






Weekly Influenza News

Week 15: April 7 to April 13, 2019

Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
 <u>Reported cases</u>	Higher	16 local lab-confirmed cases reported in week 15 ; 11 cases reported in week 14
 <u>Percent Positive of Flu Specimens[†]</u>	Similar	Simcoe Muskoka: - flu A (4.5%); flu B (0.0%) Ontario: - flu A (14.2%); flu B (0.8%)
 <u>Local Institutional Outbreaks</u>	Similar	Sixteen institutional influenza outbreaks reported for the 2018-19 season to date.
 <u>Local Emergency Department respiratory visits: week 15</u>	Similar	Percentage of visits is similar compared to previous week and similar compared to the same period for the 2017-18 season.
Week 15 Overall Assessment April 7 to April 13, 2019	Similar	Reported Activity Level: Localized 16 cases of Flu A in SMDHU this week. No cases of Flu B in SMDHU this week.
 <u>Predominant Influenza Strains:</u> Influenza A (H1N1 & H3N2)		

Notes: Reported activity level is based on the weekly submission of [Appendix C](#) to Public Health Ontario. Definition available [here](#).

*Compared to previous [surveillance week](#)

† Reported for week 14

Reported Local Influenza Cases

In Simcoe Muskoka, there have been **656 lab-confirmed influenza cases reported** as of 17 April 2019. 16 (2.4%) of which were reported in week 15 – this is higher compared to week 14.

Of the 648 reported influenza A cases, 126 have been subtyped:

- 78/126 (62%) are influenza A, H1 strain / H1N1 pdm09
- 48/126 (38%) are influenza A, H3 strain

🔗 Figure 2 and Figure 3 below provide historic comparisons

Table 1: Summary of influenza cases for 2018-19 season

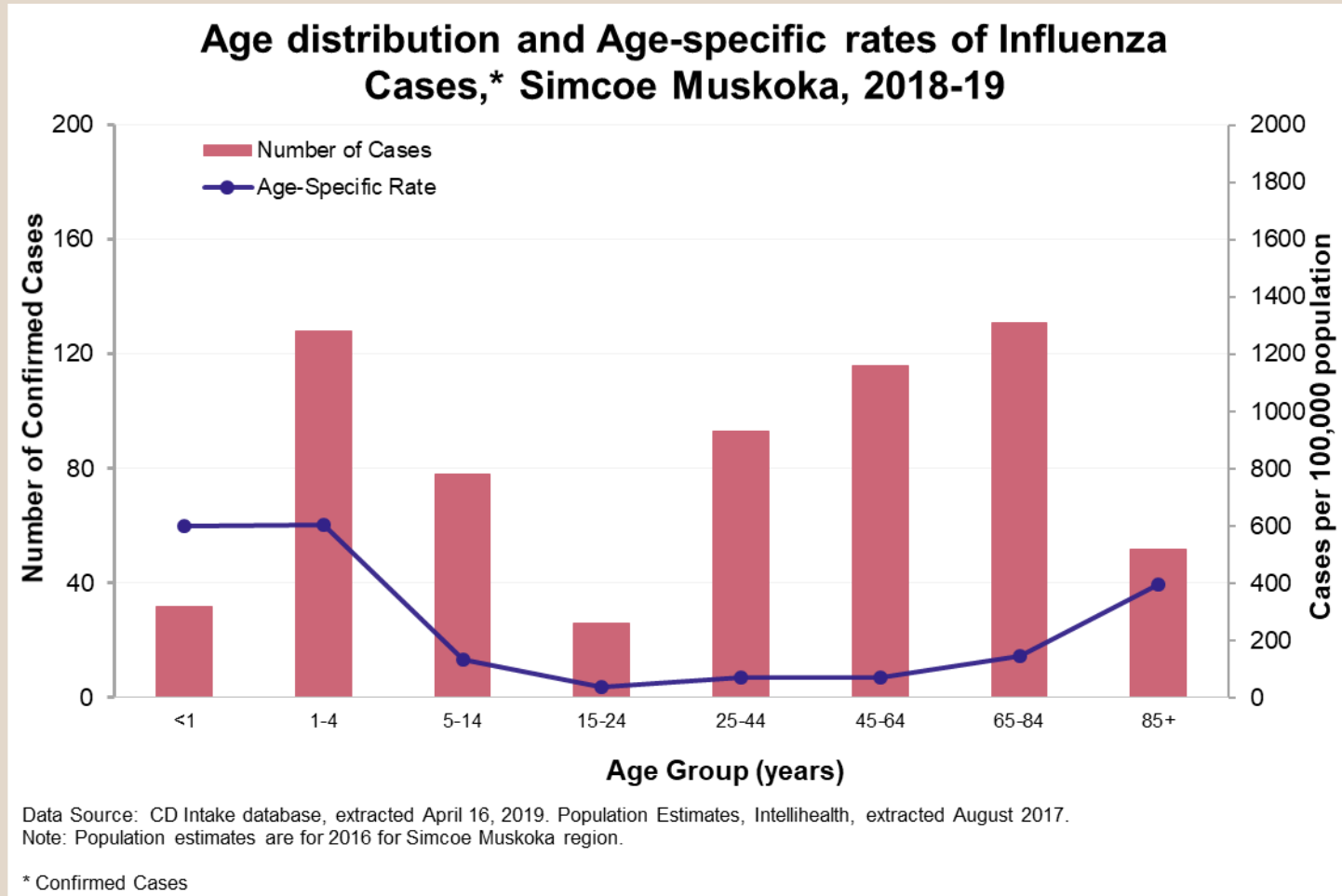
Lab-confirmed Influenza Cases	Week 15		Season-to-Date	
	N	%	N	%
Influenza A	16	100%	648	99%
Influenza B	0	0%	8	1%
Influenza A & B	0	0%	0	0%
Total	16	100%	656	100%
Notes:				
Data source: Communicable Disease Intake Database, extracted on April 17, 2019.				

Age Distribution

For the season-to-date, the majority of cases (72%) have been reported in individuals under the age of 65 years, with the highest age-specific rates being seen in children between one and four years (36% of cases have been in those under the age of 14 years). One quarter (28%) of cases have been reported in individuals aged 65 and older.

Median age of reported flu cases: 37 years

Figure 1: Number and Age-specific Rate of Influenza Cases by Age Group, Simcoe Muskoka, September 2018 to present



Historical Comparison

Figure 2: Reported Influenza Cases, Type A, Current Influenza Season with Historical Comparison, Simcoe Muskoka

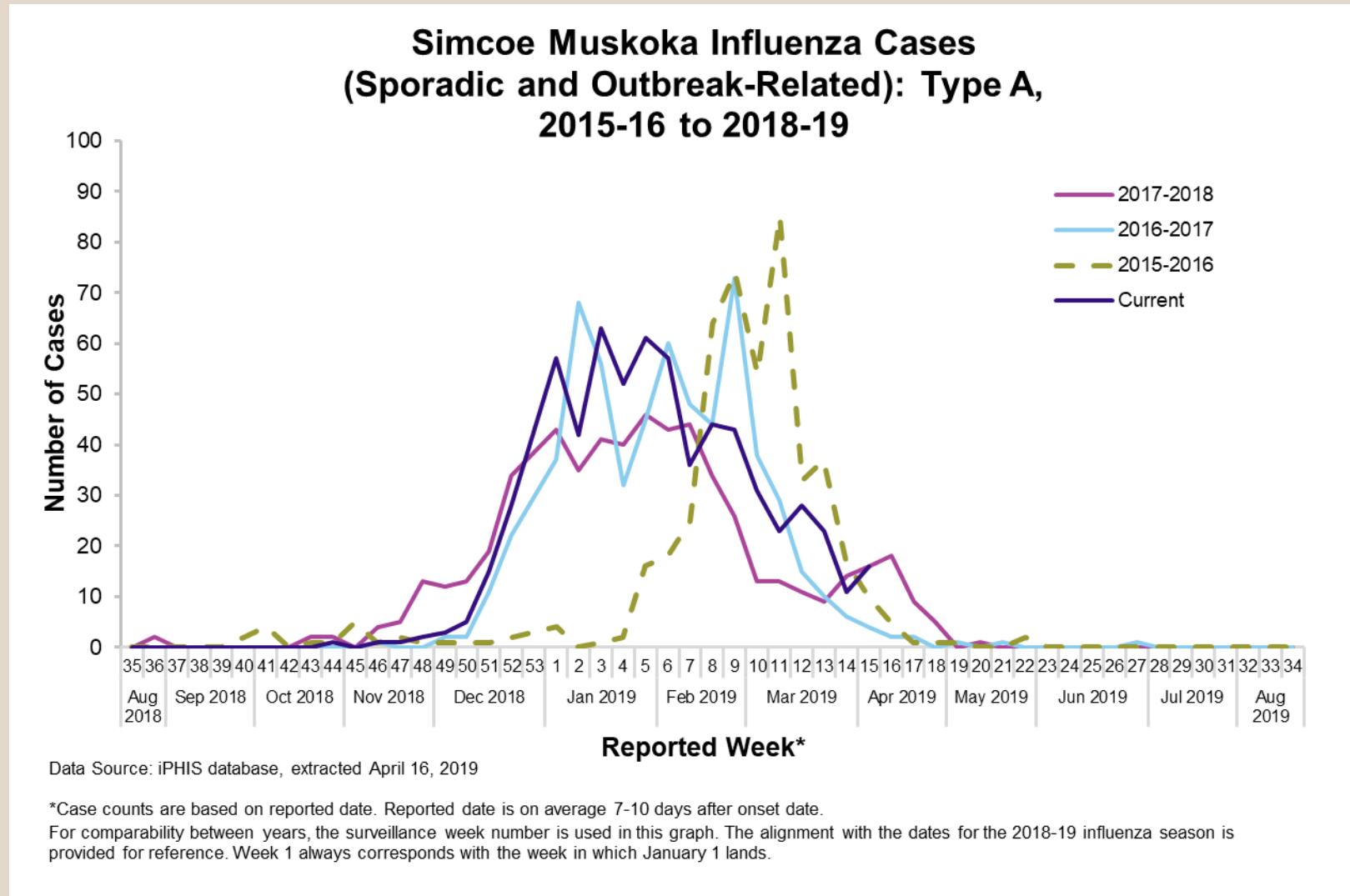
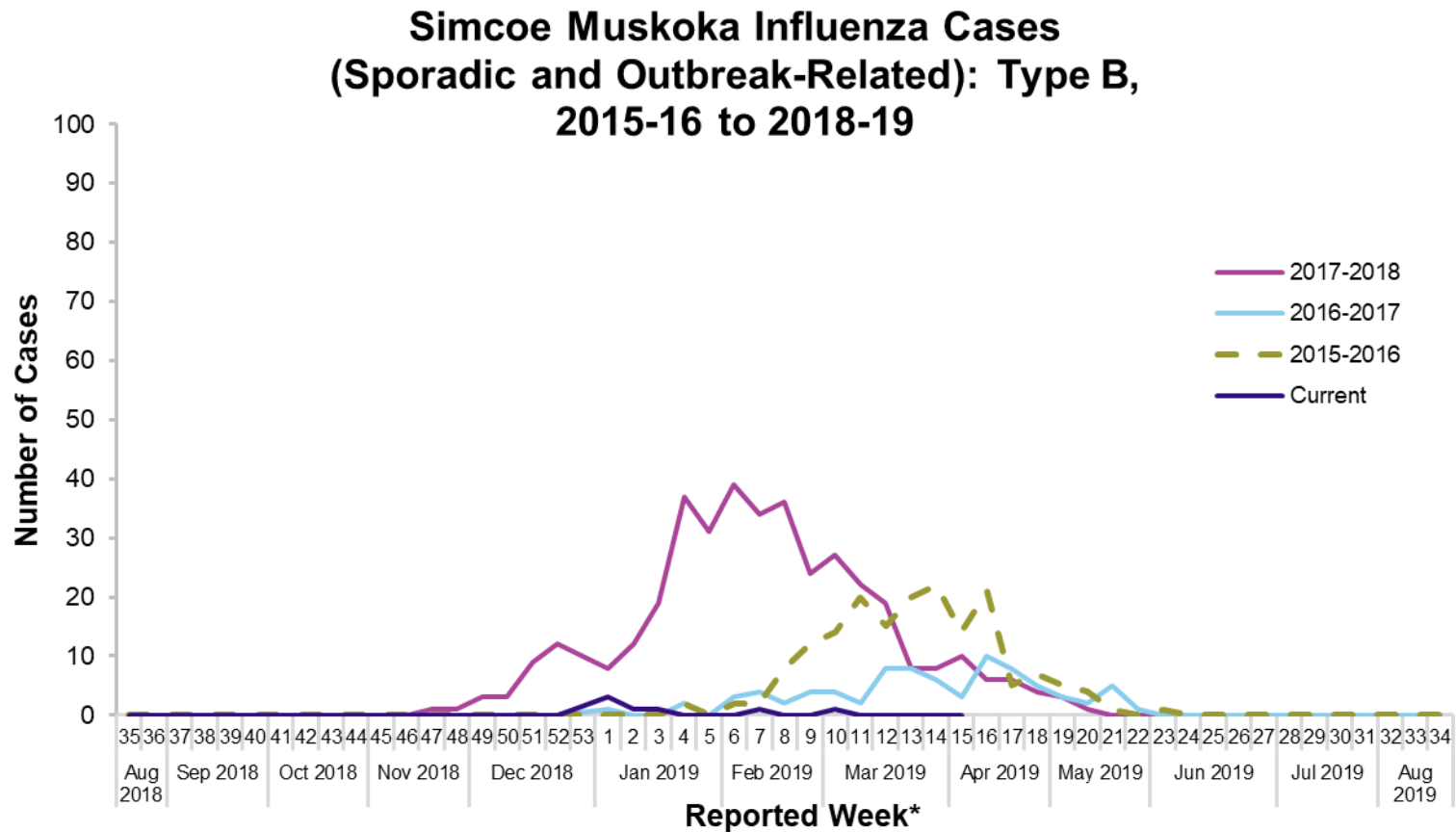


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



Data Source: iPHIS database, extracted April 16, 2019

*Case counts are based on reported date. Reported date is on average 7-10 days after onset date.

For comparability between years, the surveillance week number is used in this graph. The alignment with the dates for the 2018-19 influenza season is provided for reference. Week 1 always corresponds with the week in which January 1 lands.

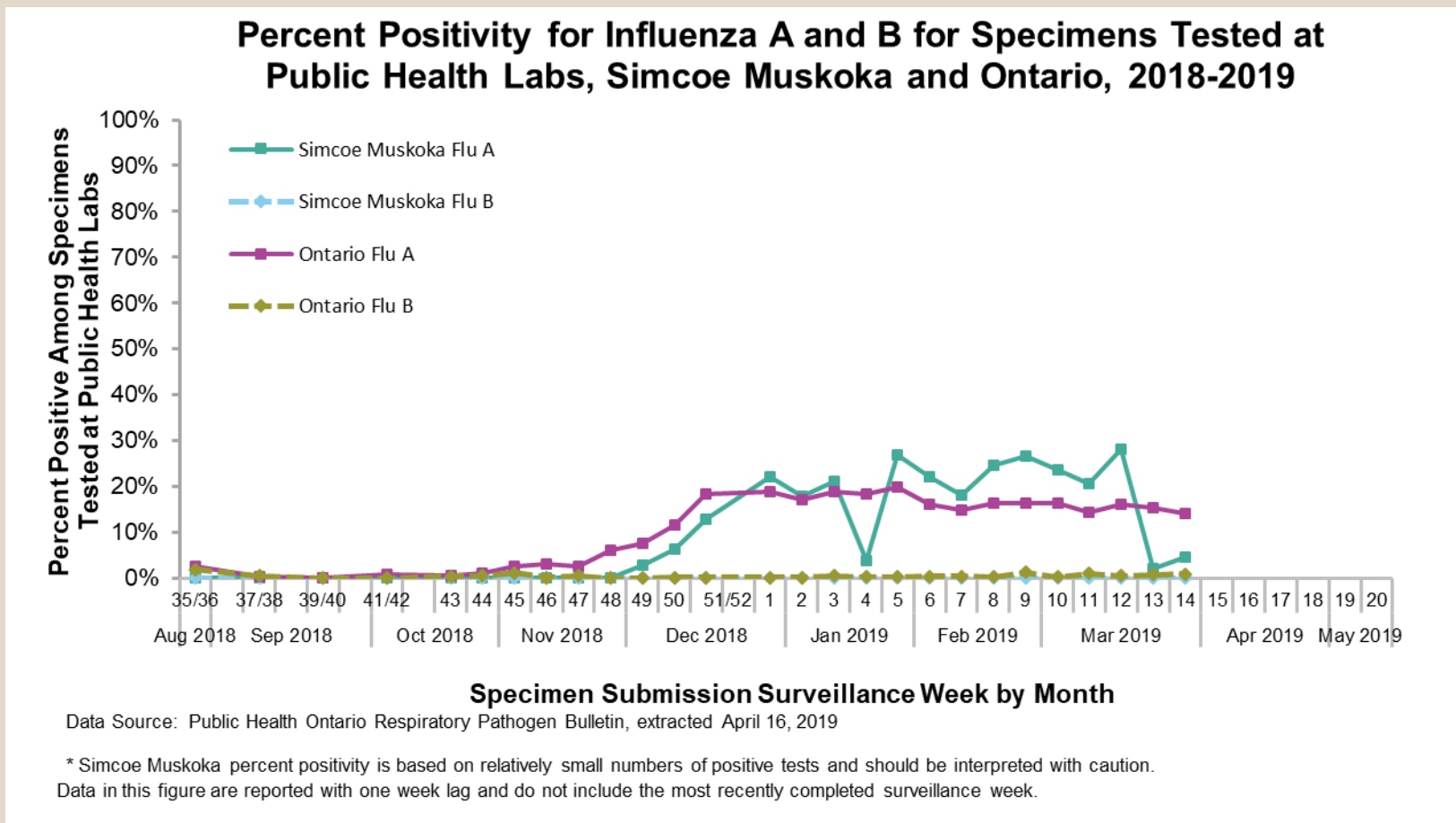
Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 15.

The percentage of flu specimens that are positive (percent positivity) for Influenza A and Influenza B has peaked. The provincial percent positivity for influenza A in week 14 was reported at 14.2%, which is similar when compared to week 13. Influenza B percent positivity was reported at 0.8% for week 14.

Locally for week 14, percent positivity for influenza A was reported at 4.5%, while influenza B was 0.0%.

Figure 4: Percent Positivity, Influenza A & B, Simcoe Muskoka & Ontario, 2018-19

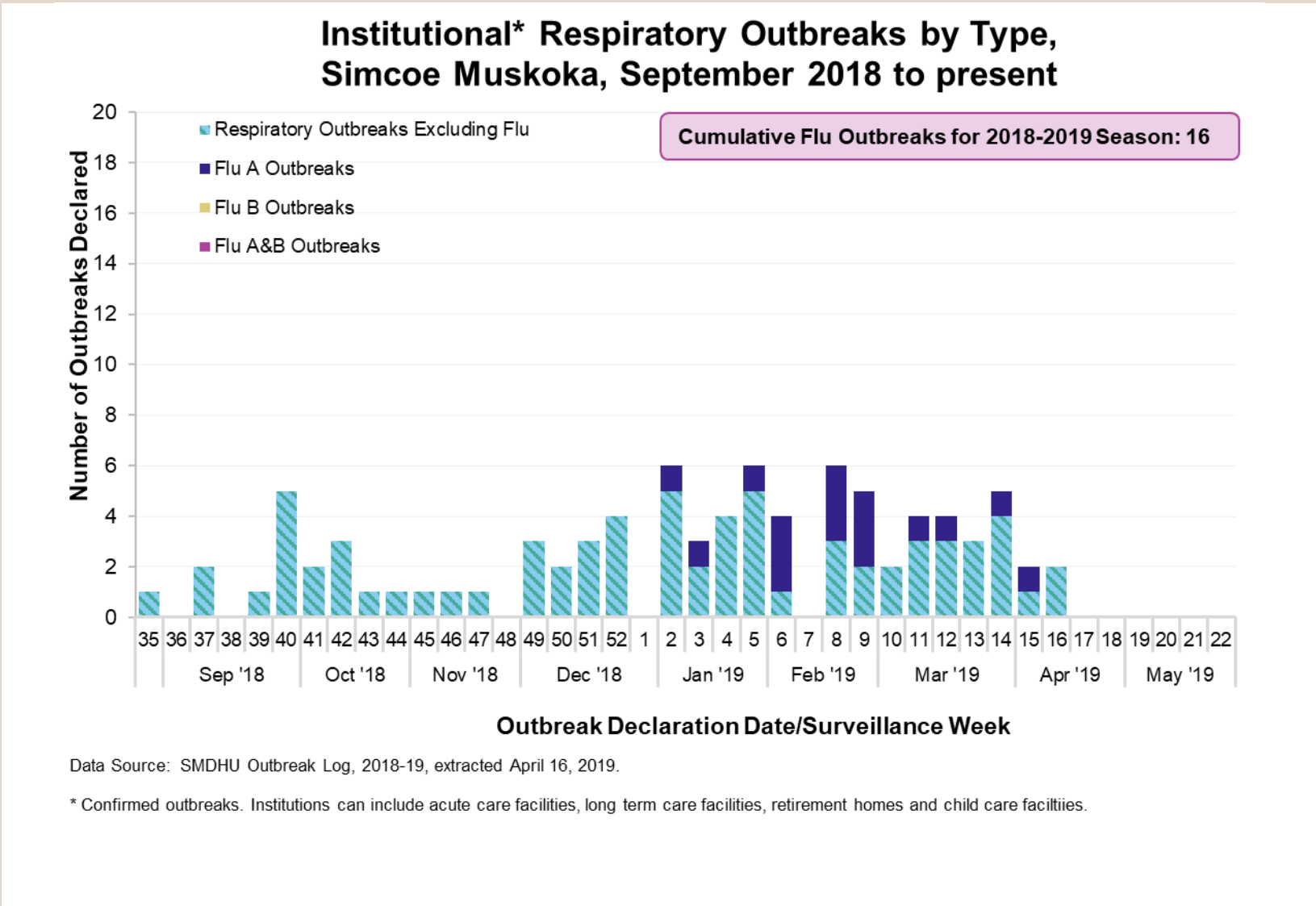


Institutional Respiratory Outbreaks

There have been 16 *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2018.

- All are influenza A outbreaks.

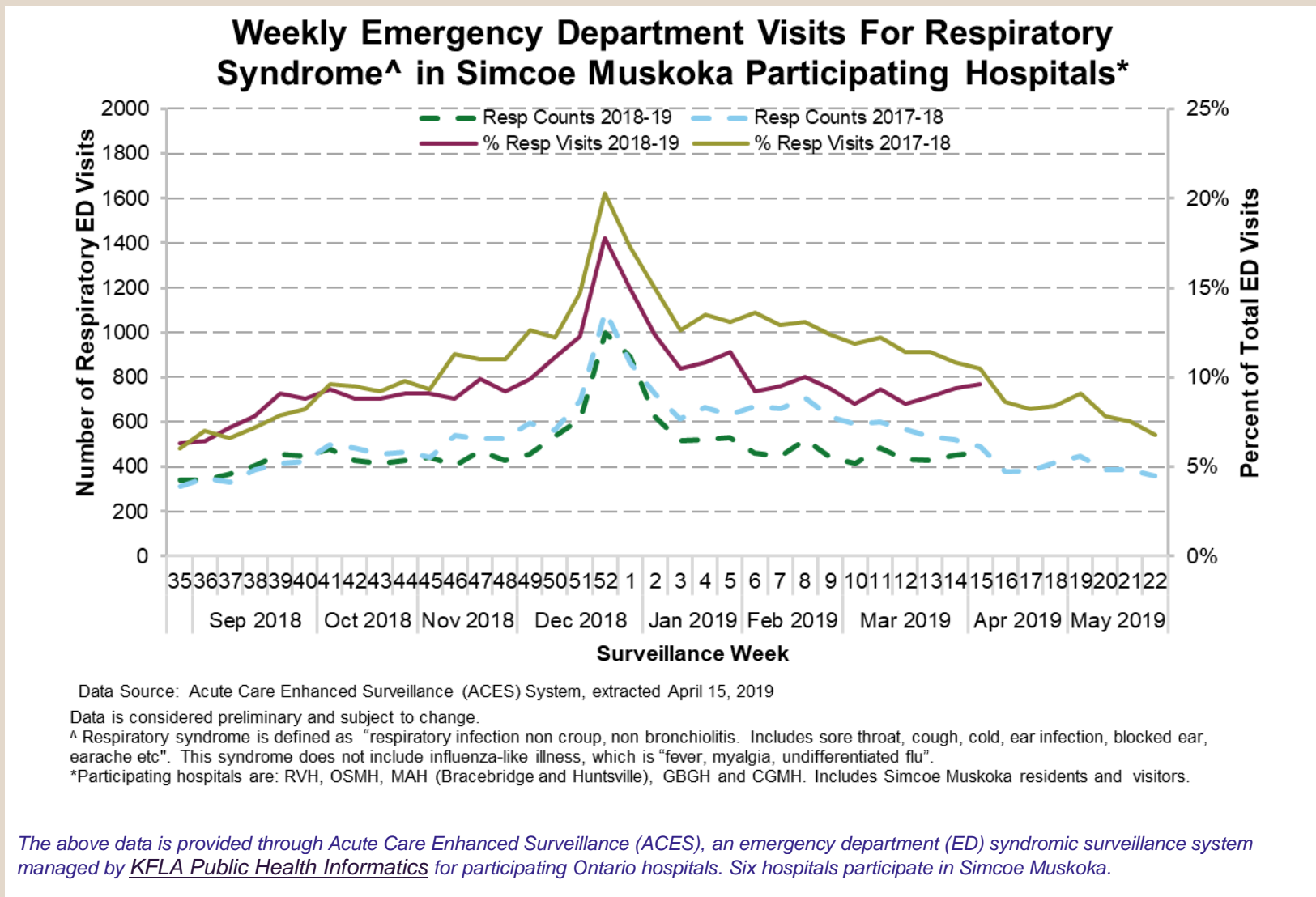
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2018-19



Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 9.6% of visits in week 15. This is similar when compared to week 14, and similar when compared to the same point in the 2017-18 season.

Figure 6: Emergency Department Visits for Respiratory Syndrome at Participating Simcoe Muskoka Hospital, 2017-18, 2018-19 Seasons



Vaccine Match and Influenza Strains

The trivalent 2018-2019 influenza vaccine for the northern hemisphere contains the following strains:

- A/Michigan/45/2015 (H1N1)pdm09-like virus;
- A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus; and
- B/Colorado/06/2017-like virus (B/Victoria/2/87 lineage).

Table 2: Local, Provincial and National Matched and Mismatched Flu Specimens and National Match Percent, 2018-19

Influenza Strains	Number of Specimens with Strain Characterization Results		National Match Percent [†]
	Ontario	Canada	
Influenza A Vaccine Strains			
Influenza A (H3N2) A/Singapore/INFIMH-16-0019/2016-like	97	156	9%
Influenza A (H1N1) A/Michigan/45/2015-like	644	1,523	91%
Influenza B Vaccine Strains			
B/Colorado/06/2017-like	12	44	66%
B/Phuket/3073/2013-like virus (Quad vaccine only)	17	23	34%

Data Source: Ontario and Canada Counts: Public Health Ontario Respiratory Pathogen Report, Table 7: Strain characterization completed on influenza isolates at the National Microbiology Laboratory Surveillance week 14, extracted April 17, 2019.

Provincial and national counts are reported with one week lag and do not include the most recently completed surveillance week. Surveillance weeks can be found [here](#).

[†] Non-vaccine match strains are not reported. Percent match is based on antigenically similar strains. Antigenic similarity may not be reflective of influenza vaccine effectiveness.

As of week 14, 131 additional specimens did not grow to sufficient hemagglutination titers for antigenic characterization, but were found to be of the same genetic group as A/Singapore/INFIMH-16-0019/2016-like virus through sequence analysis.

Technical Notes

Definitions

Percentage positivity: the number of positive flu cases divided by the number of specimens tested at Public Health Ontario Labs

Reported activity level: the level of influenza activity that is reported to Public Health Ontario by Simcoe Muskoka, based on influenza cases and outbreaks. Definitions available [here](#).

Surveillance week: The week number corresponding to the week of year, running Sunday to Saturday, inclusive, for reporting influenza activity. January 1 always falls within week 1. A list of the current season's surveillance weeks can be found [here](#).

Limitations

Timeliness:

The provincial data are from one week previous because that is the most recent data available.

The hospital data, local counts of influenza, and outbreaks are current to date.

The number of cases listed in a given surveillance week may change as more information becomes available

Case-Follow-up and iPHIS Data Entry:

While Public Health Ontario only requires case information as provided by the laboratory report, the health unit investigates all outbreak cases, as information is available, in order to provide a more accurate local picture of adverse outcomes and subtyping.

Case Reporting:

Sporadic cases do not accurately describe all cases of influenza as those cases reported are skewed towards individuals more likely to seek medical care and be tested (e.g. young, elderly and immunocompromised).

Additional Resources

Simcoe Muskoka

- [Influenza Fact Sheet](#)
- [Influenza HealthSTATS page](#)

Provincial

- [Ontario Respiratory Pathogen Bulletin](#)
- [Public Health Ontario Laboratory Respiratory Pathogen Surveillance Reports](#)
- [ILI Mapper](#)

Week 14 Provincial Summary: For the 2018-2019 surveillance season to week 14, 11,159 laboratory-confirmed influenza cases have been reported across Ontario, 358 (3.2%) of which were reported in week 14. Among cumulative cases, 97.9% (10,922/11,159) were influenza A. Of the 2,450 reported influenza A cases with subtype information available, 40.7% (998/2,450) were H3 and 59.3% (1,452/2,450) were (H1N1)pdm09.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 14, extracted April 17, 2019)

National

- [Public Health Agency of Canada FluWatch](#)

International Resources

- [WHO Global Influenza Surveillance and Response System](#)