






Weekly Influenza News

Week 1: January 1 to January 7, 2017

Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
 <u>Reported cases</u>	Higher	38 local lab-confirmed case reported in week 1 ; 23 cases reported in week 52
 <u>Percent Positive of Flu Specimens[†]</u>	Higher [†]	Simcoe Muskoka: - flu A increased to 15.5%; flu B (0%) Ontario: - flu A increased to 23.5%; flu B (0.4%)
 <u>Local Institutional Outbreaks</u>	Higher	Five institutional influenza outbreaks were declared in week 1. Nine influenza outbreaks reported for season to date.
 <u>Influenza Strains</u>	Similar	Predominant strains: Influenza A (H3N2) (90%)
 <u>Local Emergency Department respiratory visits: week 1</u>	Similar	Percentage of visits is similar to previous week; following seasonal trend observed in previous years.
Week 1 Overall Assessment January 1 to January 7, 2017	Higher	Reported Activity Level: Localized 37 new cases of Flu A in SMDHU. 1 new case 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 52; assessment of indicator based primarily on provincial percent positivity due to low local counts

Reported Local Influenza Cases

In Simcoe Muskoka, there have been 111 **lab-confirmed influenza cases reported** as of 10 January 2017; 38 (34.2%) of which were reported in week 1 – this was higher when compared to week 52.

Of the 70 reported influenza A cases with subtype information available:

- 70 (100%) of the cases were influenza A, subtype H3.

🔗 Figure 2 and Figure 3 below provide historic comparisons

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

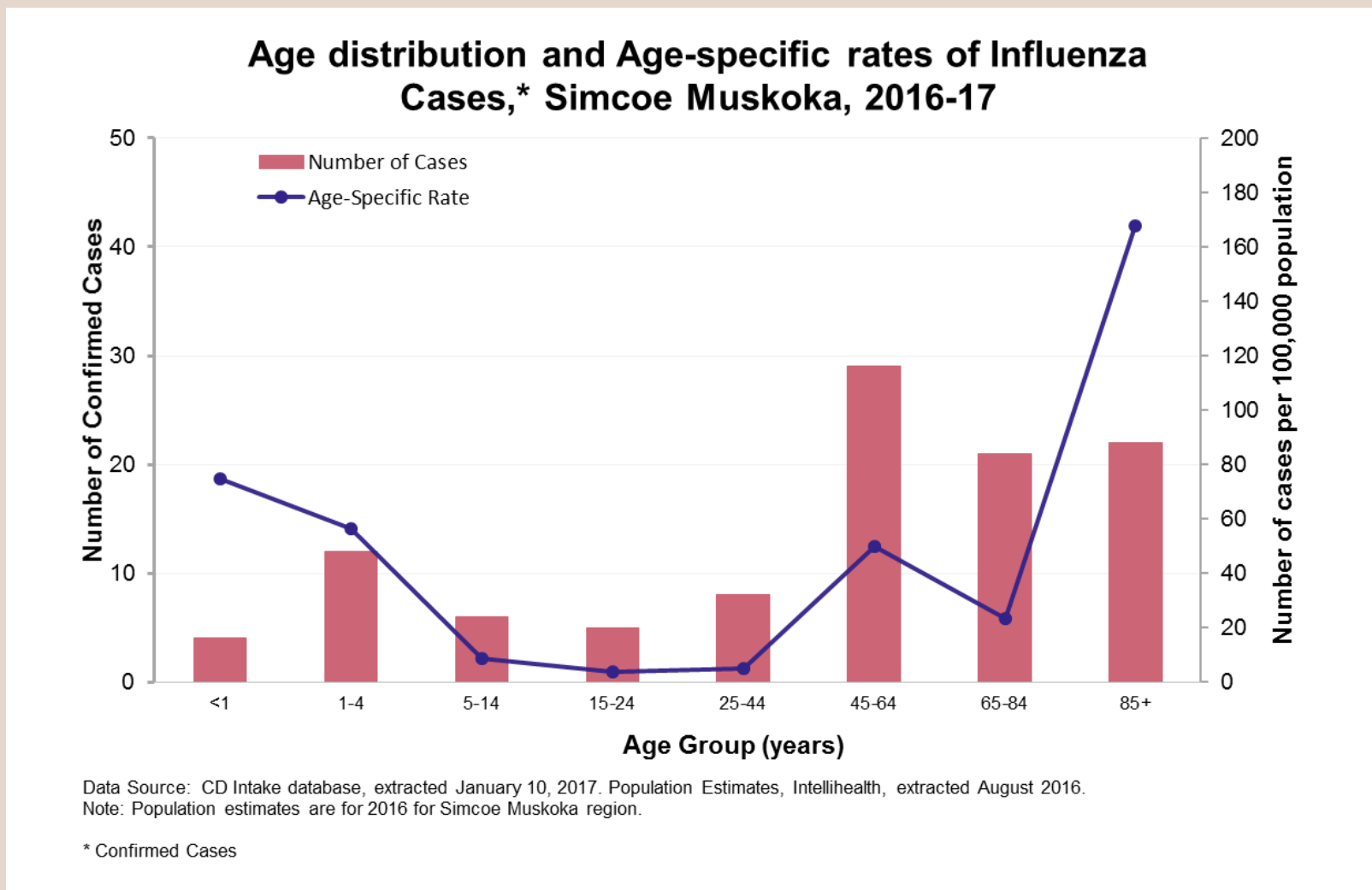
Lab-confirmed Influenza Cases	Week 1		Season-to-Date	
	N	%	N	%
Influenza A	37	97%	110	99%
Influenza B	1	3%	1	1%
Influenza A & B	0	0%	0	0%
Total	38	100%	111	100%
Notes:				
Data source: Communicable Disease Intake Database, extracted on January 10, 2017				

Age Distribution

For the season-to-date, over one-fourth (27.1%) of cases were reported in the 45-64 years age group, and one-fifth (20.6%) of cases were reported in the 85+ years age group. The corresponding age-specific rate are 50.0 cases per 100,000 population (45-64 years) and 167.8 cases per 100,000 population (85+ years), respectively. While less than 5% of cases were reported in the <1 year, the age-specific rates is 74.9 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

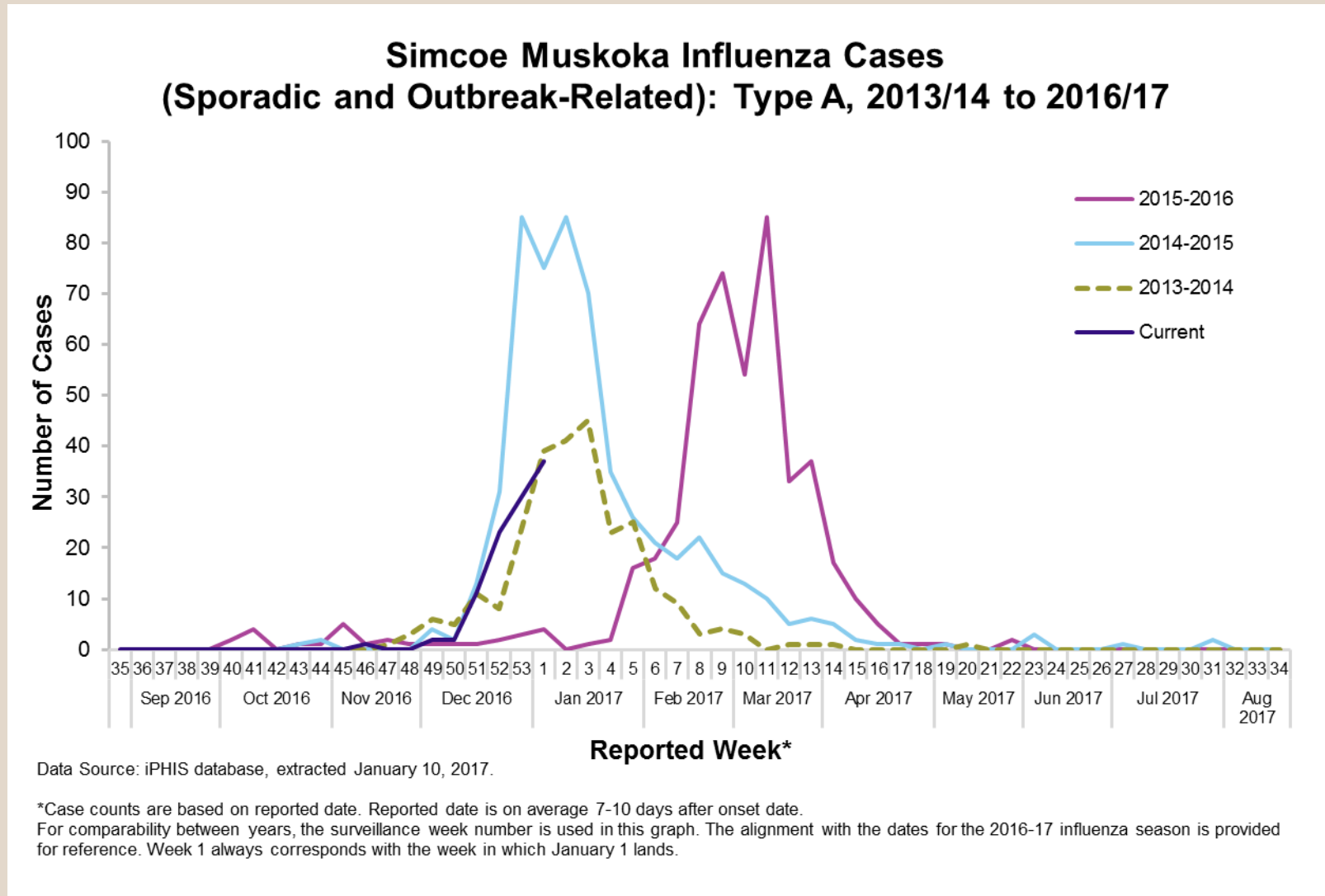
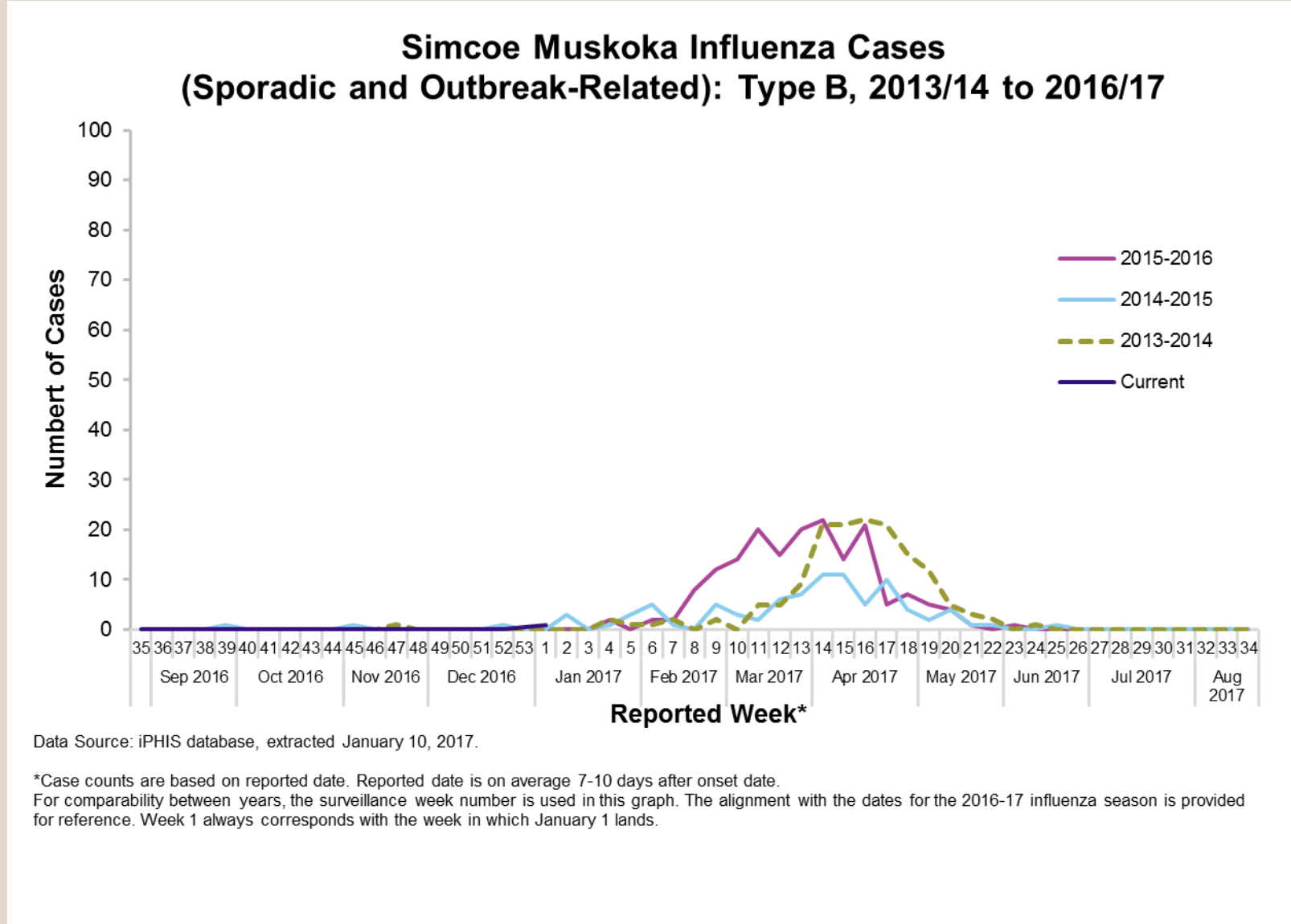


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



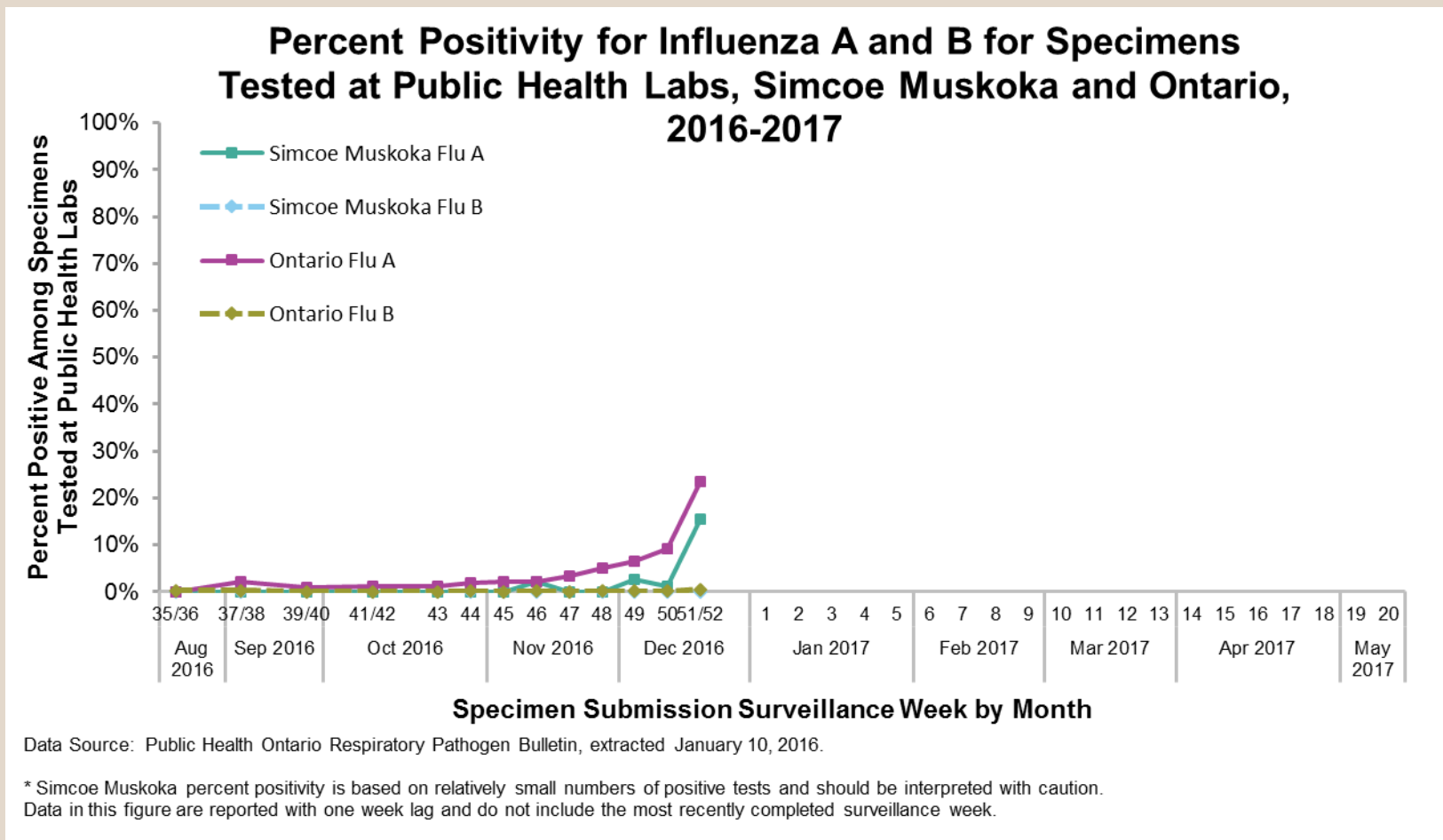
Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 1. Percent positivity for week 51 was combined with week 52.

The percentage of flu specimens that are positive (percent positivity) for Influenza A has increased sharply from week 50 to week 51/52. The provincial percent positivity for influenza A in week 51/52 increased to 23.5% from 9.1% in week 50. Influenza B percent positivity increased slightly to 0.4%.

For week 51/52, local percent positivity for influenza A increased to 15.5%, while influenza B remained at 0.0%.

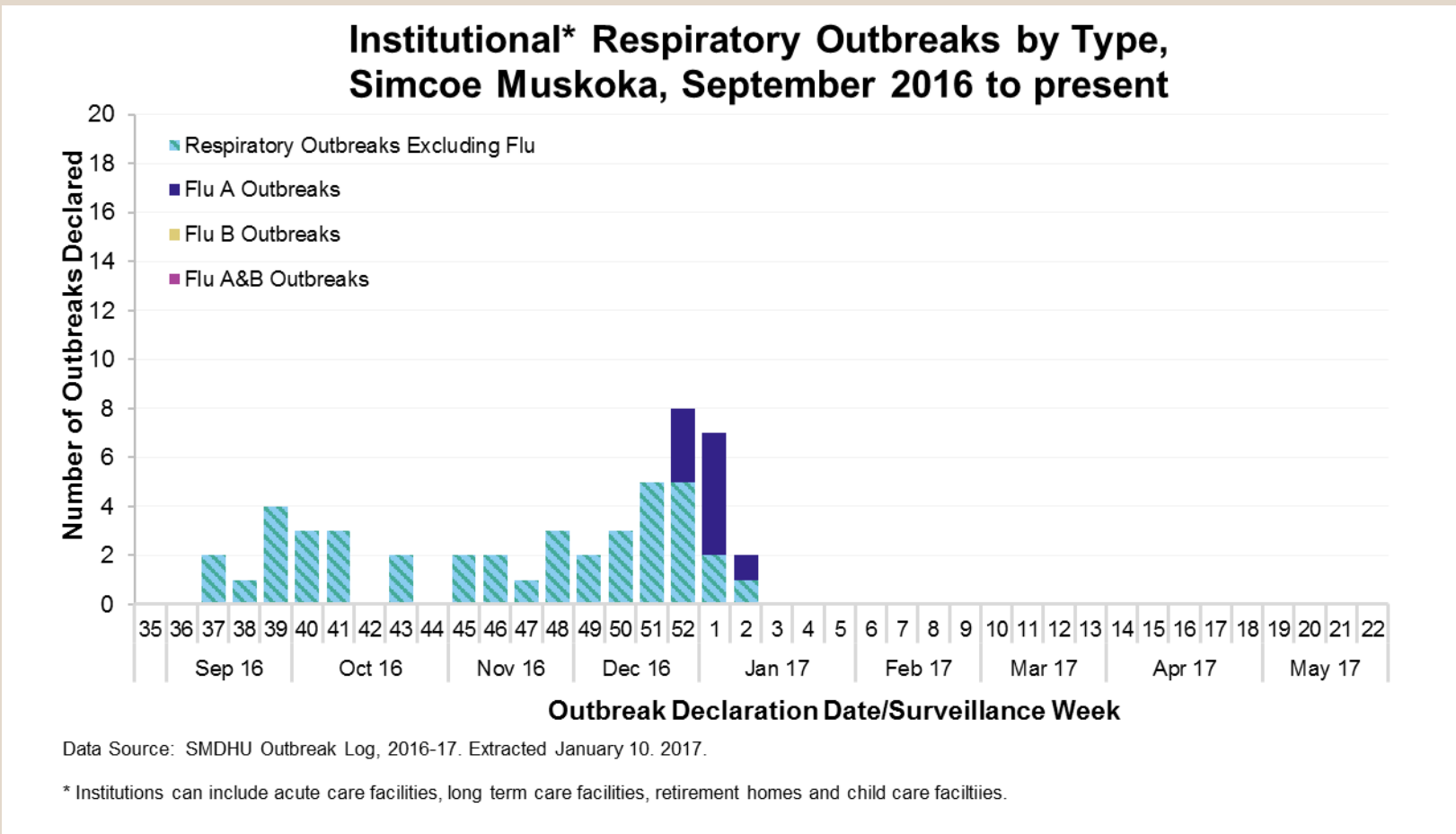
Figure 4: Percent Positivity, Influenza A & B, Simcoe Muskoka & Ontario, 2016/17



Institutional Respiratory Outbreaks

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

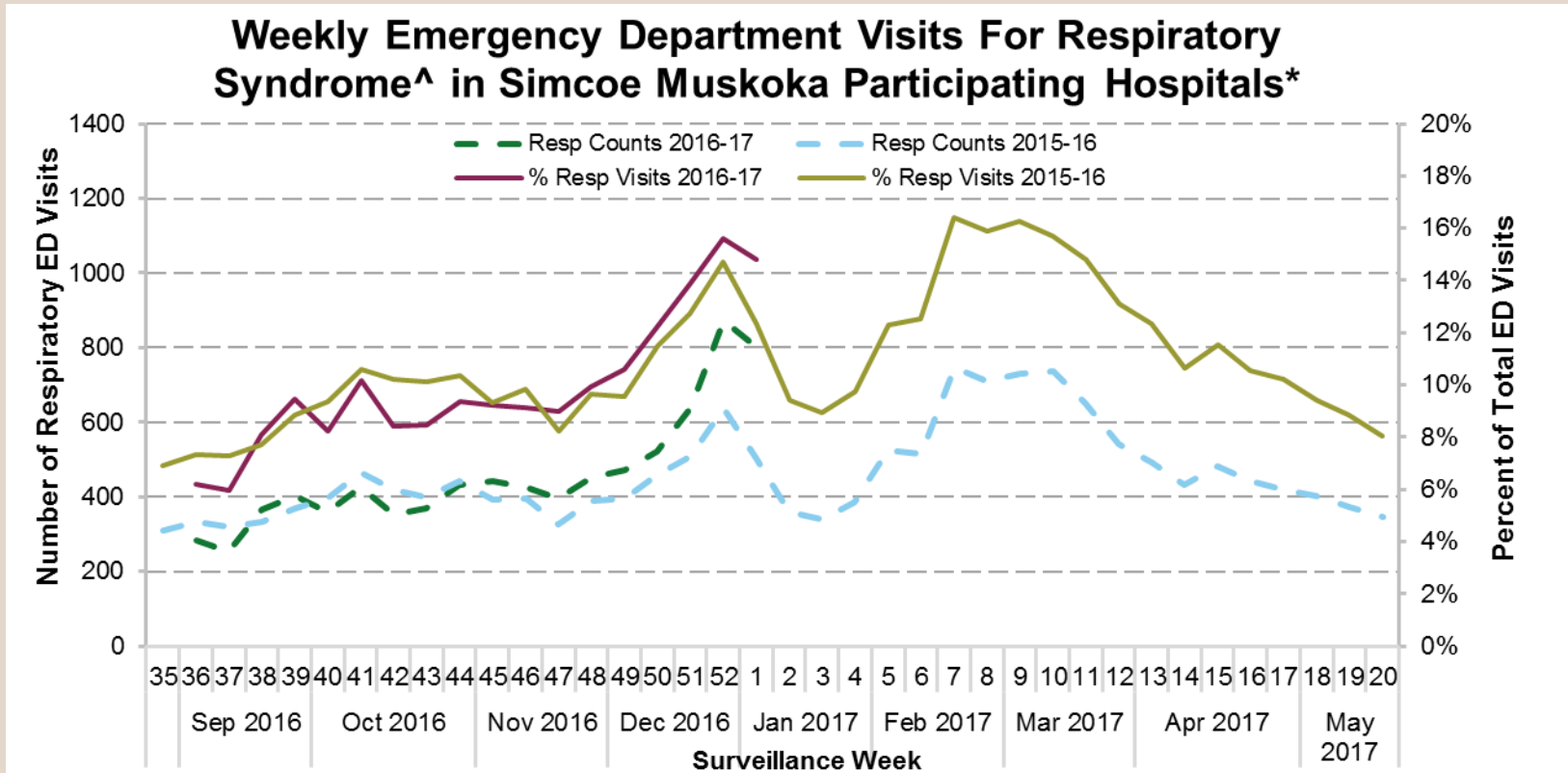
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 14.8% of visits in week 1. This is similar to week 52, 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 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 9, 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 †
Influenza A Vaccine Strains				
Influenza A (H3N2) A/Hong Kong/4801/2014-like	0	34	62	90%
Influenza A (H1N1) A/California/07/09-like	0	3	7	10%
Influenza B Vaccine Strains				
B/Brisbane/60/08-like	0	0	9	53%
B/Phuket/3073/13-like (Quad vaccine only)	0	2	8	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 52; SMDHU Counts: CD Intake Database, extracted January 10, 2017.

*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 1). 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 52, an additional 112 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 52 Provincial Summary: For the 2016-2017 surveillance season to week 52, 1656 laboratory-confirmed influenza cases have been reported across Ontario, 627 (37.9%) of which were reported in week 52. Among cumulative cases, 97.6% (1616/1656) were influenza A. Of the 652 reported influenza A cases with subtype information available, 99.4% (648/652) were H3N2 and 0.6% (4/652) were (H1N1)pdm09. Influenza A activity in week 52 was high but lower than seen for previous H3N2 dominant seasons for this time of year.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 52, extracted January 10, 2017.)

National

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

International Resources

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