

Ontario Respiratory Pathogen Bulletin | 2017–18 Surveillance Season (September 1, 2017 – August 31, 2018)

- This special issue of the Ontario Respiratory Pathogen Bulletin provides information on the surveillance season from September 1, 2017 to August 31, 2018 unless otherwise stated. Included figures and tables are grouped by type and data source for ease of reference, and follow the format of previous summaries of seasonal influenza activity for ease of comparison. Included in this issue is a summary of key highlights intended to provide a narrative of the 2017–18 season. Therefore, referencing of figures and tables in the summary are not in the exact order as they appear in the report. [Appendix I](#) is included to report data from the National Microbiology Laboratory and the number of laboratory tests performed for influenza in Ontario. [Appendix II](#) references the surveillance weeks.

Data extraction occurred on October 11, 2018.

Summary of respiratory pathogen activity in Ontario, September 1, 2017 to August 31, 2018

- Overall the 2017–18 influenza season was influenza A(H3N2) dominant, which was similar to the 2016–2017 influenza season.
 - However, unlike the 2016–17 season where there were two distinct periods of elevated influenza activity representing the circulation of influenza A(H3N2) and influenza B, activity during the 2017–18 season for influenza A(H3N2) and influenza B was closely overlapped.
- The number of laboratory-confirmed cases of influenza reported in the 2017–18 surveillance season (18,253) was higher than the 2016–17 season (12,518). The 2017–18 season had 8,135 laboratory-confirmed influenza B cases which was approximately 2.9 times higher than the average number of laboratory-confirmed influenza B cases in the previous four seasons (2,821 cases). In the 2017–18 season, the period with the highest influenza activity occurred from December 31, 2017 to March 3, 2018 (Weeks 1–9) (Figures [1](#), [2](#), [5](#)).
 - **Laboratory-confirmed influenza cases:** A total of 18,253 laboratory-confirmed influenza cases were reported for the 2017–18 season. The majority of influenza cases in the 2017–18 season were influenza A, which accounted for 55.1% (10,056/18,253) of cases ([Table 1](#)). There were 8,135 cases of influenza B and 62 cases of influenza A and B co-infection reported in the 2017–18 season.
 - **Laboratory detection of influenza:** Of the 10,056 laboratory-confirmed influenza A cases, 29.3% (2,946) had subtype information reported in iPHIS. The dominant circulating influenza A subtype was H3N2, representing 93.0% (2,739/2,946) of influenza A cases with a subtype reported in iPHIS ([Table 1](#)).

- For the season as a whole, positivity for influenza A was 8.9% (6,371/71,238) and influenza B positivity was 6.8% (4,838/71,238) ([Table 2](#)). Peak percent positivity was 16.5% for influenza A and 14.3% for influenza B in weeks 6 and 7, respectively ([Figure 5](#)).
- Among influenza A isolates from Ontario characterized by the National Microbiology Laboratory (NML), all of the 199 influenza A(H3N2) isolates were antigenically similar to the A/Hong Kong/4801/2014-like strain. The A/Hong Kong/4801/2014-like strain was the influenza A(H3N2) component of the 2017–18 Northern Hemisphere seasonal influenza vaccine. Of the 151 Ontario influenza A(H1N1)pdm09 isolates, all were antigenically similar to the A/Michigan/45/2015-like strain. The A/Michigan/45/2015-like strain was the influenza A H1N1 strain component of the 2017–18 Northern Hemisphere seasonal influenza vaccine ([Appendix 1: Table I](#)).
- Of influenza B viruses from Ontario characterized by NML, 98.7% (747/757) were the B/Phuket/3073/13-like strain, which belongs to the B Yamagata lineage, the influenza B component of the 2017–18 Northern Hemisphere quadrivalent influenza vaccine([Appendix 1: Table I](#)).
- **Timing of influenza activity:** Determining the timing of influenza activity is dependent on a combination of indicators including laboratory-confirmed influenza cases, percent positivity and outbreaks. Based on those indicators, peak influenza A activity in the 2017–18 season occurred between weeks 1-7 (Figures [1](#), [5](#), [9](#), [10](#), [Appendix 1: Figure I](#)). This range of elevated influenza A activity occurred for a longer duration compared to previous seasons. Similarly, peak influenza B activity occurred at the same time as the elevated influenza A activity during weeks 1-7. This range of elevated influenza B activity is both several weeks earlier than the historical trends and also longer in duration compared to previous seasons (Figures [2](#), [5](#), [Appendix 1: Figure I](#)).
- **Geographic distribution:** Overall the influenza rate for Ontario was 128.3 cases per 100,000. The highest reported incidence rates of influenza were observed in Niagara Region, North Bay Parry Sound District, and Peterborough County-City, with 232.2, 231.3, and 200.7 cases per 100,000 population, respectively ([Figure 3](#)). Influenza A and B activity varied by geographic region. In the North West region 32.1% (105/327) of influenza cases were influenza B while in the South West region 51.9% (1038/1999) were influenza B ([Table 1](#)).
- **Age distributions:** The highest incidence rates of influenza A and influenza B were reported among the elderly aged 90 and above ([Figure 4](#)). Generally, influenza A and B rates increased with age for those aged 45 and older rising to over 1,200 cases per 100,000 population and over 900 cases per 100,000 population, respectively, among the oldest age-group. Cases 65 years of age and older accounted for 61.9% (6,224/10,056) of laboratory-confirmed influenza A cases. This reflects the dominance of the H3 subtype in the 2017–18 season, as this subtype usually has a greater impact on adults aged 65 and above.
- **Respiratory infection outbreaks in institutions:** There were 2,187 confirmed institutional respiratory infection outbreaks reported in the 2017–18 season. This includes 657 (30.0%) outbreaks that were laboratory-confirmed as influenza A, 488 (22.3%) as influenza B, and

90 (4.1%) as influenza A and B combined ([Table 3a](#)). No organism was reported in 30.7% (671/2,187) of outbreaks. This was an increase in outbreaks reporting 'No organism' compared to the 2016–17 season (10.5%)¹.

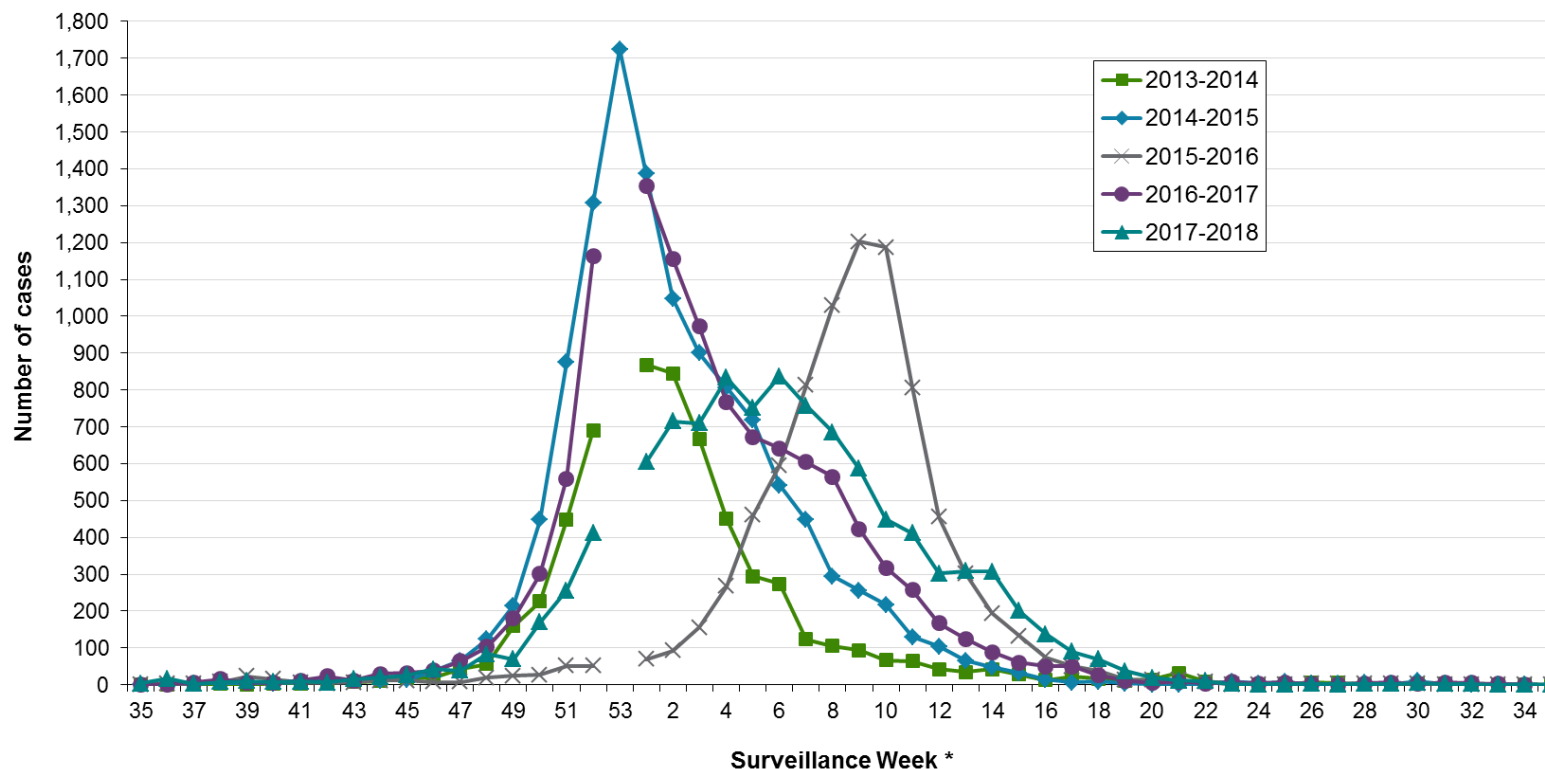
- The majority of outbreaks were reported in long-term care homes (LTCHs), with 57.9% (1,266/2,187) reported in this setting, followed by 21.4% (468/2,187) in retirement homes, and 9.8% (214/2,187) in hospitals. The exposure setting was not reported for 10.1% (221/2,187) of respiratory infection outbreaks ([Table 3b](#), [Figure 7](#)).
- Influenza viruses were the most commonly identified aetiologic agent in respiratory infection outbreaks reported by all types of institutions ([Figure 7](#)).
- Of the 214 respiratory infection outbreaks reported in hospitals, 55.6% (119/214) were reported in acute care hospitals, 36.9% (79/214) were reported in chronic care hospitals, and 7.5% (16/214) were reported in psychiatric care hospitals ([Figure 8](#)).
- **Other respiratory viruses:** Influenza and rhinovirus had the highest percent positivity² among all circulating respiratory viruses in the 2017–18 season at 15.7% (11,209/71,238) and 15.2% (1,564/10,310) respectively followed by respiratory syncytial virus (RSV) at 4.2% (2,593/62,182) ([Table 2](#); [Figures 5](#) and [6](#)).
- Rhinovirus had the highest percent positivity of all circulating respiratory viruses in the beginning (September 2017 to December 2017 – Weeks 35-51) and end of the season (April to August 2018 – Weeks 17-35) ([Table 2](#); [Figure 6](#)).

Notes:

¹ Changes in the testing algorithm used by the Public Health Ontario Laboratory will impact the interpretation of respiratory virus reports over time.

² Positivity among specimens submitted for testing to laboratories reporting to the Centre for Immunization and Respiratory Infectious Diseases (CIRID).

Figure 1. Number of reported laboratory-confirmed cases of influenza A by surveillance week: Ontario, September 1, 2013 to August 31, 2018

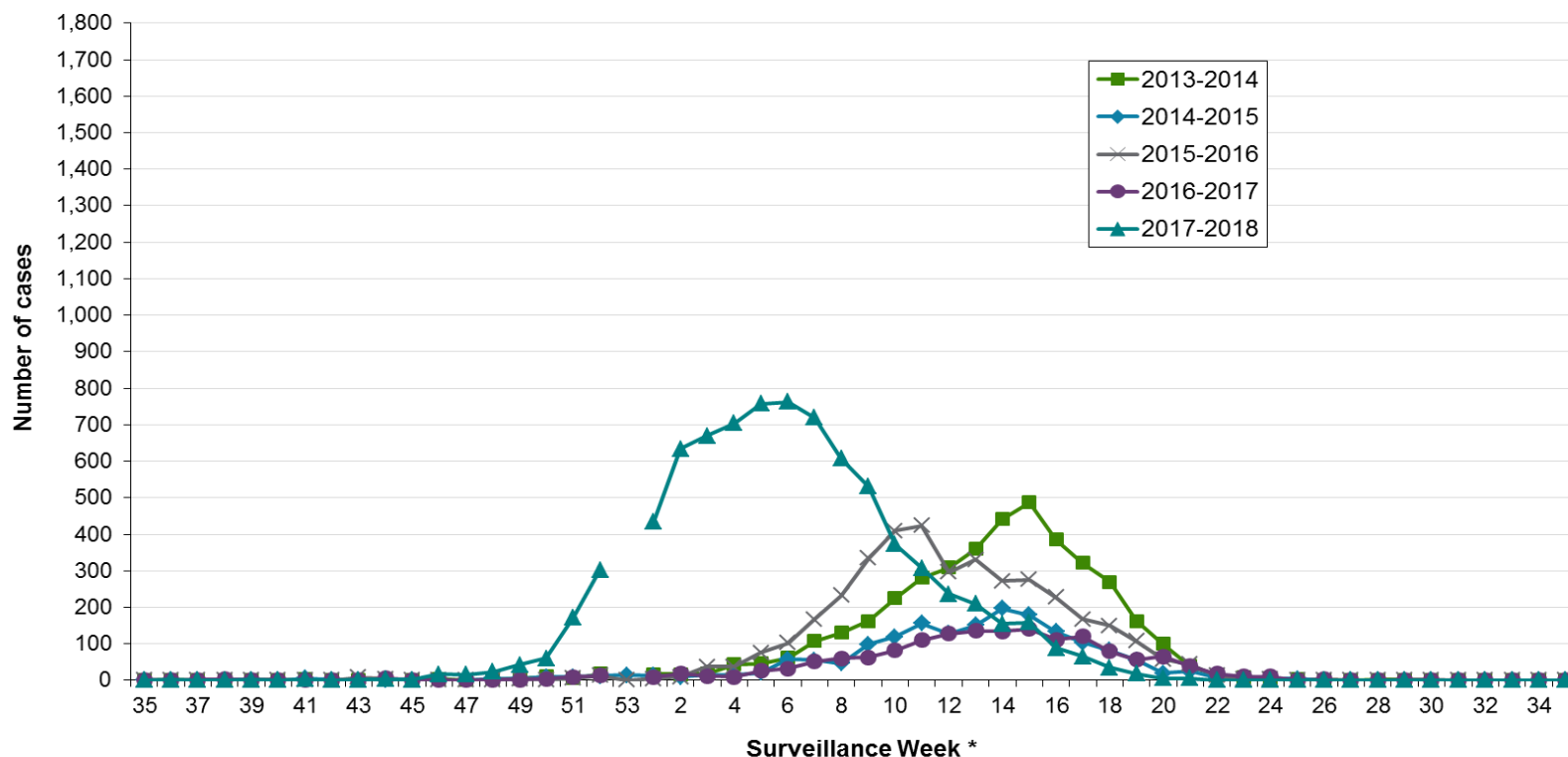


Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11].

Notes:

*Unlike the other seasons presented, the 2014-15 season includes a week 53; a week 53 occurs once every five to six years. 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); [Appendix II](#).

Figure 2. Number of reported laboratory-confirmed cases of influenza B by surveillance week: Ontario, September 1, 2013 to August 31, 2018



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11].

Notes:

*Unlike the other seasons presented, the 2014-15 season includes a week 53; a week 53 occurs once every five to six years. 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); [Appendix II](#).

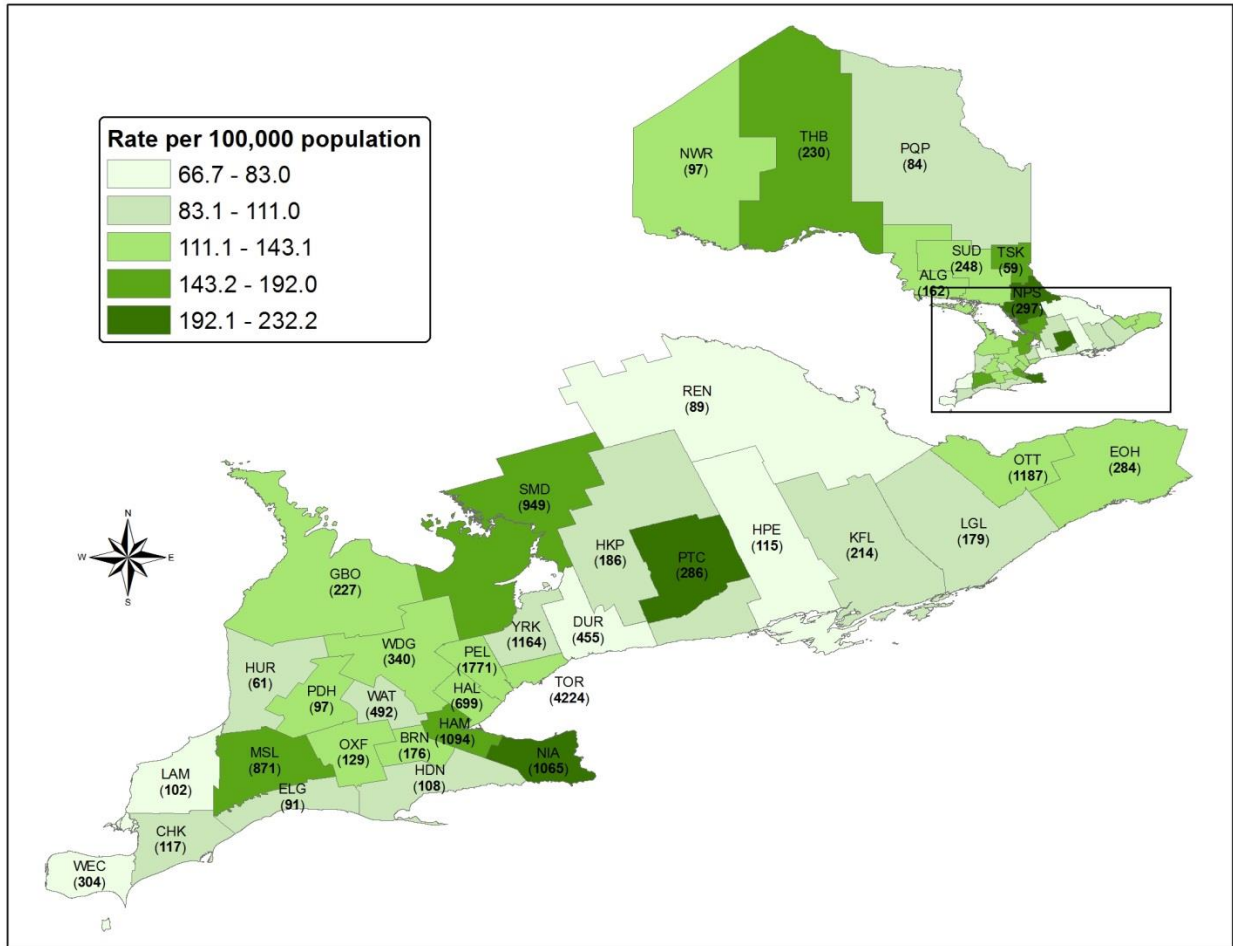
Table 1. Number of reported laboratory-confirmed influenza cases by public health unit and geographic region: Ontario, September 1, 2017 to August 31, 2018

Public Health Unit and Region	Influenza A (H1N1) pdm09	Influenza A H3	Influenza A All subtypes	Influenza A & B	Influenza B	TOTAL
Northwestern	0	34	46	0	51	97
Thunder Bay District	2	159	176	0	54	230
TOTAL NORTH WEST	2	193	222	0	105	327
Algoma	1	78	109	0	53	162
North Bay Parry Sound District	2	104	161	1	135	297
Porcupine	6	46	65	1	18	84
Sudbury & District	0	24	143	4	101	248
Timiskaming	1	29	38	0	21	59
TOTAL NORTH EAST	10	281	516	6	328	850
City of Ottawa	2	60	689	6	492	1,187
Eastern Ontario	1	31	167	1	116	284
Hastings & Prince Edward Counties	2	41	68	0	47	115
Kingston, Lennox, Frontenac & Addington	1	30	128	4	82	214
Leeds, Grenville and Lanark District	1	37	106	0	73	179
Renfrew County and District	1	26	48	1	40	89
TOTAL EASTERN	8	225	1,206	12	850	2,068
Durham Region	4	64	252	1	202	455
Haliburton, Kawartha, Pine Ridge	4	43	94	0	92	186
Peel Region	27	210	959	0	812	1,771
Peterborough County-City	1	21	173	1	112	286
Simcoe Muskoka District	17	201	564	0	385	949
York Region	53	397	607	1	556	1,164
TOTAL CENTRAL EAST	106	936	2,649	3	2,159	4,811
Toronto	24	481	2,269	16	1,939	4,224
TOTAL TORONTO	24	481	2,269	16	1,939	4,224
Chatham-Kent	0	31	52	2	63	117
Elgin-St. Thomas	2	19	33	0	58	91
Grey Bruce	2	28	117	1	109	227
Huron County	0	11	25	0	36	61
Lambton County	1	40	56	1	45	102
Middlesex-London	1	68	429	6	436	871
Oxford County	1	29	59	3	67	129
Perth District	1	14	40	1	56	97
Windsor-Essex County	11	85	135	1	168	304
TOTAL SOUTH WEST	19	325	946	15	1,038	1,999
Brant County	2	11	97	0	79	176
City of Hamilton	2	26	618	5	471	1,094
Haldimand-Norfolk	1	16	55	1	52	108
Halton Region	15	86	370	1	328	699
Niagara Region	1	44	652	2	411	1,065
Waterloo Region	6	34	301	0	191	492
Wellington-Dufferin-Guelph	11	81	155	1	184	340
TOTAL CENTRAL WEST	38	298	2,248	10	1,716	3,974
TOTAL ONTARIO	207	2,739	10,056	62	8,135	18,253

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11].

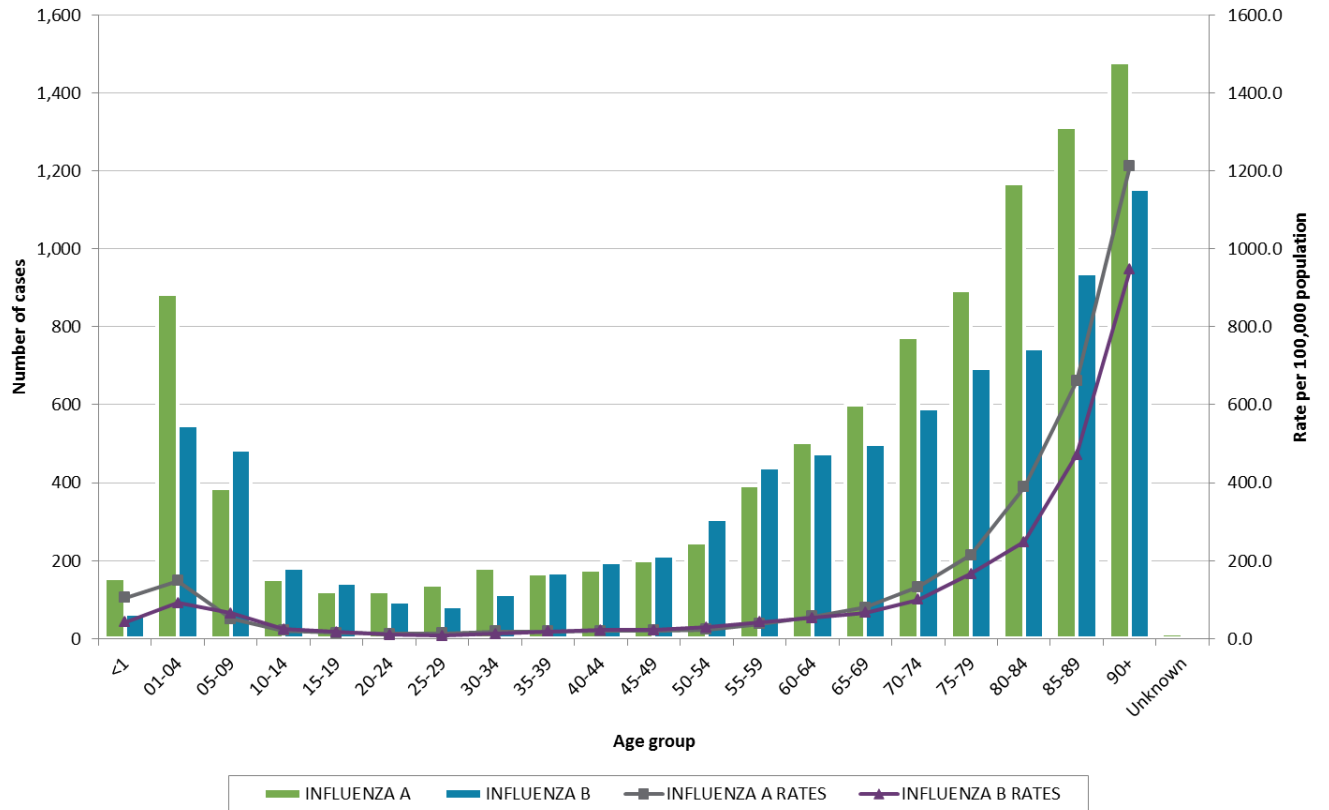
Notes: The cumulative count includes laboratory-confirmed cases with an 'Episode Date' between September 1, 2017 and August 31, 2018. 'Influenza A All subtypes' includes influenza A isolates that were classified as (H1N1)pdm09, H3, Other and those that were classified as not subtyped, untypeable, or indeterminate.

Figure 3. Rate of reported laboratory-confirmed influenza per 100,000 population (and counts, in brackets), by public health unit: Ontario, September 1, 2017 to August 31, 2018



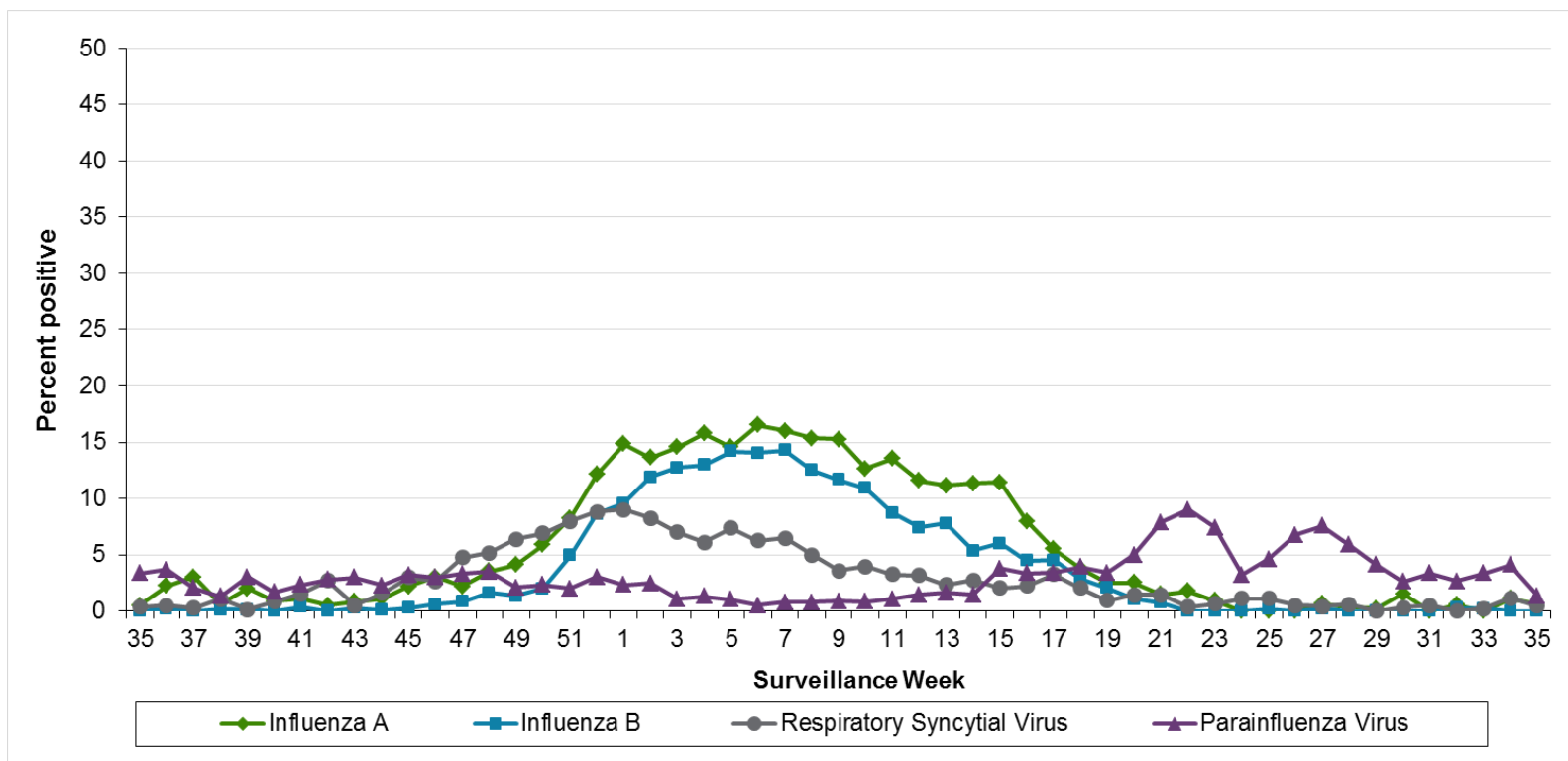
Source: Ontario Ministry of Health and Long-Term Care (MOHLTC), integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11]. Population Projections [2017–18], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date extracted: [2017/10/24].

Figure 4. Rate of laboratory-confirmed cases of influenza per 100,000 population, by age group and type: Ontario, September 1, 2017 to August 31, 2018



Source: Ontario Ministry of Health and Long-Term Care (MOHLTC), integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11]. Population Projections [2017–18], Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, Date extracted: [2017/10/24].

Figure 5. Percentage of respiratory viral pathogens (influenza A, influenza B, respiratory syncytial virus, and parainfluenza virus) detected among specimens tested for that pathogen by all testing methods: Ontario, August 27, 2017 to September 1, 2018

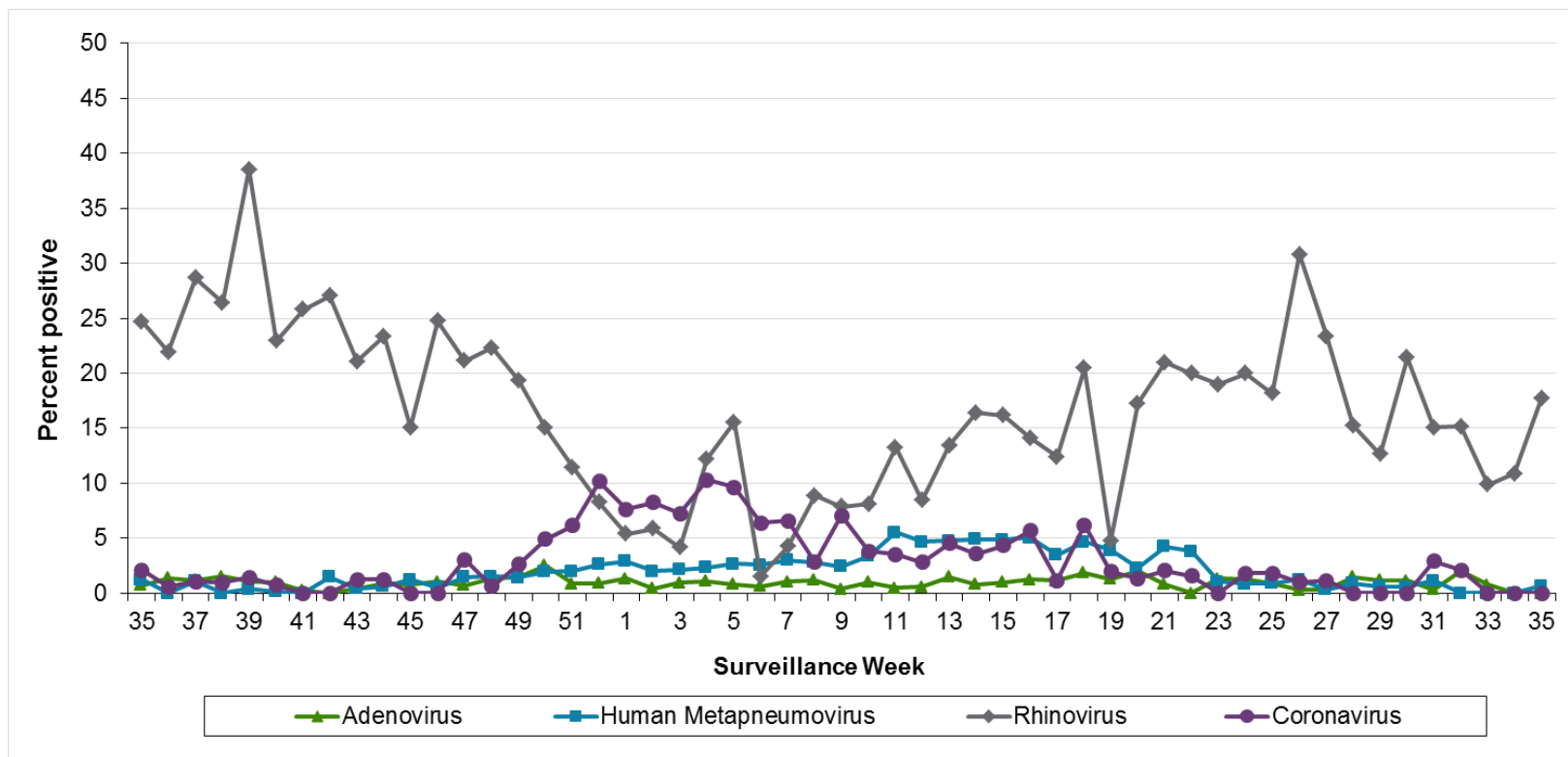


Source: These data have been obtained from the Public Health Agency of Canada’s (PHAC) Centre for Immunization and Respiratory Infectious Diseases (CIRID) respiratory virus detection tables as of September 5, 2018; they are based on data submitted to PHAC from 16 laboratories in Ontario.

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. Not all 16 Ontario laboratories report every week. 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 6. Percentage of respiratory viral pathogens (adenovirus, human metapneumovirus, rhinovirus and coronavirus) detected among specimens tested for that pathogen by all testing methods: Ontario, August 27, 2017 to September 1, 2018



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 September 5, 2018 they are based on data submitted to PHAC from 16 laboratories in Ontario.

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Table 2. Number and percent positivity of respiratory specimens tested by all methods for influenza and other respiratory viruses: Ontario, August 27, 2017 to September 1, 2018

Detected viruses	Number positive	Number tested	Percent positive
Influenza (All)	11,209	71,238	15.7%
Influenza A	6,371	71,238	8.9%
Influenza B	4,838	71,238	6.8%
Rhinovirus	1,564	10,310	15.2%
Parainfluenza virus	1,007	37,958	2.7%
Respiratory syncytial virus	2,593	62,182	4.2%
Human metapneumovirus	830	36,861	2.3%
Adenovirus	361	36,974	1.0%
Coronavirus	328	8,708	3.8%

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 September 5, 2018 they are based on data submitted to PHAC from 16 participating laboratories in Ontario and contain data representing cumulative counts.

Notes:

The data in this table are based on the date on which test results are reported. 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 3a. Institutional respiratory infection outbreaks: Ontario, September 1, 2017 to August 31, 2018

Virus reported in outbreak	Number of outbreaks	Percentage of total
Influenza A ¹	657	30.0%
Influenza B ¹	488	22.3%
Both influenza A and B ¹	90	4.1%
Enterovirus/rhinovirus	52	2.4%
Parainfluenza (All types)	72	3.3%
Respiratory syncytial virus (RSV)	83	3.8%
Human metapneumovirus, adenovirus or coronavirus	63	2.9%
Two or more non-influenza viruses	11	0.5%
No organism identified	671	30.7%
TOTAL	2,187	100.0%

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11].

Notes:

¹ Any outbreak where influenza was identified is reported under the appropriate influenza category (“Influenza A”, “Influenza B” or “Both influenza A and B”) regardless of what other virus was also identified in the outbreak.

Table 3b. Institutional respiratory infection outbreaks by setting type: Ontario, September 1, 2017 to August 31, 2018

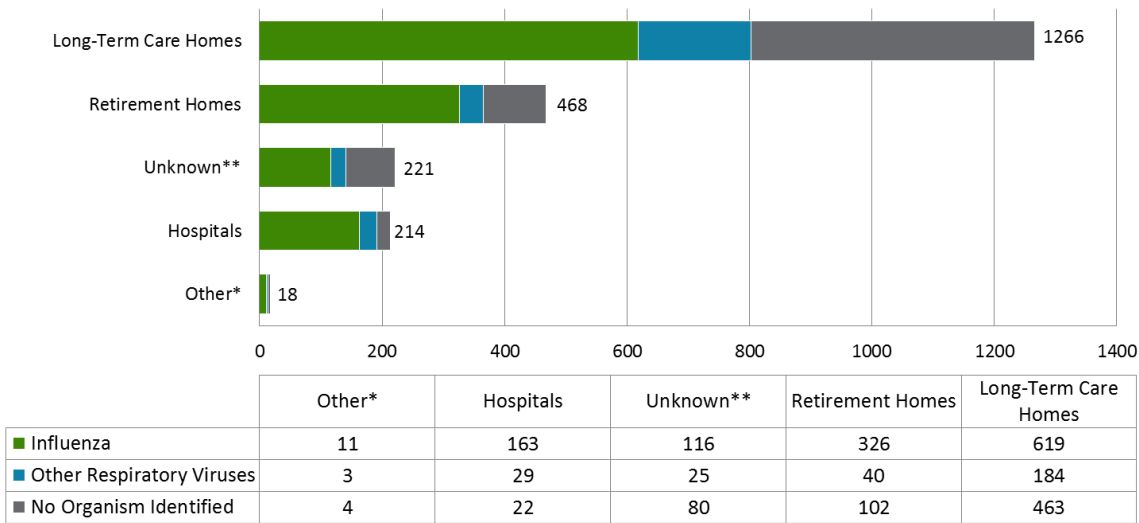
Setting type reported	Number of influenza outbreaks (% of total)	Number of other respiratory virus outbreaks (% of total)
Long-Term Care Home	619 (50.1%)	647 (68%)
Hospital	163 (13.2%)	51 (5.4%)
Retirement Home	326 (26.4%)	142 (14.9%)
Other ¹	11 (0.9%)	7 (0.7%)
Unknown	116 (9.4%)	105 (11.0%)
TOTAL	1,235 (100%)	952 (100.0%)

Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11].

Notes:

¹ 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 7. Respiratory infection outbreaks by organism reported and institution type: Ontario, September 1, 2017 to August 31, 2018



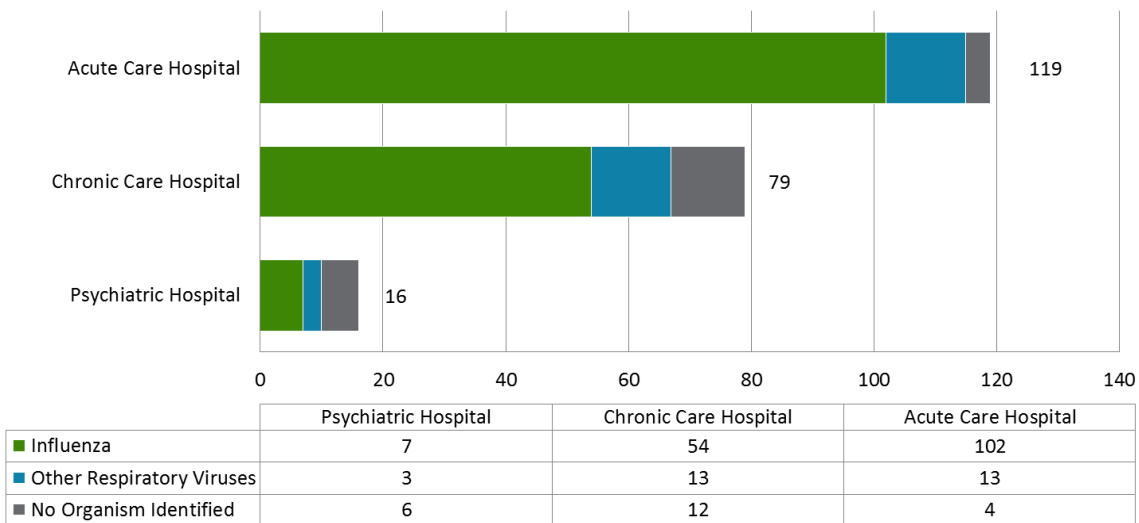
Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11].

Notes:

*Includes those respiratory infection outbreaks for which 'Other' was reported in the Exposure Setting Type field in iPHIS.

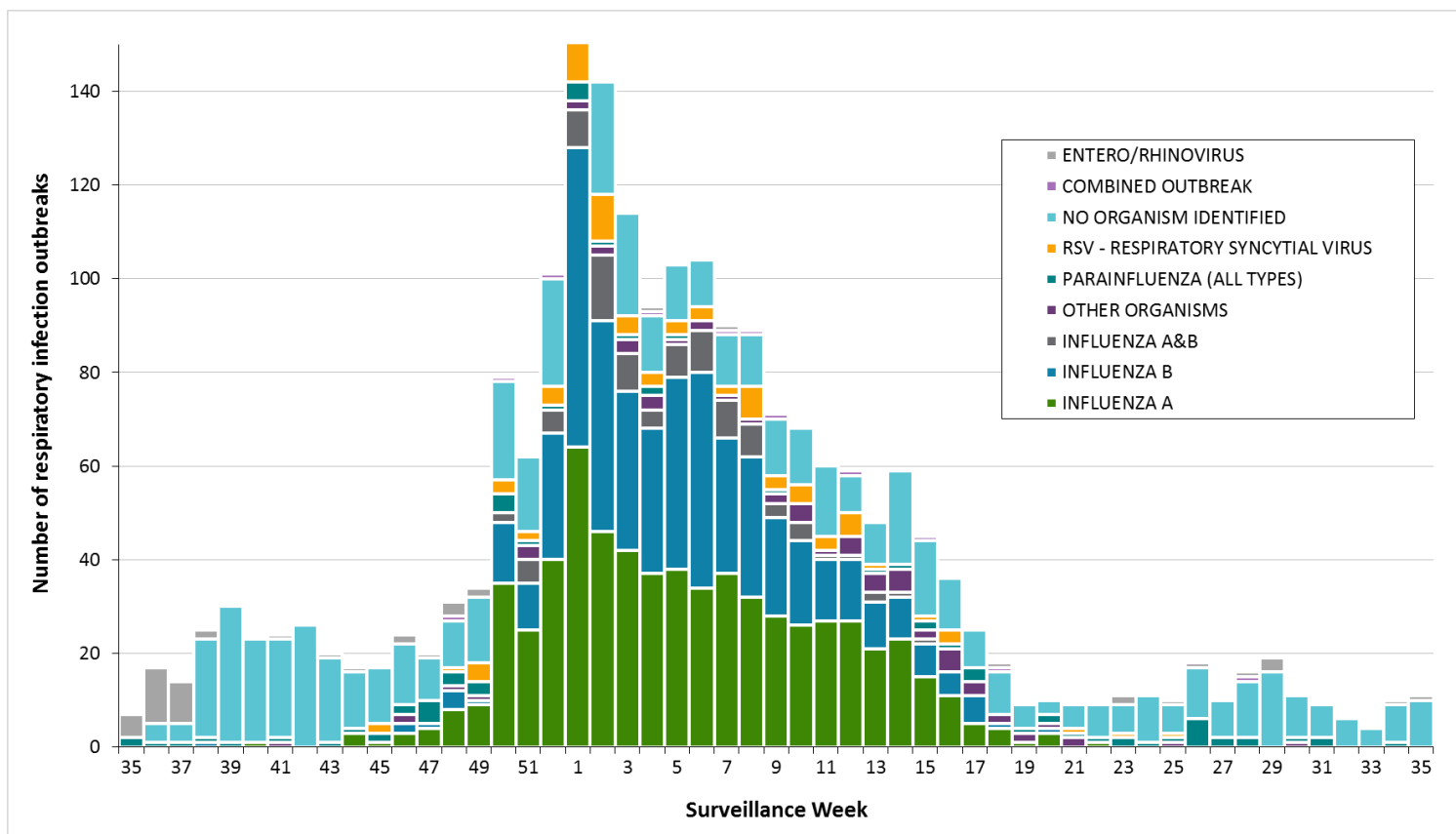
** Unknown includes those respiratory infection outbreaks for which either no Exposure Setting Type was entered or was reported as 'Unknown' in iPHIS.

Figure 8. Respiratory infection outbreaks, by organism reported and type of hospital: Ontario, September 1, 2017 to August 31, 2018



Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11].

Figure 9. Institutional respiratory infection outbreaks by week of illness onset in the first case: Ontario, September 1, 2017 to August 31, 2018

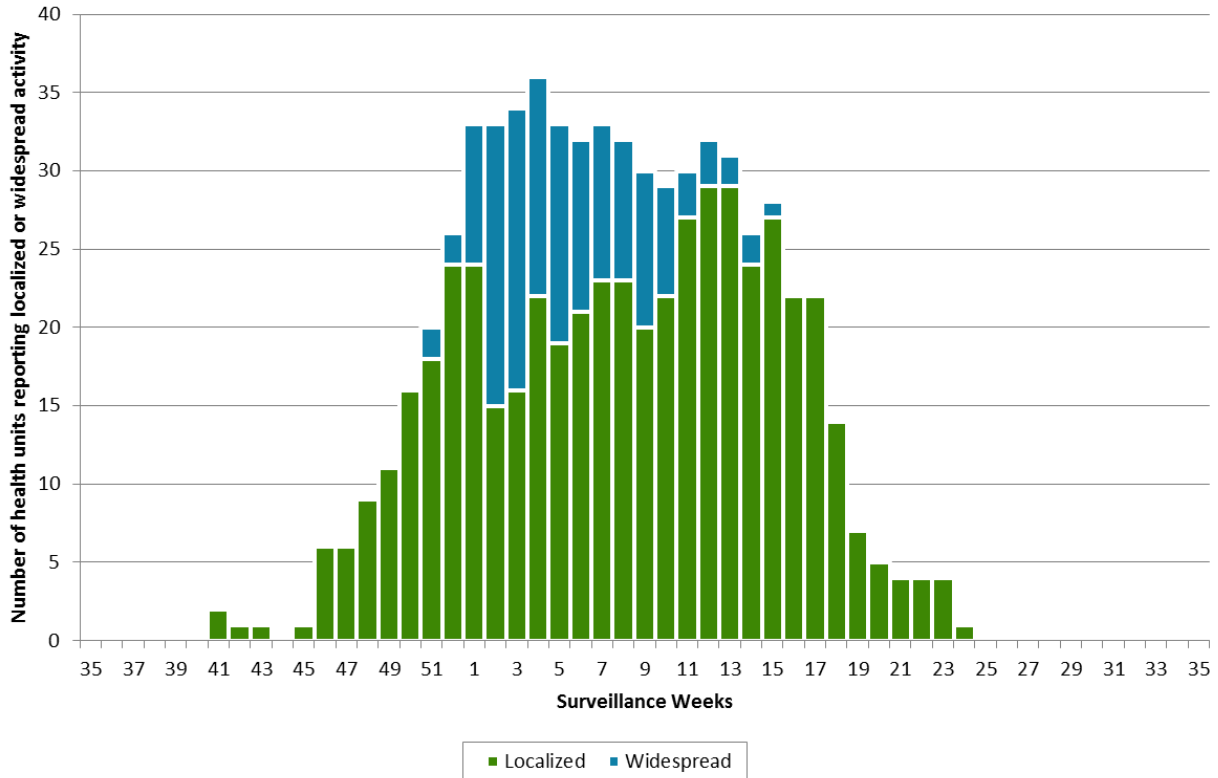


Source: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2018/10/11].

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 4. Week 35, 2017 excludes outbreaks with an onset date prior to September 1, 2017, while week 35, 2018 excludes outbreaks with an onset date after August 31, 2018. Any outbreak where influenza was identified is reported under the appropriate influenza category (“Influenza A”, “Influenza B”, or “Both influenza A & B”) regardless of what other virus is also identified in the outbreak

Figure 10. ‘Localized’ and ‘Widespread’ influenza activity levels reported by public health units, by reporting week: Ontario, September 1, 2017 (Week 35) to August 31, 2018 (Week 35)



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 2017-18 season](#).

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

Appendix I

Table I. Strain characterization completed on influenza positive isolates at the National Microbiology Laboratory: Ontario and Canada, September 1, 2017 to August 2, 2018

Influenza strains	Ontario	Canada
Influenza A (H3N2) A/Hong Kong/4801/2014-like	199	411
Influenza A (H1N1) A/Michigan/45/2015-like	151	341
Influenza B B/Brisbane/60-2008-like	10	83
Influenza B B/Phuket/3073/13-like	747	1,862

Source: Influenza and Respiratory Viruses Section, National Microbiology Laboratory (NML). Received: August 2, 2018

Notes:

1175 influenza A(H3N2) viruses did not grow to sufficient hemagglutination titers for antigenic characterization by hemagglutination inhibition (HI) assays. Therefore, NML has performed genetic characterization to determine the genetic group identity of those viruses.

Sequence analysis of the HA gene of these viruses showed that 1046 H3N2 viruses belonged to genetic group 3C.2a, 126 viruses belonged to subclade 3C.2a1 and three virus belonged to clade 3C.3a. A/Hong Kong/4801/2014-like virus belongs to genetic group 3C.2a and is the influenza A/H3N2 component of the 2017-18 Northern Hemisphere influenza vaccine. Sequencing is pending for the remaining 3 isolates.

Through antigenic characterization performed at the National Microbiology Laboratory (NML), 309 influenza A (H3N2) viruses were antigenically characterized as A/Hong Kong/4801/2014-like by HI testing using antiserum raised against cell culture-propagated A/Hong Kong/4801/2014. A/Hong Kong/4801/2014 is the influenza A/H3N2 component of the 2017-18 Northern Hemisphere influenza vaccine. 102 viruses showed reduced titer with ferret antisera raised against cell culture-propagated A/Hong Kong/4801/2014.

Of the 411 influenza A (H3N2) viruses characterized, 282 viruses belonged to genetic group 3C.2a and 27 viruses belonged to subclade 3C.2a1. The 102 viruses that showed reduced titer belonged to genetic clade 3C.3a.

341 H1N1 virus characterized were antigenically similar to A/Michigan/45/2015-like, which is the influenza A(H1N1) component of the 2017-18 Northern Hemisphere influenza vaccine.

Of the 1945 influenza B viruses characterized in Canada, NML reported that 83 (4.3%) were antigenically similar to the recommended influenza B component for the Northern Hemisphere 2017-18 vaccine, B/Brisbane/60/2008. 1,862 (95.7%) influenza B viruses were characterized as B/Phuket/3073/2013-like, which belongs to the Yamagata lineage and is included as an influenza B component of the 2017-18 Northern Hemisphere quadrivalent influenza vaccine.

Table II. Amantadine susceptibility assays completed on influenza isolates at the National Microbiology Laboratory: Ontario and Canada, September 1, 2017 to August 2, 2018

Influenza strains	Ontario	Ontario	Canada	Canada
	R	S	R	S
Influenza A (H3N2)	734	0	1,616	8
Influenza A (H1N1)pdm09	145	0	334	0

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

Table III. Oseltamivir susceptibility assays completed on influenza isolates at the National Microbiology Laboratory: Ontario and Canada, September 1, 2017 to August 2, 2018

Influenza strains	Ontario	Ontario	Canada	Canada
	R	S	R	S
Influenza A (H3N2)	1	261	1	601
Influenza A (H1N1)pdm09	1	133	1	279
Influenza B	1	303	1	896

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

Table IV. Zanamivir susceptibility assays completed on influenza isolates at the National Microbiology Laboratory: Ontario and Canada, September 1, 2017 to August 2, 2018

Influenza strains	Ontario	Ontario	Canada	Canada
	R	S	R	S
Influenza A (H3N2)	0	262	0	598
Influenza A (H1N1)pdm09	0	134	0	280
Influenza B	2	302	2	895

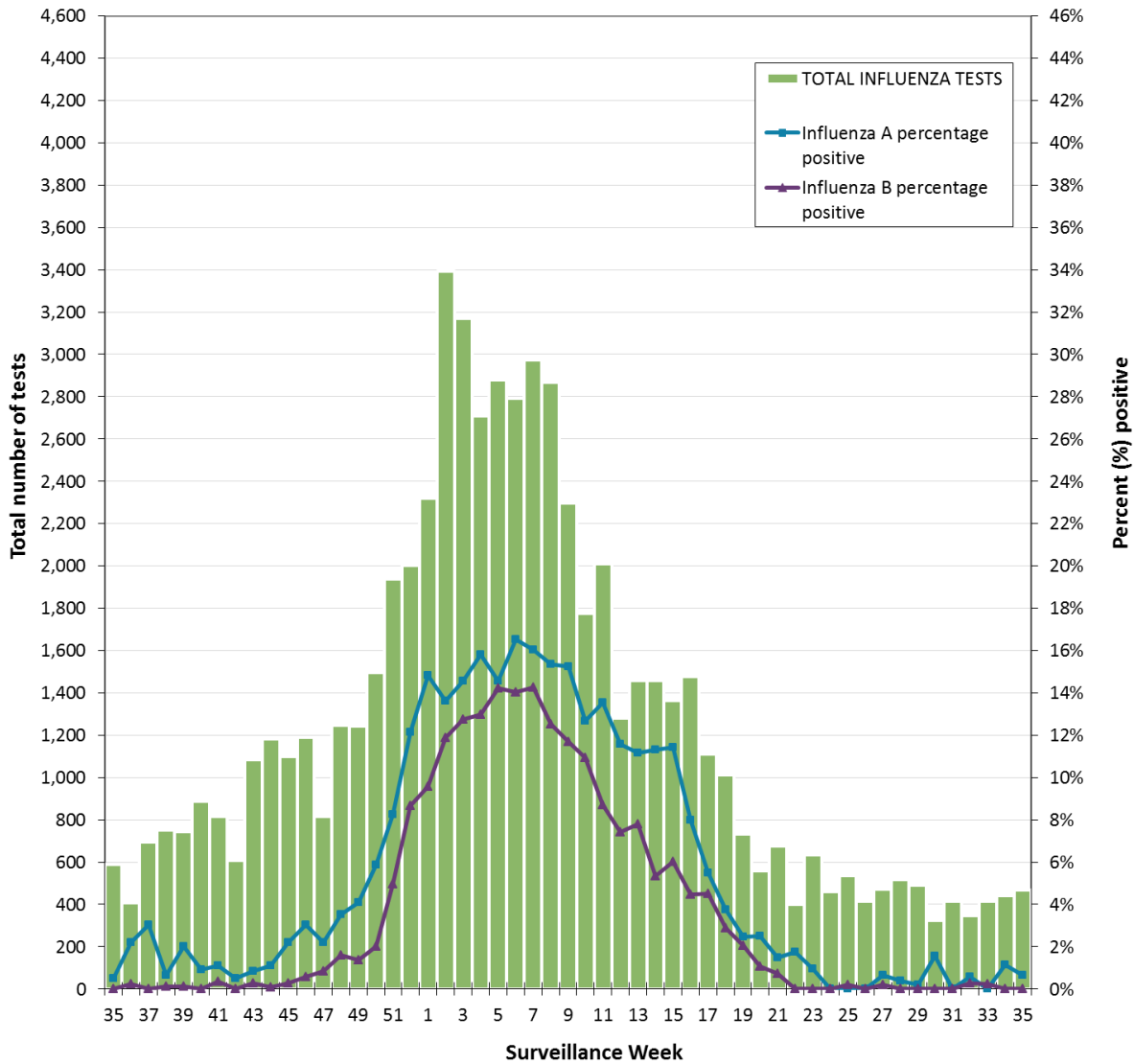
(R = Resistant, S = Susceptible, NA = Not Applicable)

Source: Influenza and Respiratory Viruses Section, National Microbiology Laboratory (NML). Received: August 2, 2018

Notes:

All influenza A viruses in Canada tested by the National Microbiology Laboratory (NML) for antiviral resistance in the 2017-18 season were sensitive to zanamivir. Two influenza B viruses in Canada were resistant to zanamivir, both of which were from Ontario. One influenza A (H3N2), one influenza A (H1N1)pdm09 virus, and one influenza B tested nationally were resistant to oseltamivir; the three resistant influenza viruses tested were from Ontario. Nationally, eight influenza A (H3N2) viruses tested were sensitive to amantadine.

Figure I. Total number of influenza tests performed and percent of positive tests by report week: Ontario, August 27, 2017 to September 1, 2018



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 September 5, 2018; 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. Not all 16 Ontario laboratories report every week. 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/>

Appendix II – Reporting Weeks for the 2017–18 Surveillance Season

Weeks	Start	End
WK35	27-Aug-17	02-Sept-17
WK36	03-Sept-17	09-Sept-17
WK37	10-Sept-17	16-Sept-17
WK38	17-Sept-17	23-Sept-17
WK39	24-Sept-17	30-Sept-17
WK40	01-Oct-17	07-Oct-17
WK41	08-Oct-17	14-Oct-17
WK42	15-Oct-17	21-Oct-17
WK43	22-Oct-17	28-Oct-17
WK44	29-Oct-17	04-Nov-17
WK45	05-Nov-17	11-Nov-17
WK46	12-Nov-17	18-Nov-17
WK47	19-Nov-17	25-Nov-17
WK48	26-Nov-17	02-Dec-17
WK49	03-Dec-17	09-Dec-17
WK50	10-Dec-17	16-Dec-17
WK51	17-Dec-17	23-Dec-17
WK52	24-Dec-17	30-Dec-17
WK1	31-Dec-17	06-Jan-18
WK2	07-Jan-18	13-Jan-18
WK3	14-Jan-18	20-Jan-18
WK4	21-Jan-18	27-Jan-18
WK5	28-Jan-18	03-Feb-18
WK6	04-Feb-18	10-Feb-18
WK7	11-Feb-18	17-Feb-18
WK8	18-Feb-18	24-Feb-18
WK9	25-Feb-18	03-Mar-18
WK10	04-Mar-18	10-Mar-18
WK11	11-Mar-18	17-Mar-18
WK12	18-Mar-18	24-Mar-18
WK13	25-Mar-18	31-Mar-18
WK14	01-Apr-18	07-Apr-18
WK15	08-Apr-18	14-Apr-18
WK16	15-Apr-18	21-Apr-18
WK17	22-Apr-18	28-Apr-18
WK18	29-Apr-18	05-May-18
WK19	06-May-18	12-May-18
WK20	13-May-18	19-May-18
WK21	20-May-18	26-May-18
WK22	27-May-18	02-Jun-18
WK23	03-Jun-18	09-Jun-18
WK24	10-Jun-18	16-Jun-18
WK25	17-Jun-18	23-Jun-18
WK26	24-Jun-18	30-Jun-18

WK27	01-Jul-18	07-Jul-18
WK28	08-Jul-18	14-Jul-18
WK29	15-Jul-18	21-Jul-18
WK30	22-Jul-18	28-Jul-18
WK31	29-Jul-18	04-Aug-18
WK32	05-Aug-18	11-Aug-18
WK33	12-Aug-18	18-Aug-18
WK34	19-Aug-18	25-Aug-18
WK35	26-Aug-18	01-Sep-18

Disclaimer

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