






Weekly Influenza News

Week 16: April 16 to April 22, 2017

Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
 <u>Reported cases</u>	Slightly Higher	12 local lab-confirmed case reported in week 16 ; 7 cases reported in week 15
 <u>Percent Positive of Flu Specimens[†]</u>	Similar [†]	Simcoe Muskoka: - flu A (1.7%); flu B (5.1%) Ontario: - flu A lower at 4.2%; flu B higher (10.9%)
 <u>Local Institutional Outbreaks</u>	Slightly Higher	One institutional influenza outbreak was declared in week 16. Twenty-four influenza outbreaks reported for season to date.
 <u>Influenza Strains</u>	Similar	Predominant strains: Influenza A (H3N2) (91%)
 <u>Local Emergency Department respiratory visits: week 16</u>	Slightly Higher	Percentage of visits is slightly higher compared to previous week and previous flu seasons
Week 16 Overall Assessment April 16 to April 22, 2017	Slightly Higher	Reported Activity Level: Localized Two new cases of Flu A in SMDHU. Ten 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 15; assessment of indicator based primarily on provincial percent positivity due to low local counts

Reported Local Influenza Cases

In Simcoe Muskoka, there have been 669 **lab-confirmed influenza cases reported** as of 25 April 2017; 12 (2%) of which were reported in week 16 – this is similar to week 15.

Of the 502 reported influenza cases with subtype information available:

- 491 (98.5%) of the cases were influenza A, subtype H3.
 - Seventeen of these cases were further subtyped to H3N2.
 - Of these seventeen, five were identified as A/HONG KONG/4801/2014-LIKE(H3N2)
- Three cases were influenza A, H1N1
- Six (1.2%) of the cases were influenza B/Phuket/3073/13-like

🔗 Figure 2 and Figure 3 below provide historic comparisons

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

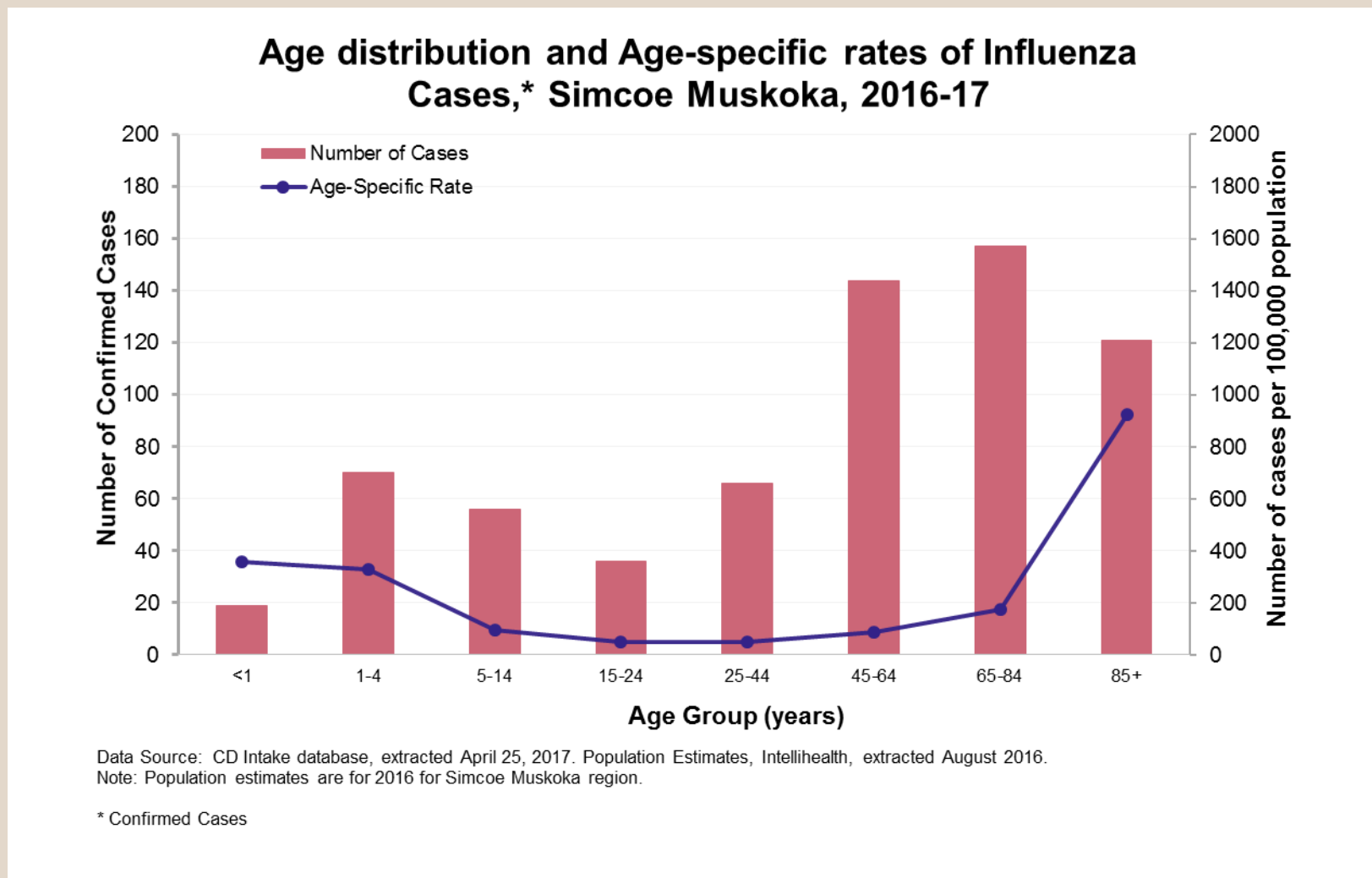
Lab-confirmed Influenza Cases	Week 16		Season-to-Date	
	N	%	N	%
Influenza A	2	17%	609	91%
Influenza B	10	83%	59	9%
Influenza A & B	0	0%	1	0%
Total	12	100%	669	100%
Notes:				
Data source: Communicable Disease Intake Database, extracted on April 4, 2017				

Age Distribution

For the season-to-date, 42% of cases have been reported in individuals aged 65 and older. The corresponding age-specific rates are 174.7 per 100,000 population (65-84 years) and 922.7 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 355.9 cases per 100,000 population.

Mean age of reported flu cases: **51.4 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

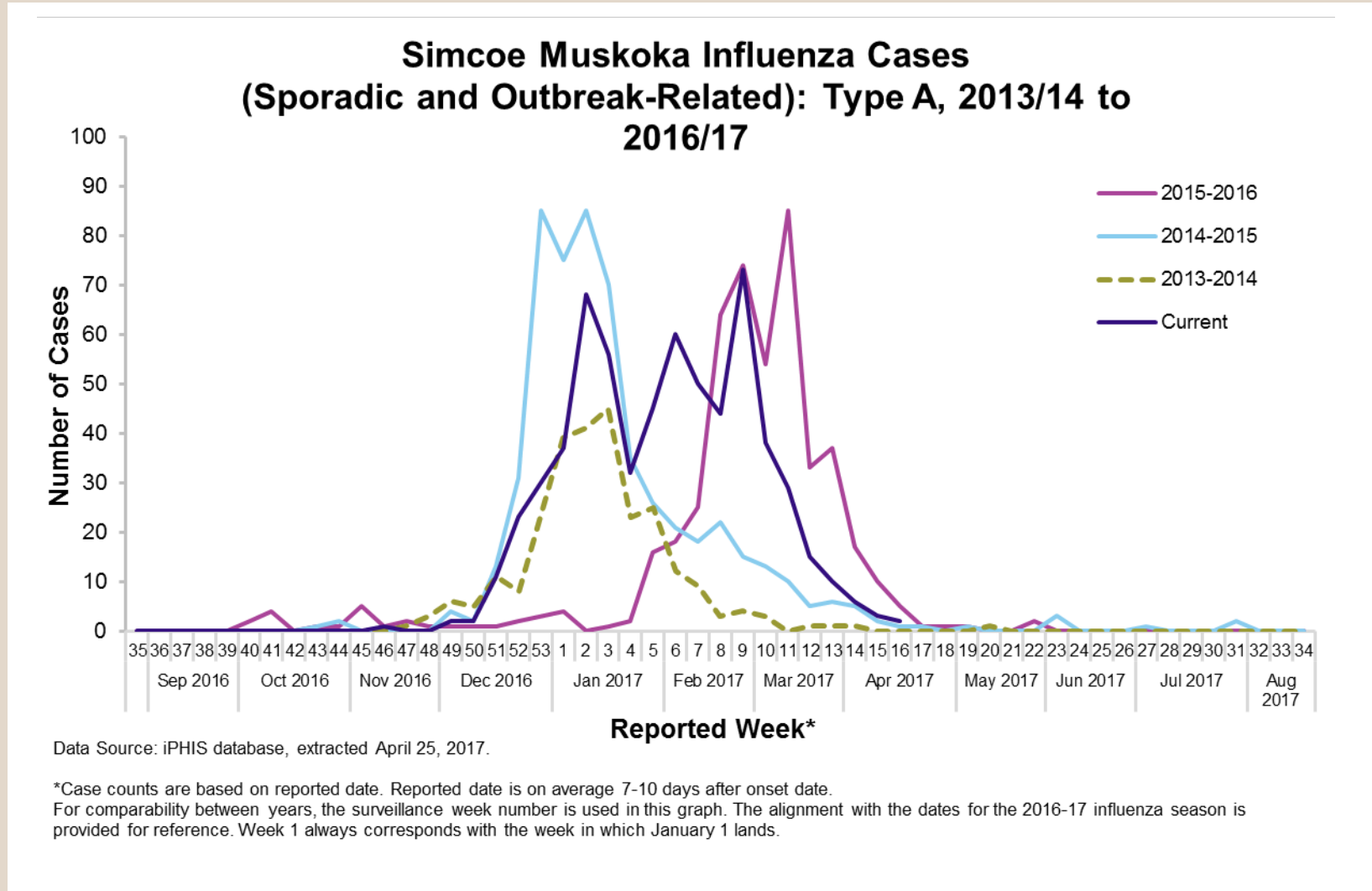
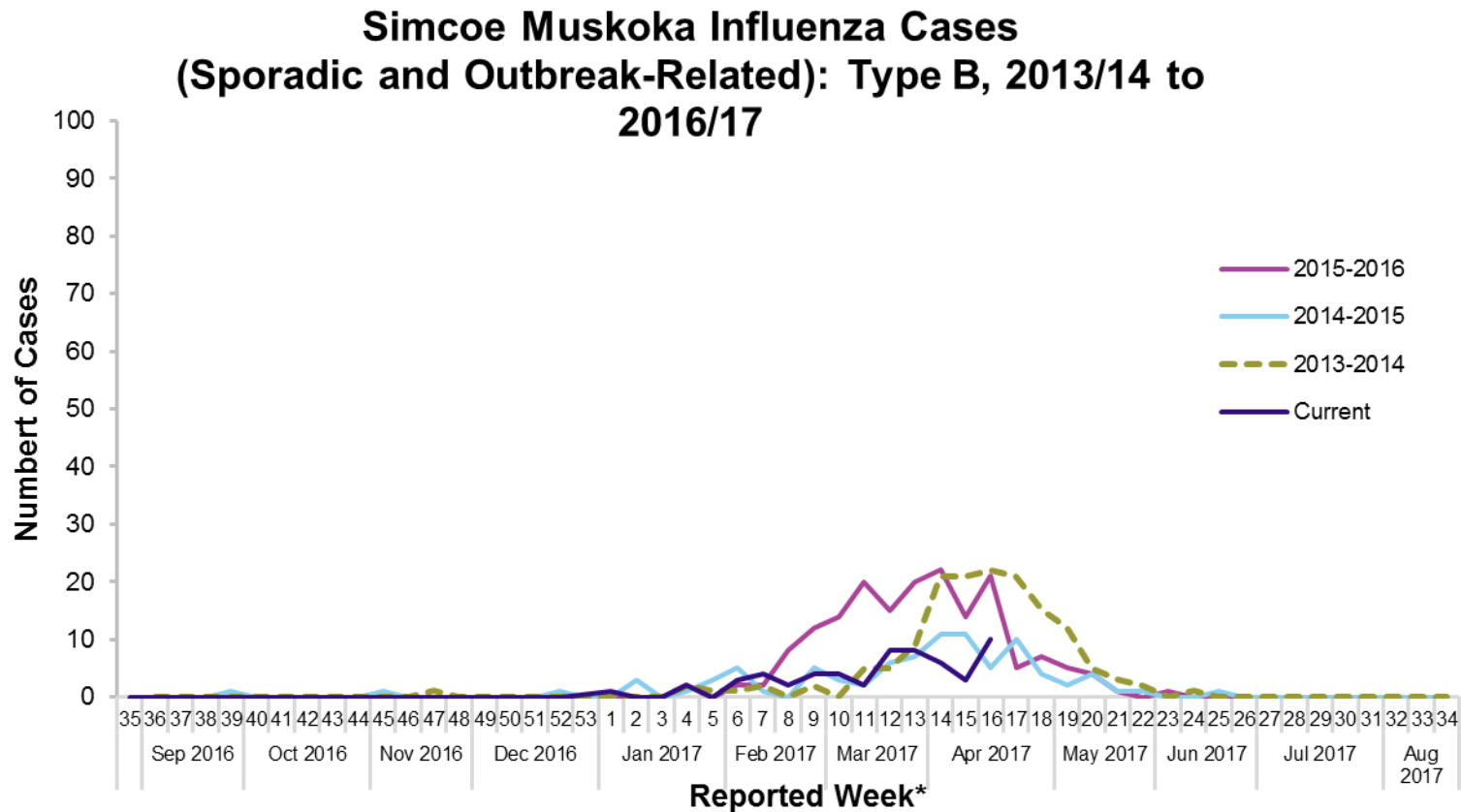


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



Data Source: iPHIS database, extracted April 25, 2017.

*Case counts are based on reported date. Reported date is on average 7-10 days after onset date. For comparability between years, the surveillance week number is used in this graph. The alignment with the dates for the 2016-17 influenza season is provided for reference. Week 1 always corresponds with the week in which January 1 lands.

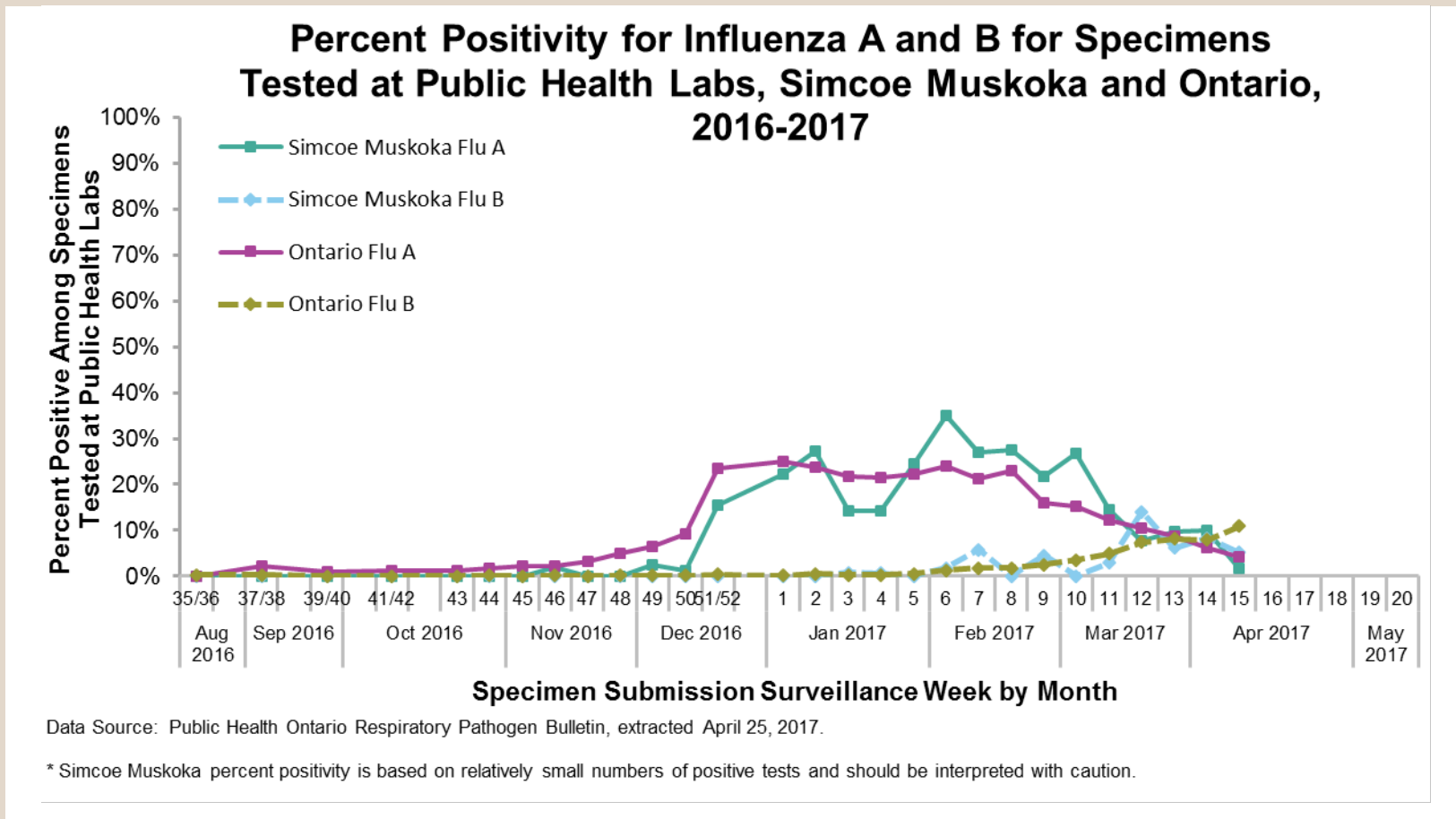
Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 16. Percent positivity is reported for week 15.

The percentage of flu specimens that are positive (percent positivity) for Influenza A continues to decline. The provincial percent positivity for influenza A in week 15 was reported at 4.2%, which is lower than week 14. Influenza B percent positivity was reported at 10.9% for week 15 which is higher when compared to week 14.

Locally for week 15, percent positivity for influenza A was reported at 1.7%, while influenza B was 5.1%.

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

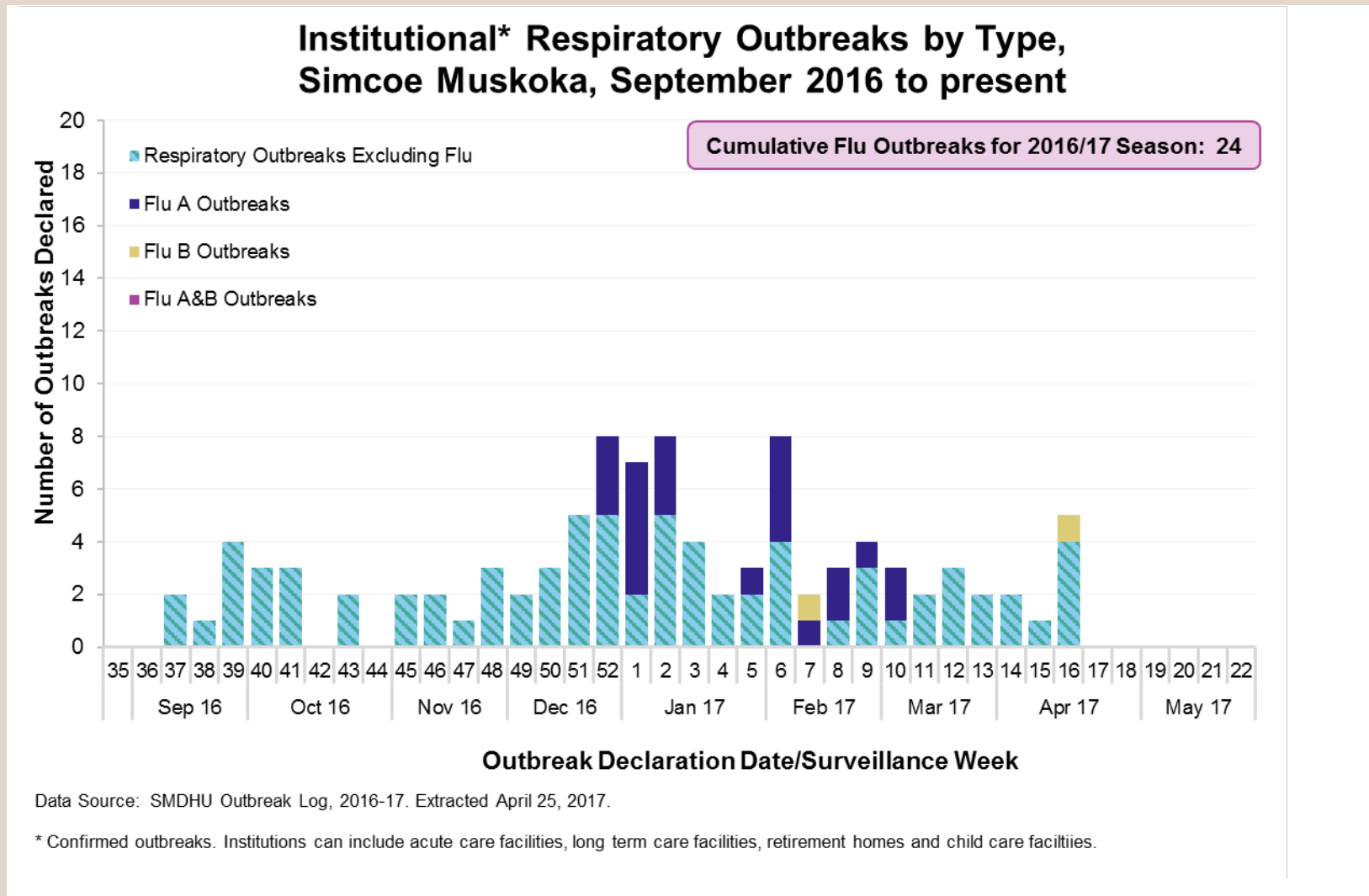


Institutional Respiratory Outbreaks

There have been 24 *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2016:

- Influenza A: 22 outbreaks
- Influenza B: two outbreaks

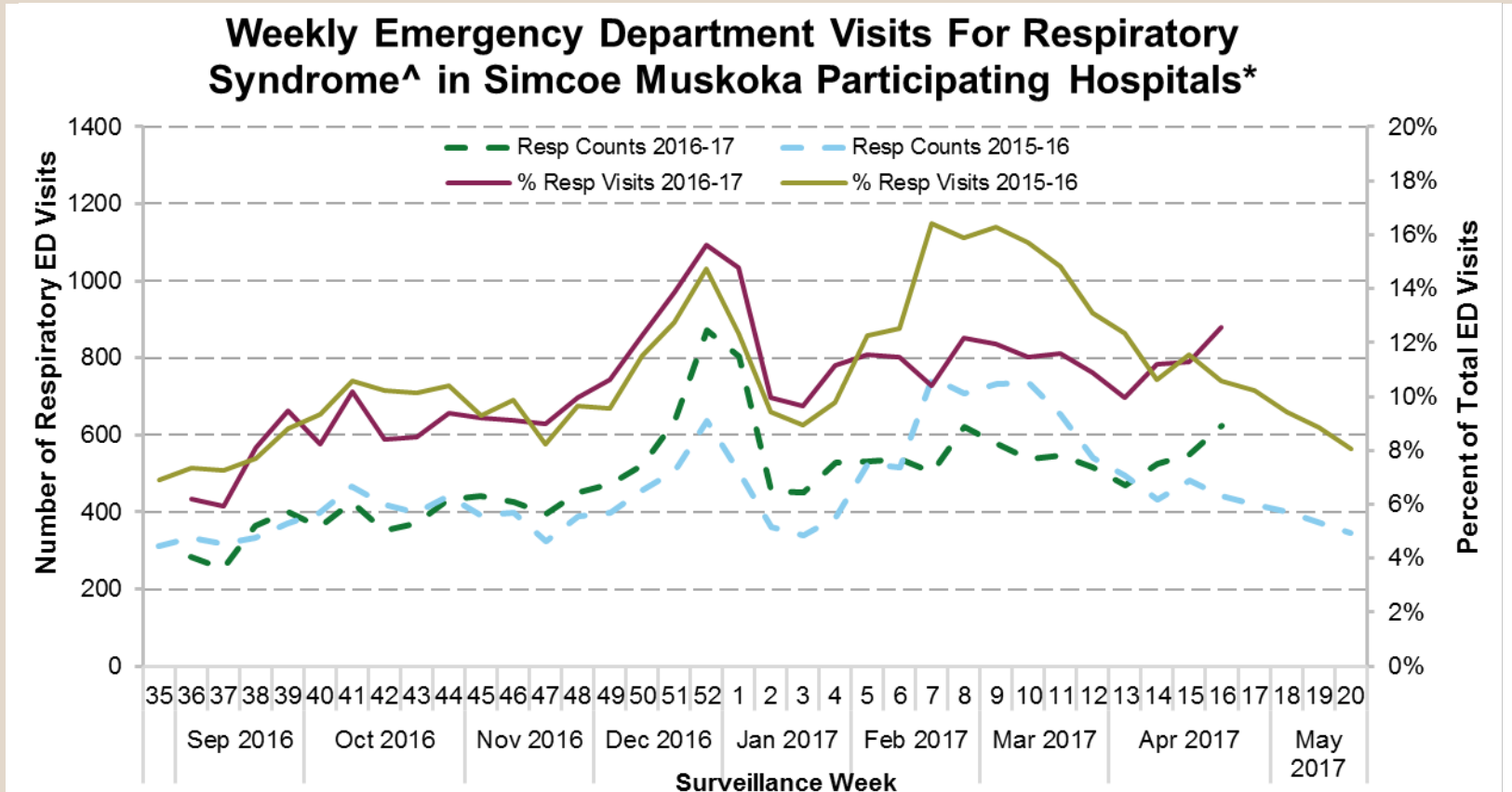
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 12.6% of visits in week 16. This is higher than week 15, and higher compared to the 2015/16 season. The large increase and subsequent decrease in visits at the beginning of 2017 follows the seasonal pattern observed in previous years, particularly the 2014/15 season.

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 April 25, 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.

The World Health Organization has issued their recommendation for the [2017/2018 seasonal influenza vaccine](#).

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	5	206	348	91%
Influenza A (H1N1) A/California/07/09-like	1	29	36	9%
Influenza B Vaccine Strains				
B/Brisbane/60/08-like	0	26	46	23%
B/Phuket/3073/13-like (Quad vaccine only)	6	61	155	77%

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 15; SMDHU Counts: CD Intake Database, extracted April 25, 2017.

*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 16). 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 15, an additional 1072 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 15 Provincial Summary: For the 2016-2017 surveillance season to week 15, 11,563 laboratory-confirmed influenza cases have been reported across Ontario, 151 (1%) of which were reported in week 15. Among cumulative cases, 92.0% (10,639/11,563) were influenza A. Of the 5911 reported influenza A cases with subtype information available, 99.1% (5860/5911) were H3N2 and 0.9% (51/5911) were (H1N1)pdm09.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 15, extracted April 25, 2017.)

National

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

International Resources

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