






Weekly Influenza News

Week 5: January 29 to February 4, 2017

Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
 <u>Reported cases</u>	Slightly Higher	45 local lab-confirmed case reported in week 5 ; 34 cases reported in week 4
 <u>Percent Positive of Flu Specimens[†]</u>	Similar [†]	Simcoe Muskoka: - flu A (14.1%); flu B (0.6%) Ontario: - flu A (21.5%); flu B (0.3%)
 <u>Local Institutional Outbreaks</u>	Similar	No institutional influenza outbreaks were declared in week 5. Eleven influenza outbreaks reported for season to date.
 <u>Influenza Strains</u>	Similar	Predominant strains: Influenza A (H3N2) (94%)
 <u>Local Emergency Department respiratory visits: week 5</u>	Similar	Percentage of visits is similar to previous week; following seasonal trend observed in previous years.
Week 5 Overall Assessment January 29 to February 4, 2017	Similar	Reported Activity Level: Localized 45 new cases of Flu A in SMDHU. No 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 4; assessment of indicator based primarily on provincial percent positivity due to low local counts

Reported Local Influenza Cases

In Simcoe Muskoka, there have been 301 **lab-confirmed influenza cases reported** as of 7 February 2017; 45 (15.0%) of which were reported in week 5 – this is higher in comparison to week 4.

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 5		Season-to-Date	
	N	%	N	%
Influenza A	45	100%	298	99%
Influenza B	0	0%	3	1%
Influenza A & B	0	0%	0	0%
Total	45	100%	301	100%

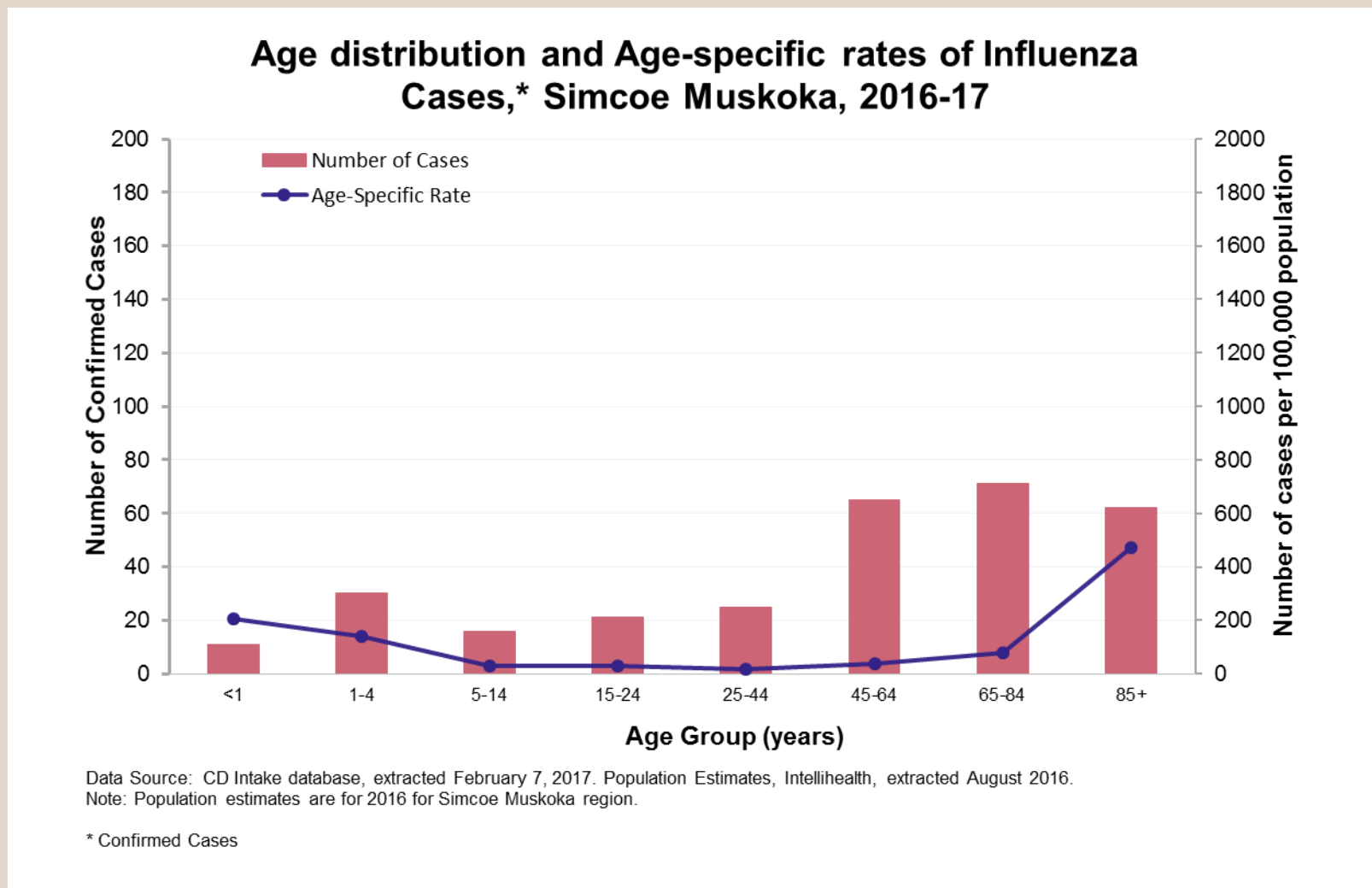
Notes:
Data source: Communicable Disease Intake Database, extracted on January 31, 2017

Age Distribution

For the season-to-date, nearly half (44.2%) of cases have been reported in individuals aged 65 and older. The corresponding age-specific rates are 79.0 cases per 100,000 population (65-84 years) and 472.8 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: **53.2 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

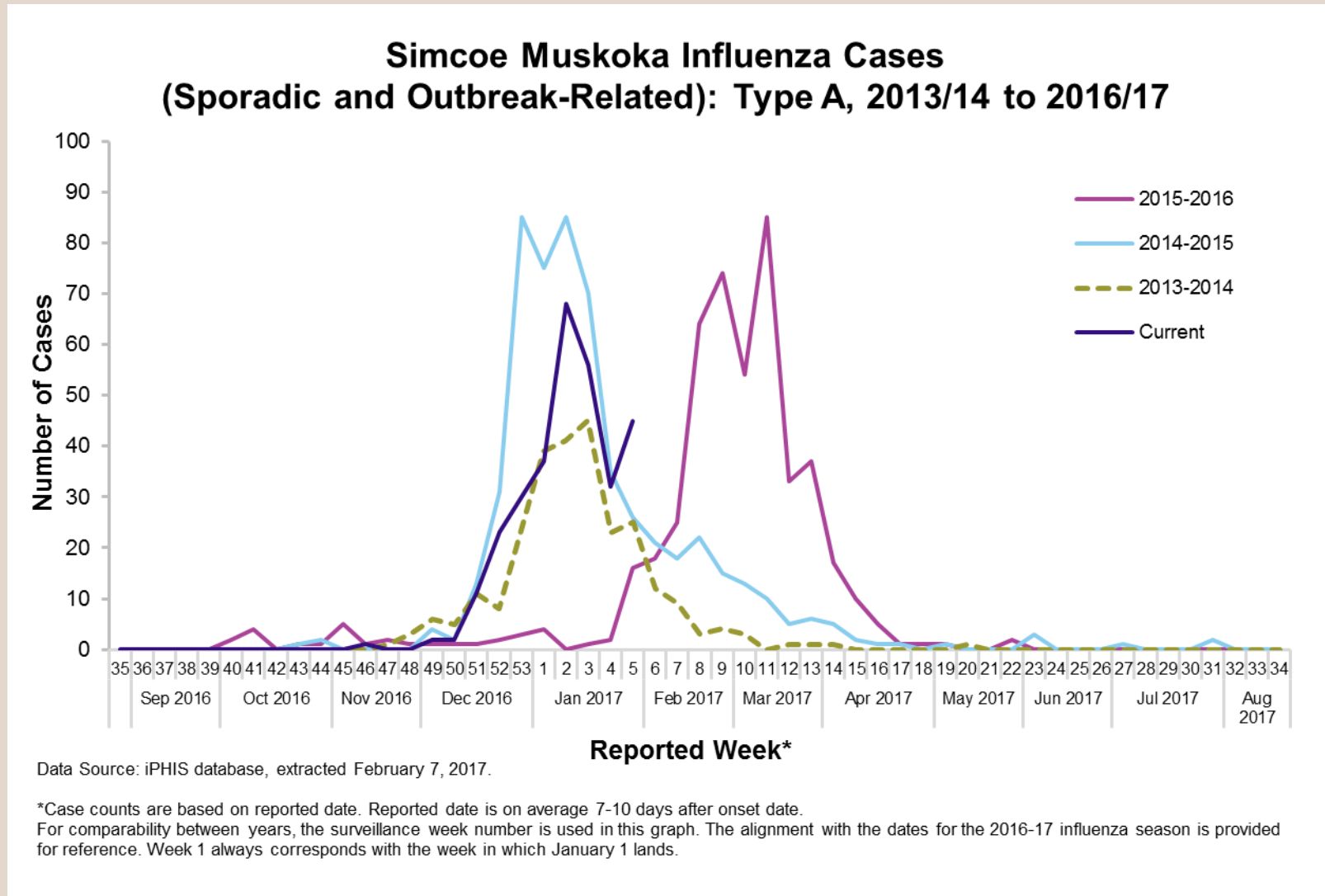
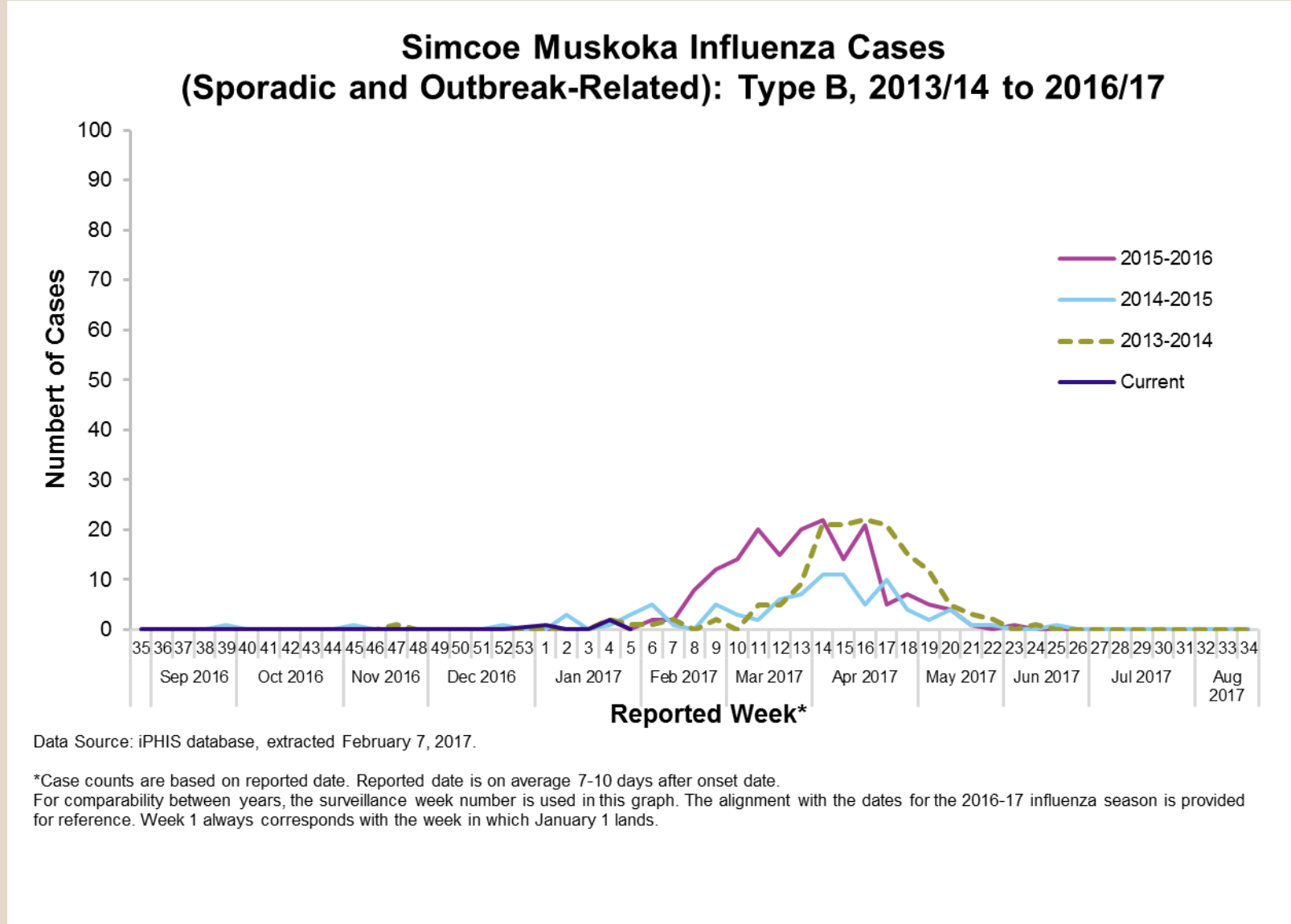


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



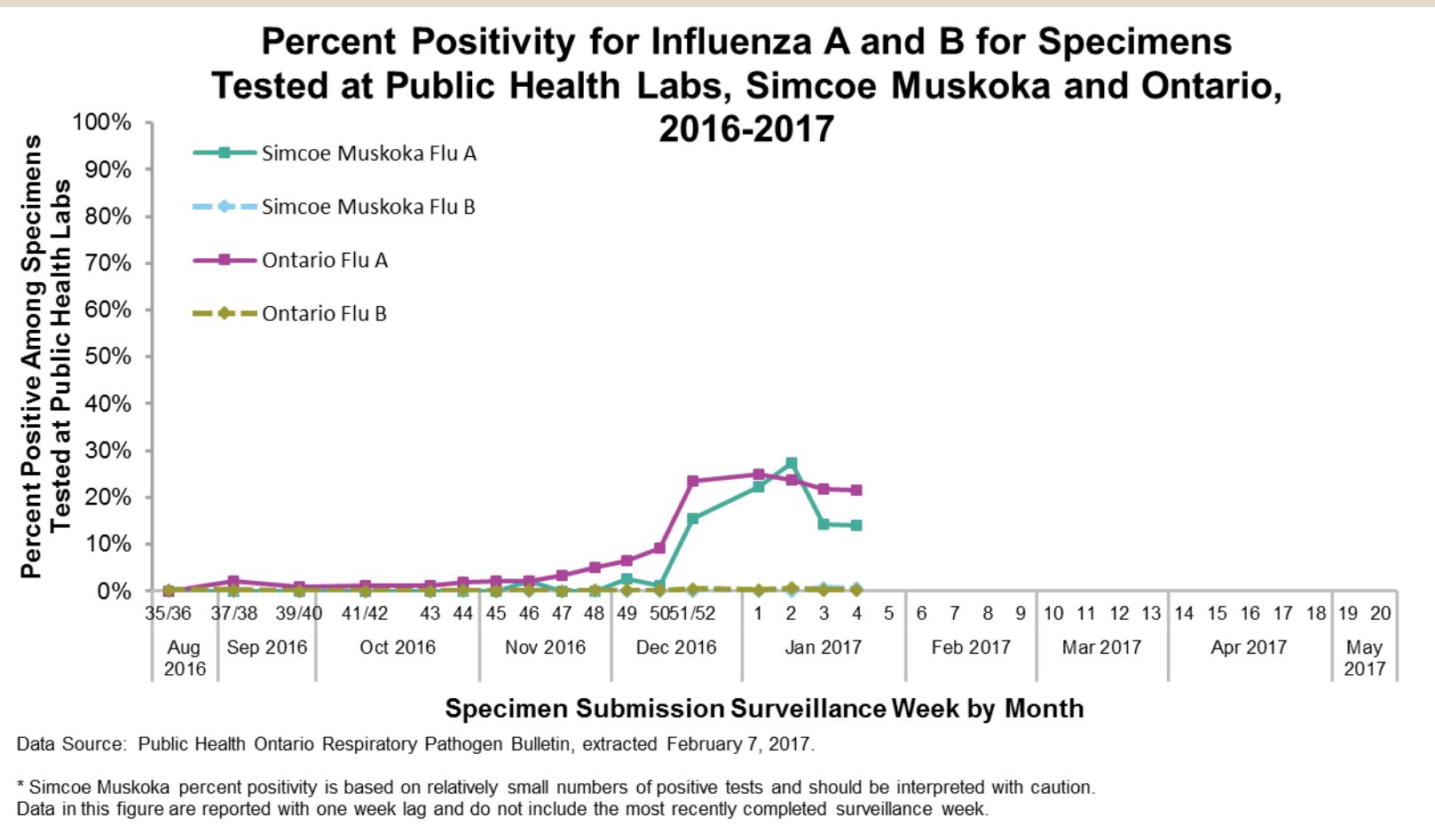
Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 5. Percent positivity is reported for week 4.

The percentage of flu specimens that are positive (percent positivity) for Influenza A remained similar to the previous week. The provincial percent positivity for influenza A in week 4 was reported at 21.5%, similar to 21.8% percent positivity reported in week 3. Influenza B percent positivity was similar to the previous week at 0.3%.

For week 4, local percent positivity for influenza A was 14.1%, while influenza B was 0.6%. This is similar to the previous week.

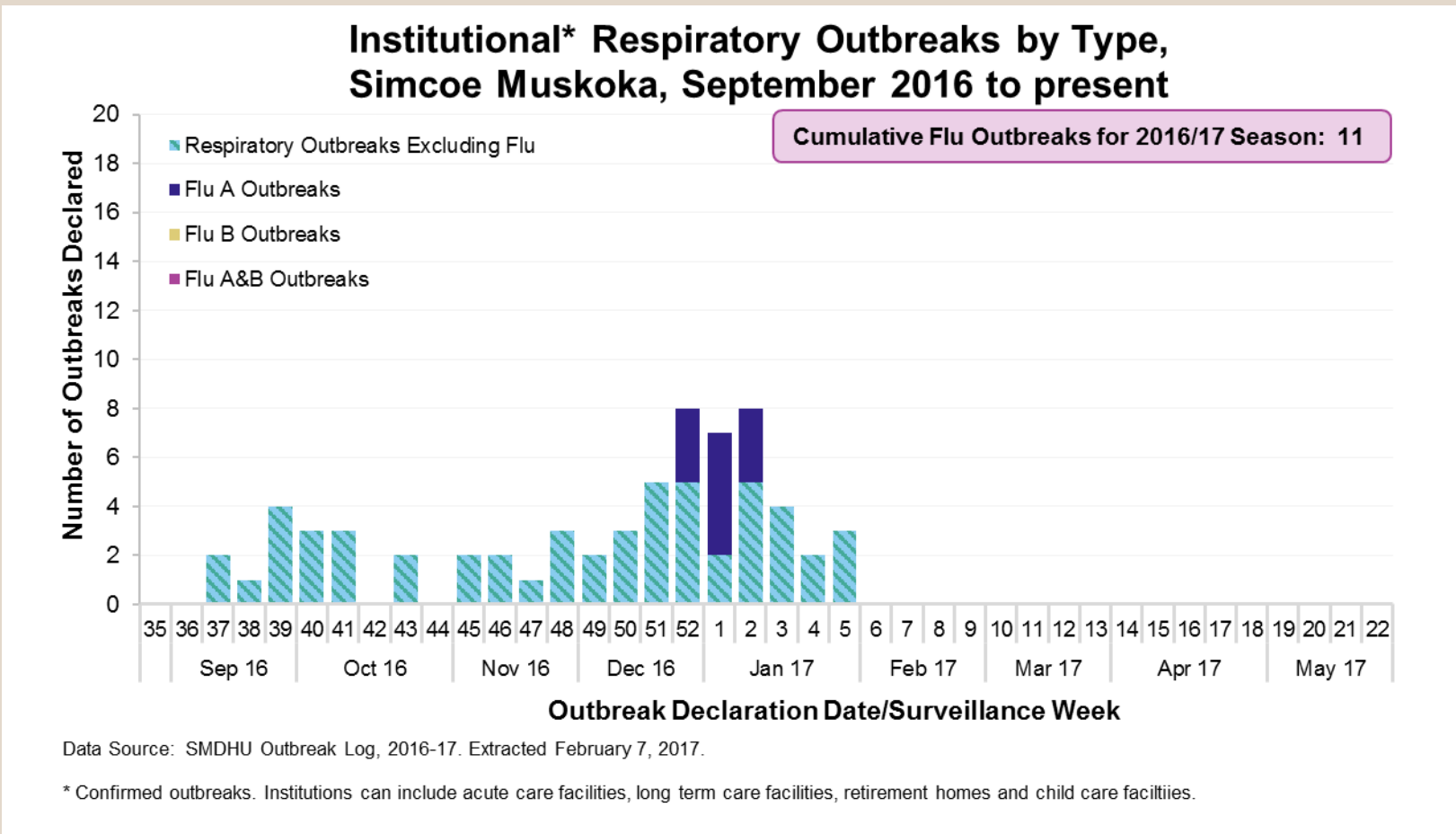
Figure 4: Percent Positivity, Influenza A & B, Simcoe Muskoka & Ontario, 2016/17



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.

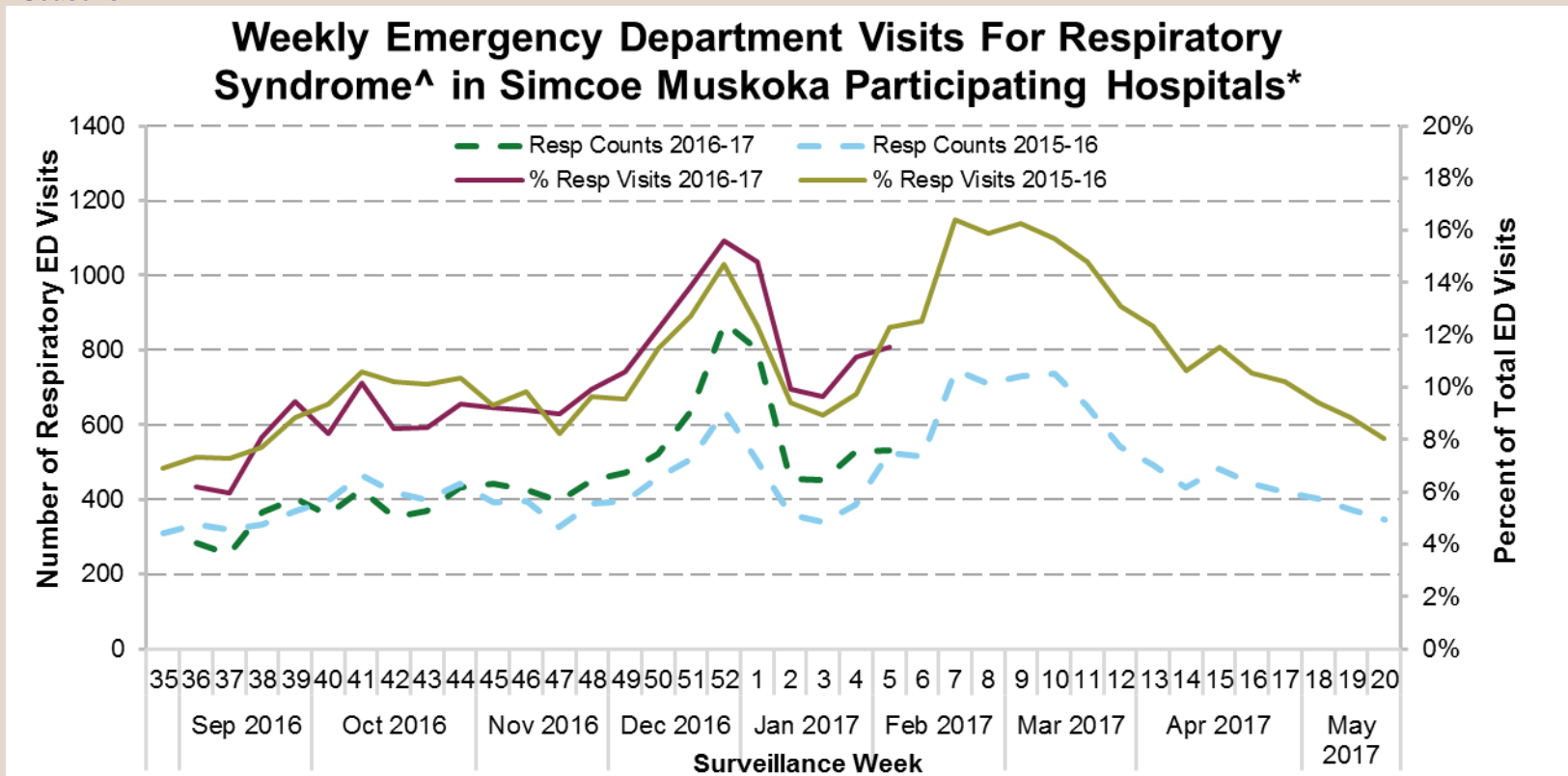
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 11.5% of visits in week 5. This is similar to week 4, and slightly lower compared to 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 February 7, 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	
Influenza A Vaccine Strains				
Influenza A (H3N2) A/Hong Kong/4801/2014-like	1	85	147	94%
Influenza A (H1N1) A/California/07/09-like	0	6	10	6%
Influenza B Vaccine Strains				
B/Brisbane/60/08-like	0	4	15	47%
B/Phuket/3073/13-like (Quad vaccine only)	0	6	17	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 4; SMDHU Counts: CD Intake Database, extracted February 7, 2017.

*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 5). 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 4, an additional 269 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 4 Provincial Summary: For the 2016-2017 surveillance season to week 4, 6393 laboratory-confirmed influenza cases have been reported across Ontario, 886 (13.9%) of which were reported in week 4. Among cumulative cases, 98.6% (6301/6393) were influenza A. Of the 3183 reported influenza A cases with subtype information available, 99.5% (3167/3183) were H3N2 and 0.5% (16/3183) were (H1N1)pdm09. Influenza A activity in week 4 was moderate.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 4, extracted February 7, 2017.)

National

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

International Resources

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