

# Weekly Influenza News

## Week 12: March 17 to March 23, 2019

### Week in Review:

| Influenza Activity Indicator                                    | Assessment of Indicator* | Interpretation  |
|---|--------------------------|---|
| <u>Reported cases</u>   | Similar                  | 28 local lab-confirmed cases reported in <b>week 12</b> ; 23 cases reported in week 11                                  |
| <u>Percent Positive of Flu Specimens<sup>†</sup></u>            | Lower                    | <b>Simcoe Muskoka:</b><br>- flu A (20.6%); flu B (0.0%)<br><b>Ontario:</b><br>- flu A (14.2%); flu B (1.0%)             |
| <u>Local Institutional Outbreaks</u>                            | Similar                  | Thirteen institutional influenza outbreaks reported for the 2018-19 season to date.                                     |
| <u>Local Emergency Department respiratory visits: week 12</u>   | Similar                  | Percentage of visits is similar compared to previous week and lower compared to the same period for the 2017-18 season. |
| <b>Week 12 Overall Assessment</b><br>March 17 to March 23, 2019 | <b>Similar</b>           | <b>Reported Activity Level: Localized</b>   |
|   |                          | 28 cases of Flu A in SMDHU this week.<br>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 11

### Reported Local Influenza Cases

In Simcoe Muskoka, there have been **610 lab-confirmed influenza cases reported** as of 26 March 2019. 28 (4.6%) of which were reported in week 12 – this is similar compared to week 11.

Of the 603 reported influenza A cases, 117 have been subtyped:

- 77/117 (66%) are influenza A, H1 strain / H1N1 pdm09
- 40/117 (34%) are influenza A, H3 strain

🔗 Figure 2 and Figure 3 below provide historic comparisons

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

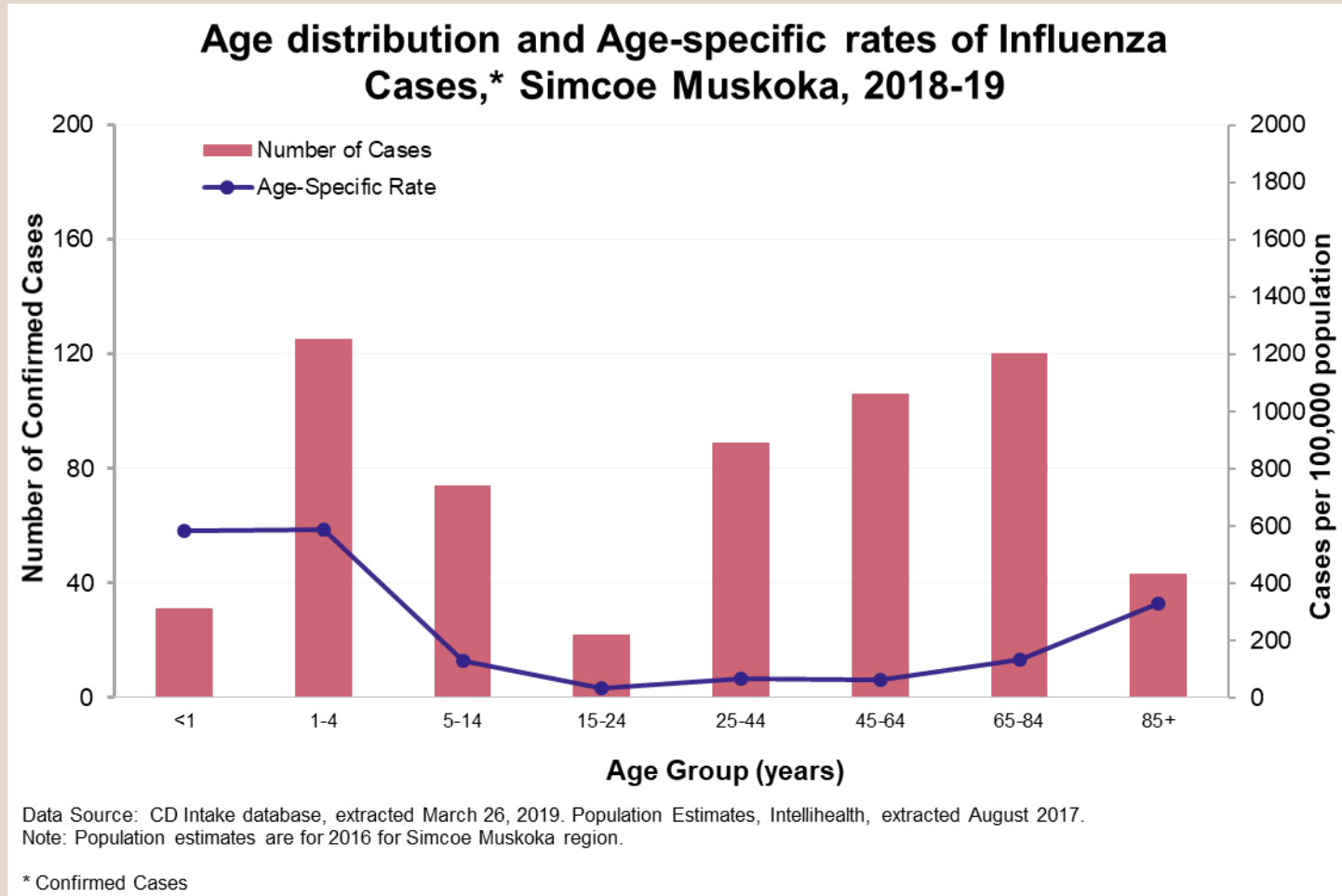
| Lab-confirmed Influenza Cases   | Week 12   |             | Season-to-Date |             |
|---|-----------|-------------|----------------|-------------|
|   | N         | %           | N              | %           |
| <b>Influenza A</b>  | 28        | 100%        | 603            | 99%         |
| <b>Influenza B</b>  | 0         | 0%          | 7              | 1%          |
| <b>Influenza A &amp; B</b>  | 0         | 0%          | 0              | 0%          |
| <b>Total</b>  | <b>28</b> | <b>100%</b> | <b>610</b>     | <b>100%</b> |
| Notes:  |           |             |                |             |
| Data source: Communicable Disease Intake Database, extracted on March 26, 2019. |           |             |                |             |

## Age Distribution

For the season-to-date, the majority of cases (73%) 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 (38% of cases have been in those under the age of 14 years). One quarter (27%) of cases have been reported in individuals aged 65 and older.

Median age of reported flu cases: 35 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

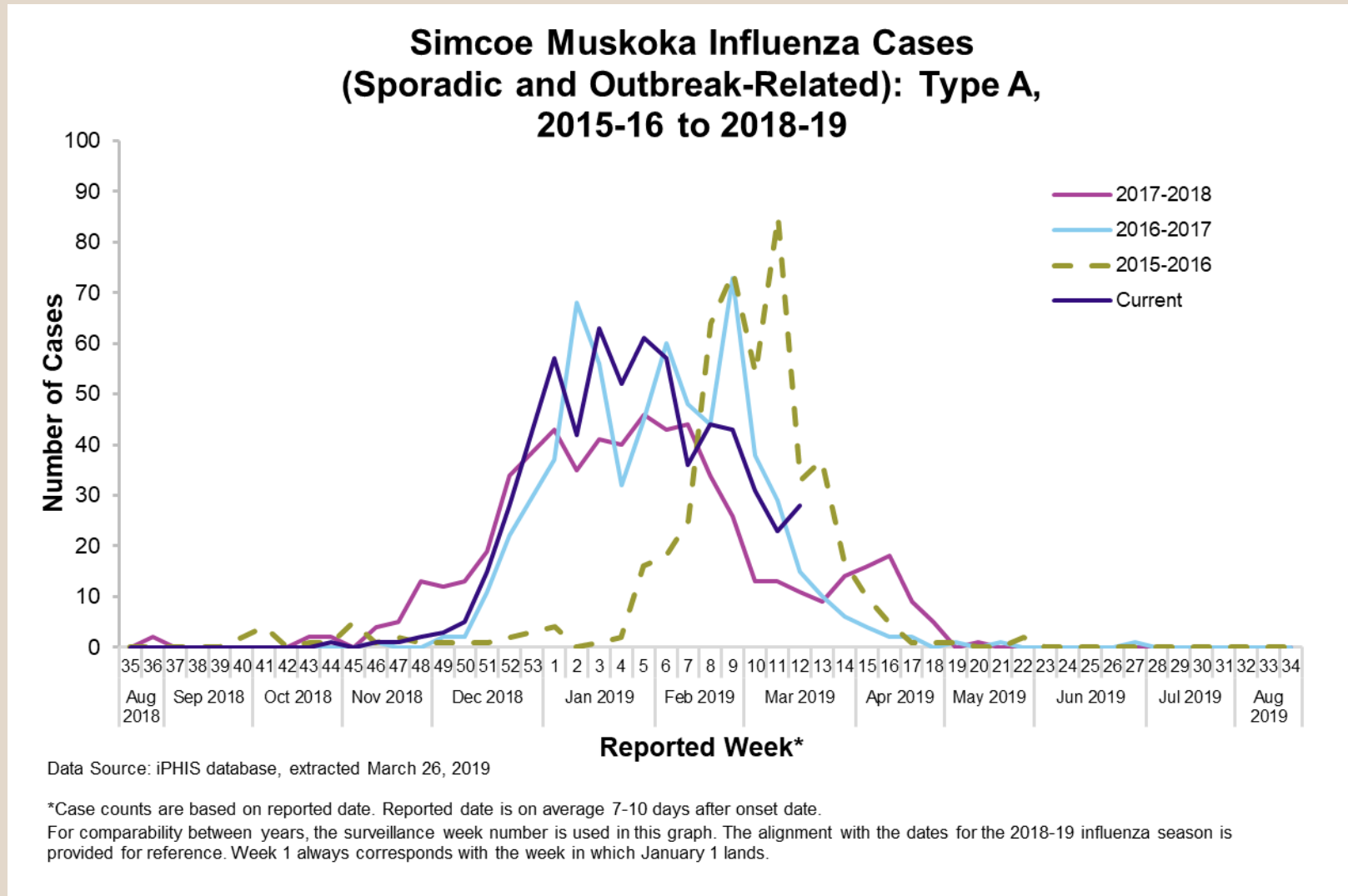
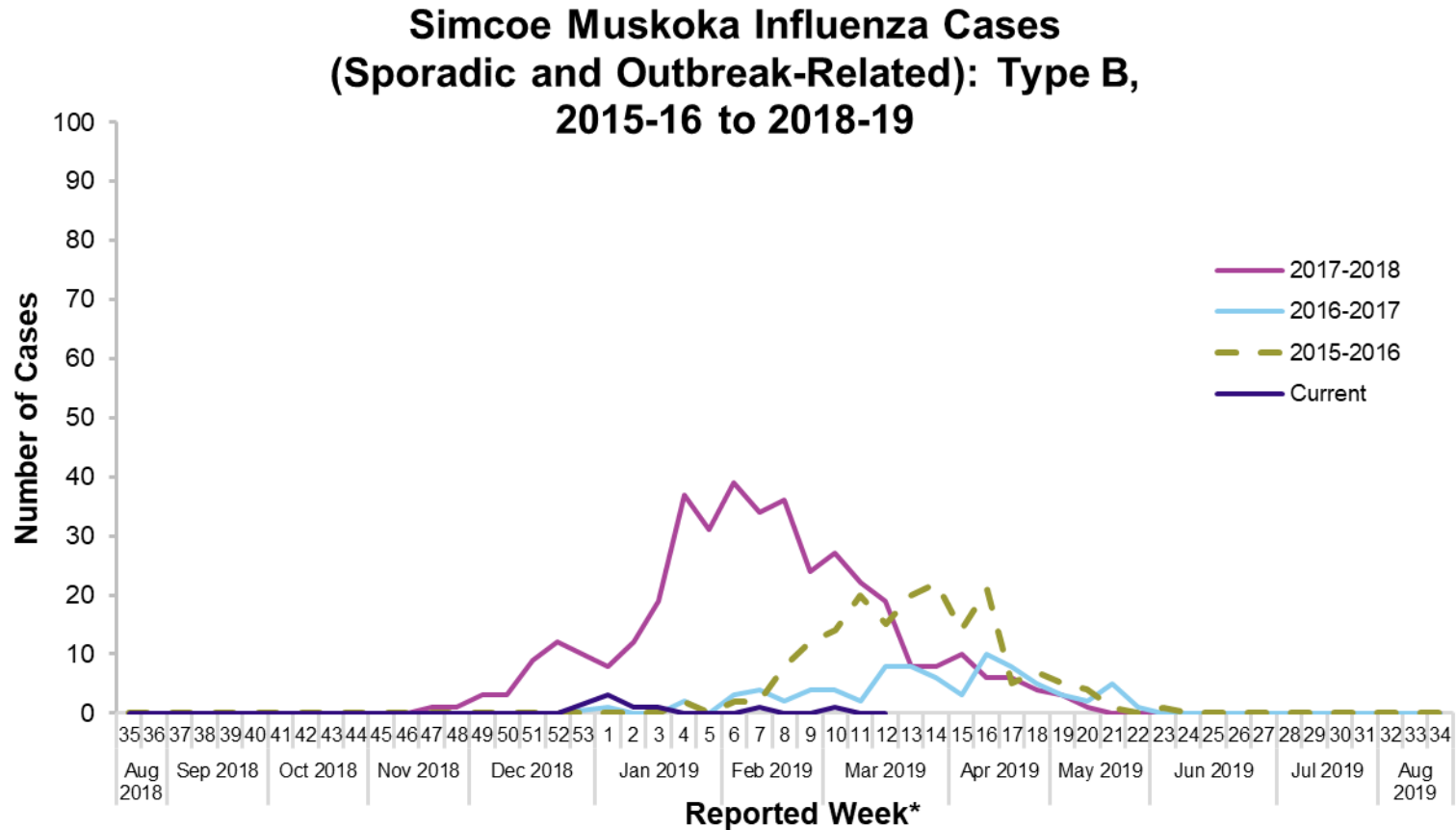


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



Data Source: iPHIS database, extracted March 26, 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.

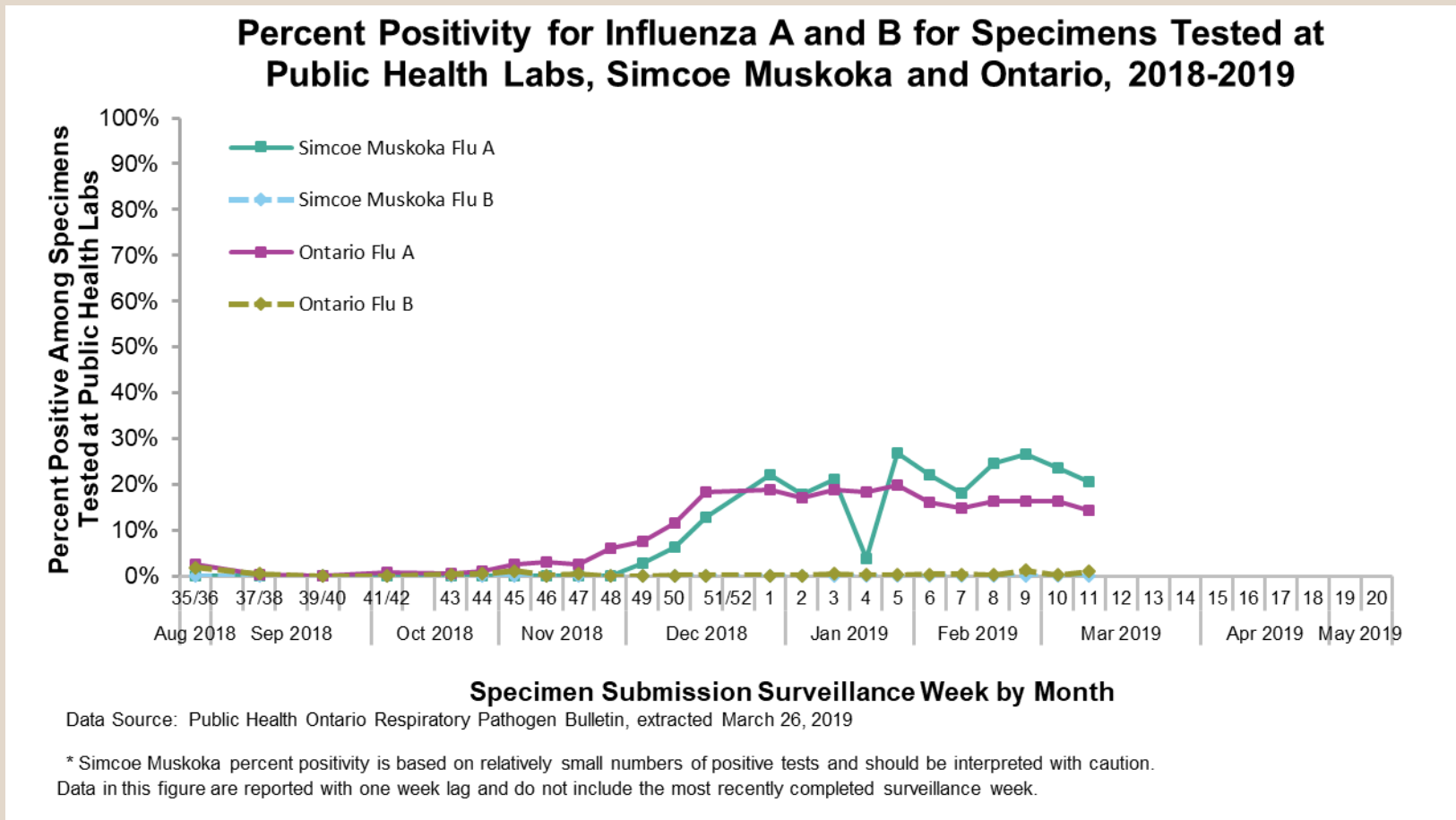
## Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 12.

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 11 was reported at 14.2%, which is lower when compared to week 10. Influenza B percent positivity was reported at 1.0% for week 11.

Locally for week 11, percent positivity for influenza A was reported at 20.6%, while influenza B was 0.0%.

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

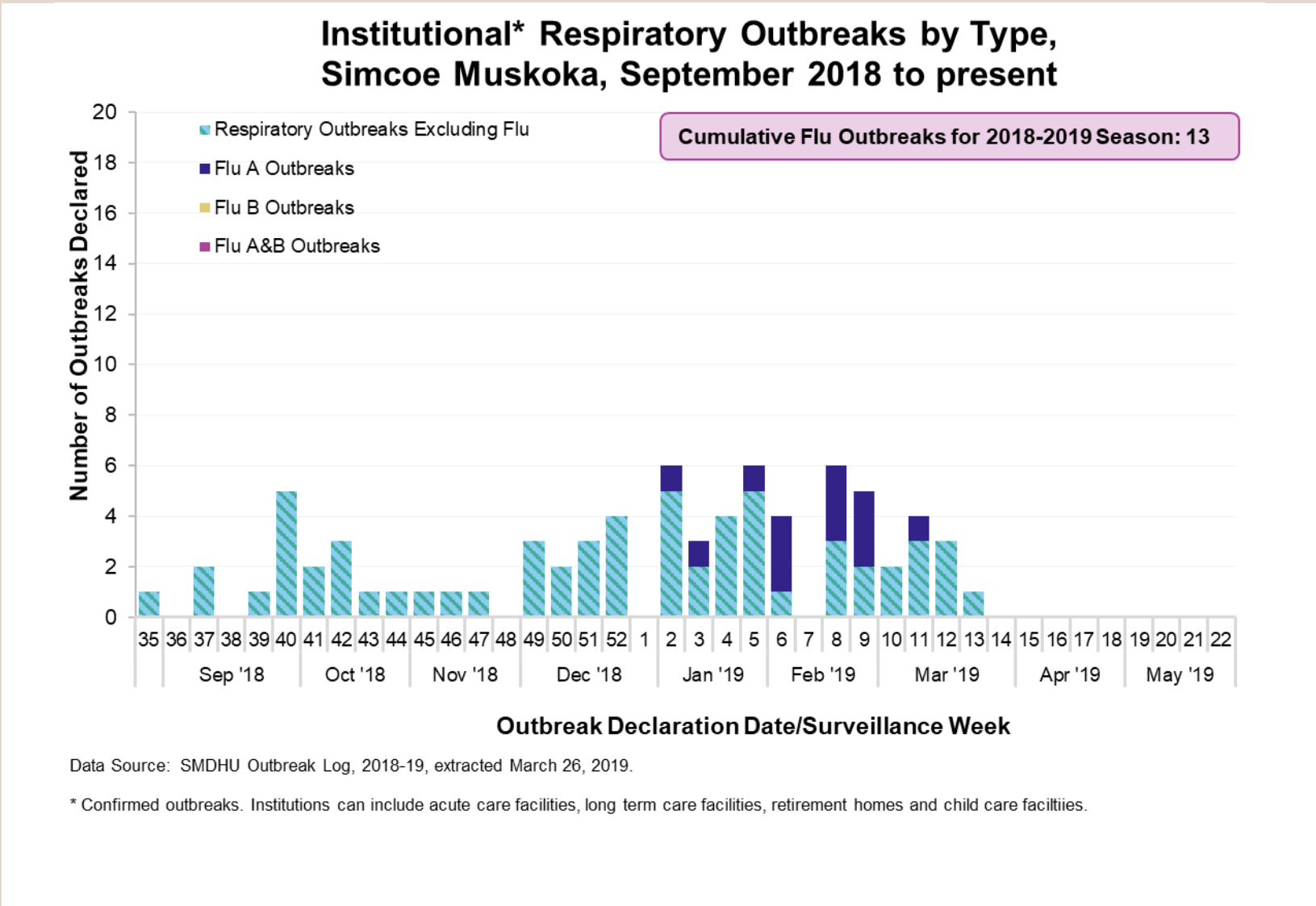


## Institutional Respiratory Outbreaks

There have been 13 *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2018.

- All are influenza A outbreaks.

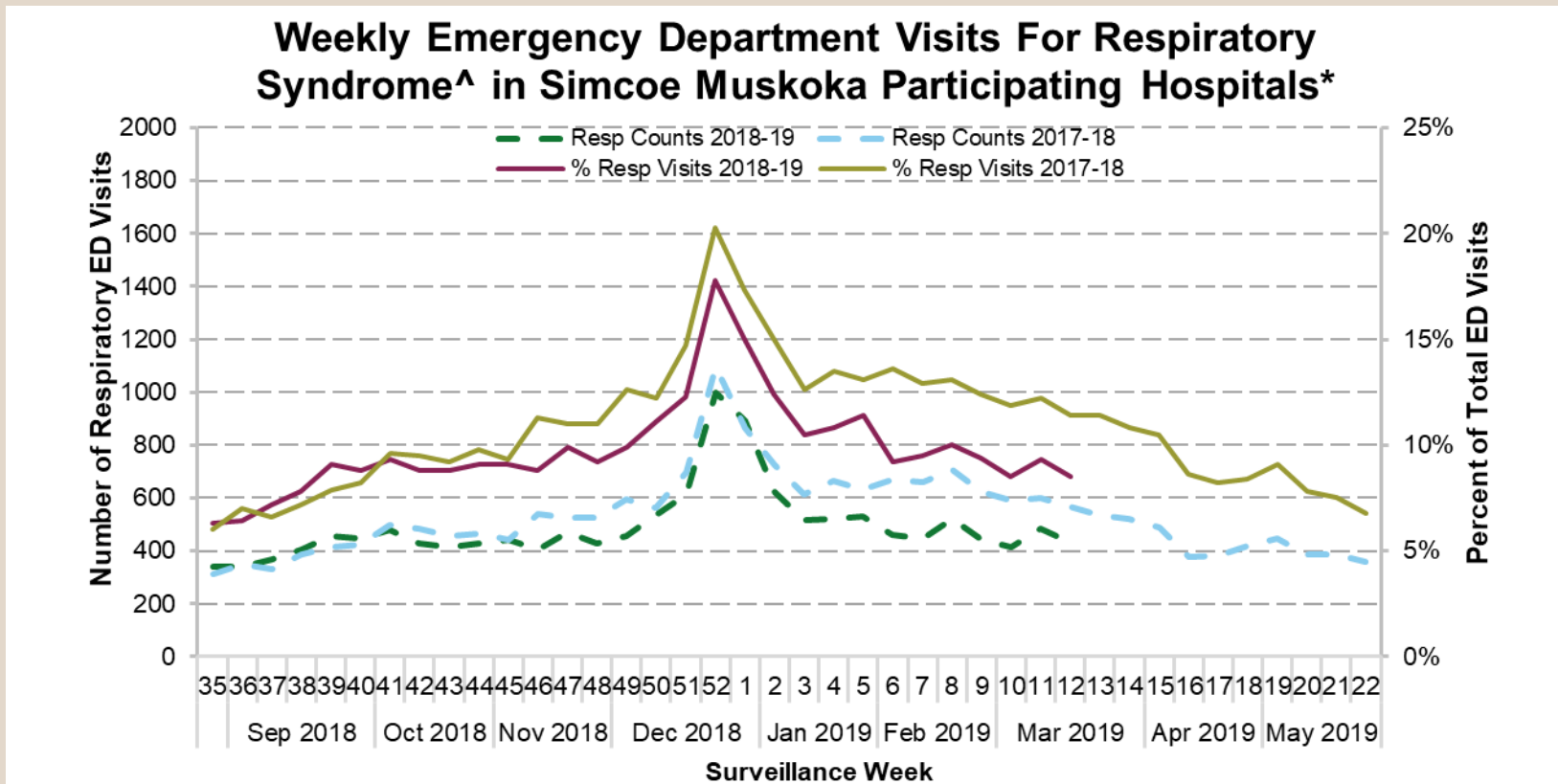
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2018-19



### Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 8.5% of visits in week 12. This is similar when compared to week 11, 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 25, 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 <sup>†</sup> |
|--|--|--------|-------------------------------------|
|  | Ontario  | Canada |                                     |
| <b>Influenza A Vaccine Strains</b>                                 |  |        |                                     |
| <b>Influenza A (H3N2)<br/>A/Singapore/INFIMH-16-0019/2016-like</b> | 76   | 101    | 7%                                  |
| <b>Influenza A (H1N1)<br/>A/Michigan/45/2015-like</b>              | 586  | 1,375  | 93%                                 |
| <b>Influenza B Vaccine Strains</b>                                 |  |        |                                     |
| <b>B/Colorado/06/2017-like</b>                                     | 6  | 16     | 46%                                 |
| <b>B/Phuket/3073/2013-like virus</b><br>(Quad vaccine only)        | 15   | 19     | 54%                                 |

**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 11, extracted March 26, 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](#).

<sup>†</sup> 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 11, 82 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 11 Provincial Summary:** For the 2018-2019 surveillance season to week 11, 9,882 laboratory-confirmed influenza cases have been reported across Ontario, 435 (4.4%) of which were reported in week 11. Among cumulative cases, 98.2% (9709/9882) were influenza A. Of the 2,100 reported influenza A cases with subtype information available, 33.9% (712/2100) were H3 and 66.1% (1388/2100) were (H1N1)pdm09.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 11, extracted March 26, 2019)

### National

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

### International Resources

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