






# Weekly Influenza News

## Week 4: January 22 to January 28, 2017

### Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
 <u>Reported cases</u>	Lower	<b>34</b> local lab-confirmed case reported in <b>week 4</b> ; <b>56</b> cases reported in week 3
 <u>Percent Positive of Flu Specimens<sup>†</sup></u>	Slightly Lower <sup>†</sup>	<b>Simcoe Muskoka:</b> - flu A decreased to 14.2%; flu B (0.8%) <b>Ontario:</b> - flu A decreased to 21.8%; flu B (0.2%)
 <u>Local Institutional Outbreaks</u>	Similar	No institutional influenza outbreaks were declared in week 4. Eleven influenza outbreaks reported for season to date.
 <u>Influenza Strains</u>	Similar	<b>Predominant strains:</b> Influenza A (H3N2) (93%)
 <u>Local Emergency Department respiratory visits: week 4</u>	Slightly Higher	Percentage of visits is higher compared to previous week; following seasonal trend observed in previous years.
<b>Week 4 Overall Assessment</b> January 22 to January 28, 2017	<b>Slightly Lower</b>	<b>Reported Activity Level: Localized</b>  32 new cases of Flu A in SMDHU. Two new cases of Flu B 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 3; assessment of indicator based primarily on provincial percent positivity due to low local counts

## Reported Local Influenza Cases

In Simcoe Muskoka, there have been 250 **lab-confirmed influenza cases reported** as of 31 January 2017; 34 (13.8%) of which were reported in week 4 – this is lower in comparison to week 3.

Of the 194 reported influenza A cases with subtype information available:

- 194 (100%) of the cases were influenza A, subtype H3.
  - o Two of these cases were further subtyped to H3N2

🔗 Figure 2 and Figure 3 below provide historic comparisons

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

Lab-confirmed Influenza Cases	Week 4		Season-to-Date	
	N	%	N	%
<b>Influenza A</b>	32	94%	247	99%
<b>Influenza B</b>	2	6%	3	1%
<b>Influenza A &amp; B</b>	0	0%	0	0%
<b>Total</b>	<b>34</b>	<b>100%</b>	<b>250</b>	<b>100%</b>

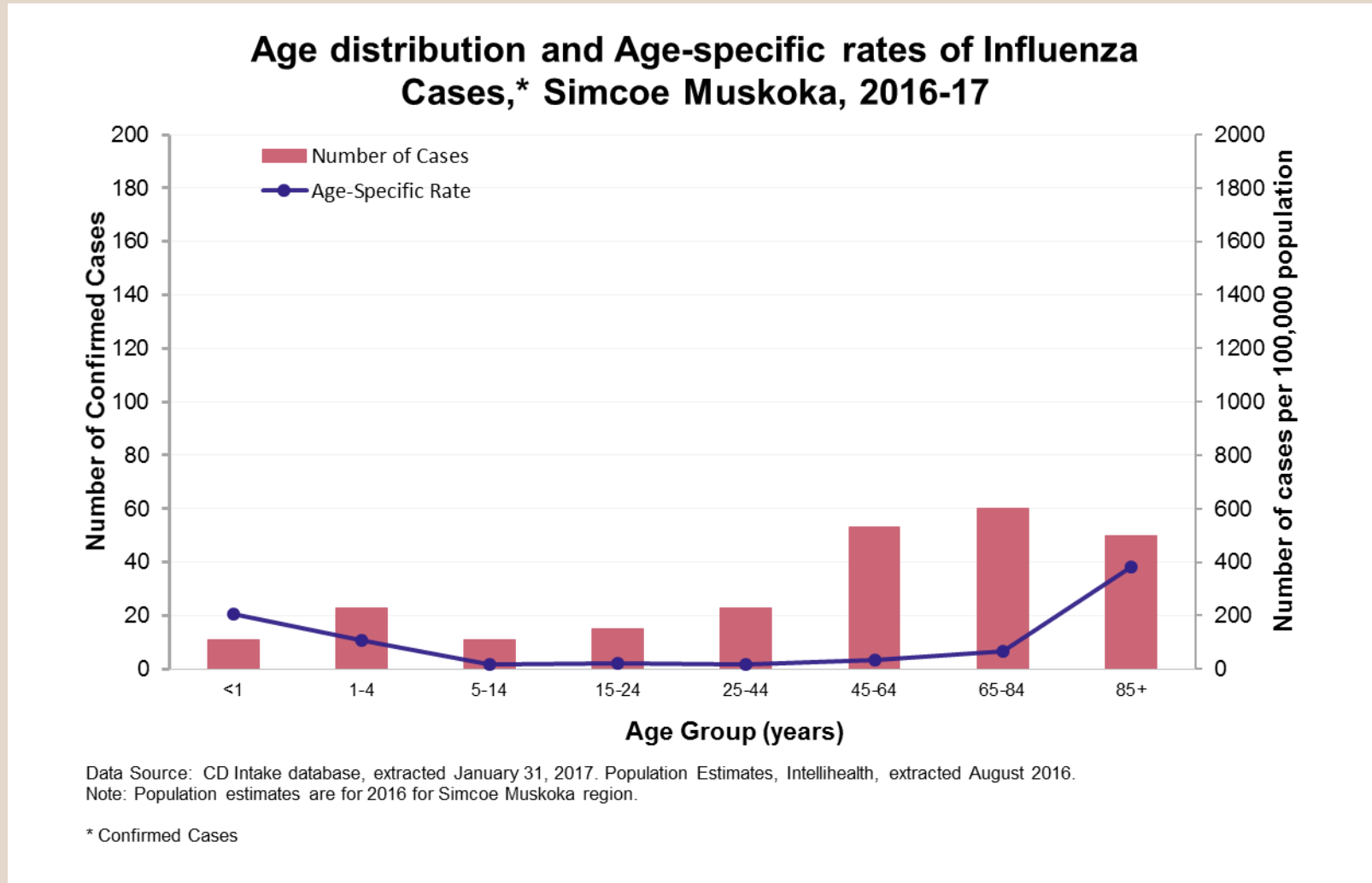
Notes:  
Data source: Communicable Disease Intake Database, extracted on January 31, 2017

## Age Distribution

For the season-to-date, nearly half (44.7%) of cases have been reported in individuals aged 65 and older. The corresponding age-specific rates are 66.8 cases per 100,000 population (65-84 years) and 381.3 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 206.0 cases per 100,000 population.

Mean age of reported flu cases: **53.1 years**

Figure 1: Number and Age-specific Rate of Influenza Cases by Age Group, Simcoe Muskoka, September 2016 to present



## Historical Comparison

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

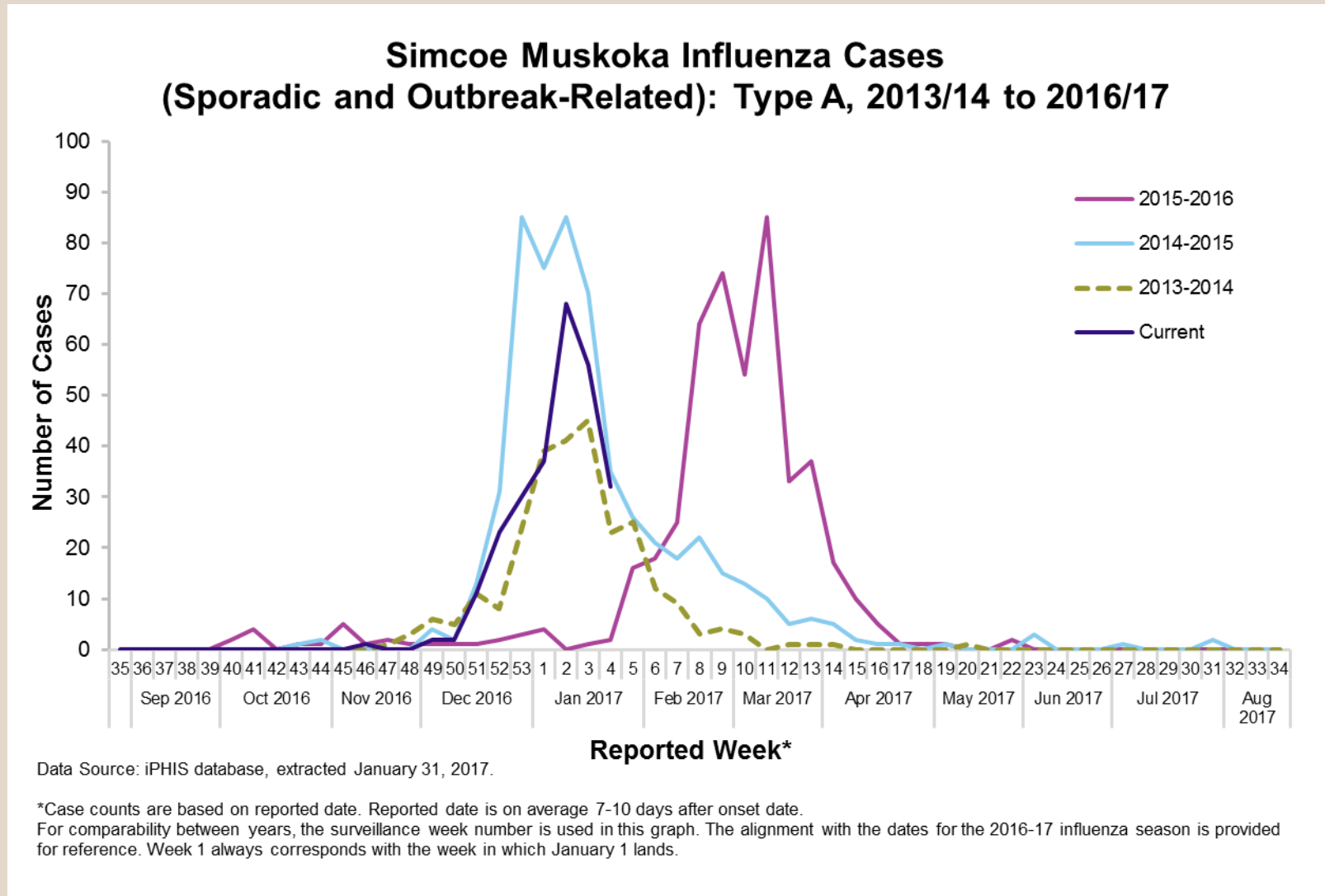
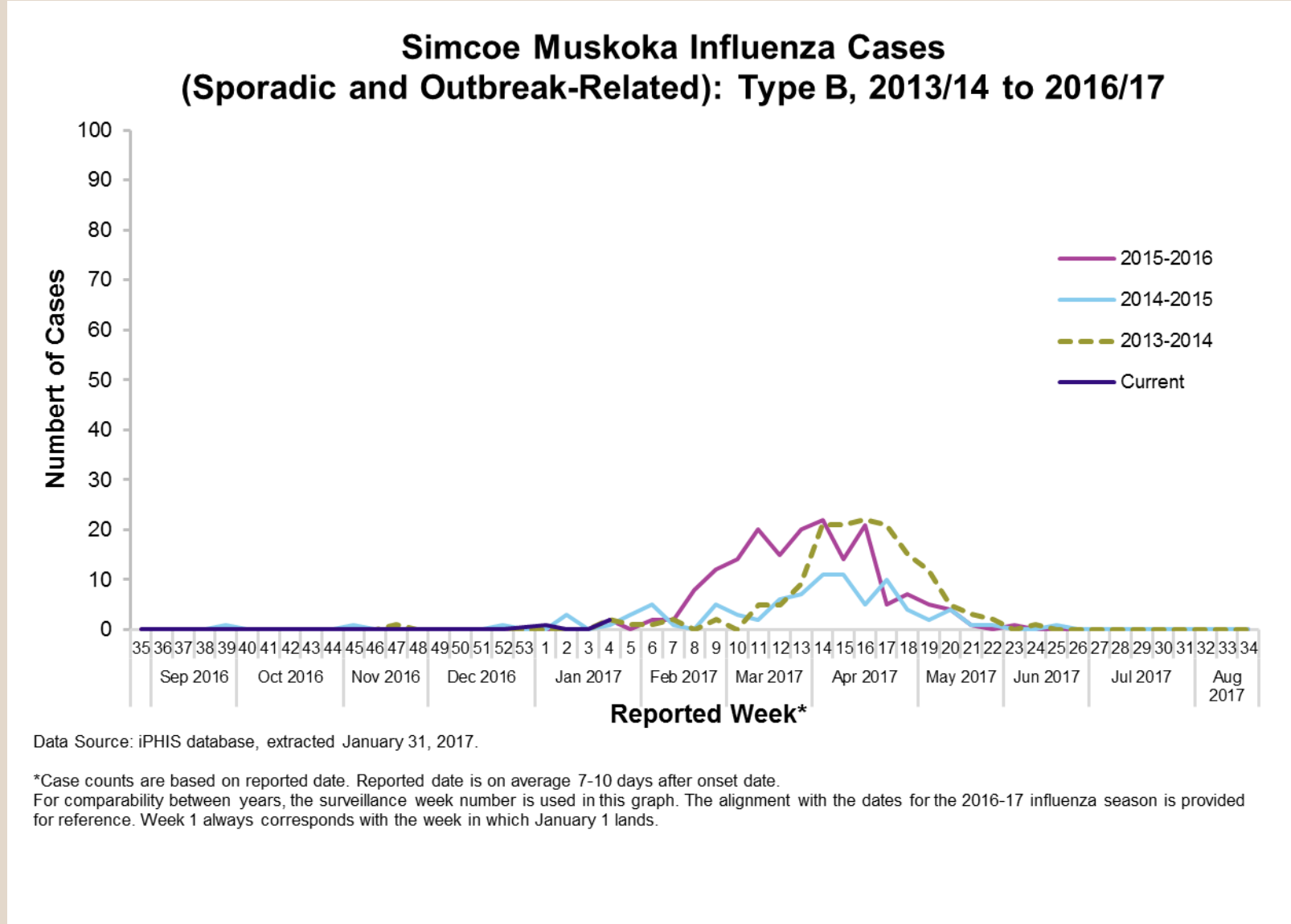


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



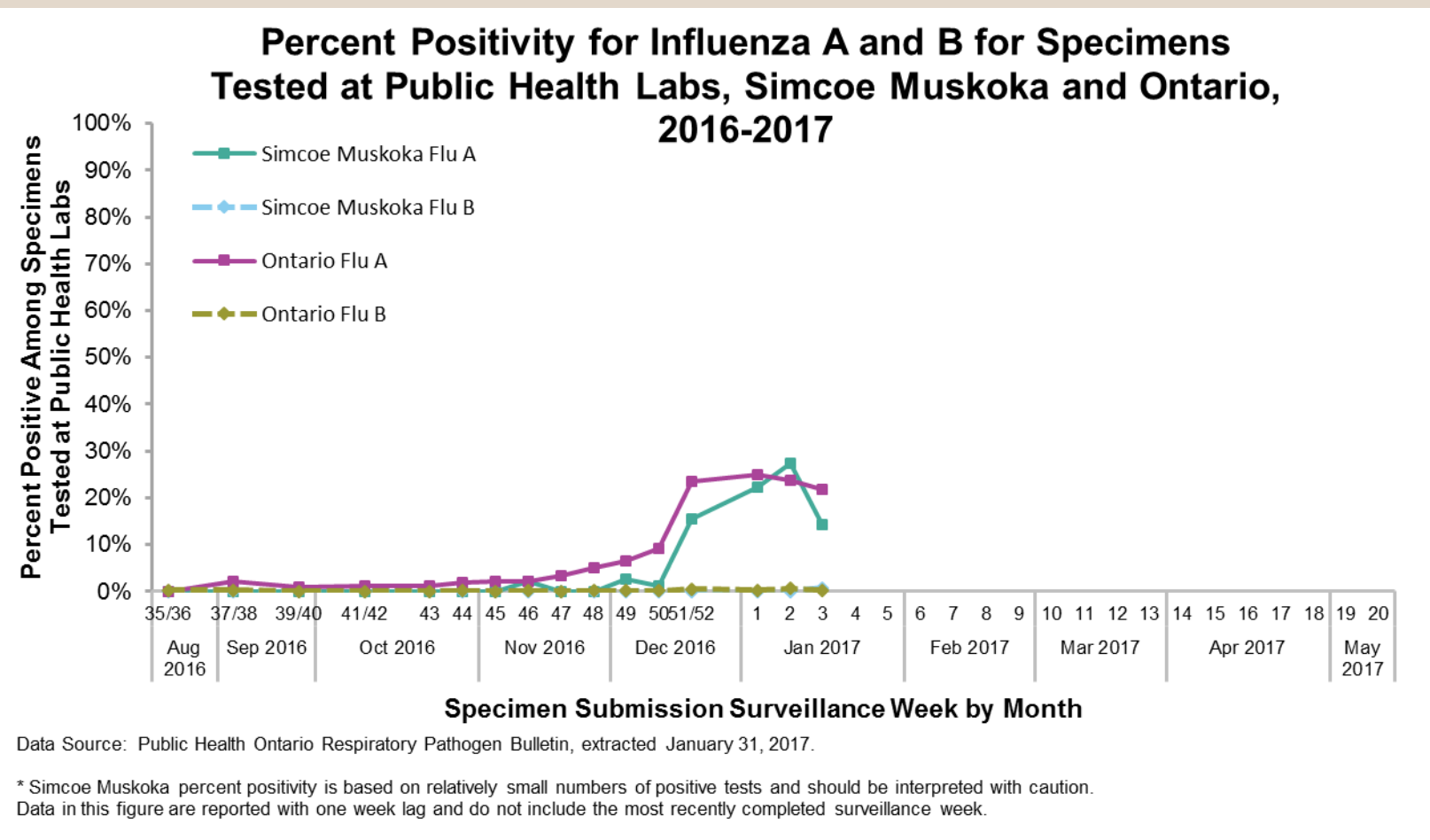
## Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 4. Percent positivity is reported for week 3.

The percentage of flu specimens that are positive (percent positivity) for Influenza A decreased slightly from the previous week. The provincial percent positivity for influenza A in week 3 decreased slightly to 21.8% from 23.7% in week 2. Influenza B percent positivity was similar to the previous week at 0.2%.

For week 3, local percent positivity for influenza A decreased to 14.2%, while influenza B increased slightly to 0.8%.

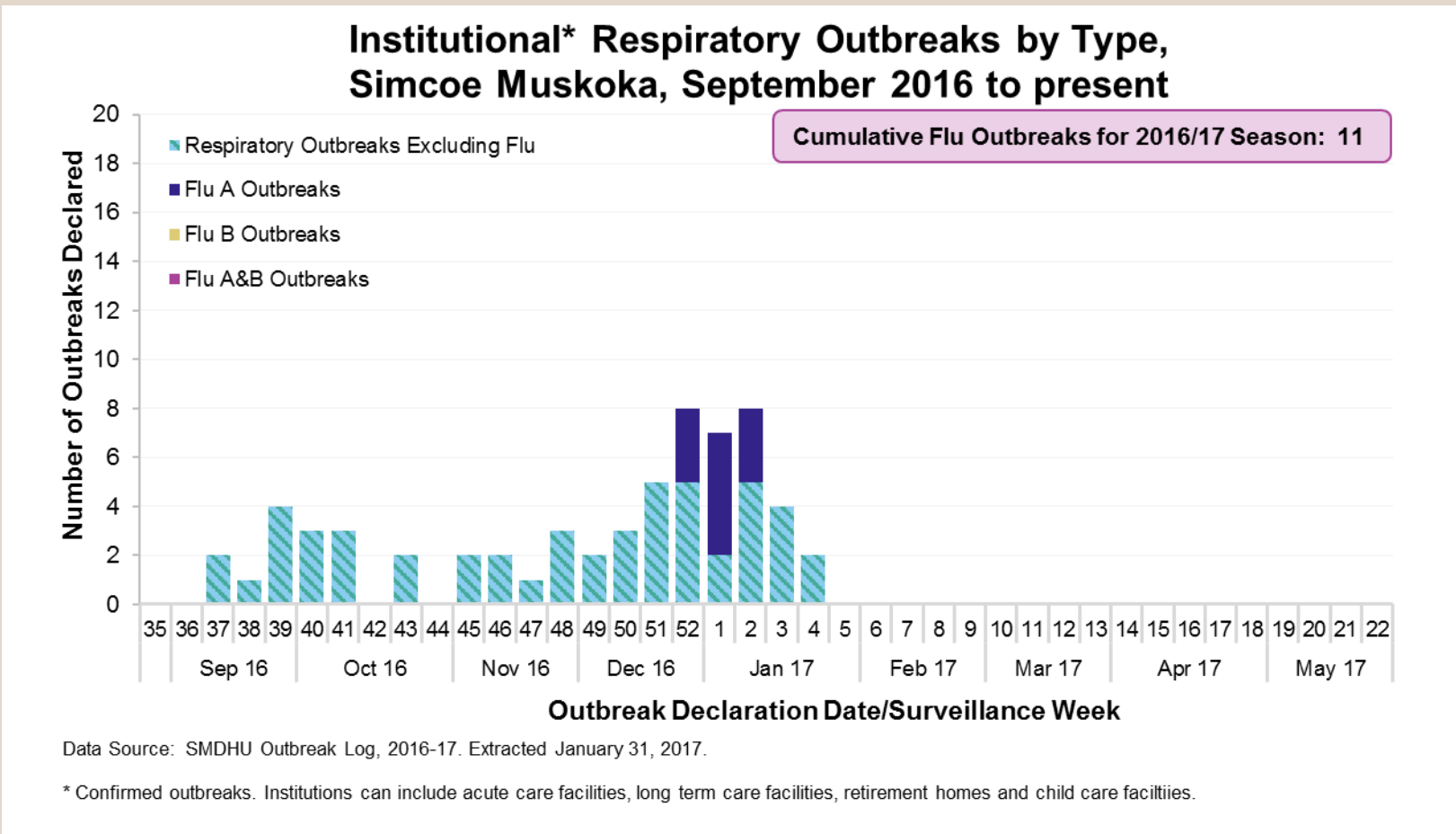
Figure 4: Percent Positivity, Influenza A & B, Simcoe Muskoka & Ontario, 2016/17



### Institutional Respiratory Outbreaks

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

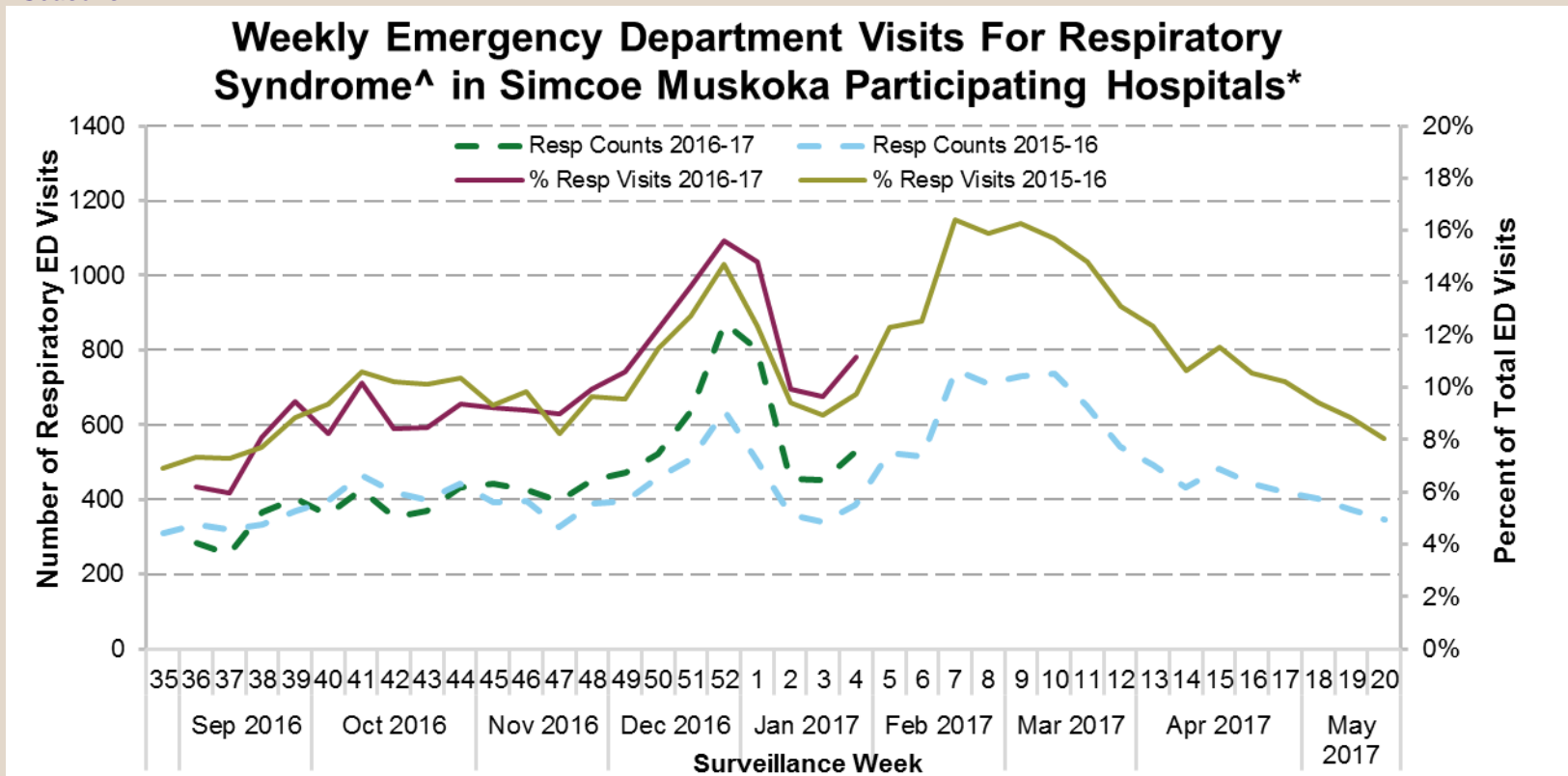
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



### Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 11.2% of visits in week 4. This is slightly higher compared to week 3, and for the same time period in the 2015-16 season. The large increase and subsequent decrease in visits in recent weeks follows the seasonal pattern observed in previous years.

Figure 6: 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 31, 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.

For the season to date, the vaccine appears to be a good match for the circulating influenza strains across Canada.

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

Influenza Strains	Number of Specimens with Strain Characterization Results			National Match Percent †
	Simcoe Muskoka*	Ontario	Canada	
<b>Influenza A Vaccine Strains</b>				
<b>Influenza A (H3N2) A/Hong Kong/4801/2014-like</b>	1	82	132	93%
<b>Influenza A (H1N1) A/California/07/09-like</b>	0	6	10	7%
<b>Influenza B Vaccine Strains</b>				
<b>B/Brisbane/60/08-like</b>	0	4	14	47%
<b>B/Phuket/3073/13-like</b> (Quad vaccine only)	0	6	16	53%

**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 3; SMDHU Counts: CD Intake Database, extracted January 31, 2017.

\*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 4). A zero count indicates no strain characterization results are available. 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 3, an additional 239 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 2016-2017 surveillance season to week 3, 5422 laboratory-confirmed influenza cases have been reported across Ontario, 1067 (19.7%) of which were reported in week 3. Among cumulative cases, 98.5% (5341/5422) were influenza A. Of the 2649 reported influenza A cases with subtype information available, 99.6% (2638/2649) were H3N2 and 0.4% (11/2649) were (H1N1)pdm09. Influenza A activity in week 3 was high.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 3, extracted January 31, 2017.)

### National

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

### International Resources

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