






Weekly Influenza News

Week 10: March 3 to March 9, 2019

Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
 <u>Reported cases</u>	Lower	32 local lab-confirmed cases reported in week 10 ; 43 cases reported in week 9
 <u>Percent Positive of Flu Specimens[†]</u>	Similar	Simcoe Muskoka: - flu A (24.5%); flu B (0.0%) Ontario: - flu A (16.4%); flu B (0.3%)
 <u>Local Institutional Outbreaks</u>	Similar	Nine institutional influenza outbreaks reported for the 2018-19 season to date.
 <u>Local Emergency Department respiratory visits: week 10</u>	Similar	Percentage of visits is similar compared to previous week and lower compared to the same period for the 2017-18 season.
Week 10 Overall Assessment March 3 to March 9, 2019	Similar	Reported Activity Level: Localized
		43 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)		

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 9

Reported Local Influenza Cases

In Simcoe Muskoka, there have been **555 lab-confirmed influenza cases reported** as of 12 March 2019. 32 (5.8%) of which were reported in week 10 – this is lower compared to week 9.

Of the 548 reported influenza A cases, 104 have been subtyped:

- 71/104 (68%) are influenza A, H1 strain / H1N1 pdm09
- 33/104 (32%) 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 10		Season-to-Date	
	N	%	N	%
Influenza A	31	97%	548	99%
Influenza B	1	3%	7	1%
Influenza A & B	0	0%	0	0%
Total	32	100%	555	100%

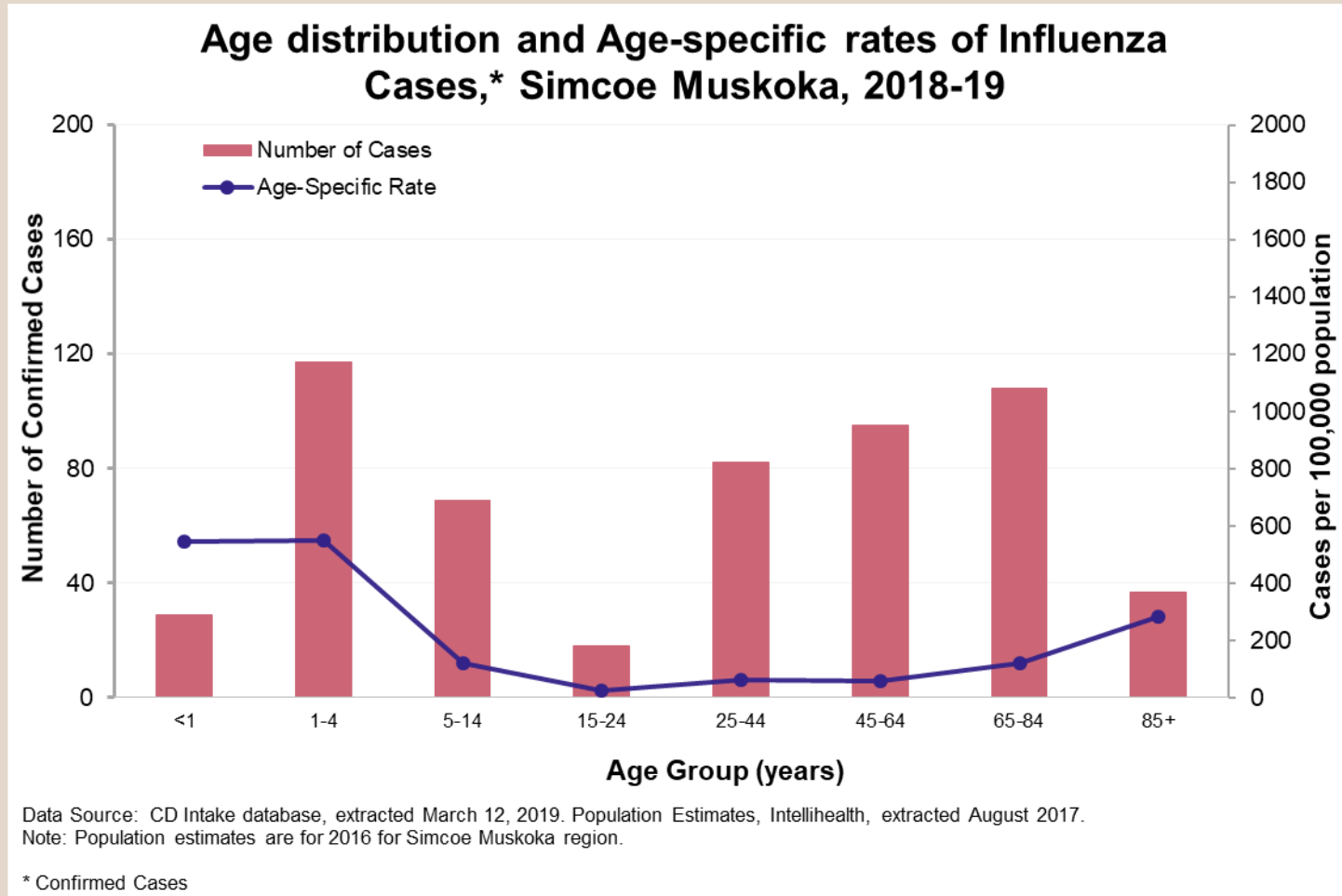
Notes:
Data source: Communicable Disease Intake Database, extracted on March 12, 2019.

Age Distribution

For the season-to-date, the majority of cases (74%) 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 (39% of cases have been in those under the age of 14 years). One quarter (26%) of cases have been reported in individuals aged 65 and older.

Median age of reported flu cases: 34 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

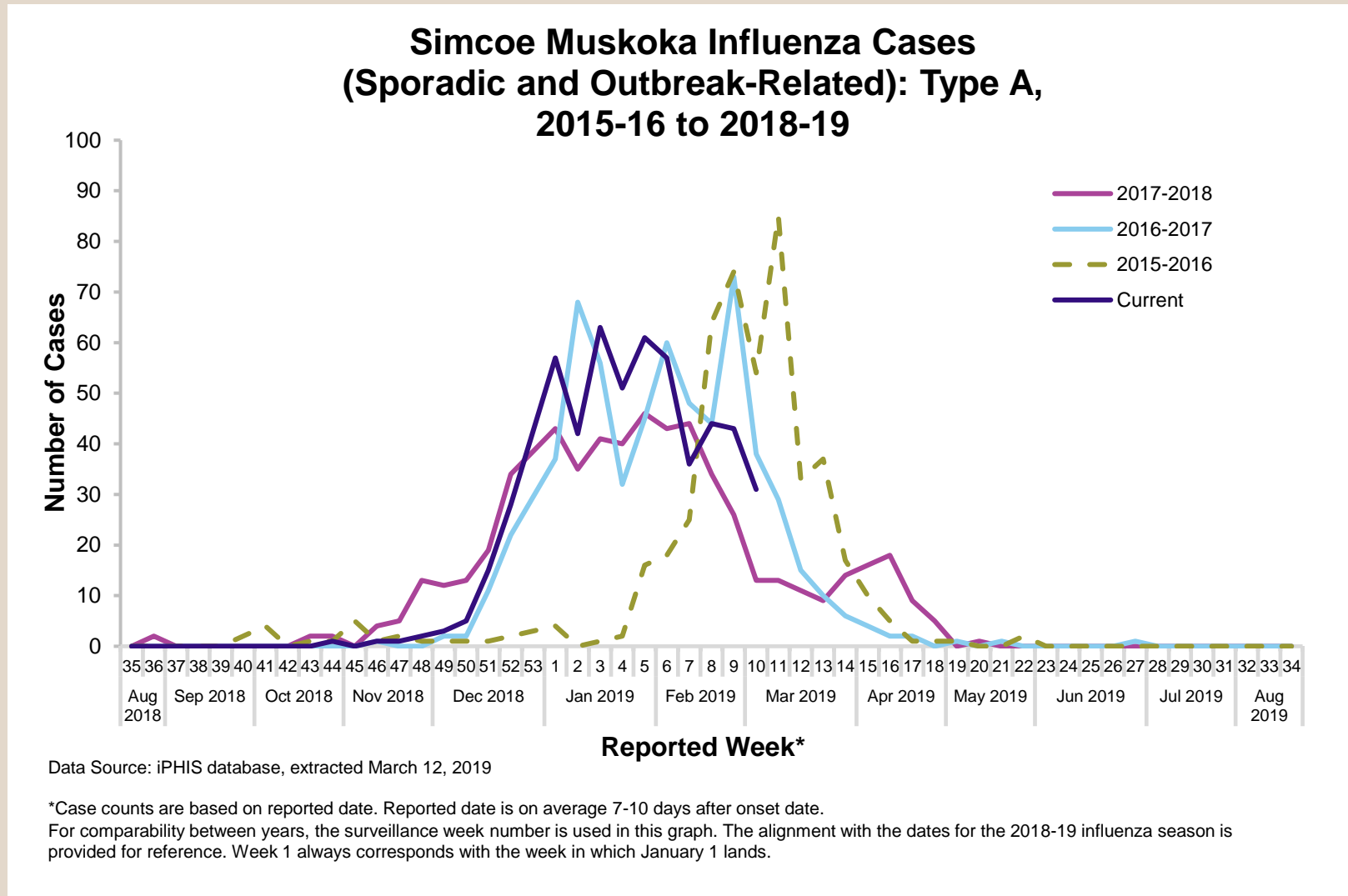
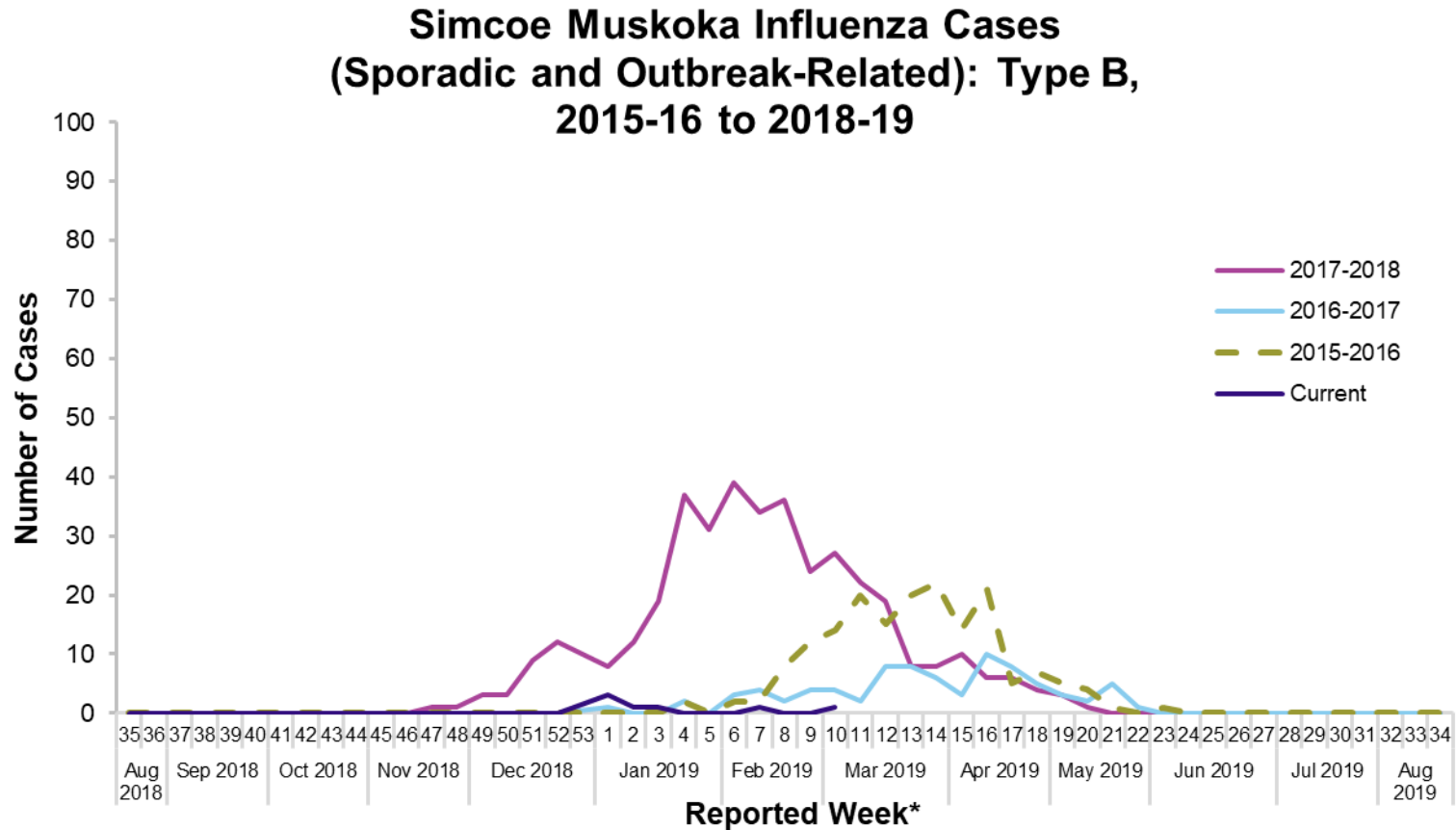


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



Data Source: iPHIS database, extracted March 12, 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.

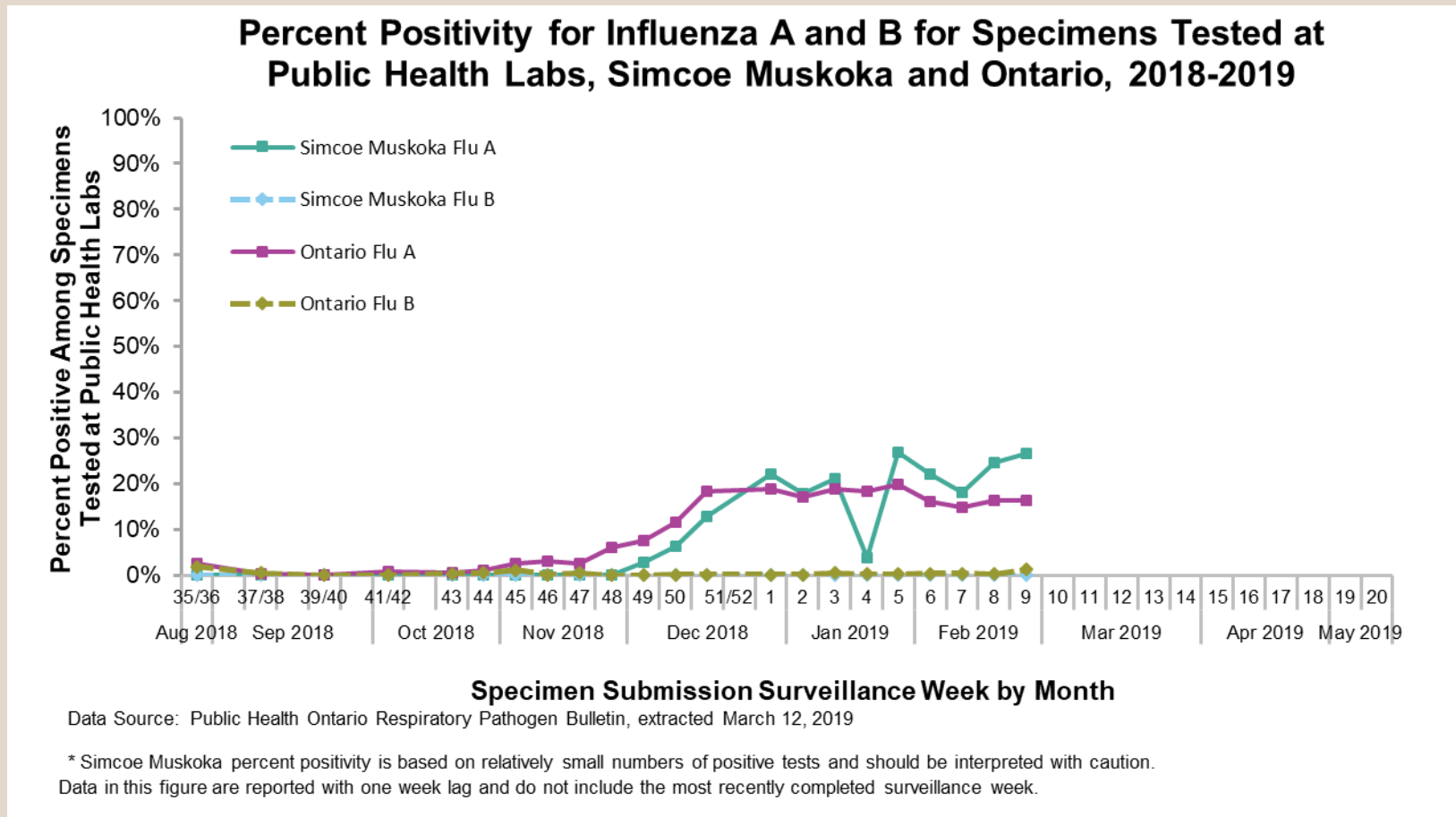
Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 10.

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 9 was reported at 16.4%, which is similar when compared to week 8. Influenza B percent positivity was reported at 1.2% for week 9.

Locally for week 9, percent positivity for influenza A was reported at 26.5%, while influenza B was 0.0%.

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

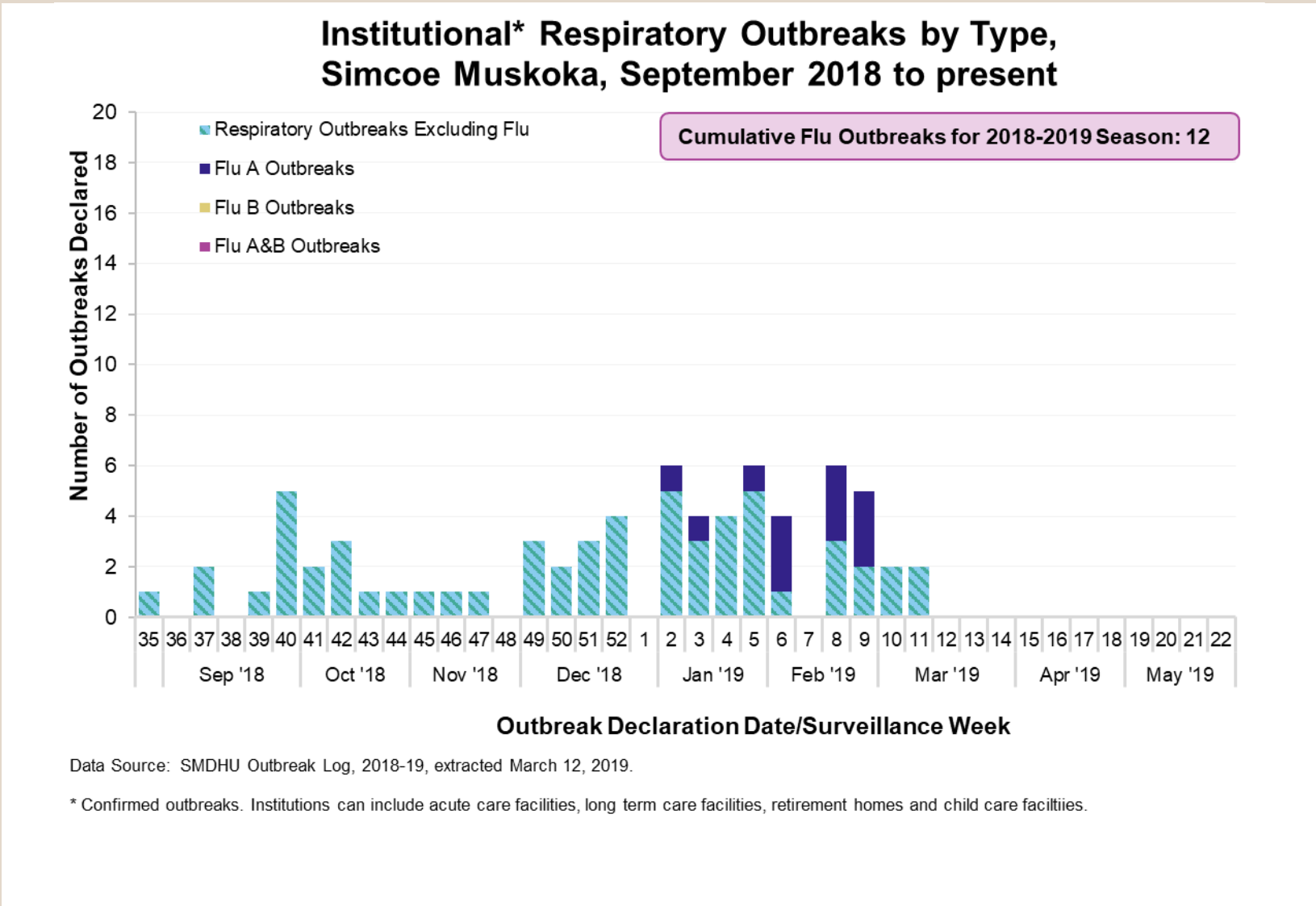


Institutional Respiratory Outbreaks

There have been 12 *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2018.

- All are influenza A outbreaks.

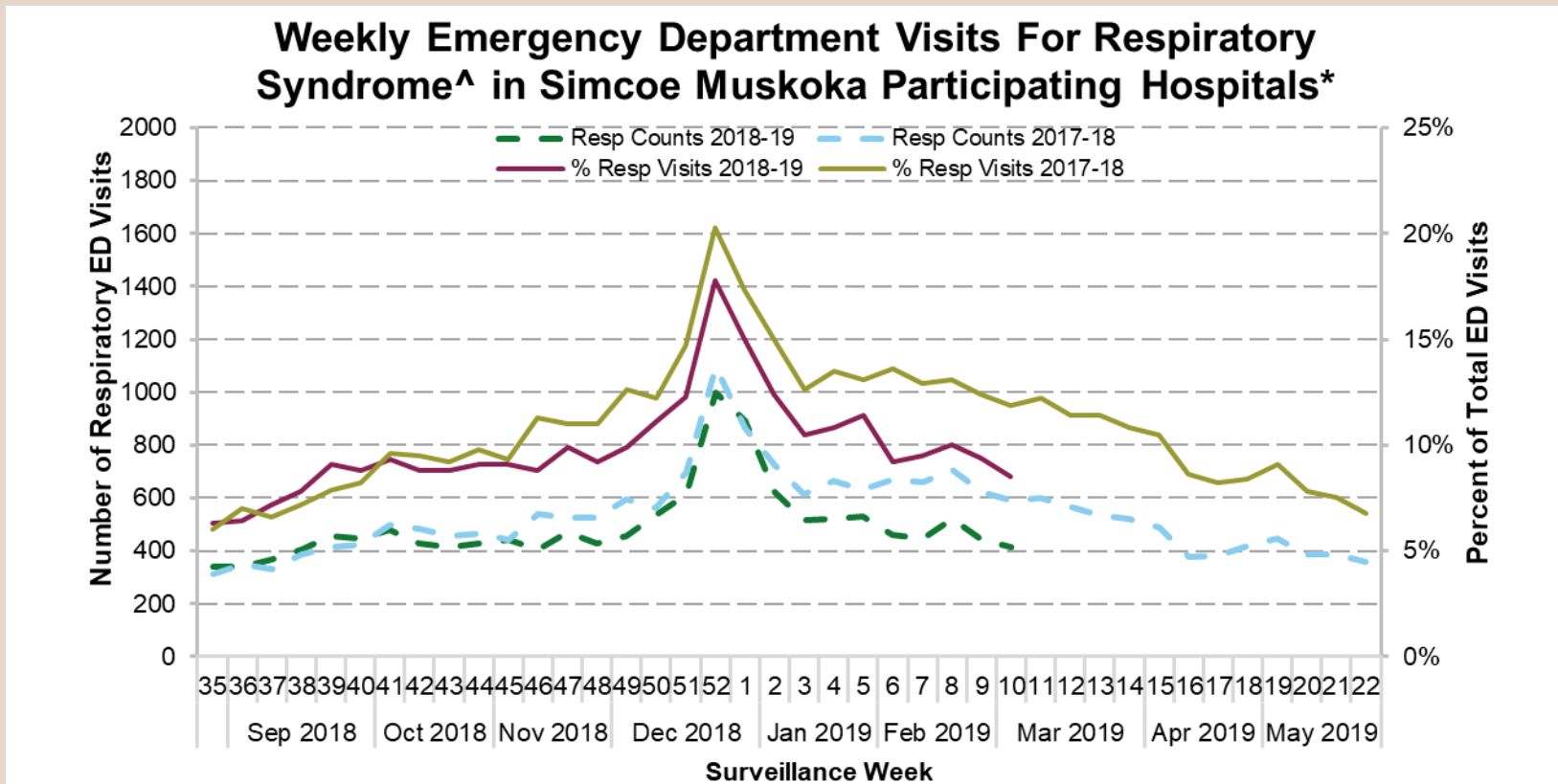
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2018-19



Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 8.5% of visits in week 10. This is similar when compared to week 9, and lower 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



Data Source: Acute Care Enhanced Surveillance (ACES) System, extracted March 11, 2019
 Data is considered preliminary and subject to change.
 ^ Respiratory syndrome is defined as “respiratory infection non croup, non bronchiolitis. Includes sore throat, cough, cold, ear infection, blocked ear, earache etc”. This syndrome does not include influenza-like illness, which is “fever, myalgia, undifferentiated flu”.
 *Participating hospitals are: RVH, OSMH, MAH (Bracebridge and Huntsville), GBGH and CGMH. Includes Simcoe Muskoka residents and visitors.

The above data is provided through Acute Care Enhanced Surveillance (ACES), an emergency department (ED) syndromic surveillance system managed by KFLA Public Health Informatics for participating Ontario hospitals. Six hospitals participate in Simcoe Muskoka.

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	67	87	6%
Influenza A (H1N1) A/Michigan/45/2015-like	543	1,289	94%
Influenza B Vaccine Strains			
B/Colorado/06/2017-like	4	13	41%
B/Phuket/3073/2013-like virus (Quad vaccine only)	15	19	59%

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 9, extracted March 12, 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 9, 68 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 9 Provincial Summary: For the 2018-2019 surveillance season to week 9, 8,881 laboratory-confirmed influenza cases have been reported across Ontario, 434 (4.9%) of which were reported in week 9. Among cumulative cases, 98.5% (8747/8881) were influenza A. Of the 1,819 reported influenza A cases with subtype information available, 29.9% (544/1819) were H3 and 70.1% (1275/1819) were (H1N1)pdm09.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 9, extracted March 12, 2019)

National

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

International Resources

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