

Weekly Influenza News

Week 50: December 11 to December 17, 2016

Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
<u>Reported cases</u>	Similar	2 local lab-confirmed case reported in week 50 ; 2 cases reported in week 49
<u>Percent Positive of Flu Specimens[†]</u>	Slightly Higher [†]	Simcoe Muskoka: - flu A increased to 2.5%; flu B (0%) Ontario: - flu A increased to 6.5%; flu B (0.1%)
<u>Local Institutional Outbreaks</u>	Similar	No institutional influenza outbreaks declared in the 2016/17 season
<u>Influenza Strains</u>	Similar	Predominant strains: Influenza A (H3N2) (87%)
<u>Local Emergency Department respiratory visits: week 50</u>	Slightly Higher	Percentage of visits increased from previous week; increase appears to match historical seasonal increase
Week 50 Overall Assessment December 11 to December 17, 2016	Similar	Reported Activity Level: Sporadic 2 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 49; assessment of indicator based primarily on provincial percent positivity due to low local counts

Reported Local Influenza Cases

In Simcoe Muskoka, there have been 7 **lab-confirmed influenza cases reported** as of 20 December 2016; 2 (29%) of which were reported in week 50 – this was similar to week 49.

Of the 3 reported influenza A cases with subtype information available:

- 3 (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 50		Season-to-Date	
	N	%	N	%
Influenza A	2	100%	7	100%
Influenza B	0	0%	0	0%
Influenza A & B	0	0%	0	0%
Total	2	100%	7	100%
Notes: Data source: Communicable Disease Intake Database, extracted on December 20, 2016				

Historical Comparison

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

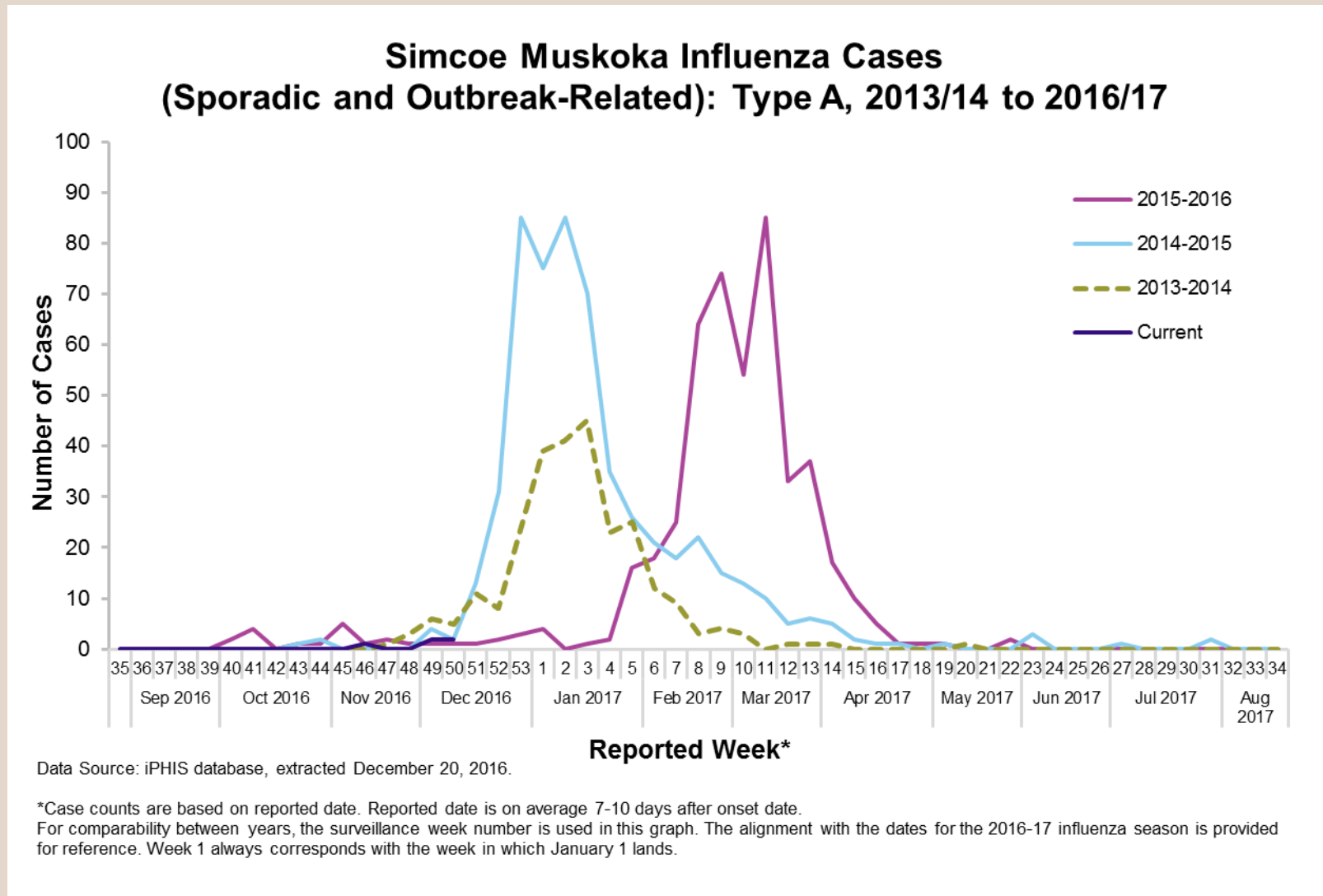
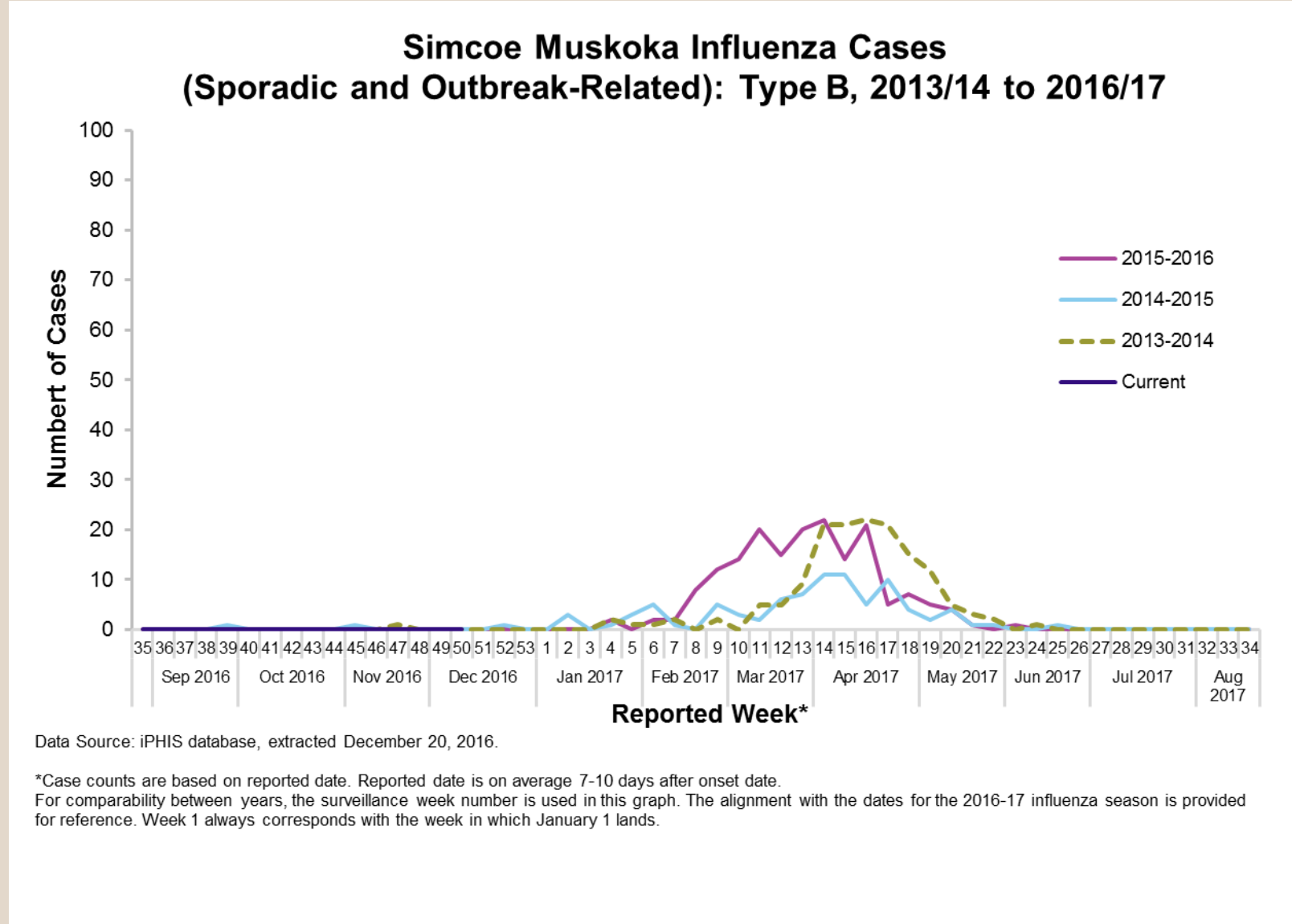


Figure 2: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



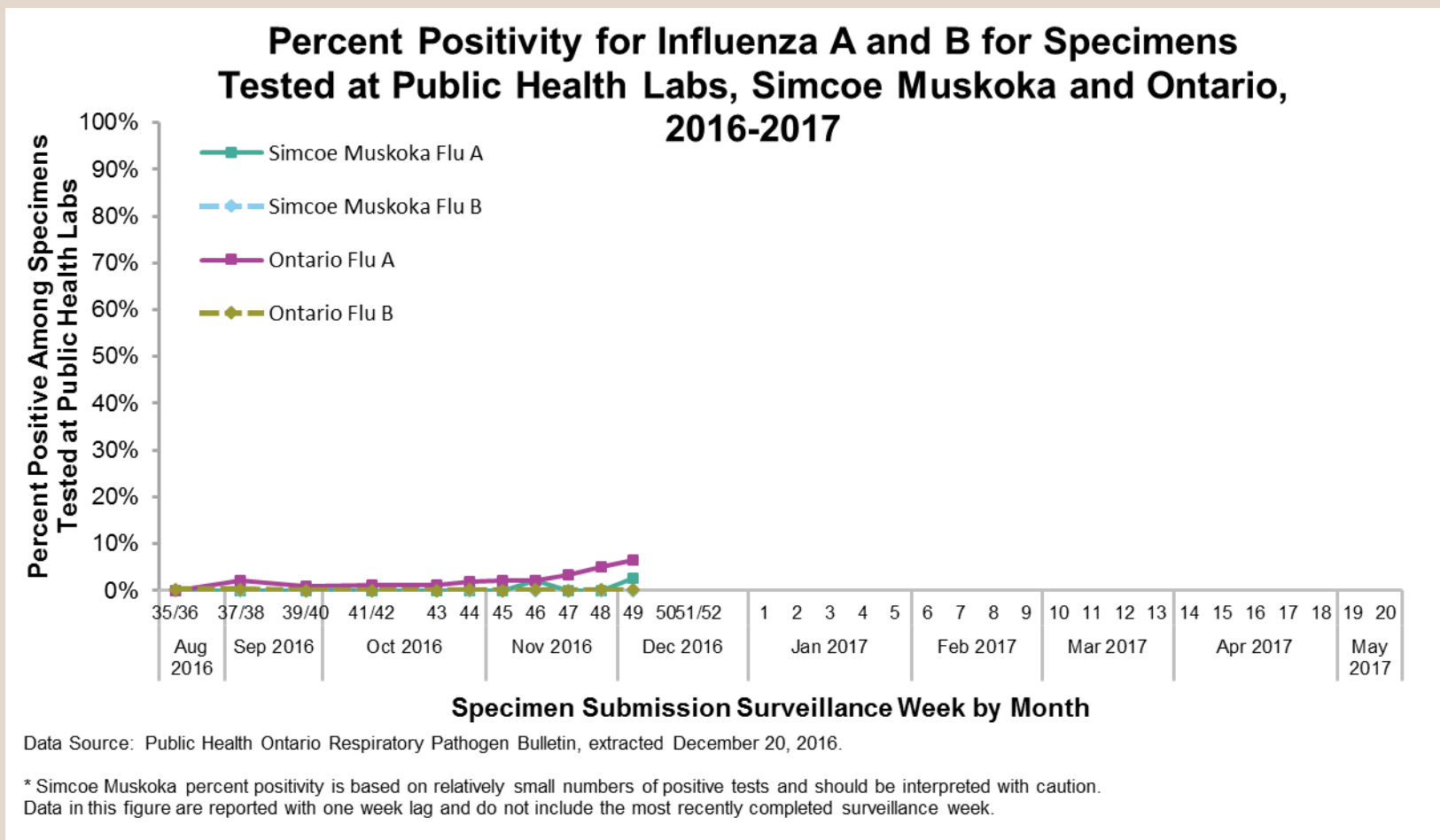
Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 50.

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 49 increased to 6.5% from 5.0% in the previous week. Influenza B percent positivity remained at 0.1%.

For week 49, local percent positivity for influenza A was 2.5%; influenza B remained at 0.0%.

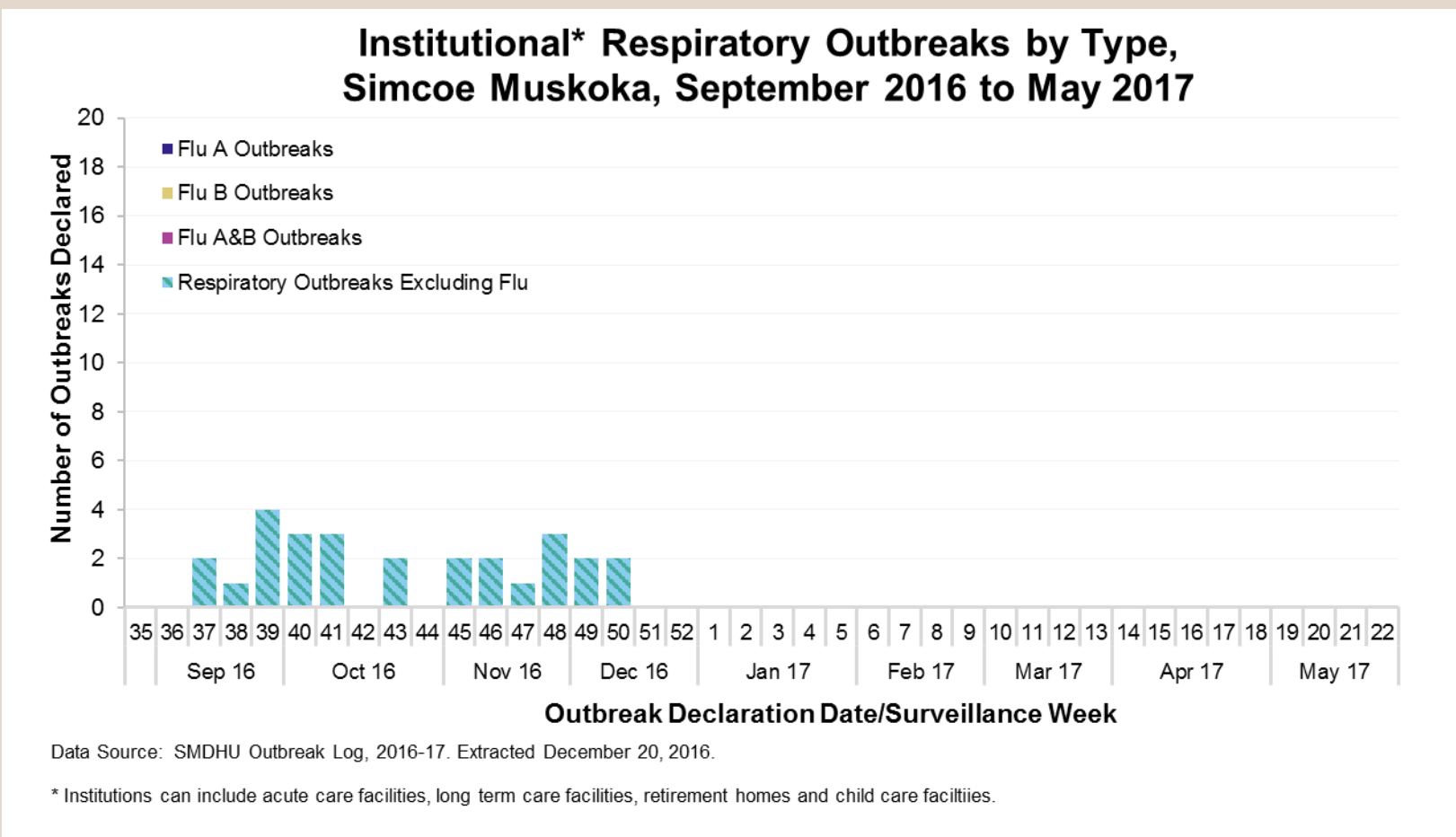
Figure 3: Percent Positivity, Influenza A & B, Simcoe Muskoka & Ontario, 2016/17



Institutional Respiratory Outbreaks

There have been zero *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2016. There have been 27 respiratory outbreaks (where causative agent is not flu) during this time.

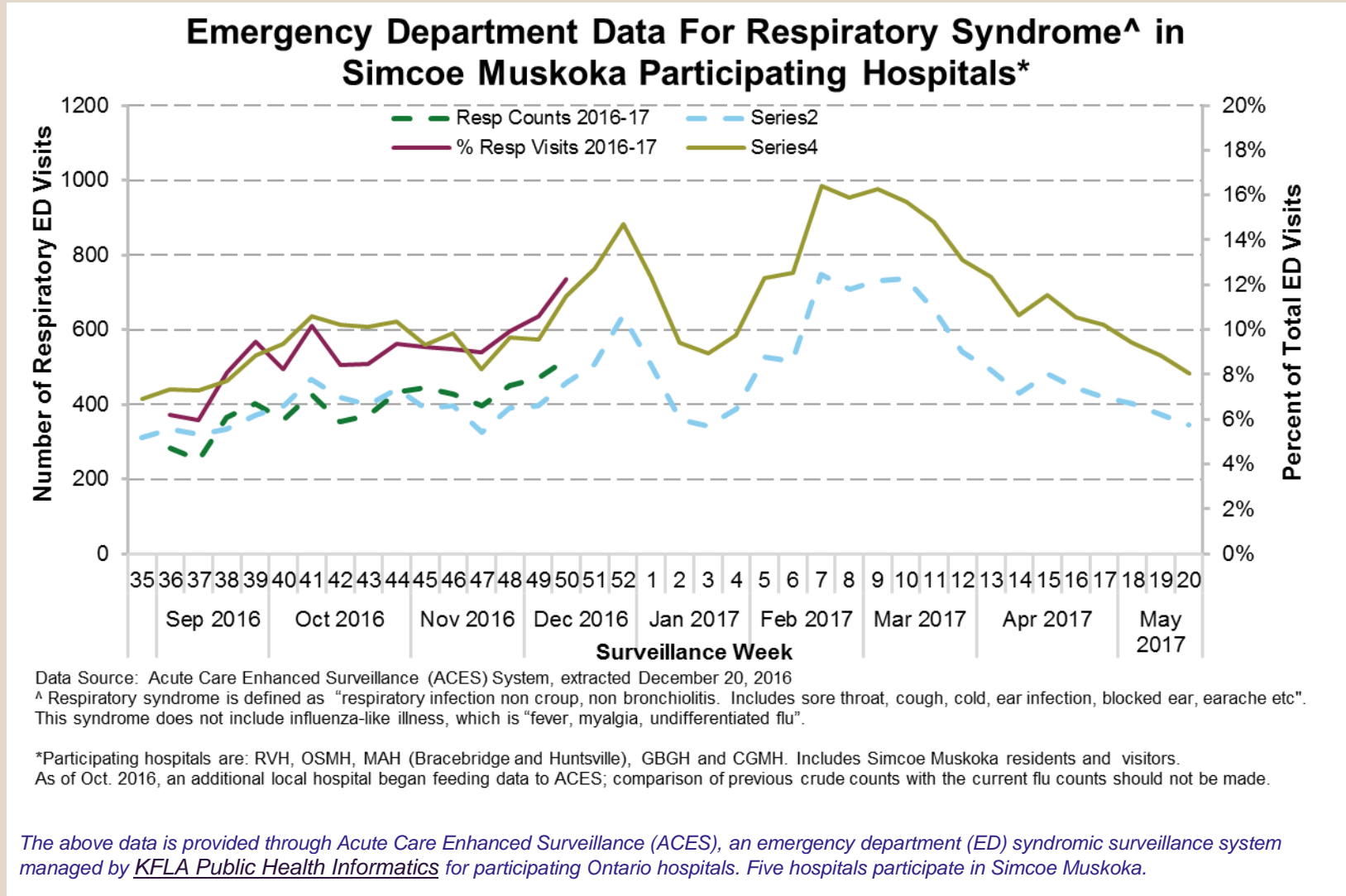
Figure 4: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 12.3% of visits in week 50. This is slightly higher than week 49, and slightly higher compared to the same time period in during 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, 2014/15, 2015/16, 2016/17 Seasons



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 and Mismatched Flu Specimens and National Match Percent, 2016-17

Influenza Strains	Simcoe Muskoka*	Ontario	Canada	National Match Percent †
Influenza A Vaccine Strains				
Influenza A (H3N2) A/Hong Kong/4801/2014-like	0	30	47	87%
Influenza A (H1N1) A/California/07/09-like	0	3	7	13%
Influenza B Vaccine Strains				
B/Brisbane/60/08-like	0	0	8	67%
B/Phuket/3073/13-like (Quad vaccine only)	0	1	4	33%

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 49; SMDHU Counts: CD Intake Database, extracted December 20, 2016.

*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 50). 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 49, an additional 78 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 49 Provincial Summary: For the 2016-2017 surveillance season to week 49, 425 laboratory-confirmed influenza cases have been reported across Ontario, 141 (33.2%) of which were reported in week 49. Among cumulative cases, 95.1% (404/425) were influenza A. Of the 217 reported influenza A cases with subtype information available, 99.1% (215/217) were H3N2 and 0.9% (2/215) were (H1N1)pdm09. Influenza A activity in week 49 was low and lower than seen for previous H3N2 dominant seasons for this time of year.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 49, extracted December 20, 2016)

National

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

International Resources

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