






Weekly Influenza News

Week 10: March 5 – March 11, 2017

Week in Review:

Influenza Activity Indicator	Assessment of Indicator*	Interpretation
 <u>Reported cases</u>	Lower	42 local lab-confirmed case reported in week 10 ; 77 cases reported in week 9
 <u>Percent Positive of Flu Specimens[†]</u>	Similar [†]	Simcoe Muskoka: - flu A lower at 21.6%; flu B higher (4.5%) Ontario: - flu A lower at 16.1%; flu B higher (2.5%)
 <u>Local Institutional Outbreaks</u>	Similar	One institutional influenza outbreak declared in week 10. Twenty-three influenza outbreaks reported for season to date.
 <u>Influenza Strains</u>	Similar	Predominant strains: Influenza A (H3N2) (92%)
 <u>Local Emergency Department respiratory visits: week 10</u>	Similar	Percentage of visits is similar compared to previous week; visits in recent weeks are lower than previous flu seasons
Week 10 Overall Assessment March 5 – March 11, 2017	Lower	Reported Activity Level: Localized 38 new cases of Flu A in SMDHU. Four 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 9; assessment of indicator based primarily on provincial percent positivity due to low local counts

Reported Local Influenza Cases

In Simcoe Muskoka, there have been 572 **lab-confirmed influenza cases reported** as of 14 March 2017; 42 (7%) of which were reported in week 10 – this is lower in comparison to week 9.

Of the 442 reported influenza A cases with subtype information available:

- 442 (100%) of the cases were influenza A, subtype H3.
 - Six of these cases were further subtyped to H3N2.
 - Of these six, two were identified as A/HONG KONG/4801/2014-LIKE(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 10		Season-to-Date	
	N	%	N	%
Influenza A	38	90%	552	97%
Influenza B	4	10%	20	3%
Influenza A & B	0	0%	0	0%
Total	42	100%	572	100%

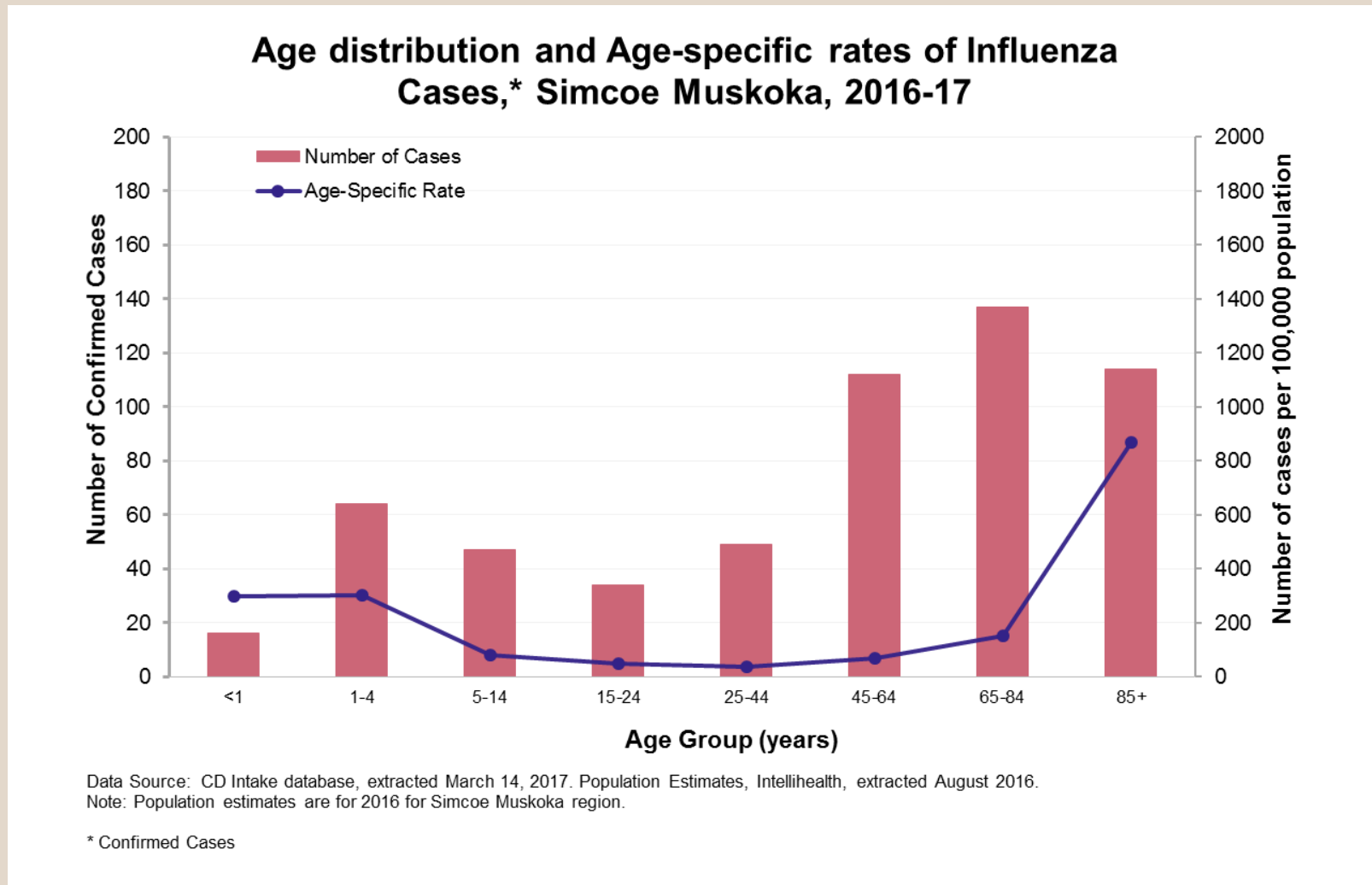
Notes:
Data source: Communicable Disease Intake Database, extracted on March 14, 2017

Age Distribution

For the season-to-date, nearly half (43.8%) of cases have been reported in individuals aged 65 and older. The corresponding age-specific rates are 152.4 per 100,000 population (65-84 years) and 869.3 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 299.7 cases per 100,000 population.

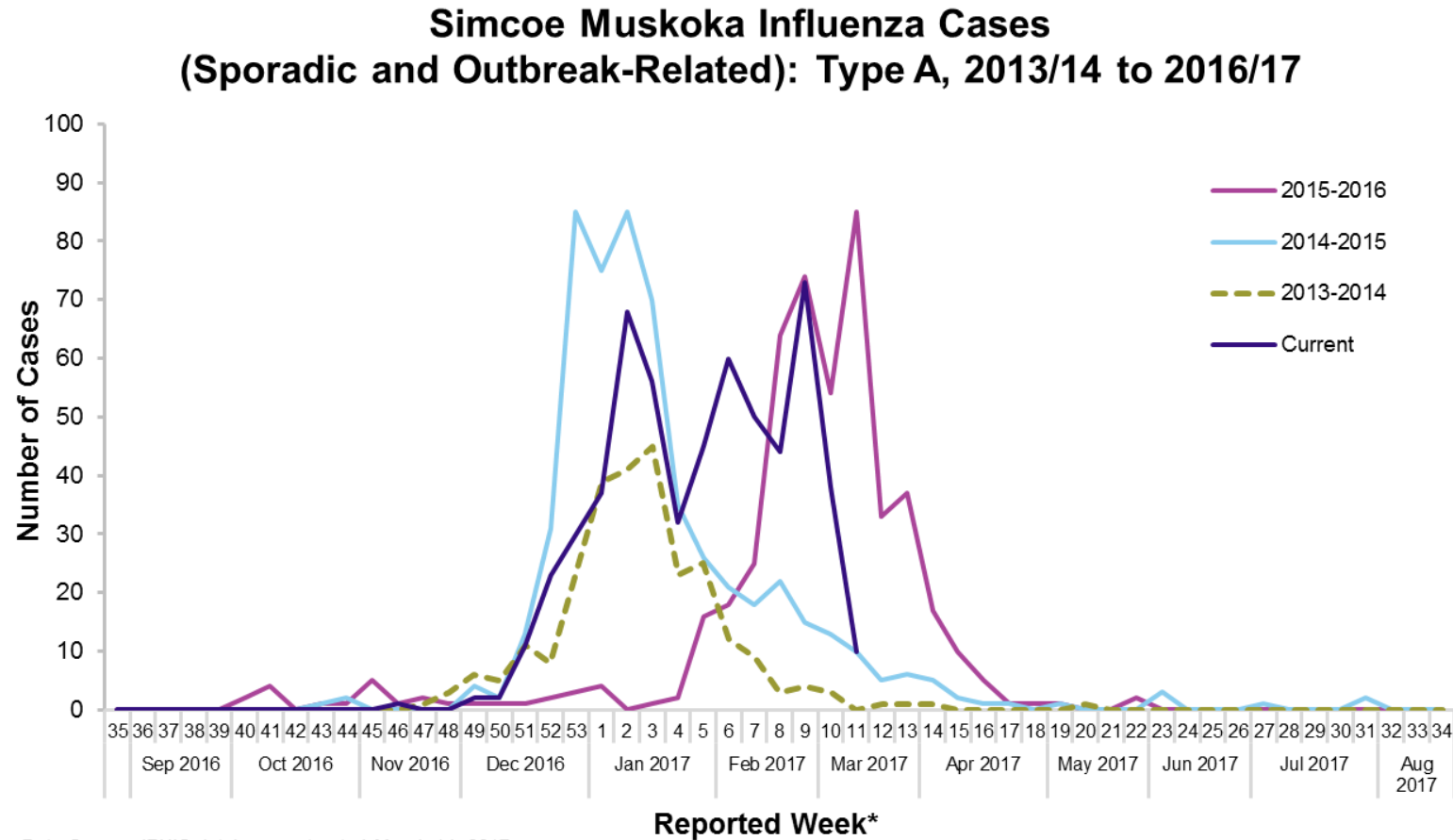
Mean age of reported flu cases: **52.1 years**

Figure 1: Number and Age-specific Rate of Influenza Cases by Age Group, Simcoe Muskoka, September 2016 to present



Historical Comparison

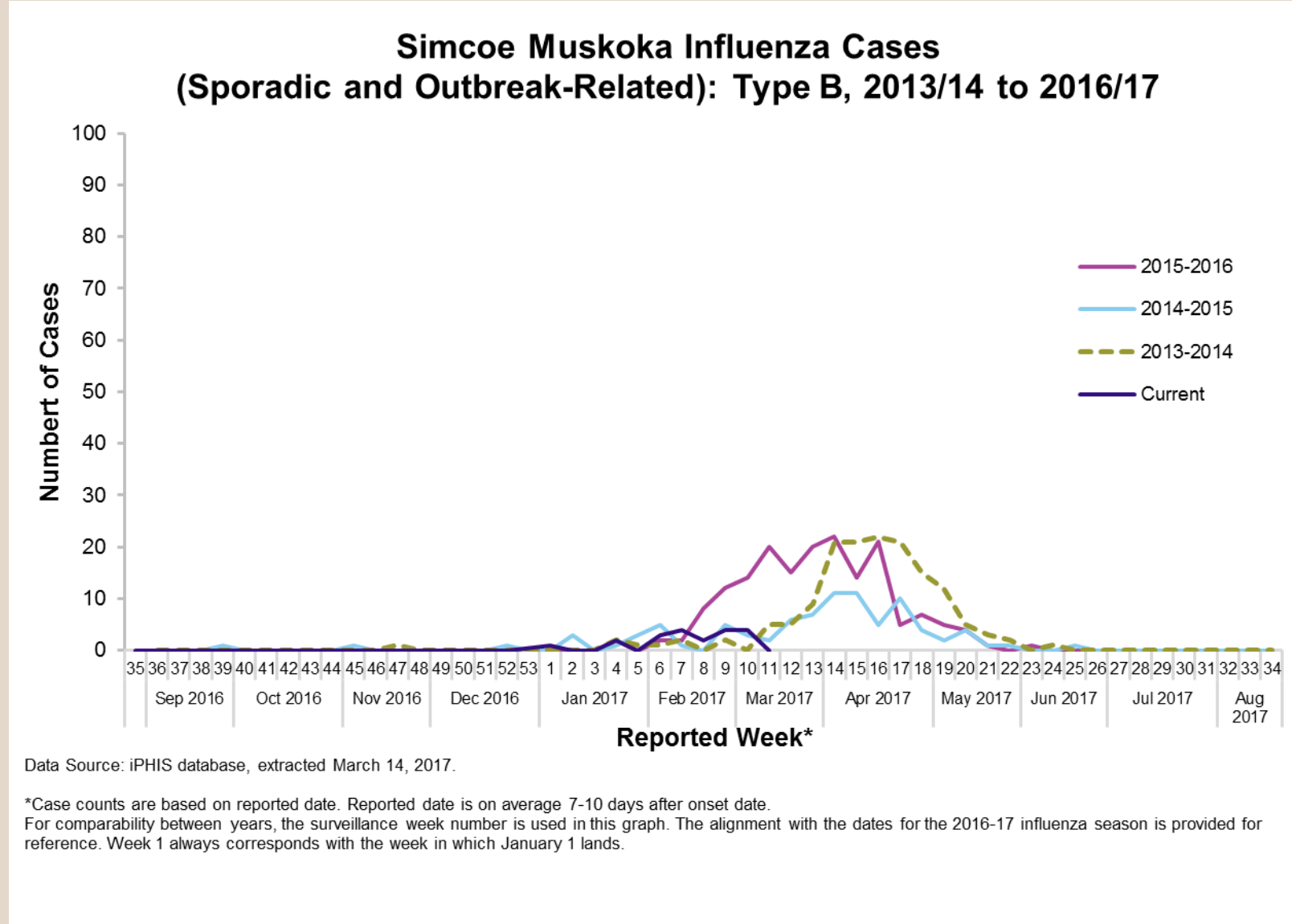
Figure 2: Reported Influenza Cases, Type A, Current Influenza Season with Historical Comparison, Simcoe Muskoka



Data Source: iPHIS database, extracted March 14, 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.

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



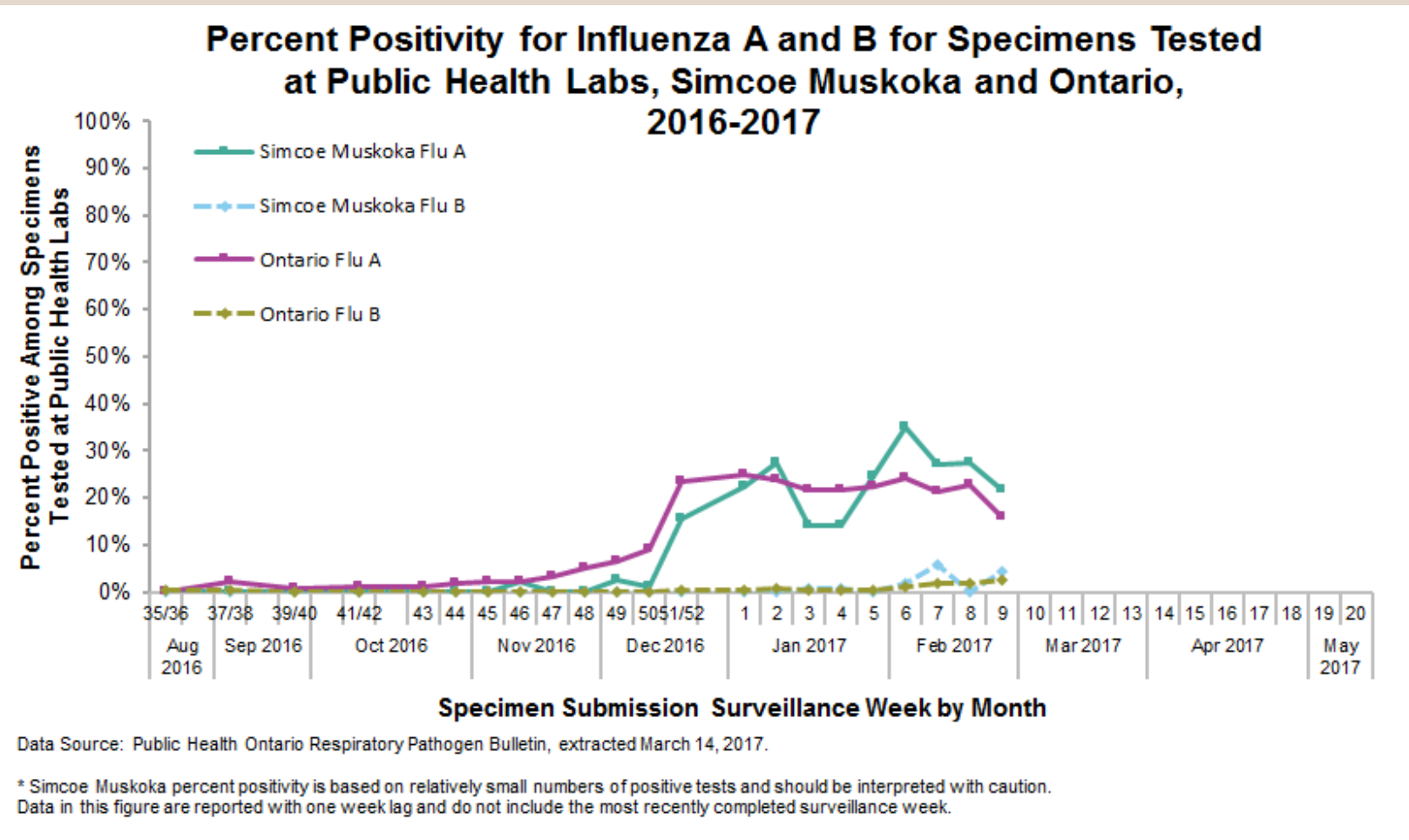
Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 10. Percent positivity is reported for week 9.

The percentage of flu specimens that are positive (percent positivity) for Influenza A are lower compared to the previous week. The provincial percent positivity for influenza A in week 9 was reported at 16.1 %, lower than week 8. Influenza B percent positivity was lower than the previous week at 2.5%.

Locally for week 9, percent positivity for influenza A was reported at 21.6%, while influenza B increased to 4.5%.

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

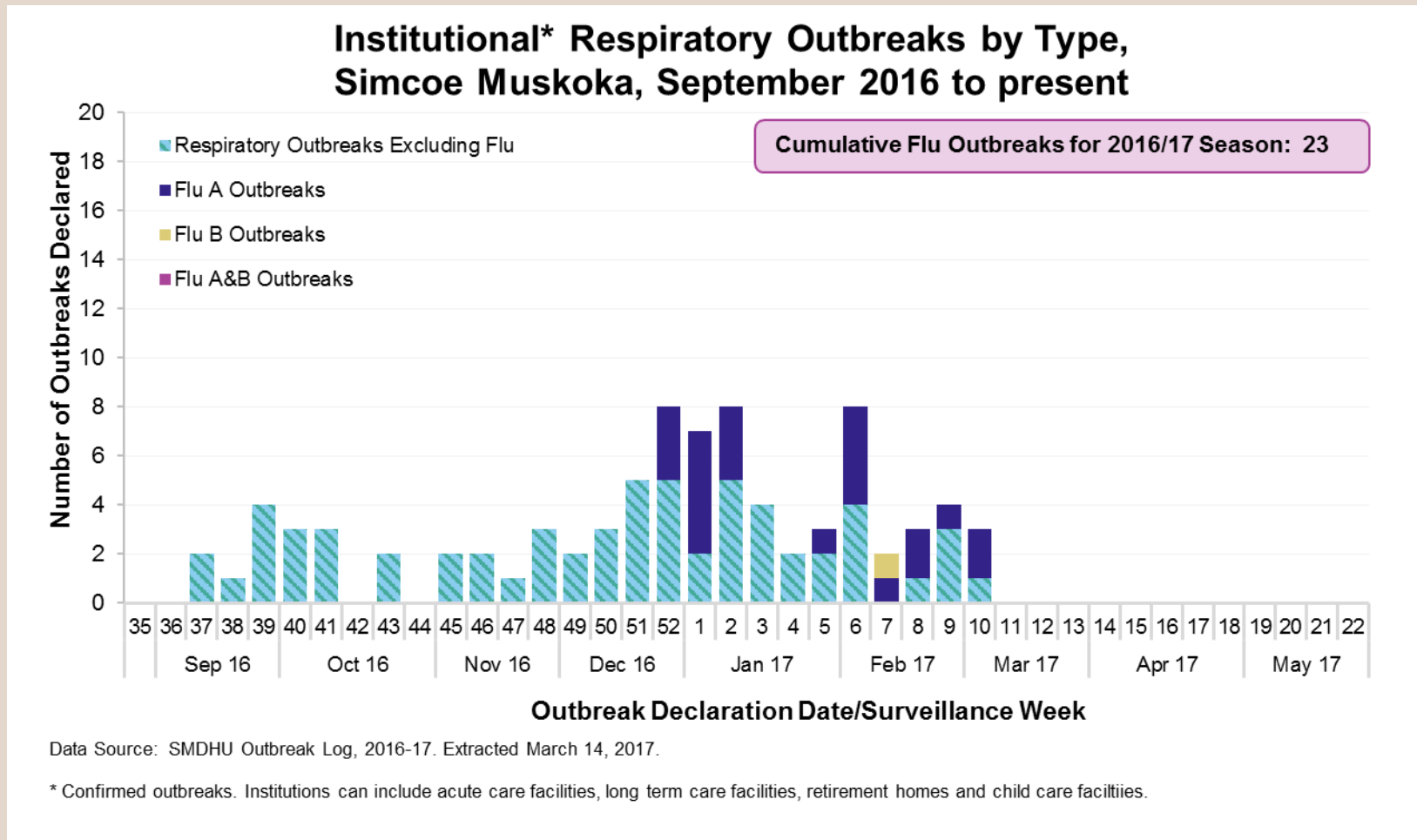


Institutional Respiratory Outbreaks

There have been 23 *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2016:

- Influenza A: 22 outbreaks
- Influenza B: one outbreak

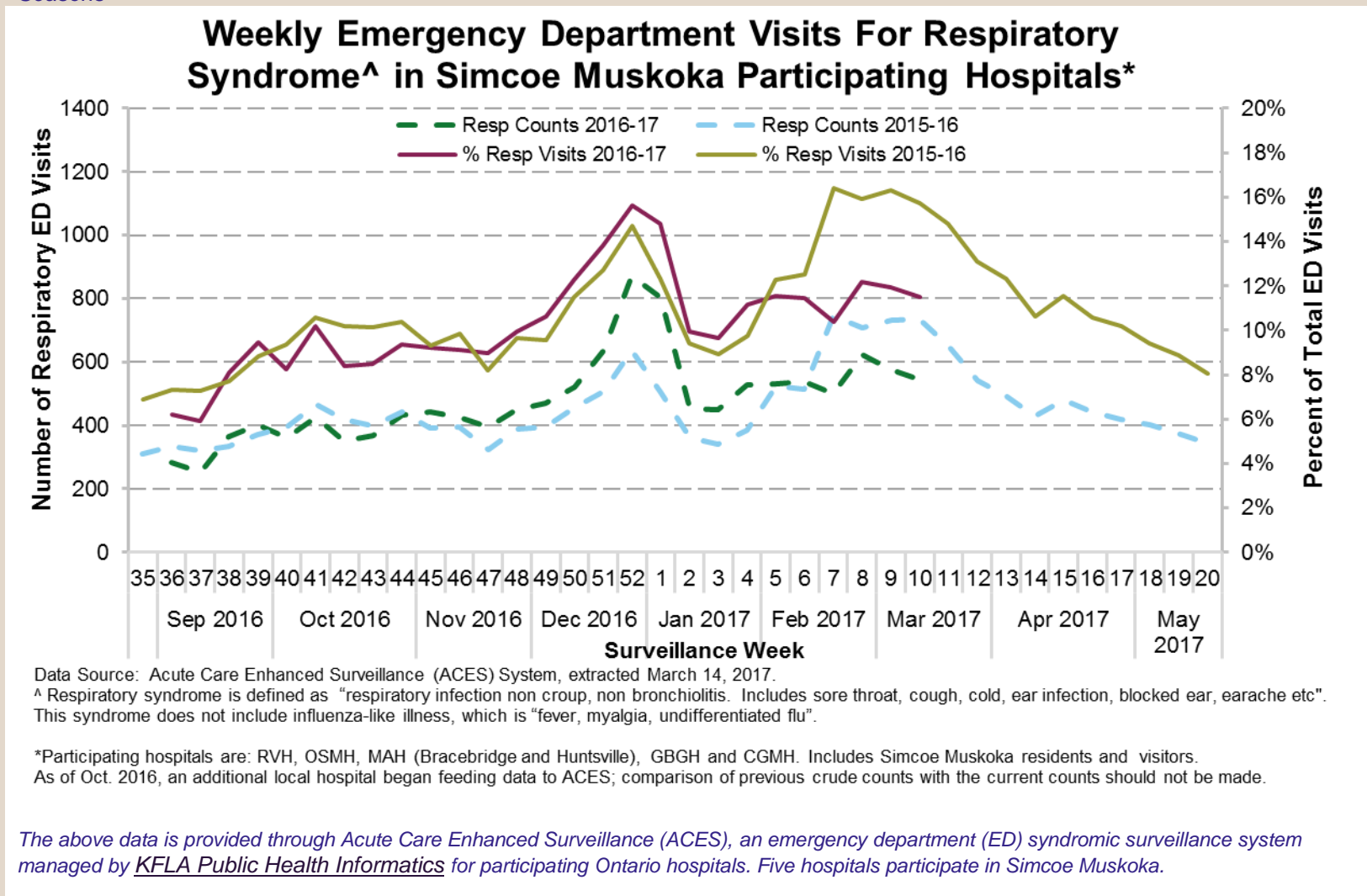
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 11.5% of visits in week 10. This is similar to week 9, and significantly lower compared to the same time period in 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



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	2	179	285	92%
Influenza A (H1N1) A/California/07/09-like	0	21	25	8%
Influenza B Vaccine Strains				
B/Brisbane/60/08-like	0	17	32	40%
B/Phuket/3073/13-like (Quad vaccine only)	4	23	49	60%

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 9; SMDHU Counts: CD Intake Database, extracted March 14, 2017.

*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 10). 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 9, an additional 683 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 9 Provincial Summary: For the 2016-2017 surveillance season to week 9, 9692 laboratory-confirmed influenza cases have been reported across Ontario, 533 (5.5%) of which were reported in week 9. Among cumulative cases, 97% (9400/9692) were influenza A. Of the 5108 reported influenza A cases with subtype information available, 99.4% (5076/5108) were H3N2 and 0.6% (32/5108) were (H1N1)pdm09. Influenza A activity in week 9 was moderate.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 9, extracted March 14, 2017.)

National

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

International Resources

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