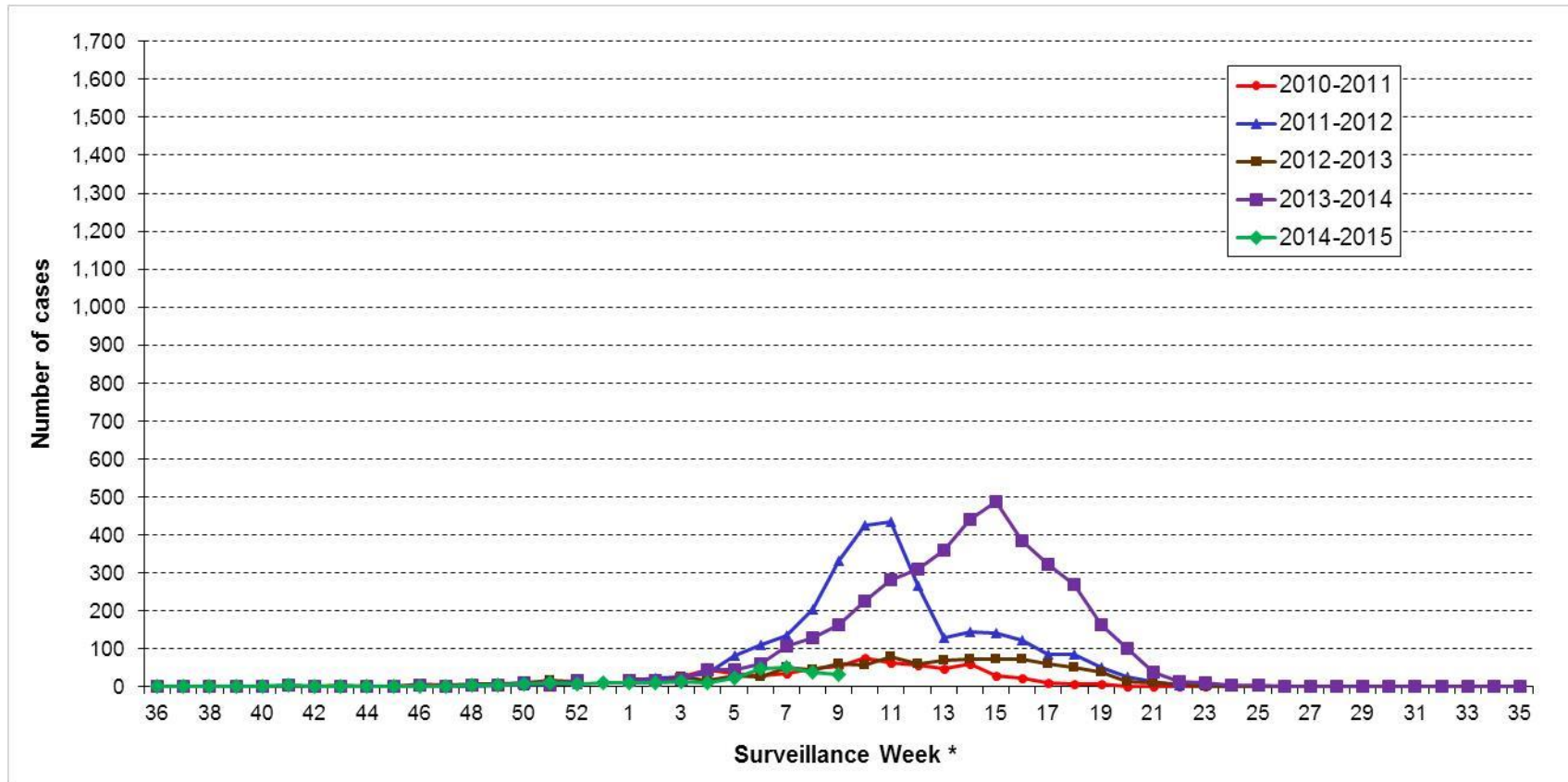
Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2015/03/11].

Notes:

Interpret most recent case counts for the current season with caution due to reporting lags. These data do not include approximately 1,200 cases in total for weeks 52, 53 and 1 of the 2014-2015 season as they were not reported through iPHIS.

*Unlike the other seasons presented, the 2014-2015 season includes a week 53; a week 53 occurs once every five to six years. Case counts above are based on 'Reported Date', which was the date the health unit was notified of the case; however, 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). Cases are excluded from these counts if the episode date is based on reported date, and the reported date occurs after the latest surveillance week.

Figure 2. Number of reported confirmed cases of **influenza B** by surveillance week: Ontario, September 1, 2010 to March 7, 2015



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2015/03/11].

Notes:

Interpret most recent case counts for the current season with caution due to reporting lags. These data do not include approximately 10 cases in total for weeks 52, 53 and 1 of the 2014-2015 season as they were not reported through iPHIS.

*Unlike the other seasons presented, the 2014-2015 season includes a week 53; a week 53 occurs once every five to six years. Case counts above are based on 'Reported Date', which was the date the health unit was notified of the case; however, 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). Cases are excluded from these counts if the episode date is based on reported date, and the reported date occurs after the latest surveillance week.

Table 1. Number of reported confirmed influenza cases by health unit and health region: Ontario, Week 9 and cumulative total (in parentheses) for the 2014-2015 season

Health Unit and Region	Influenza A				Influenza A & B	Influenza B	TOTAL
	(H1N1) pdm09	H3	Other *	No subtype available			
Northwestern	0 (0)	0 (18)	0 (0)	2 (85)	0 (0)	0 (0)	2 (103)
Thunder Bay District	0 (0)	0 (12)	0 (0)	4 (73)	0 (0)	1 (2)	5 (87)
TOTAL NORTH WEST	0 (0)	0 (30)	0 (0)	6 (158)	0 (0)	1 (2)	7 (190)
Algoma	0 (0)	0 (42)	0 (0)	8 (91)	0 (0)	0 (1)	8 (134)
North Bay Parry Sound District	0 (0)	0 (29)	0 (0)	6 (121)	0 (1)	0 (12)	6 (163)
Porcupine	0 (1)	0 (9)	0 (0)	5 (97)	0 (0)	0 (0)	5 (107)
Sudbury & District	0 (0)	1 (30)	0 (2)	5 (94)	0 (0)	0 (2)	6 (128)
Timiskaming	0 (0)	1 (18)	0 (0)	3 (43)	0 (0)	0 (1)	4 (62)
TOTAL NORTH EAST	0 (1)	2 (128)	0 (2)	27 (446)	0 (1)	0 (16)	29 (594)
City of Ottawa	0 (0)	0 (26)	0 (0)	17 (665)	0 (0)	10 (32)	27 (723)
Eastern Ontario	0 (0)	2 (44)	0 (0)	9 (114)	0 (0)	1 (9)	12 (167)
Hastings & Prince Edward Counties	0 (0)	0 (12)	0 (0)	4 (54)	0 (0)	0 (5)	4 (71)
Kingston, Frontenac, Lennox & Addington	0 (0)	0 (65)	0 (0)	6 (134)	0 (0)	7 (25)	13 (224)
Leeds, Grenville And Lanark District	0 (0)	0 (32)	0 (0)	1 (73)	0 (0)	2 (7)	3 (112)
Renfrew County And District	0 (0)	1 (18)	0 (0)	3 (31)	0 (0)	2 (7)	6 (56)
TOTAL EASTERN	0 (0)	3 (197)	0 (0)	40 (1071)	0 (0)	22 (85)	65 (1353)
Durham Region	0 (1)	3 (180)	0 (0)	2 (187)	0 (0)	0 (5)	5 (373)
Haliburton, Kawartha, Pine Ridge	0 (0)	2 (59)	0 (0)	1 (107)	0 (0)	3 (7)	6 (173)
Peel Region	0 (2)	7 (337)	0 (1)	23 (771)	2 (2)	1 (18)	33 (1131)
Peterborough County-City	0 (0)	0 (23)	0 (0)	1 (35)	0 (0)	1 (2)	2 (60)
Simcoe Muskoka District	0 (1)	1 (97)	0 (0)	15 (412)	0 (1)	5 (19)	21 (530)
York Region	0 (1)	1 (193)	0 (0)	4 (431)	0 (0)	2 (15)	7 (640)
TOTAL CENTRAL EAST	0 (5)	14 (889)	0 (1)	46 (1943)	2 (3)	12 (66)	74 (2907)
Toronto	3 (15)	11 (1746)	0 (0)	30 (901)	1 (5)	8 (41)	53 (2708)
TOTAL TORONTO	3 (15)	11 (1746)	0 (0)	30 (901)	1 (5)	8 (41)	53 (2708)
Chatham-Kent	0 (0)	0 (20)	0 (0)	2 (61)	0 (0)	3 (7)	5 (88)
Elgin-St. Thomas	0 (0)	0 (18)	0 (0)	2 (19)	0 (0)	0 (0)	2 (37)
Grey Bruce	0 (0)	3 (49)	0 (0)	2 (112)	0 (1)	0 (4)	5 (166)
Huron County	0 (0)	0 (21)	0 (0)	2 (32)	0 (0)	1 (5)	3 (58)
Lambton County	0 (0)	1 (26)	0 (0)	2 (29)	0 (0)	0 (2)	3 (57)
Middlesex-London	0 (0)	5 (66)	0 (0)	11 (225)	0 (0)	5 (11)	21 (302)
Oxford County	0 (0)	0 (25)	0 (0)	0 (33)	0 (0)	0 (2)	0 (60)
Perth District	0 (0)	0 (17)	0 (0)	2 (34)	0 (0)	0 (1)	2 (52)
Windsor-Essex County	0 (1)	2 (57)	0 (0)	1 (137)	0 (0)	1 (6)	4 (201)
TOTAL SOUTH WEST	0 (1)	11 (299)	0 (0)	24 (682)	0 (1)	10 (38)	45 (1021)
Brant County	0 (0)	0 (18)	0 (0)	3 (60)	0 (0)	0 (3)	3 (81)
City Of Hamilton	0 (0)	0 (45)	0 (0)	0 (210)	0 (0)	0 (4)	0 (259)
Haldimand-Norfolk	0 (0)	4 (12)	0 (0)	2 (68)	0 (0)	0 (1)	6 (81)
Halton Region	0 (0)	1 (58)	0 (0)	15 (328)	0 (0)	2 (9)	18 (395)
Niagara Region	0 (0)	1 (89)	0 (0)	9 (256)	0 (0)	1 (10)	11 (355)
Waterloo Region	0 (0)	1 (49)	0 (0)	7 (261)	0 (0)	4 (20)	12 (330)
Wellington-Dufferin-Guelph	0 (0)	0 (53)	0 (0)	6 (143)	0 (0)	0 (5)	6 (201)
TOTAL CENTRAL WEST	0 (0)	7 (324)	0 (0)	42 (1326)	0 (0)	7 (52)	56 (1702)
TOTAL ONTARIO	3 (22)	48 (3613)	0 (3)	215 (6527)	3 (10)	60 (300)	329 (10475)

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2015/03/11].

Notes: Case counts above are based on 'Reported Date', which was the date the health unit was notified of the case. The cumulative count (in parentheses) includes laboratory-confirmed cases with a 'Reported Date' between September 1, 2014 and the last day of the current surveillance week. These data do not include approximately 1,200 cases in total for weeks 52, 53 and 1 for the 2014-2015 season as they were not reported through iPHIS.

* The 'Other' influenza A category includes any other influenza A subtypes identified; 'No subtype available' includes influenza A isolates that were classified as not subtyped, untypeable, or indeterminate.

Table 2. Hospitalizations and deaths among confirmed influenza cases by age group: Ontario, Week 9 and cumulative for the 2014-2015 influenza season

Age Group	HOSPITALIZATIONS		DEATHS	
	Weekly Count	Cumulative count (rate per 100,000)	Weekly count	Cumulative count (rate per 100,000)
<1	3	96 (67.7)	0	0 (0)
1 – 4	3	128 (22.3)	0	2 (0.3)
5 – 14	3	93 (6.3)	1	1 (0.1)
15 – 24	2	37 (2)	0	1 (0.1)
25 – 44	4	97 (2.7)	0	4 (0.1)
45 – 64	13	293 (7.7)	0	9 (0.2)
65+	98	2284 (111)	13	208 (10.1)
Total	126	3028 (22.4)	14	225 (1.7)

Sources:

Case data: Ontario Ministry of Health and Long-Term Care (MOHLTC), integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2015/03/11].

Population data: Population Estimates 2013, Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, extracted by Public Health Ontario [2014/07/03].

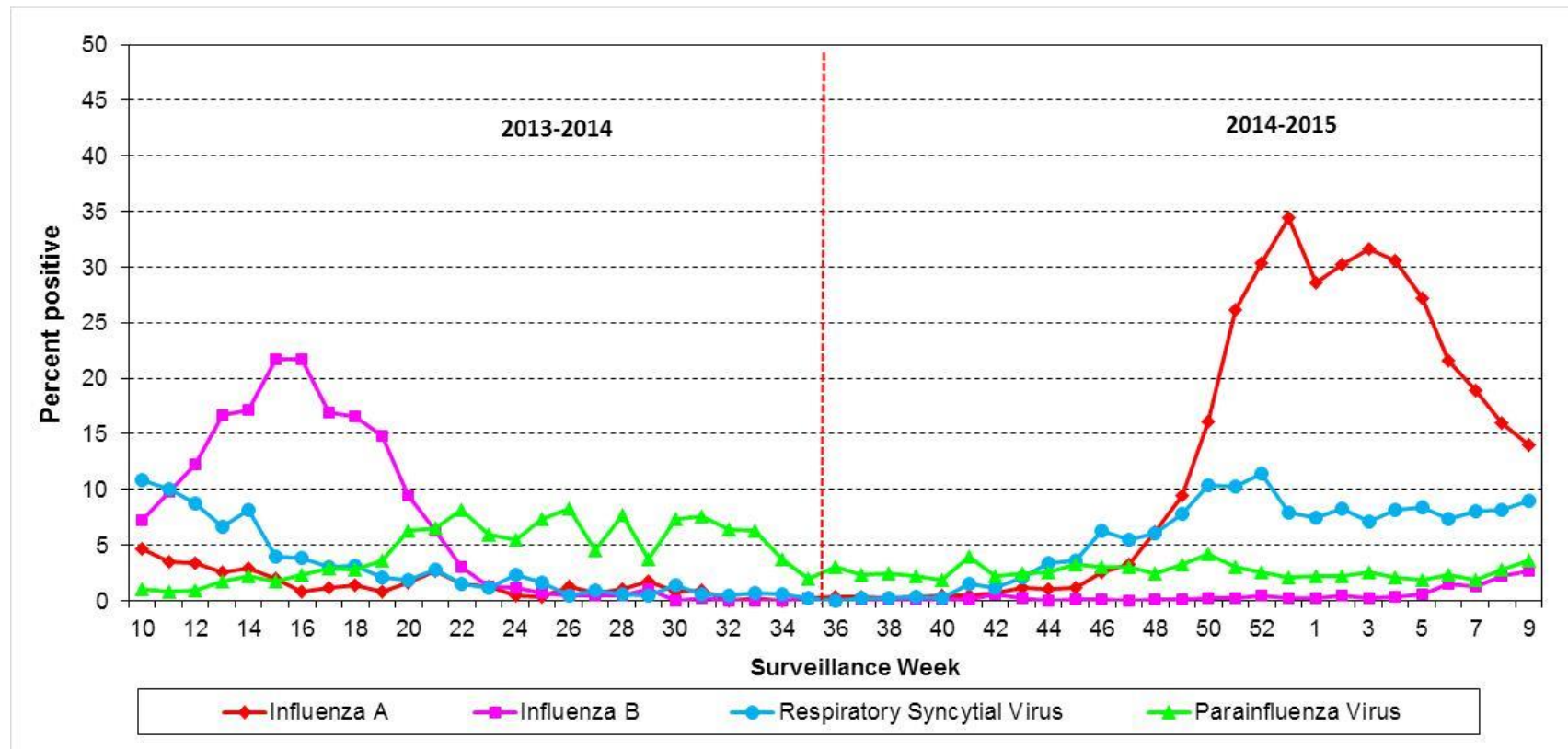
Notes:

These data do not include approximately 410 hospitalized laboratory-confirmed cases in total for weeks 52, 53 and 1, as they were not reported through iPHIS.

The numbers of hospitalizations and deaths provided in iPHIS need to be interpreted with caution due to delays between the onset of illness, hospital admission or death, and when this information is reported to public health. During periods of increased influenza activity, there may be additional delays in the reporting of hospitalizations and deaths beyond the expected reporting time lag.

Deaths in any influenza case are included; death attribution is not considered. In addition, the numbers of hospitalizations and deaths reported in iPHIS are believed to be an underestimation of the true experience in the Ontario population for many reasons, including underreporting because of ill persons not seeking medical care and therefore not getting tested. In the 2014-2015 season, only a proportion of laboratory confirmed cases are being followed up by public health units, therefore it is anticipated that the number of deaths will be a greater underestimation of the true number of deaths than reported in previous seasons.

Figure 3. Percentage of respiratory viral pathogens (influenza A, influenza B, respiratory syncytial virus, and parainfluenza virus) detected among specimens tested by all methods: Ontario, March 2, 2014 to March 7, 2015



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 March 11, 2015; they are based on data submitted to PHAC from 16 laboratories in Ontario.

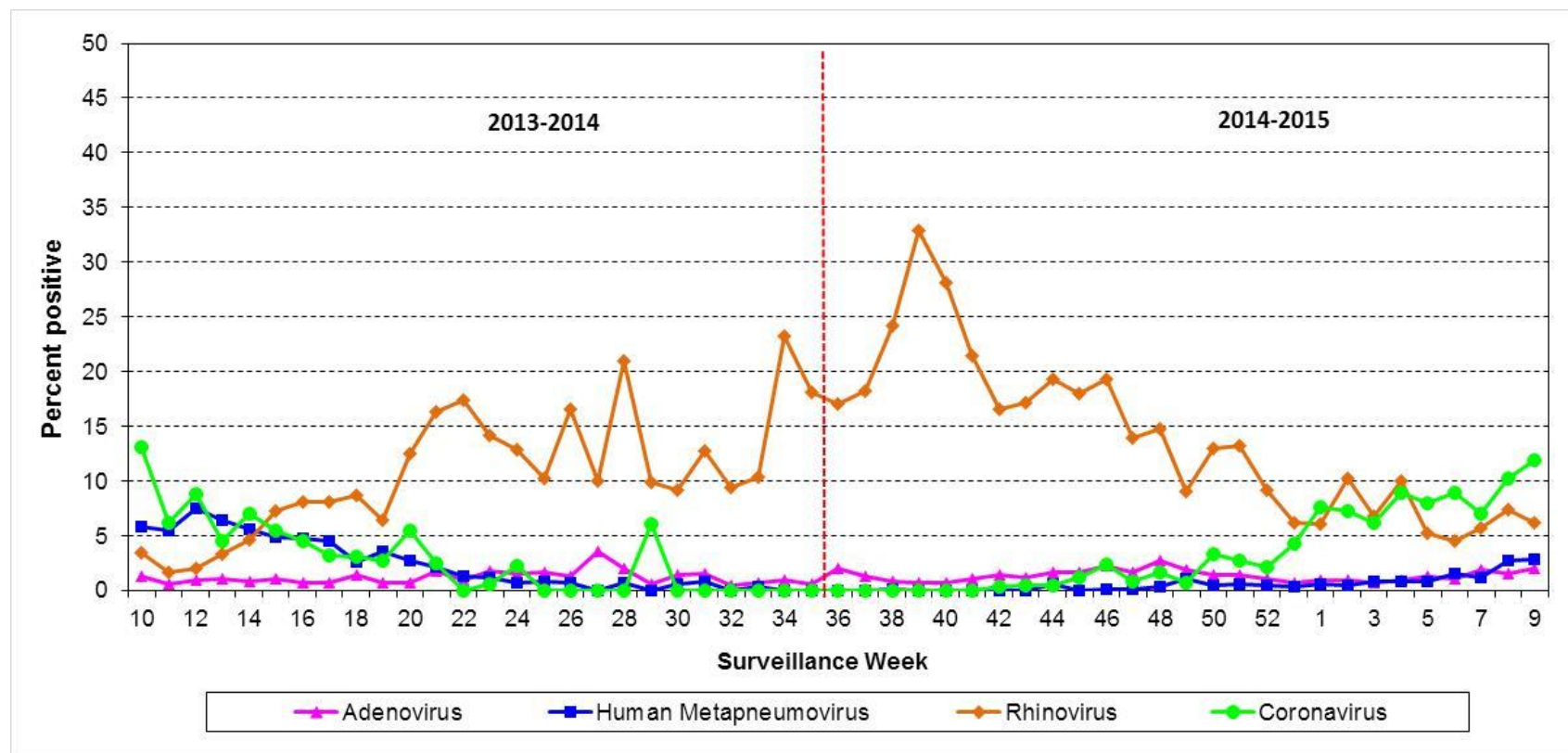
Notes:

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.

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, human metapneumovirus, rhinovirus and coronavirus) detected among specimens tested by all methods: Ontario, March 2, 2014 to March 7, 2015



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 March 11, 2015; 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.

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 9 and cumulative for the 2014-2015 season

Detected viruses	Current Surveillance Week			Cumulative for Season*		
	Number positive	Number tested	Percent positive	Number positive	Number tested	Percent positive
Influenza (All)	272	1,624	16.7%	10,775	54,243	19.9%
<i>Influenza A</i>	228	1,624	14.0%	10,490	54,243	19.3%
<i>Influenza B</i>	44	1,624	2.7%	285	54,243	0.5%
Parainfluenza virus	51	1,439	3.5%	961	41,244	2.3%
Adenovirus	29	1,439	2.0%	491	41,242	1.2%
Respiratory syncytial virus	147	1,630	9.0%	3,652	47,701	7.7%
Rhinovirus	36	580	6.2%	1,590	16,814	9.5%
Human metapneumovirus	40	1,414	2.8%	273	38,542	0.7%
Coronavirus	60	505	11.9%	507	10,168	5.0%

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 March 11, 2015; they are based on data submitted to PHAC from 16 participating laboratories in Ontario.

Notes:

*Cumulative numbers include counts from August 24, 2014 (surveillance week 35) because PHAC's CIRID data include Week 35 as part of the 2014-2015 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.

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 9 and total for the 2014-2015 season to date¹

Institutional Respiratory Infection Outbreaks		
New outbreaks (current week) ²	Number of outbreaks	Percentage (%) of total
Influenza A	12	46.2
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)	0	0.0
Combined outbreaks ³	1	3.8
Other organisms ⁴	4	15.4
No organism identified	9	34.6
TOTAL	26	100.0
Cumulative outbreaks (season to date) ¹	N	
Influenza A	930	69.8
Influenza B	10	0.8
Influenza A and B	7	0.5
Enterovirus/rhinovirus	133	10.0
Parainfluenza (All types)	23	1.7
Respiratory Syncytial Virus (RSV)	46	3.5
Combined outbreaks ³	49	3.7
Other organisms ⁴	44	3.3
No organism identified	91	6.8
TOTAL	1333	100.0
Types of institutions for cumulative outbreaks		
Long-Term Care Homes	710	53.3
Hospitals	116	8.7
Retirement Homes	305	22.9
Other ⁵	12	0.9
Unknown	190	14.3
TOTAL	1333	100.0

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2015/03/11].

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, 2014 (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.

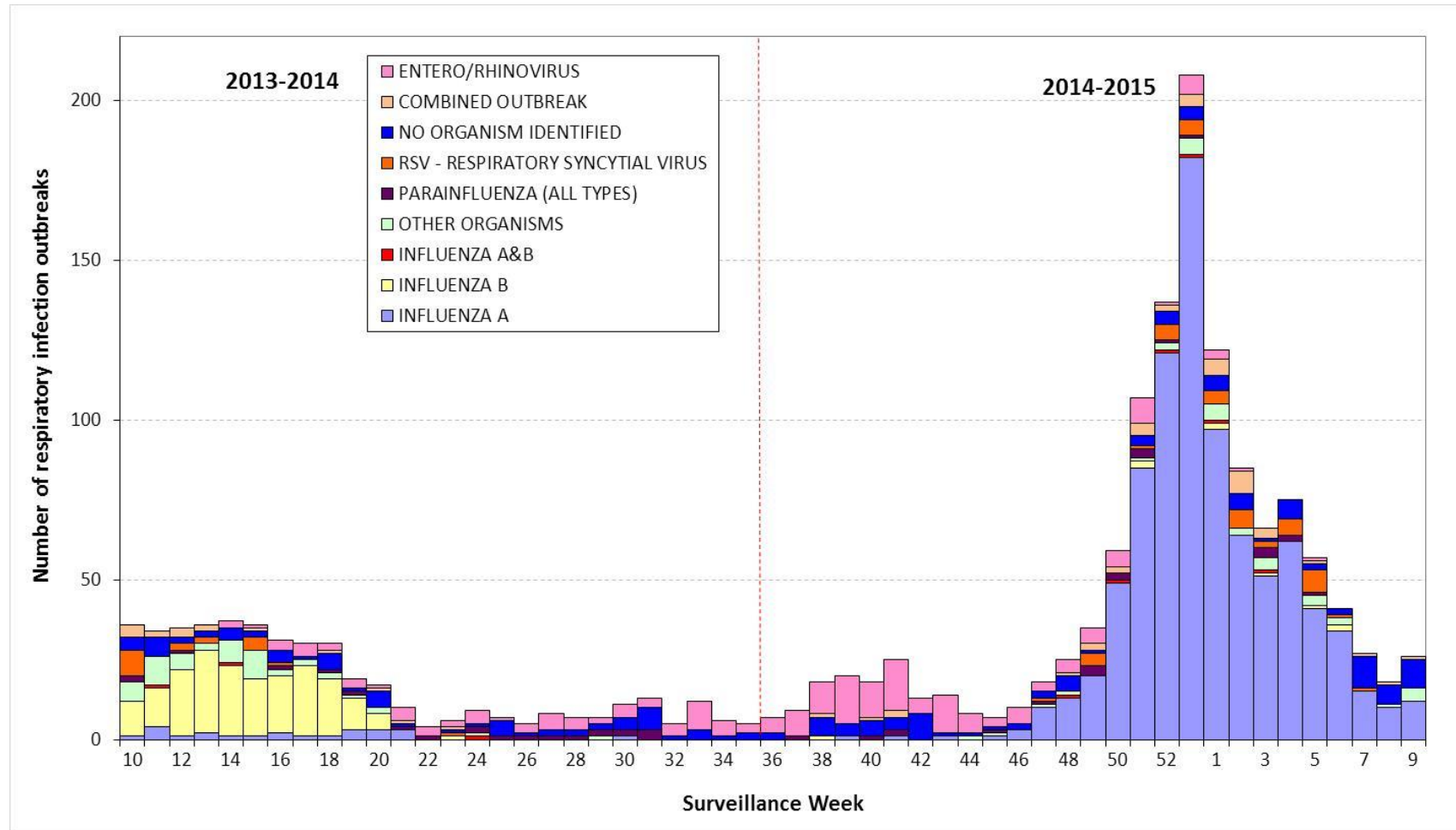
² New outbreaks are those in which the date of onset of illness in the first case occurred and was recorded in iPHIS in the current surveillance period; i.e. March 1, 2015 – March 7, 2015 (Week 9).

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 and child care centre respiratory outbreaks are not captured in this table.

Figure 5. Institutional respiratory infection outbreaks by week of illness onset in the first case: Ontario, March 2, 2014 to March 7, 2015

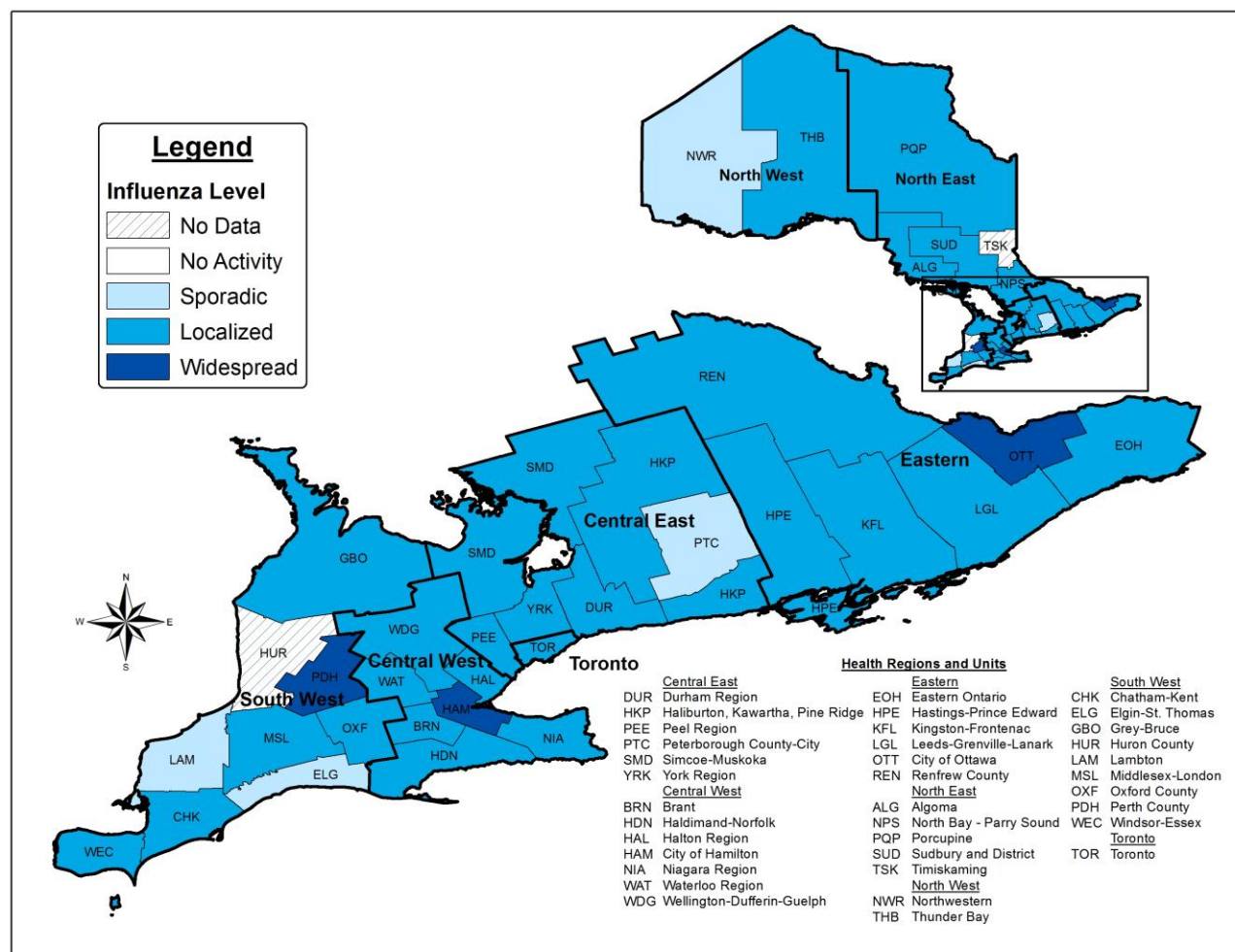


Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2015/03/11].

Notes:

Institutional respiratory infection outbreaks for which the date of onset of illness for the first case is missing are excluded in this figure. However, these outbreaks are counted in the cumulative outbreaks section of Table 3.

Figure 6. Influenza activity levels reported by public health units: Ontario, March 1, 2015 to March 7, 2015 (Week 9)



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 refer to the [detailed definitions for the 2014-2015 season for more information](#).

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.

Due to low numbers of sentinels reporting data on influenza-like-illness (ILI), consultation rates reported by Ontario sentinels will no longer appear in the bulletin

APPENDIX**Table I.** Strain characterization completed on influenza isolates at the National Microbiology Laboratory: Ontario and Canada, September 1, 2014 to March 12, 2015

Influenza strains	Ontario	Canada
Influenza A (H3N2)		
A/Switzerland/9715293/2013-like	38	143
A/Texas/50/2012-like	1	6*
Influenza A (H1N1)pdm09		
A/California/07/2009-like	2	3
Influenza B**		
B/Brisbane/60/2008-like	1	4
B/Massachusetts/02/2012-like	39	149

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

Notes:

*Of the six influenza A (H3N2) viruses characterized as A/Texas/50/2012, five viruses showed reduced titres to A/Texas/50/2012, one was antigenically similar to A/Texas/50/2012.

**Of the 153 influenza B viruses characterized, NML reported that 146 viruses were antigenically similar to the vaccine strain B/Massachusetts/2/2012. Three viruses showed reduced titres with antiserum produced against B/Massachusetts/2/2012. Four viruses were characterized as B/Brisbane/60/2008-like.

Through genetic characterization performed at NML, sequence analysis showed that all of the H3N2 viruses (205) tested from Ontario belonged to a genetic group that typically shows reduced titers to A/Texas/50/2012 due to amino acid mutations at antigenic sites.

The WHO recommended influenza strains for the [2014-2015](#) trivalent influenza vaccine for the northern hemisphere are: an A/California/7/2009 (H1N1)pdm09-like virus, an A/Texas/50/2012 (H3N2)-like virus, and a B/Massachusetts/2/2012-like virus. WHO also recommends that quadrivalent vaccines containing two influenza B viruses include a B/Brisbane/60/2008-like virus. An early [estimate](#) of influenza vaccine effectiveness in Canada for the 2014-2015 season has been released. WHO has released their recommendation for strain components for the 2015/2016 Northern Hemisphere [vaccine](#).

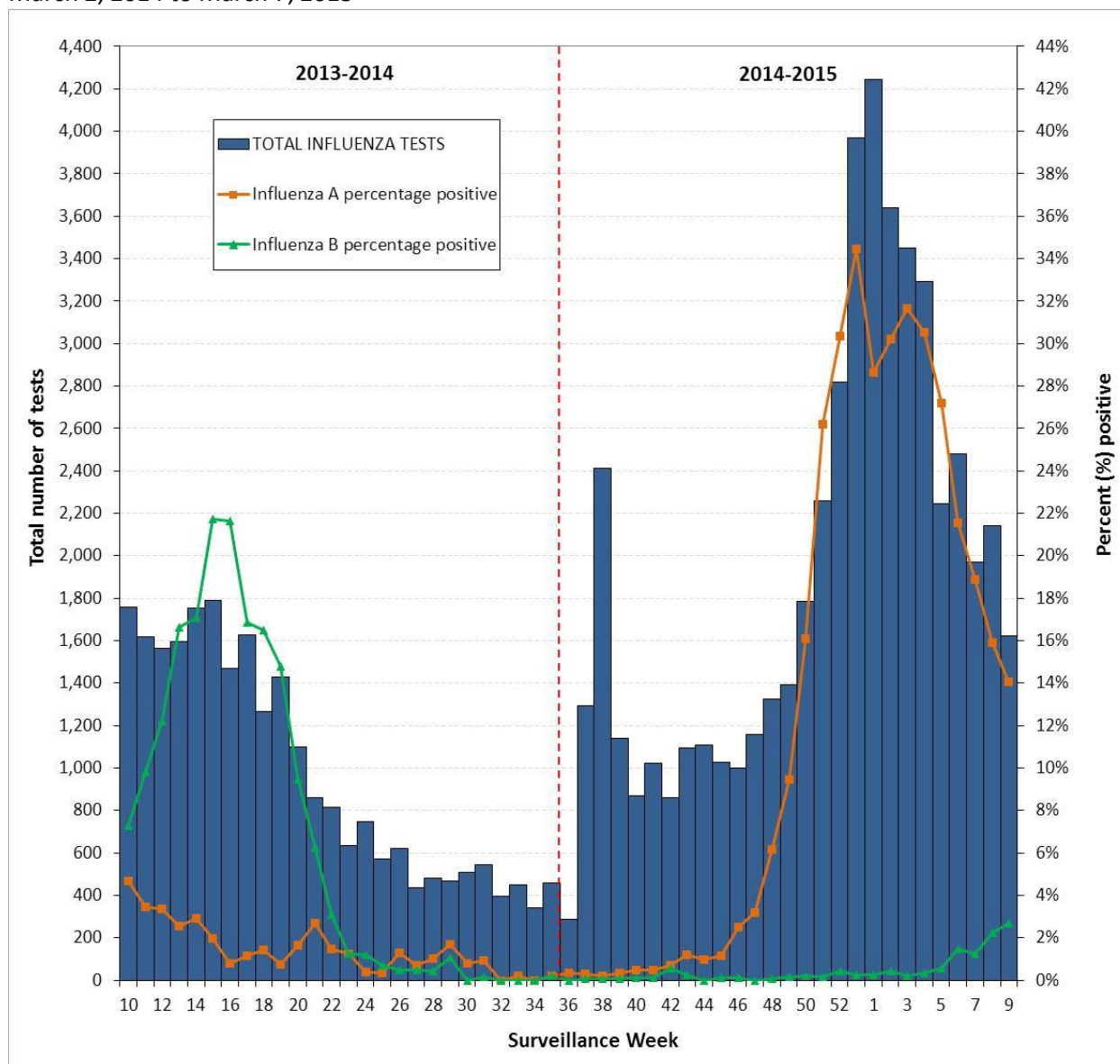
Table II. Amantadine, oseltamivir and zanamivir susceptibility assays completed on influenza isolates at the National Microbiology Laboratory: Ontario and Canada, September 1, 2014 to March 12, 2015

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)	263	1	1058	1	0	139	1	704	0	138	0	701
Influenza A (H1N1)pdm09	3	0	4	0	0	3	0	4	0	3	0	4
Influenza B	NA	NA	NA	NA	0	37	0	148	0	37	0	148

(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, March 2, 2014 to March 7, 2015



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 March 11, 2015; 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. 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/>