

# Weekly Influenza News

## Week 4: January 21 to January 27, 2018

### Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
<u>Reported cases</u>	Higher	77 local lab-confirmed case reported in <b>week 4</b> ; 60 cases reported in week 3
<u>Percent Positive of Flu Specimens<sup>†</sup></u>	Similar	<b>Simcoe Muskoka:</b> - flu A (14.1%); flu B (7.1%) <b>Ontario:</b> - flu A (17.5%); flu B (14.0%)
<u>Local Institutional Outbreaks</u>	Similar	Five institutional influenza outbreaks were declared in week 4. Twenty-eight influenza outbreaks reported for the season to date.
<u>Local Emergency Department respiratory visits: week 4</u>	Similar	Percentage of visits is similar compared to previous week and higher compared to same period in the 2016/17 season
<b>Week 4 Overall Assessment January 21 to January 27, 2018</b>	<b>Similar</b>	<b>Reported Activity Level: Widespread</b> 40 new cases of Flu A reported 37 new cases of Flu B reported
<u>Predominant Influenza Strains:</u> Influenza A (H3), Influenza B\Phuket (Yamagata lineage)		

**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 3

## Reported Local Influenza Cases

In Simcoe Muskoka, there have been **405 lab-confirmed influenza cases reported** as of 30 January 2018; 77 (19.0%) of which were reported in week 4 – this was higher when compared to week 3.

Of the 288 reported influenza A cases, only 76 have been subtyped:

- 71/76 (93%) are influenza A, H3 strain
- 5/76 (7%) are influenza A, H1N1 pdm09

🔗 Figure 2 and Figure 3 below provide historic comparisons

*Table 1: Summary of influenza cases for 2017/18 season*

Lab-confirmed Influenza Cases	Week 4		Season-to-Date	
	N	%	N	%
<b>Influenza A</b>	40	52%	288	71%
<b>Influenza B</b>	37	48%	117	29%
<b>Influenza A &amp; B</b>	0	0%	0	0%
<b>Total</b>	<b>77</b>	<b>100%</b>	<b>405</b>	<b>100%</b>

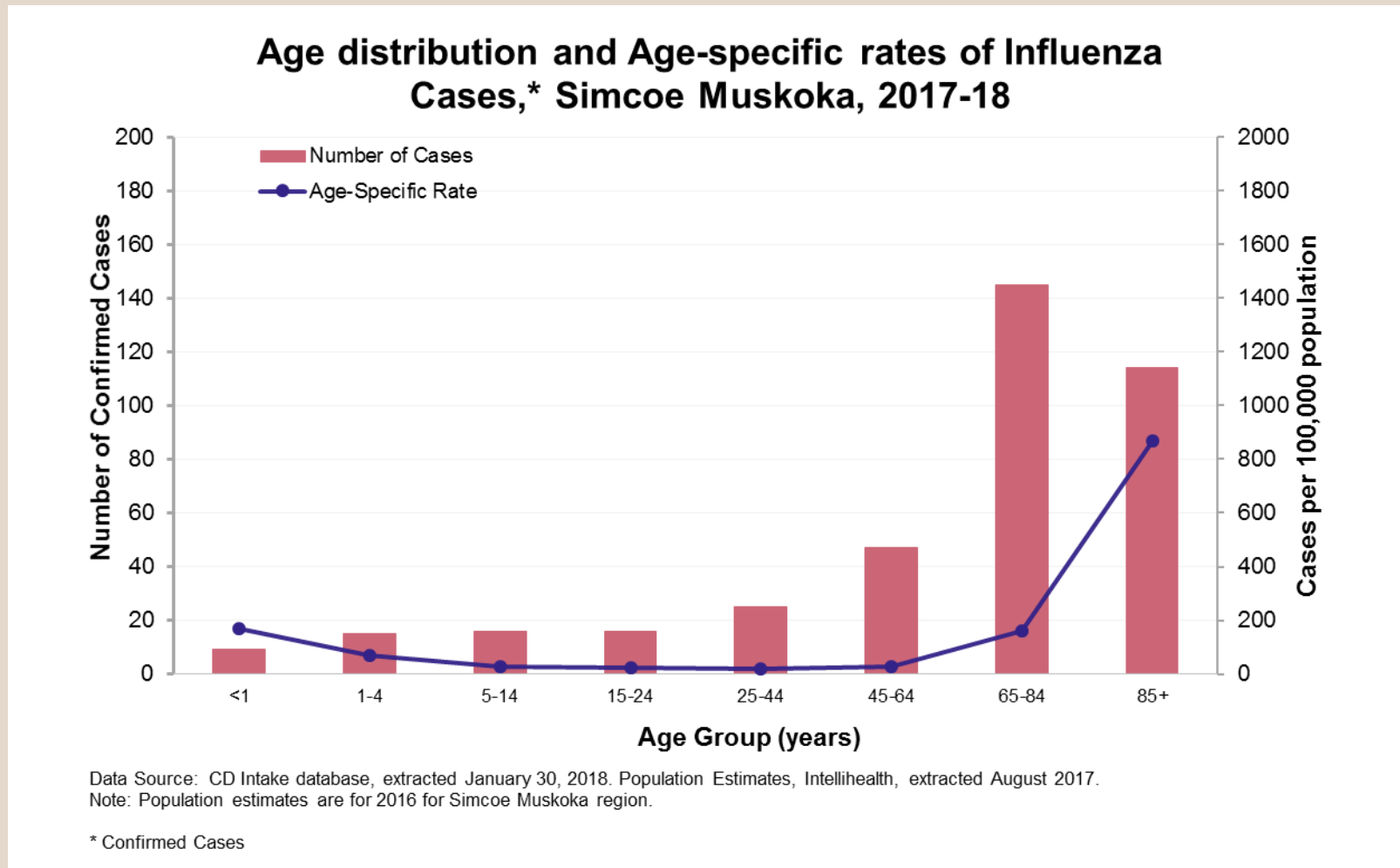
Notes:  
Data source: Communicable Disease Intake Database, extracted on January 30, 2018.

## Age Distribution

For the season-to-date, roughly two-thirds (66.8%) of cases have been reported in individuals aged 65 and older. The corresponding age-specific rates are 161.3 cases per 100,000 population (65-84 years) and 869.3 cases per 100,000 population (85+ years), respectively. While less than 5% of cases were reported in the <1 years of age group, the age-specific rates is 168.6 cases per 100,000 population.

Median age of reported flu cases: **74 years**

Figure 1: Number and Age-specific Rate of Influenza Cases by Age Group, Simcoe Muskoka, September 2017 to present



## Historical Comparison

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

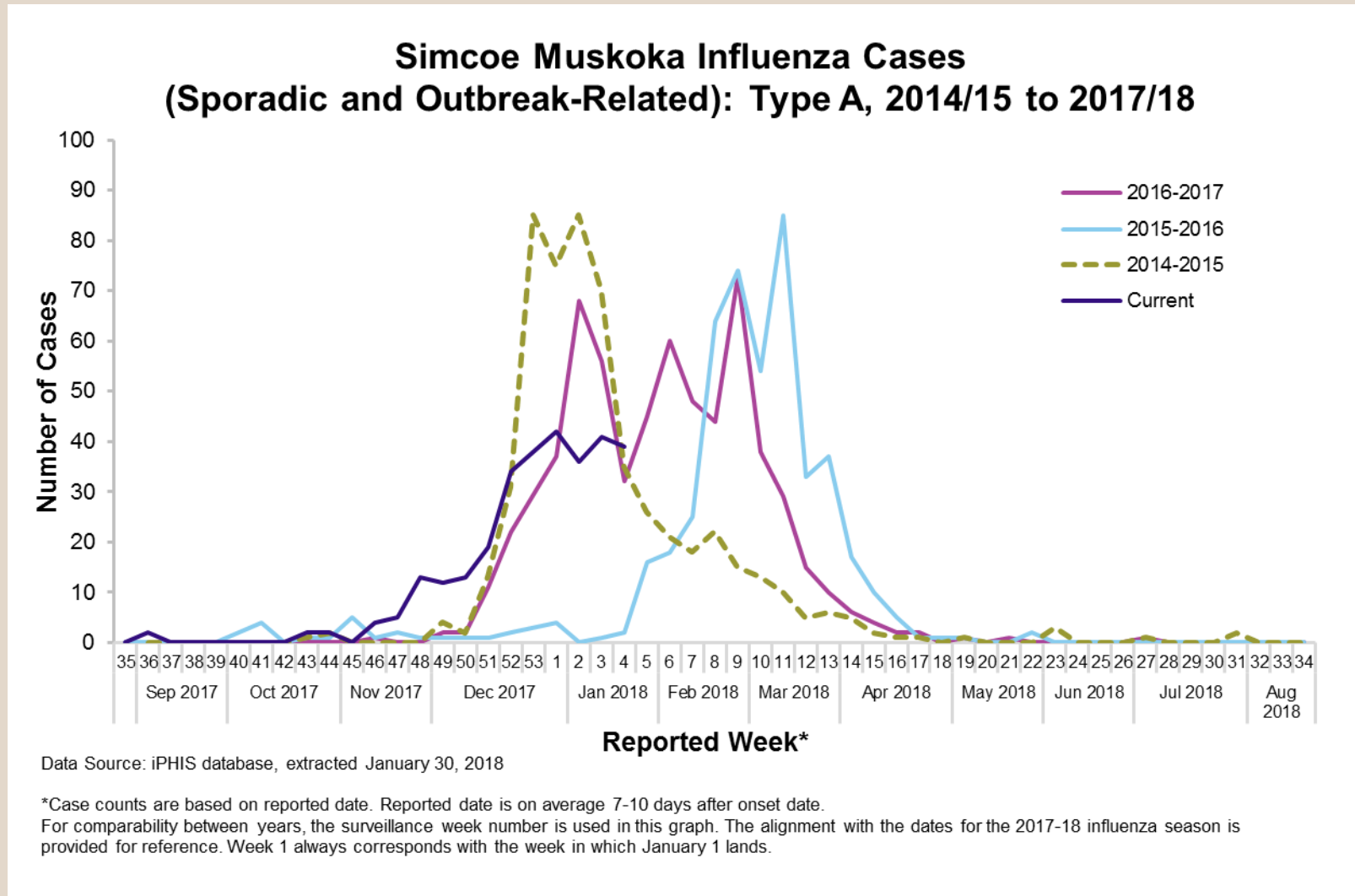
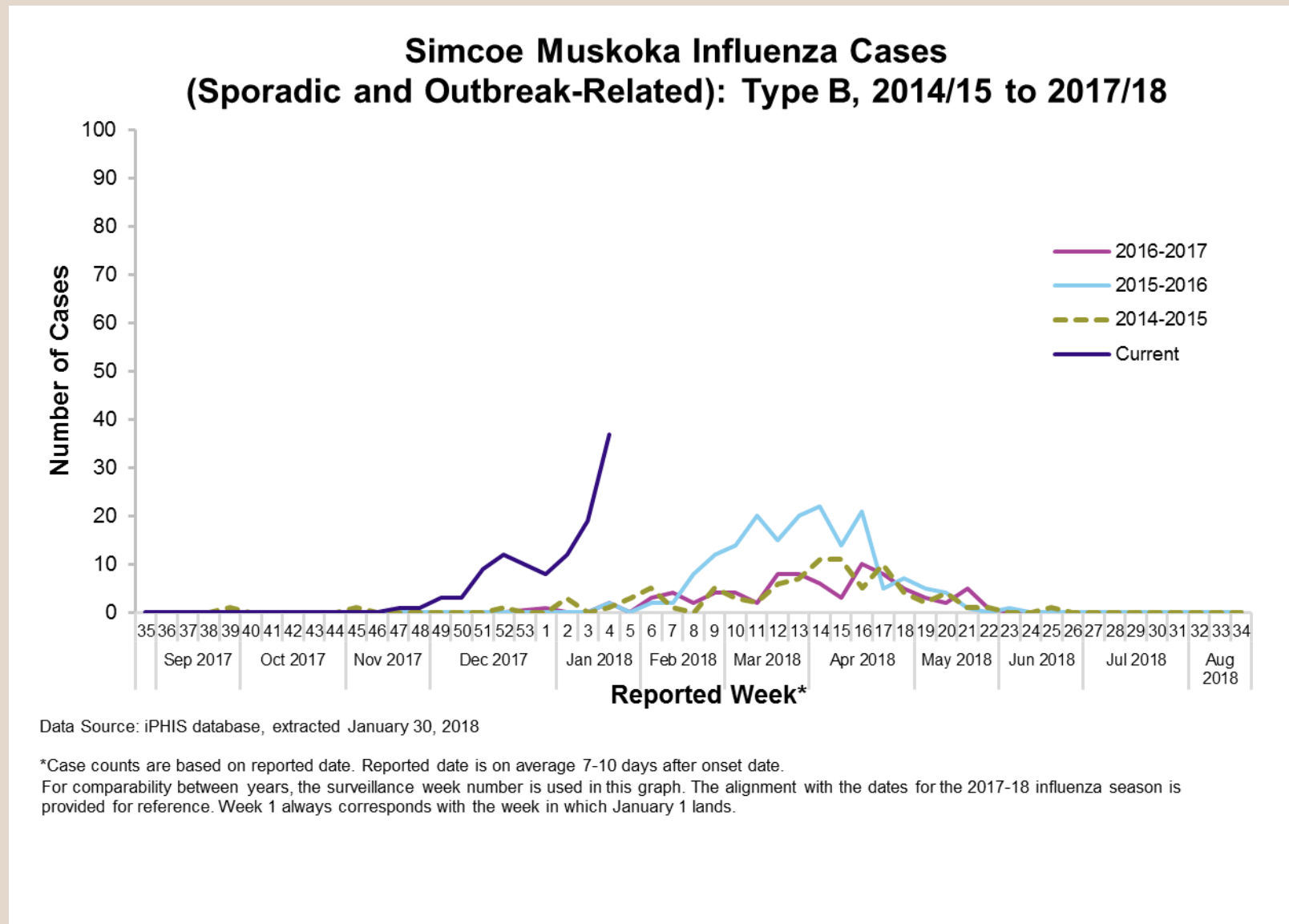


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



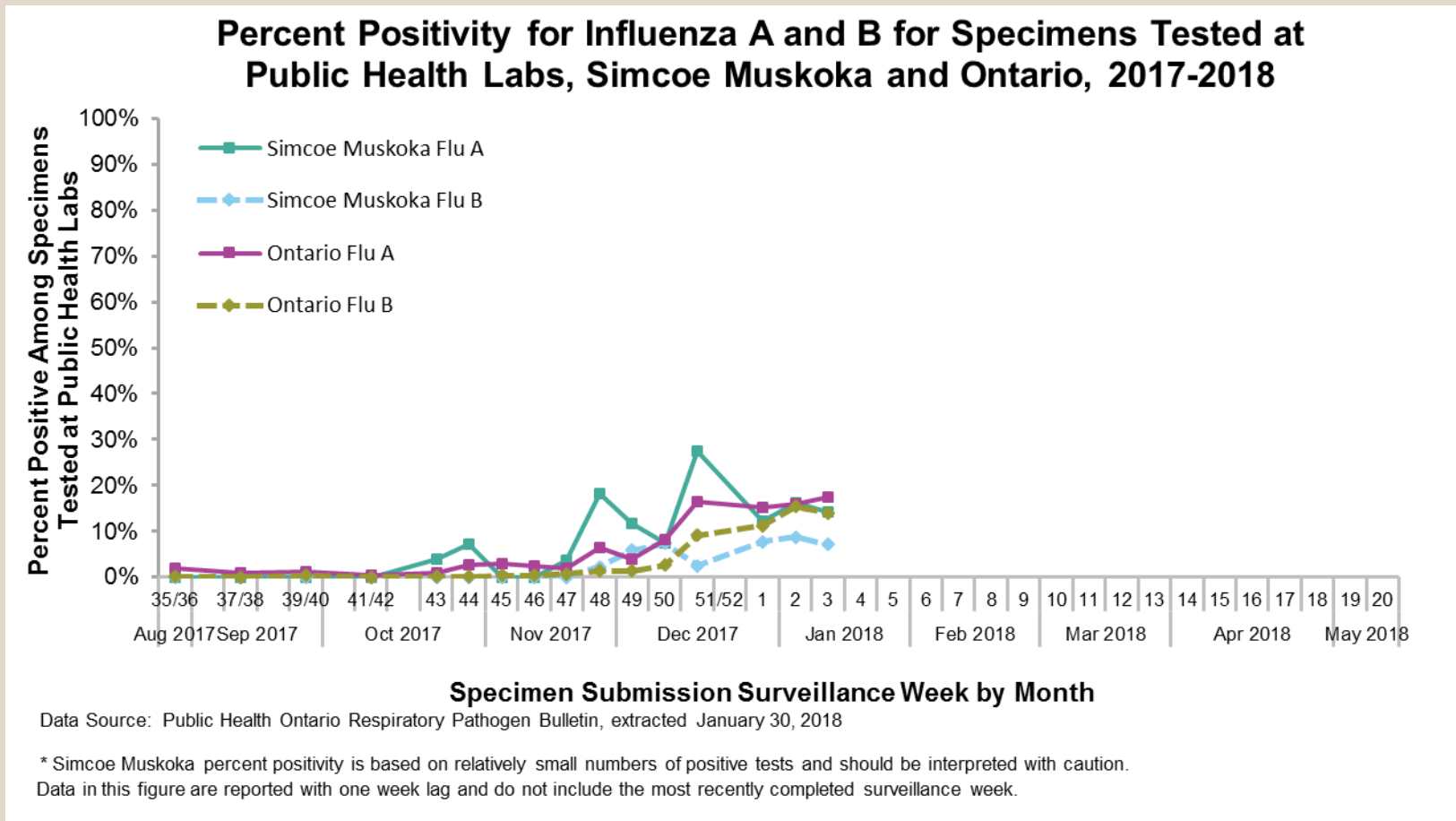
## Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 4.

The percentage of flu specimens that are positive (percent positivity) for Influenza A and Influenza B is increasing for the season. The provincial percent positivity for influenza A in week 3 was reported at 17.5%, which is similar compared to week 2. Influenza B percent positivity was reported at 14.0% for week 3.

Locally for week 3, percent positivity for influenza A was reported at 14.1%, while influenza B was 7.1%.

Figure 4: Percent Positivity, Influenza A & B, Simcoe Muskoka & Ontario, 2017/18

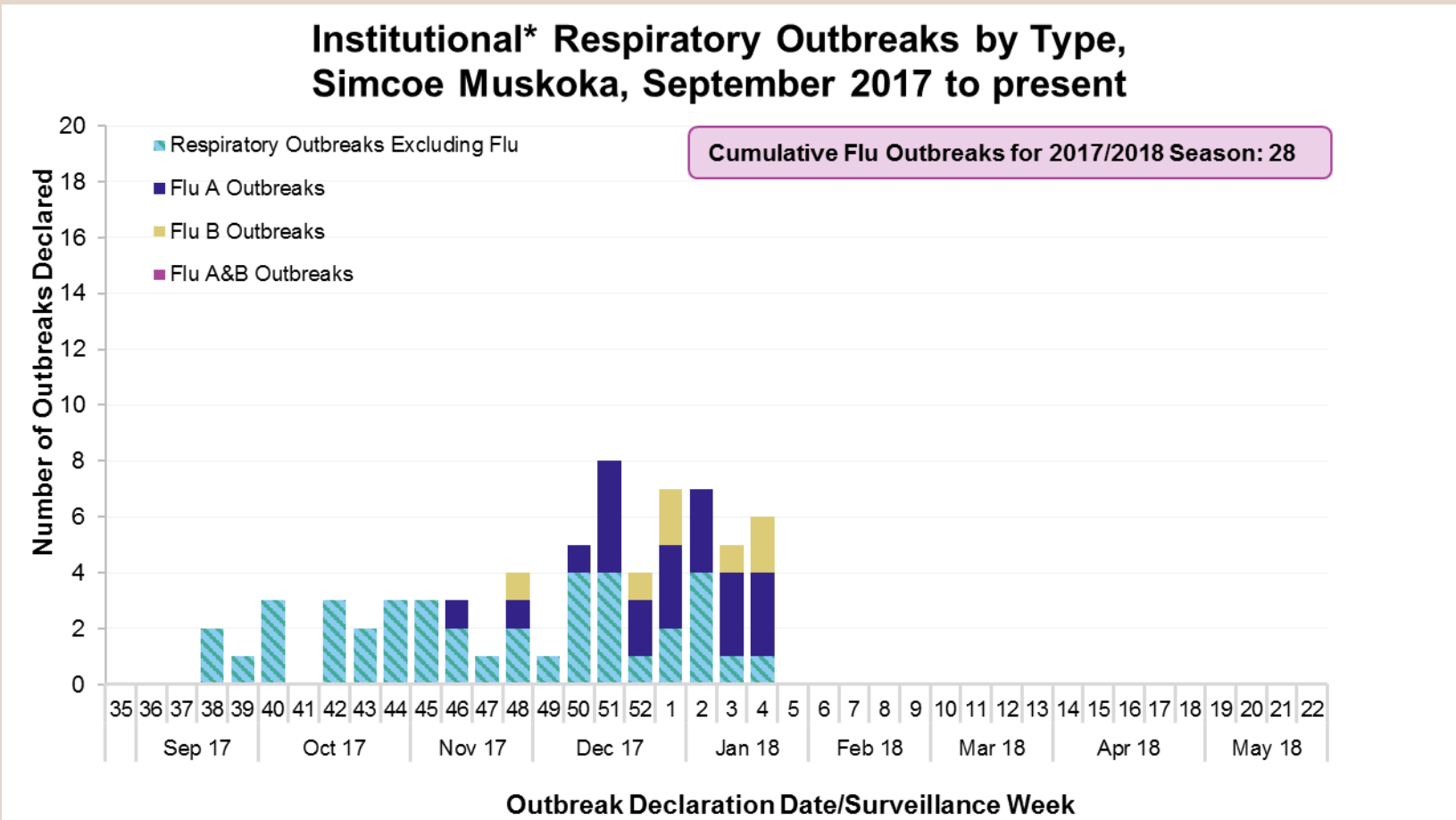


## Institutional Respiratory Outbreaks

There have been 28 *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2017:

- Influenza A: 21 outbreaks
- Influenza B: seven outbreaks

Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2017/18



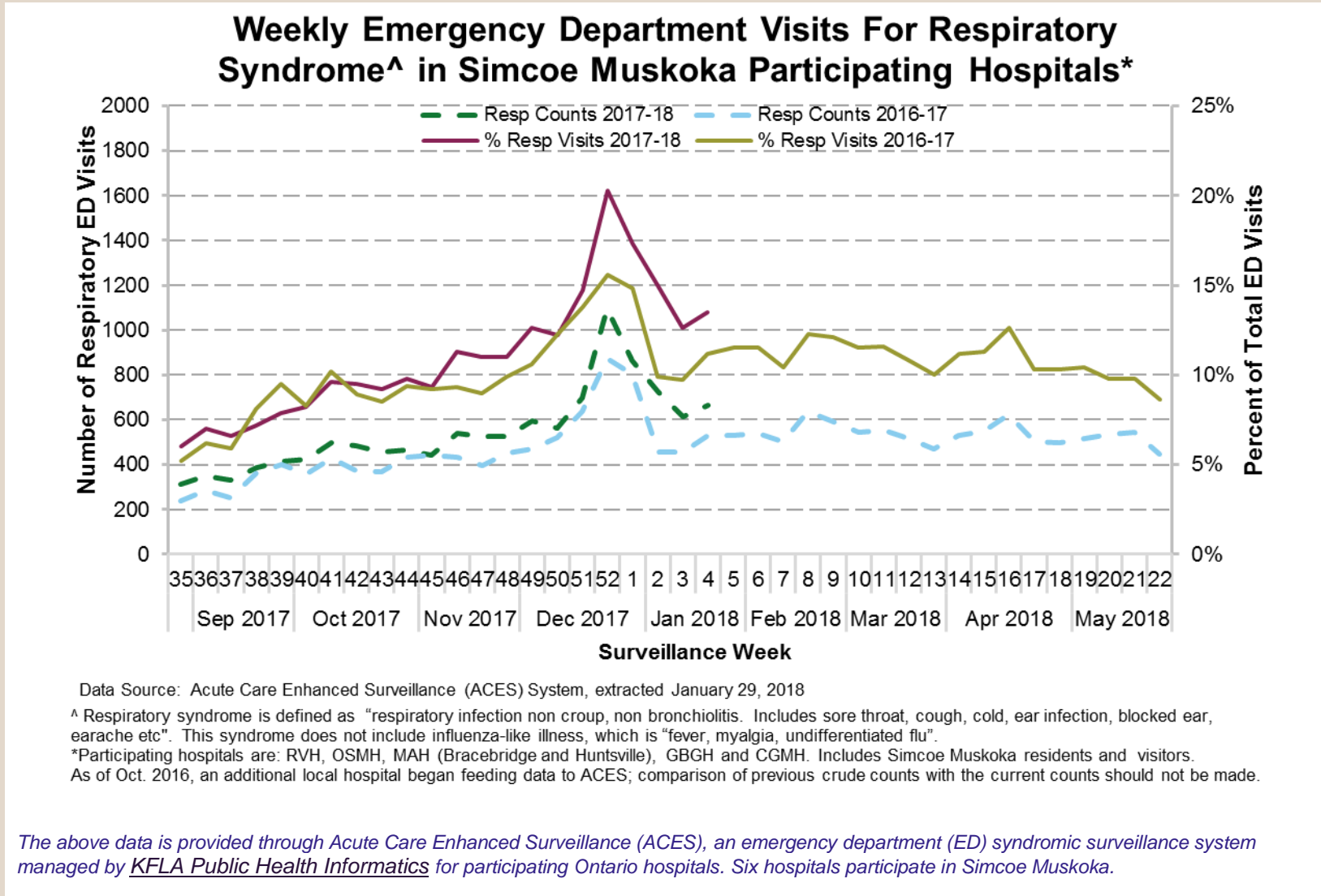
Data Source: SMDHU Outbreak Log, 2017-18, extracted January 30, 2018.

\* Confirmed outbreaks. Institutions can include acute care facilities, long term care facilities, retirement homes and child care facilities.

### Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 13.5% of visits in week 4. This is similar compared to week 3, and higher compared to the same point in the 2016/17 season.

Figure 6: Emergency Department Visits for Respiratory Syndrome at Participating Simcoe Muskoka Hospital, 2016/17, 2017/18 Seasons





## Vaccine Match and Influenza Strains

The trivalent 2017-2018 influenza vaccine contains the following strains:

- A/Michigan/45/2015 (H1N1)pdm09-like virus;
- A/Hong Kong/4801/2014 (H3N2)-like virus; and
- B/Brisbane/60/2008-like virus.

*Table 2: Local, Provincial and National Matched and Mismatched Flu Specimens and National Match Percent, 2017-18*

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) A/Hong Kong/4801/2014-like</b>	39	84	67%
<b>Influenza A (H1N1) A/Michigan/45/2015-like</b>	26	42	33%
<b>Influenza B Vaccine Strains</b>			
<b>B/Brisbane/60/2008-like</b>	3	11	5%
<b>B/Phuket/3073/13-like</b> (Quad vaccine only)	71	212	95%

**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 50, extracted January 30, 2018.

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. As of week 3, an additional 234 specimens did not grow to sufficient hemagglutination titers for antigenic characterization, but were found to be of the same genetic group as A/Hong Kong/4801/2014-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 detailed information on every fifth case of influenza reported to SMDHU, the health unit investigates all hospitalized influenza cases in order to ensure accurate adverse outcomes and subtyping data is available.

#### 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 3 Provincial Summary:** For the 2017-2018 surveillance season to week 3, 4850 laboratory-confirmed influenza cases have been reported across Ontario, 1281 (26.4%) of which were reported in week 3. Among cumulative cases, 58.8% (2853/4850) were influenza A. Of the 820 reported influenza A cases with subtype information available, 95.0% (779/820) were H3N2 and 5.0% (41/820) were (H1N1)pdm09.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 3, extracted January 30, 2018)

### National

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

### International Resources

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