






Weekly Influenza News

Week 49: December 4 – December 10, 2016

Week in Review:

| Influenza Activity Indicator | Assessment of Indicator* | Interpretation |
|---|------------------------------|--|
|  <u>Reported cases</u> | Slightly Higher | 2 local lab-confirmed case reported in week 49 ; 0 cases reported in week 48 |
|  <u>Percent Positive of Flu Specimens[†]</u> | Slightly Higher [†] | Simcoe Muskoka: flu A (0%); flu B (0%) Ontario: flu A increased to 5.0%; 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) (88%) |
|  <u>Local Emergency Department respiratory visits: week 49</u> | Slightly Higher | Percentage of visits increased slightly from previous week; slightly higher than same period of 2015/16 season |
| Week 49 Overall Assessment December 4 – December 10, 2016 | Slightly Higher | Reported Activity Level: Sporadic |
| | | 2 new cases of Flu A in SMDHU. Flu B activity is similar to the previous week. |

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

Reported Local Influenza Cases

In Simcoe Muskoka, there have been 4 **lab-confirmed influenza cases reported** as of 14 December 2016; 2 (50%) of which were reported in week 49 – this was higher when compared to week 48.

Of the 4 reported influenza A cases with subtype information available:

- 2 (50%) of the cases were influenza A, subtype H3.
- The other two have not yet been subtyped

🔗 Figure 1 and Figure 2 below provide historic comparisons

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

| Lab-confirmed Influenza Cases | Week 49 | | Season-to-Date | |
|---|----------|-------------|----------------|-------------|
| | N | % | N | % |
| Influenza A | 2 | 100% | 4 | 100% |
| Influenza B | 0 | 0% | 0 | 0% |
| Influenza A & B | 0 | 0% | 0 | 0% |
| Total | 2 | 100% | 4 | 100% |
| Notes: | | | | |
| Data source: Communicable Disease Intake Database, extracted on December 13, 2016 | | | | |

Historical Comparison

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

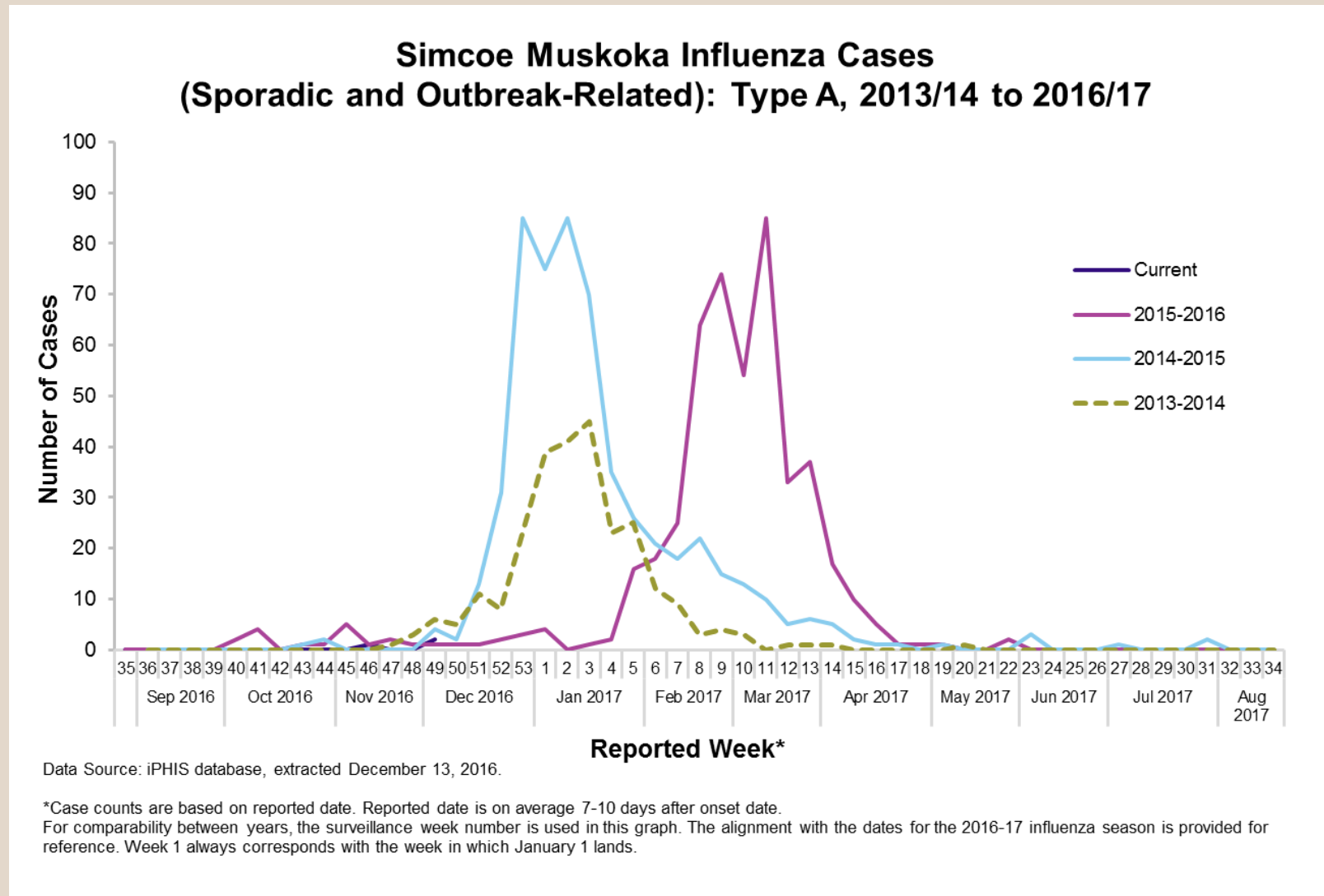
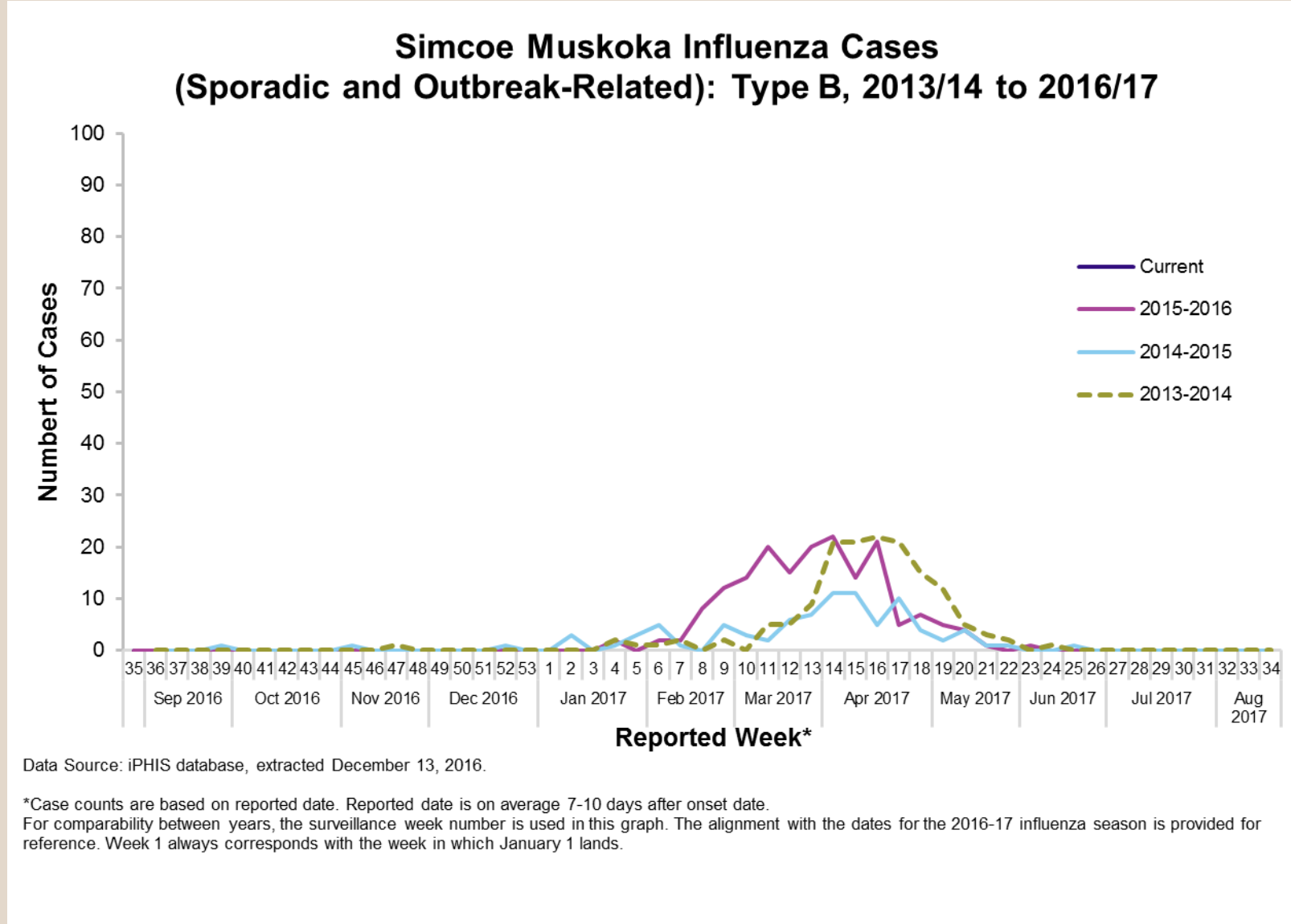


Figure 2: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



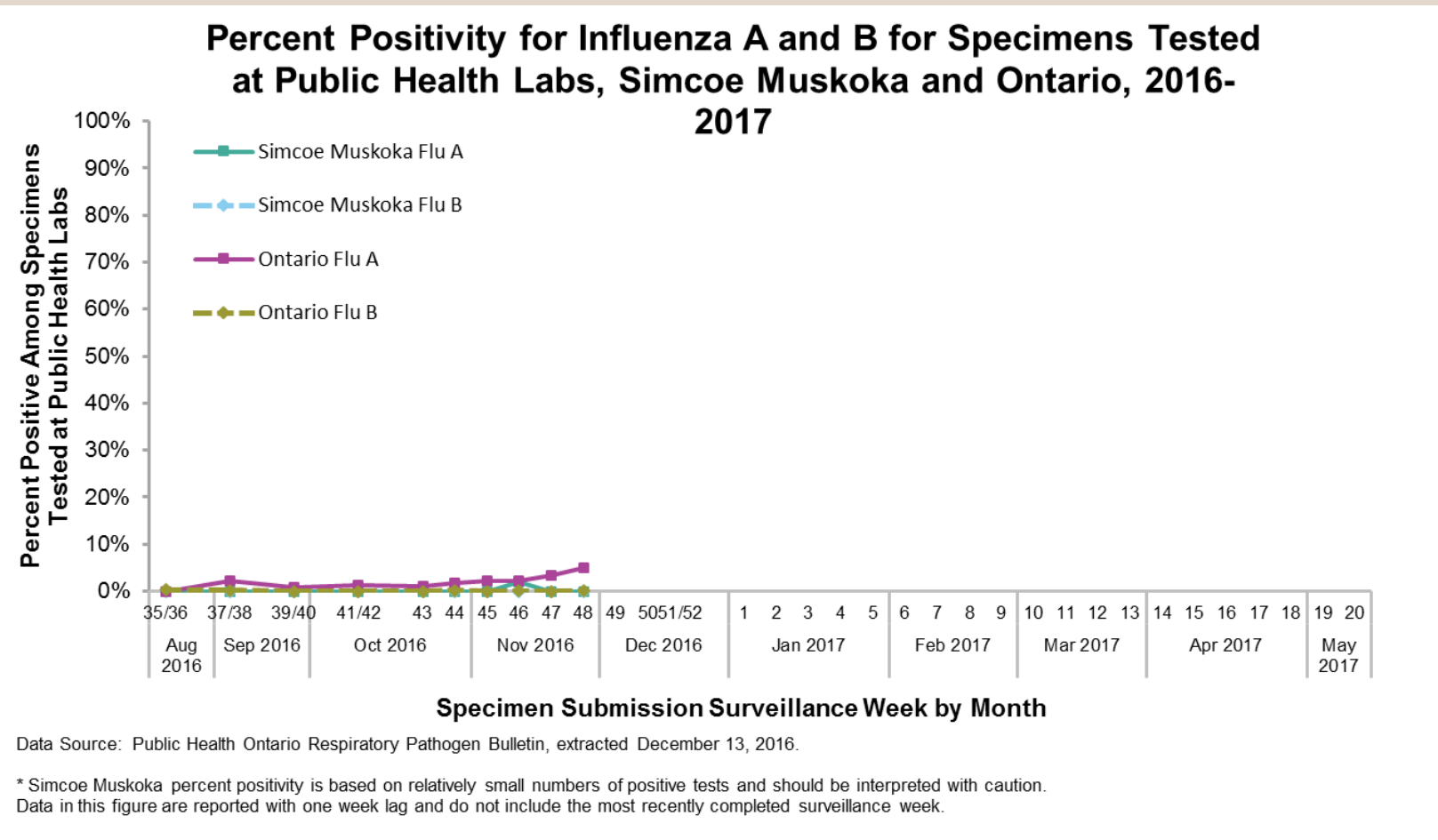
Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 49.

The percentage of flu specimens that are positive (percent positivity) for Influenza A has remained relatively stable over the past few weeks. However, the provincial percent positivity for influenza A in week 48 increased to 5.0% from 3.3% in the previous week. Influenza B percent positivity was reported at 0.1%.

For week 48, local percent positivity for influenza A was 0.0%; influenza B remained at 0.0%.

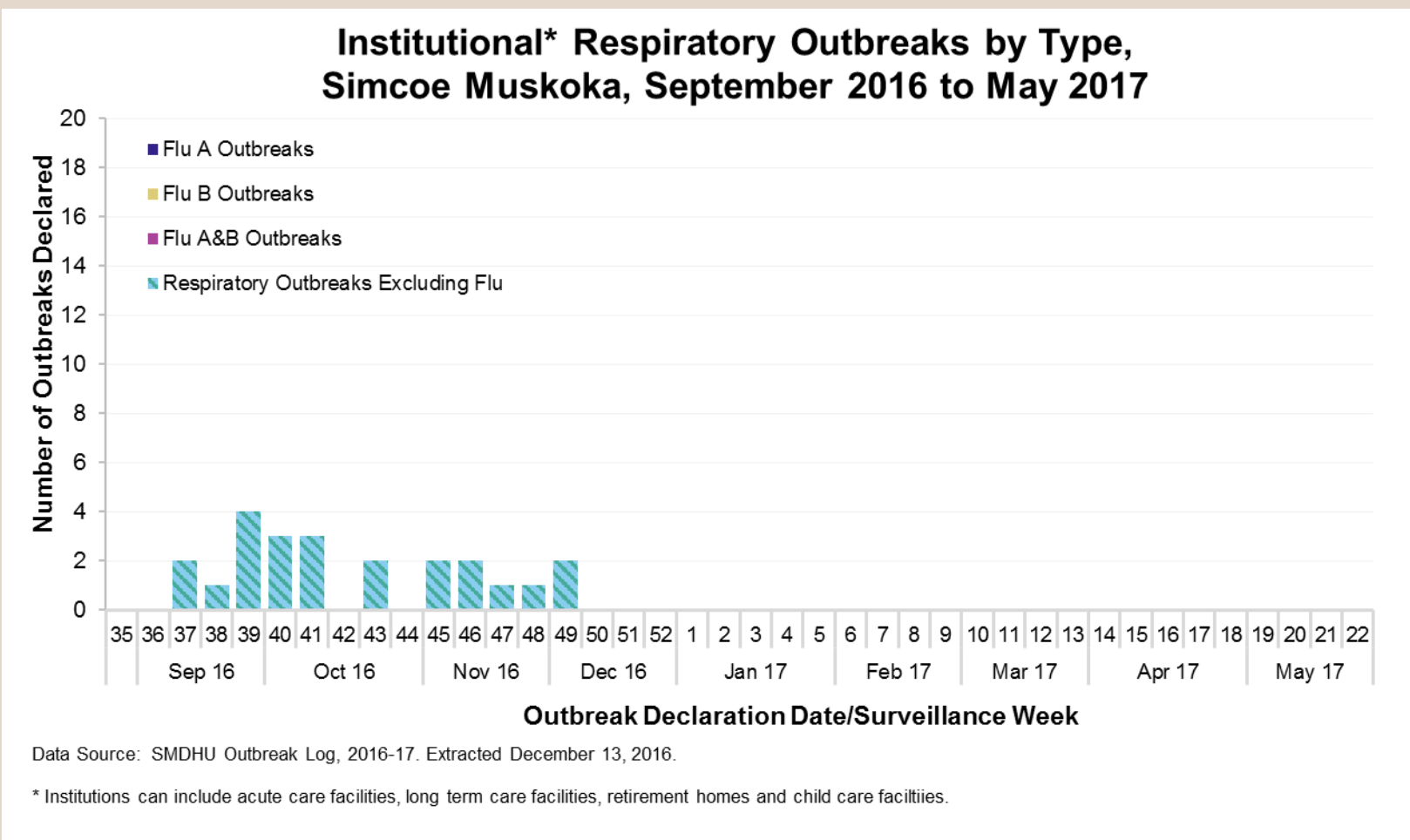
Figure 3: Percent Positivity, Influenza A & B, Simcoe Muskoka & Ontario, 2016/17



Institutional Respiratory Outbreaks

There have been zero *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2016. There have been 23 respiratory outbreaks (where causative agent is not flu) during this time.

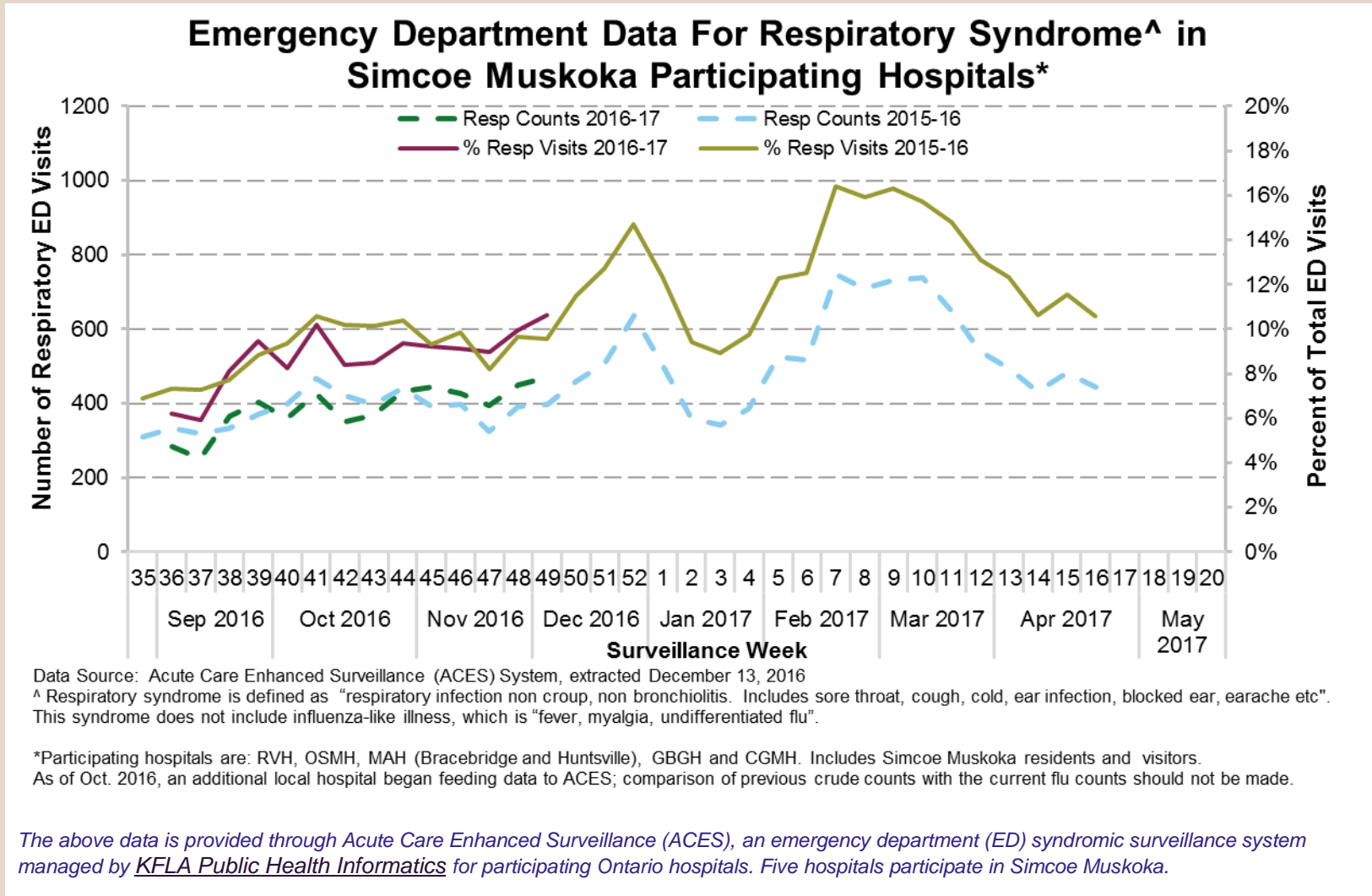
Figure 4: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 10.6% of visits in week 49. This is slightly higher than week 48, and slightly higher compared to the same time period in during the 2015-16 season.

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 | 45 | 88% |
| Influenza A (H1N1) A/California/07/09-like | 0 | 3 | 6 | 12% |
| Influenza B Vaccine Strains | | | | |
| B/Brisbane/60/08-like | 0 | 0 | 8 | 73% |
| B/Phuket/3073/13-like (Quad vaccine only) | 0 | 1 | 3 | 27% |

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 48; SMDHU Counts: CD Intake Database, extracted December 14, 2016.

*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 49). 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 48, an additional 52 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 48 Provincial Summary: *Due to technical issues, iPHIS data presented in the week 48 issue of the Ontario Respiratory Pathogen Bulletin are for Week 47 and Public Health Ontario extracted the data on Wednesday, November 30, 2016. Data from other sources presented in the bulletin are for Week 48.*

For the 2016-2017 surveillance season to date, 212 laboratory-confirmed influenza cases have been reported across Ontario, 46 (21.7%) of which were reported in week 47. Among cumulative cases, 90.6% (192/212) were influenza A. Of the 116 reported influenza A cases with subtype information available, 98.3% (114/116) were H3N2 and 1.7% (2/116) were (H1N1)pdm09. Influenza A activity in week 47 was low and within expected levels for this time of year.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 48, extracted December 14, 2016)

National

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

International Resources

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