

# Weekly Influenza News

## Week 52: December 25 to December 31, 2016

### Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
<u>Reported cases</u>	Higher	23 local lab-confirmed case reported in <b>week 52</b> ; 7 cases reported in week 51
<u>Percent Positive of Flu Specimens<sup>†</sup></u>	Higher <sup>†</sup>	<b>Simcoe Muskoka:</b> - flu A (1.1%); flu B (0%) <b>Ontario:</b> - flu A increased to 9.1%; flu B (0.1%)
<u>Local Institutional Outbreaks</u>	Higher	Three institutional influenza outbreaks declared in week 52
<u>Influenza Strains</u>	Similar	<b>Predominant strains:</b> Influenza A (H3N2) (88%)
<u>Local Emergency Department respiratory visits: week 52</u>	Higher	Percentage of visits increased from previous week; increase appears similar to historical seasonal increase for previous H3N2 dominant season
<b>Week 52 Overall Assessment December 25 to December 31, 2016</b>	<b>Higher</b>	<b>Reported Activity Level: Localized</b> 23 new cases of Flu A in SMDHU. No Flu B activity in SMDHU.

**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 50; assessment of indicator based primarily on provincial percent positivity due to low local counts

## Reported Local Influenza Cases

In Simcoe Muskoka, there have been 35 **lab-confirmed influenza cases reported** as of 3 January 2017; 23 (65.7%) of which were reported in week 52 – this was higher when compared to week 51.

Of the 11 reported influenza A cases with subtype information available:

- 11 (100%) of the cases were influenza A, subtype H3.

🔗 Figure 1 and Figure 2 below provide historic comparisons

*Table 1: Summary of influenza cases for 2016/17 season*

Lab-confirmed Influenza Cases	Week 52		Season-to-Date	
	N	%	N	%
<b>Influenza A</b>	23	100%	35	100%
<b>Influenza B</b>	0	0%	0	0%
<b>Influenza A &amp; B</b>	0	0%	0	0%
<b>Total</b>	<b>23</b>	<b>100%</b>	<b>35</b>	<b>100%</b>
Notes: Data source: Communicable Disease Intake Database, extracted on January 3, 2017				

## Historical Comparison

Figure 1: Reported Influenza Cases, Type A, Current Influenza Season with Historical Comparison, Simcoe Muskoka

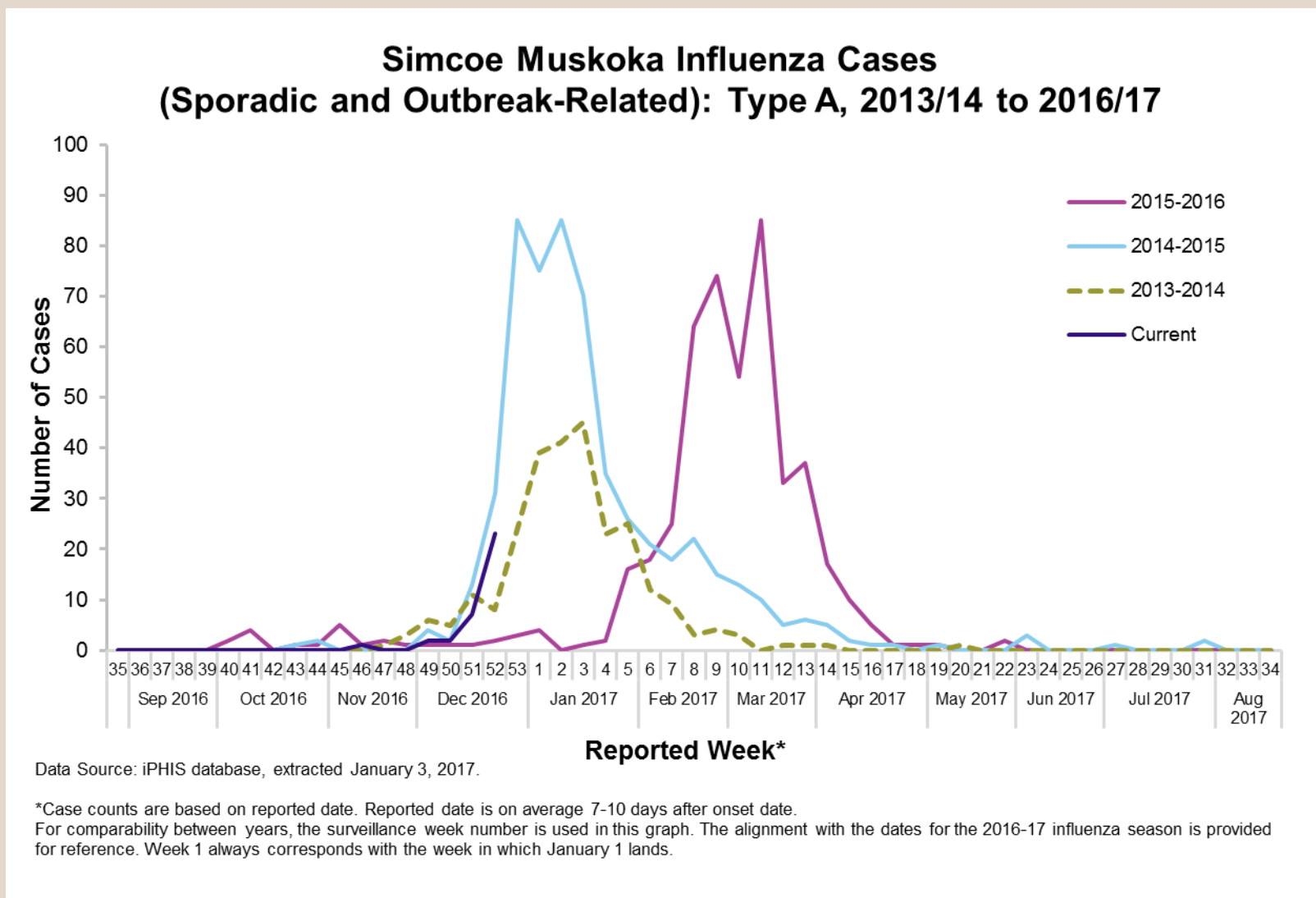
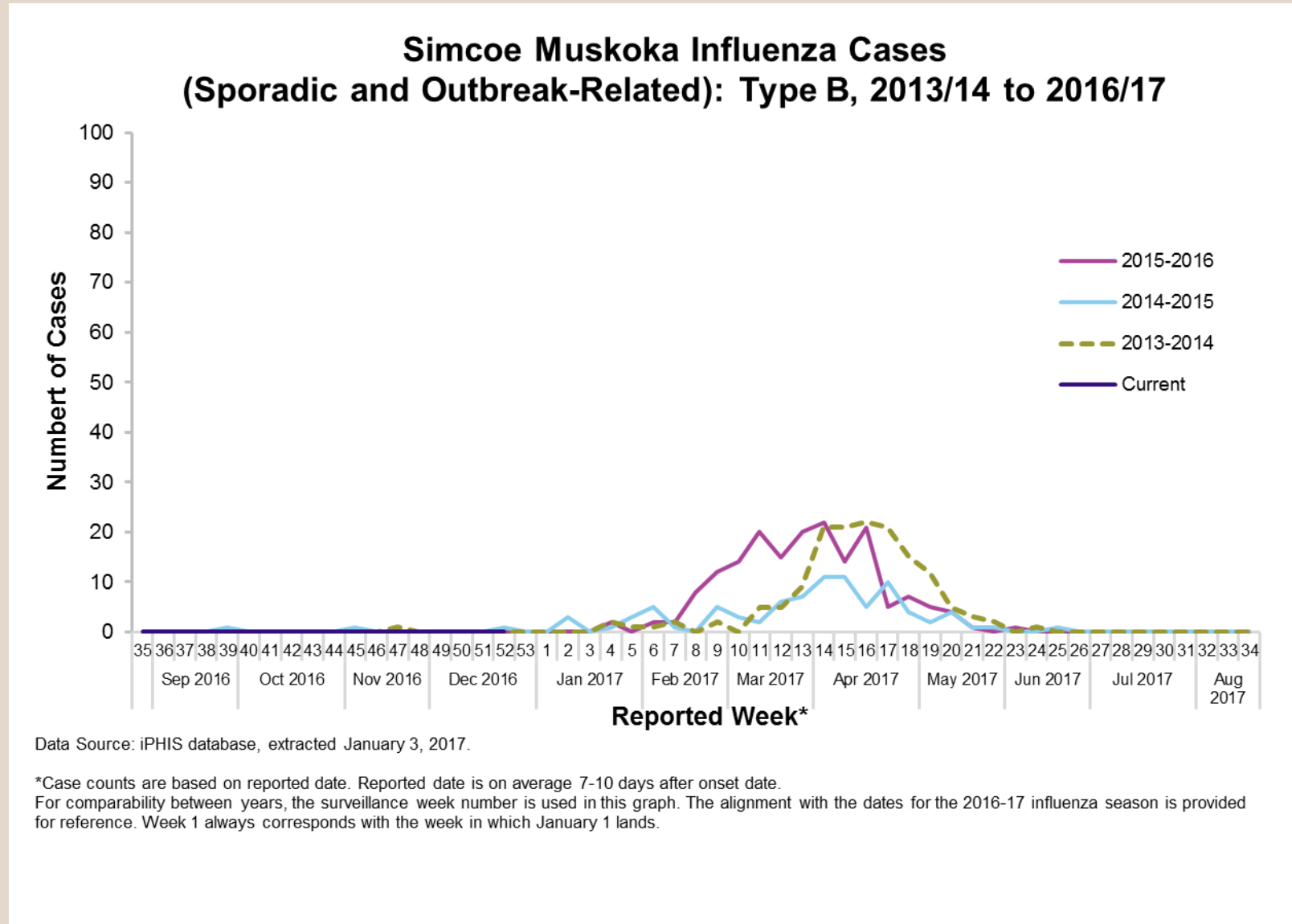


Figure 2: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



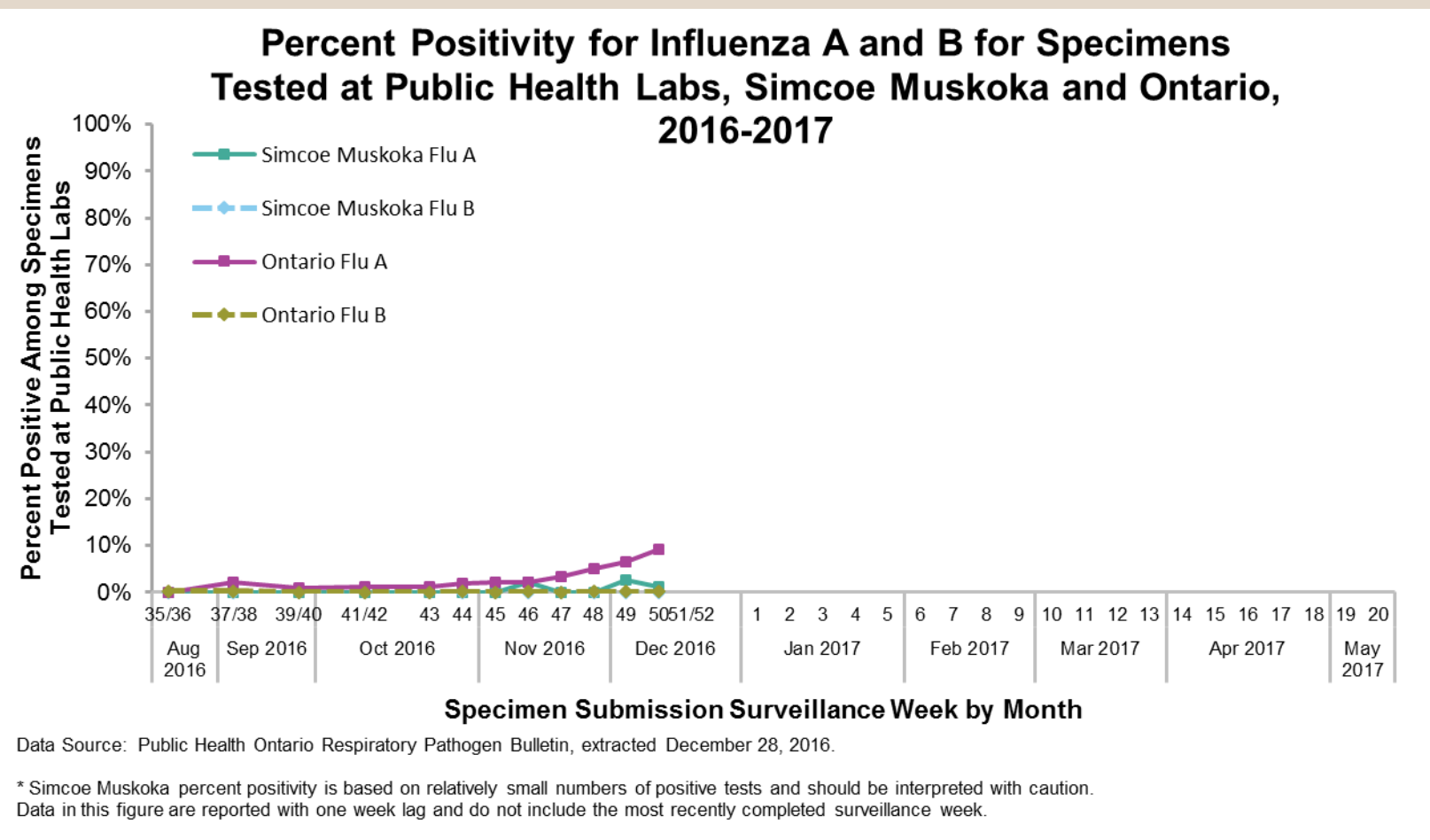
## Percent positivity

Note: The Ontario Respiratory Pathogen Bulletin was not published during the last week of 2016. Consequently, the percent positivity reported below is current to week 50. It does not include week 51 or 52.

The percentage of flu specimens that are positive (percent positivity) for Influenza A has increased steadily over recent weeks. The provincial percent positivity for influenza A in week 50 increased to 9.1% from 6.5% in the previous week. Influenza B percent positivity remained at 0.1%.

For week 50, local percent positivity for influenza A was 1.1%; influenza B remained at 0.0%.

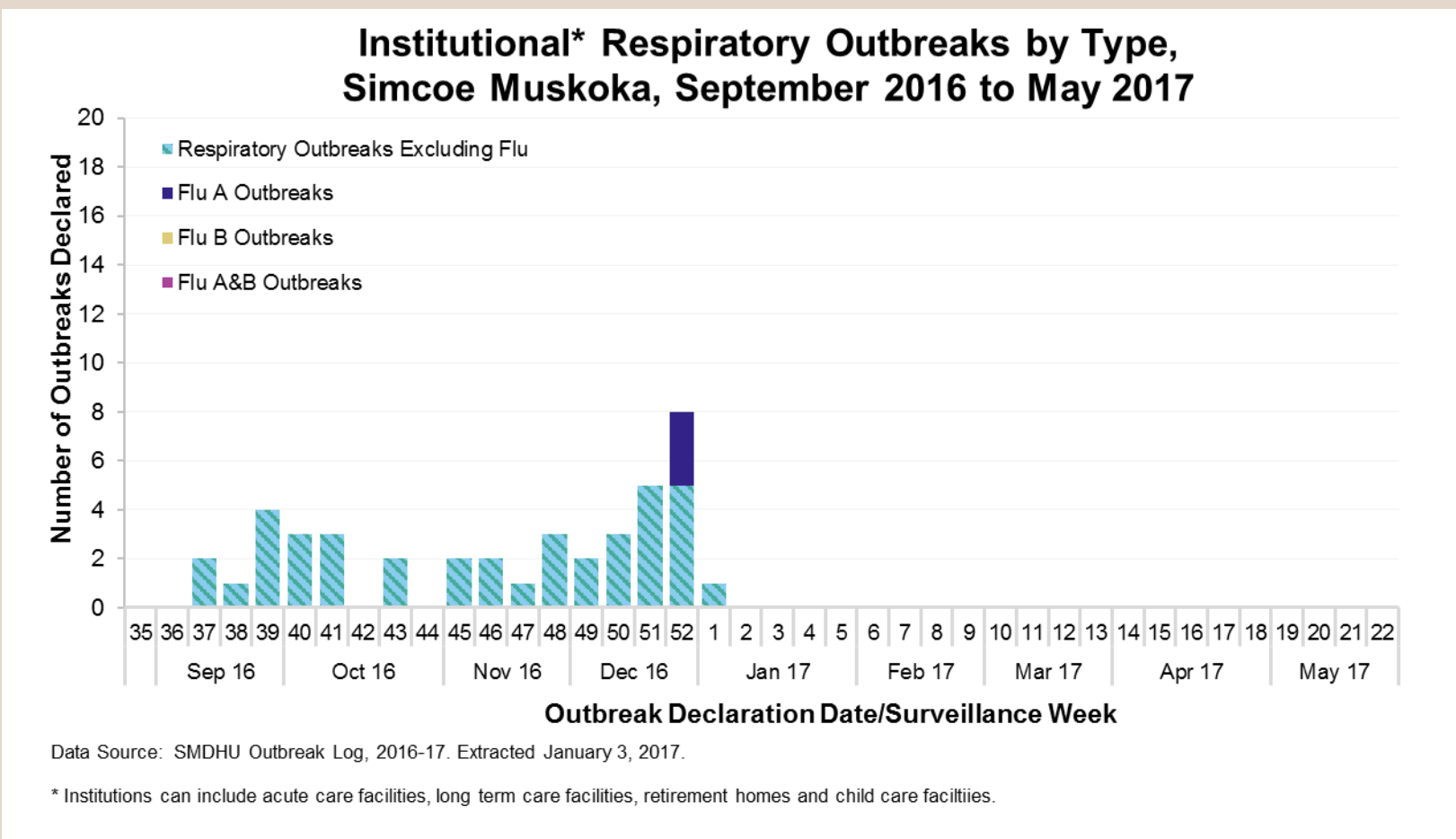
Figure 3: Percent Positivity, Influenza A & B, Simcoe Muskoka & Ontario, 2016/17



## Institutional Respiratory Outbreaks

There have been three *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2016. The causative agent for all three outbreaks is influenza A.

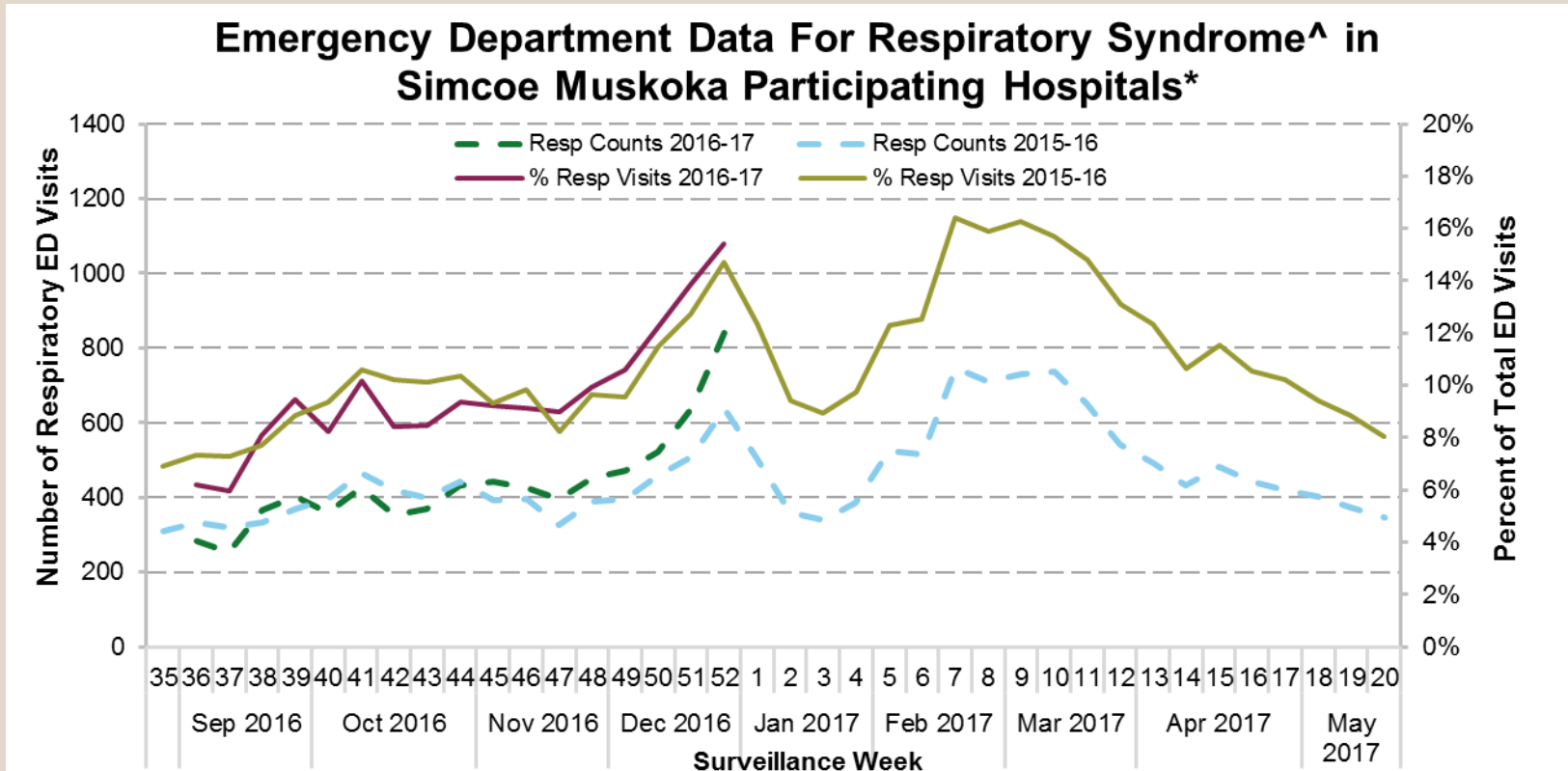
Figure 4: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



### Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 15.4% of visits in week 52. This is higher than week 51, and higher compared to the same time period in the 2015-16 season. The increase in recent weeks follows the seasonal increase observed in previous years.

Figure 5: Emergency Department Visits for Respiratory Syndrome at Participating Simcoe Muskoka Hospital, 2015/16, 2016/17 Seasons



Data Source: Acute Care Enhanced Surveillance (ACES) System, extracted January 3, 2017.  
 ^ 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. As of Oct. 2016, an additional local hospital began feeding data to ACES; comparison of previous crude counts with the current counts should not be made.

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. Five hospitals participate in Simcoe Muskoka.

## Vaccine Match and Influenza Strains

The trivalent 2016-2017 influenza vaccine contains the following strains:

- A/California/7/2009 (H1N1)pdm09-like virus;
- A/Hong Kong/4801/2014 (H3N2)-like virus;
- B/Brisbane/60/2008-like virus.

*Table 2: Local, Provincial and National Matched Flu Specimens and National Match Percent, 2016-17*

Influenza Strains	Simcoe Muskoka*	Ontario	Canada	National Match Percent †
<b>Influenza A Vaccine Strains</b>				
<b>Influenza A (H3N2) A/Hong Kong/4801/2014-like</b>	0	31	51	88%
<b>Influenza A (H1N1) A/California/07/09-like</b>	0	3	7	12%
<b>Influenza B Vaccine Strains</b>				
<b>B/Brisbane/60/08-like</b>	0	0	8	53%
<b>B/Phuket/3073/13-like</b> (Quad vaccine only)	0	1	7	47%

**Data Source:** Ontario and Canada Counts: Public Health Ontario Respiratory Pathogen Report, Table 8: Strain characterization completed on influenza isolates at the National Microbiology Laboratory, Surveillance week 50; SMDHU Counts: CD Intake Database, extracted January 3, 2017.

\*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 52). 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. As of week 50, an additional 84 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 50 Provincial Summary:** *An update for week 51 is currently not available as the Ontario Respiratory Pathogen Bulletin was not published in the final week of 2016. The following summary is for week 50.* For the 2016-2017 surveillance season to week 50, 630 laboratory-confirmed influenza cases have been reported across Ontario, 193 (30.6%) of which were reported in week 50. Among cumulative cases, 95.7% (603/630) were influenza A. Of the 286 reported influenza A cases with subtype information available, 99.3% (284/286) were H3N2 and 0.7% (2/286) were (H1N1)pdm09. Influenza A activity in week 50 was moderate but lower than seen for previous H3N2 dominant seasons for this time of year.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 50, extracted December 28, 2016.)

### National

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

### International Resources

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