






# Weekly Influenza News

## Week 7: February 12 to February 18, 2017

### Week in Review:

| Influenza Activity Indicator   | Assessment of Indicator*     | Interpretation  |
|--|------------------------------|---|
|  <u>Reported cases</u>  | Slightly Lower               | <b>54</b> local lab-confirmed case reported in <b>week 7</b> ; <b>63</b> cases reported in week 6                         |
|  <u>Percent Positive of Flu Specimens<sup>†</sup></u>           | Slightly Higher <sup>†</sup> | <b>Simcoe Muskoka:</b><br>- flu A increased to 35%; flu B (1.7%)<br><b>Ontario:</b><br>- flu A (24%); flu B (1.3%)        |
|  <u>Local Institutional Outbreaks</u>                           | Slightly Lower               | Two institutional influenza outbreaks were declared in week 7. Seventeen influenza outbreaks reported for season to date. |
|  <u>Influenza Strains</u>                                     | Similar                      | <b>Predominant strains:</b><br>Influenza A (H3N2) (95%)   |
|  <u>Local Emergency Department respiratory visits: week 7</u> | Similar                      | Percentage of visits is similar to previous week; following seasonal trend observed in previous years.                    |
| <b>Week 7 Overall Assessment</b><br>February 12 to February 18, 2017   | <b>Similar</b>               | <b>Reported Activity Level: Localized</b><br>50 new cases of Flu A in SMDHU.<br>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 6; assessment of indicator based primarily on provincial percent positivity due to low local counts

## Reported Local Influenza Cases

In Simcoe Muskoka, there have been 397 **lab-confirmed influenza cases reported** as of 22 February 2017; 54 (13.6%) of which were reported in week 7 – this is lower in comparison to week 6.

Of the 293 reported influenza A cases with subtype information available:

- 293 (100%) of the cases were influenza A, subtype H3.
  - Four of these cases were further subtyped to H3N2.
  - Of these four, 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 7    |             | Season-to-Date |             |
|-------------------------------|-----------|-------------|----------------|-------------|
|                               | N         | %           | N              | %           |
| <b>Influenza A</b>            | 50        | 92.6%       | 387            | 97.5%       |
| <b>Influenza B</b>            | 4         | 7.4%        | 10             | 2.5%        |
| <b>Influenza A &amp; B</b>    | 0         | 0%          | 0              | 0%          |
| <b>Total</b>                  | <b>54</b> | <b>100%</b> | <b>397</b>     | <b>100%</b> |

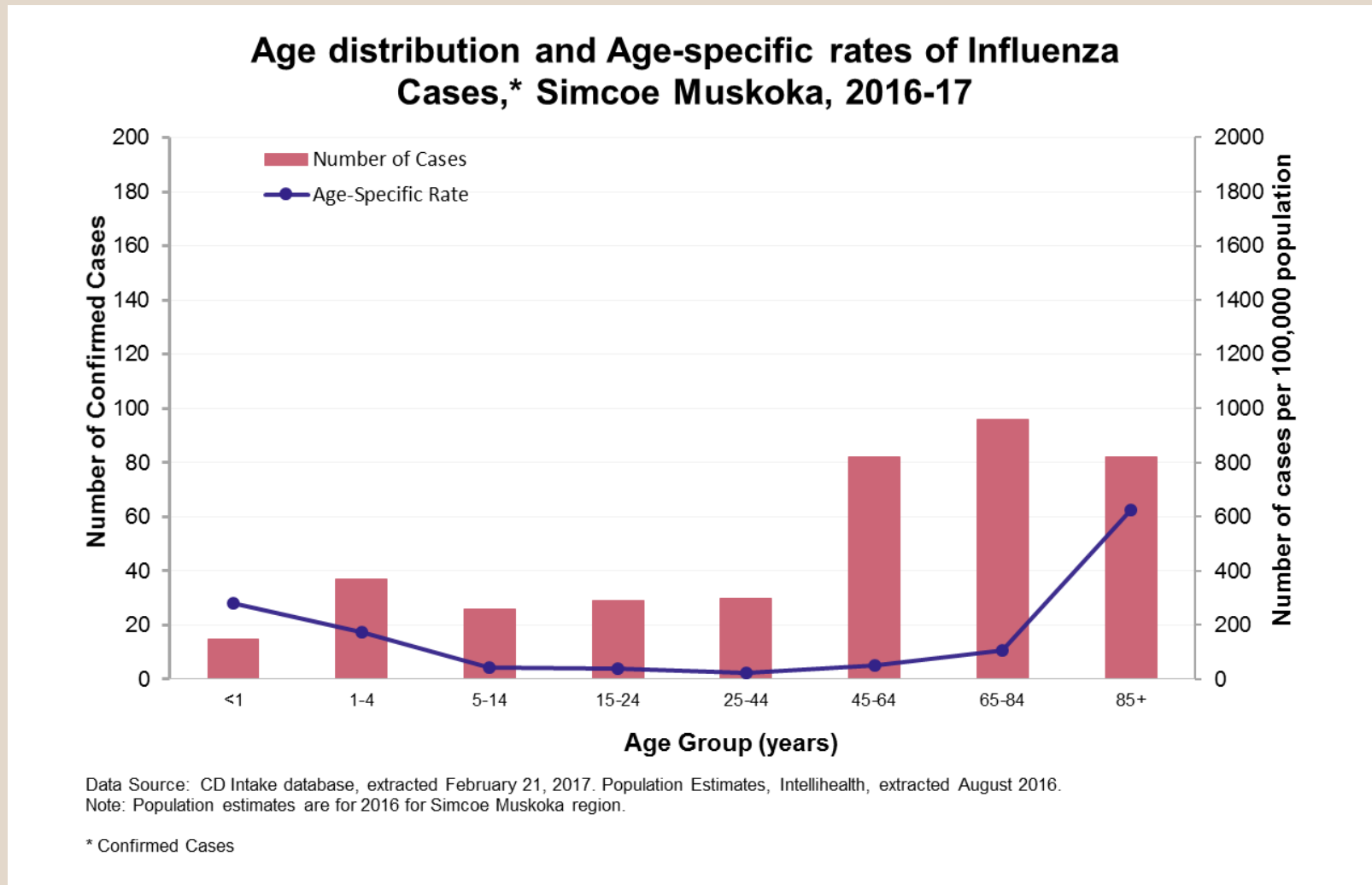
Notes:  
Data source: Communicable Disease Intake Database, extracted on February 21, 2017

## Age Distribution

For the season-to-date, nearly half (44.8%) of cases have been reported in individuals aged 65 and older. The corresponding age-specific rates are 106.8 cases per 100,000 population (65-84 years) and 625.3 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 281 cases per 100,000 population.

Mean age of reported flu cases: **53.3 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

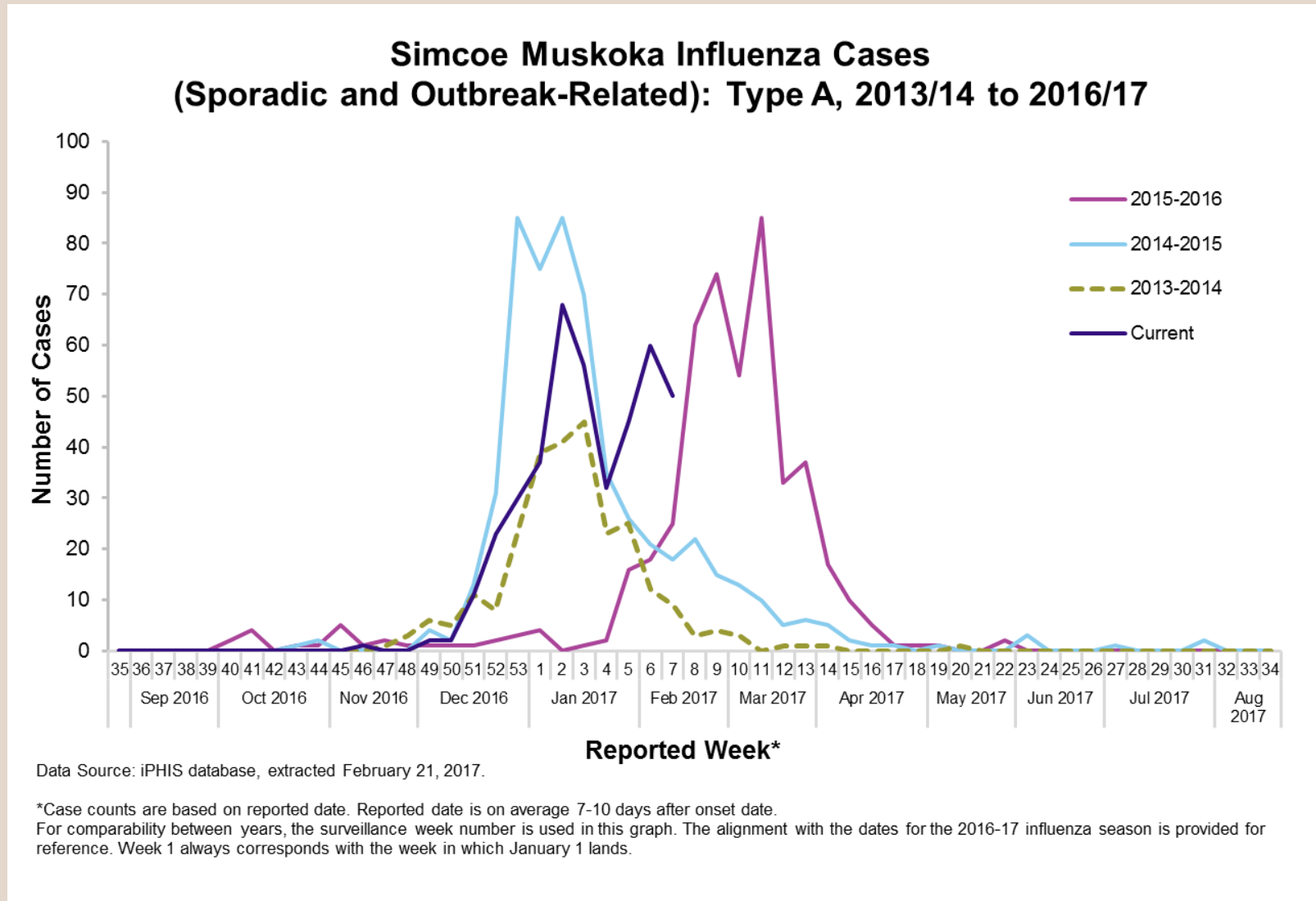
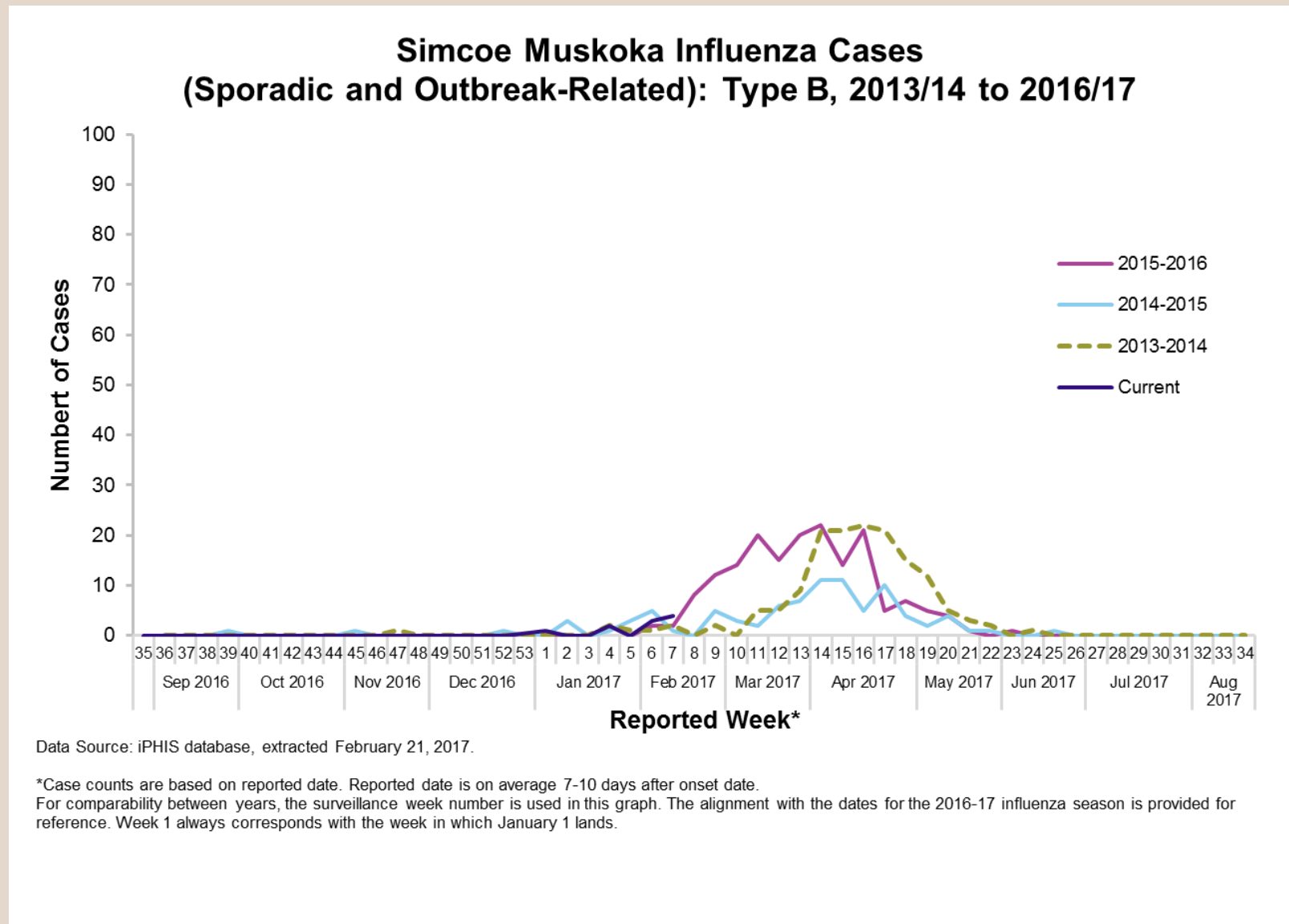


Figure 3: Reported Influenza Cases, Type B, Current Influenza Season with Historical Comparison, Simcoe Muskoka



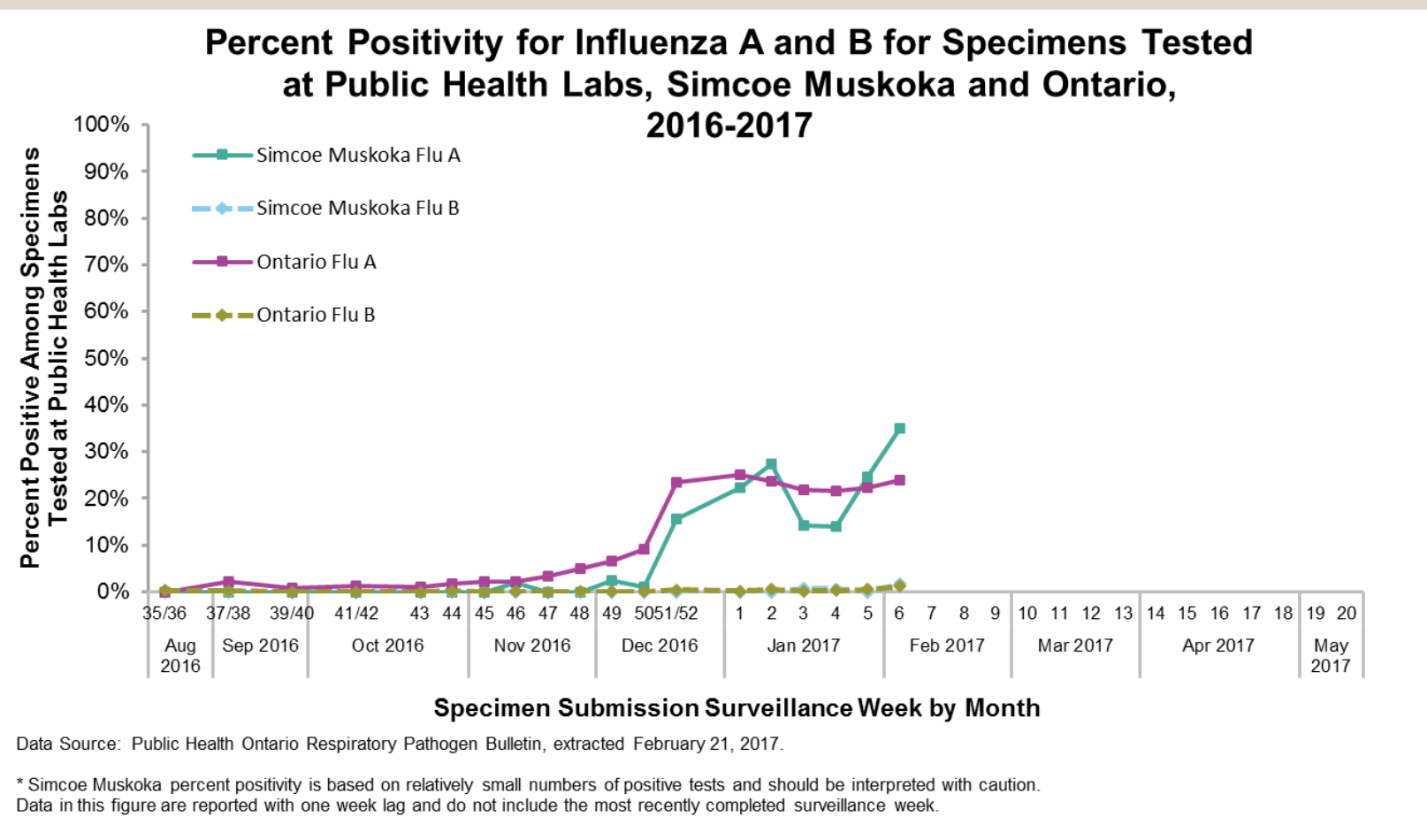
## Percent positivity

Note: Percent positivity is reported with one week lag and does not include week 7. Percent positivity is reported for week 6.

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 6 was reported at 24%, similar to 22.3% percent positivity reported in week 5. Influenza B percent positivity was similar to the previous week at 1.3%.

However, locally for week 6, percent positivity increased for influenza A to 35%, while influenza B remained low at 1.7%.

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

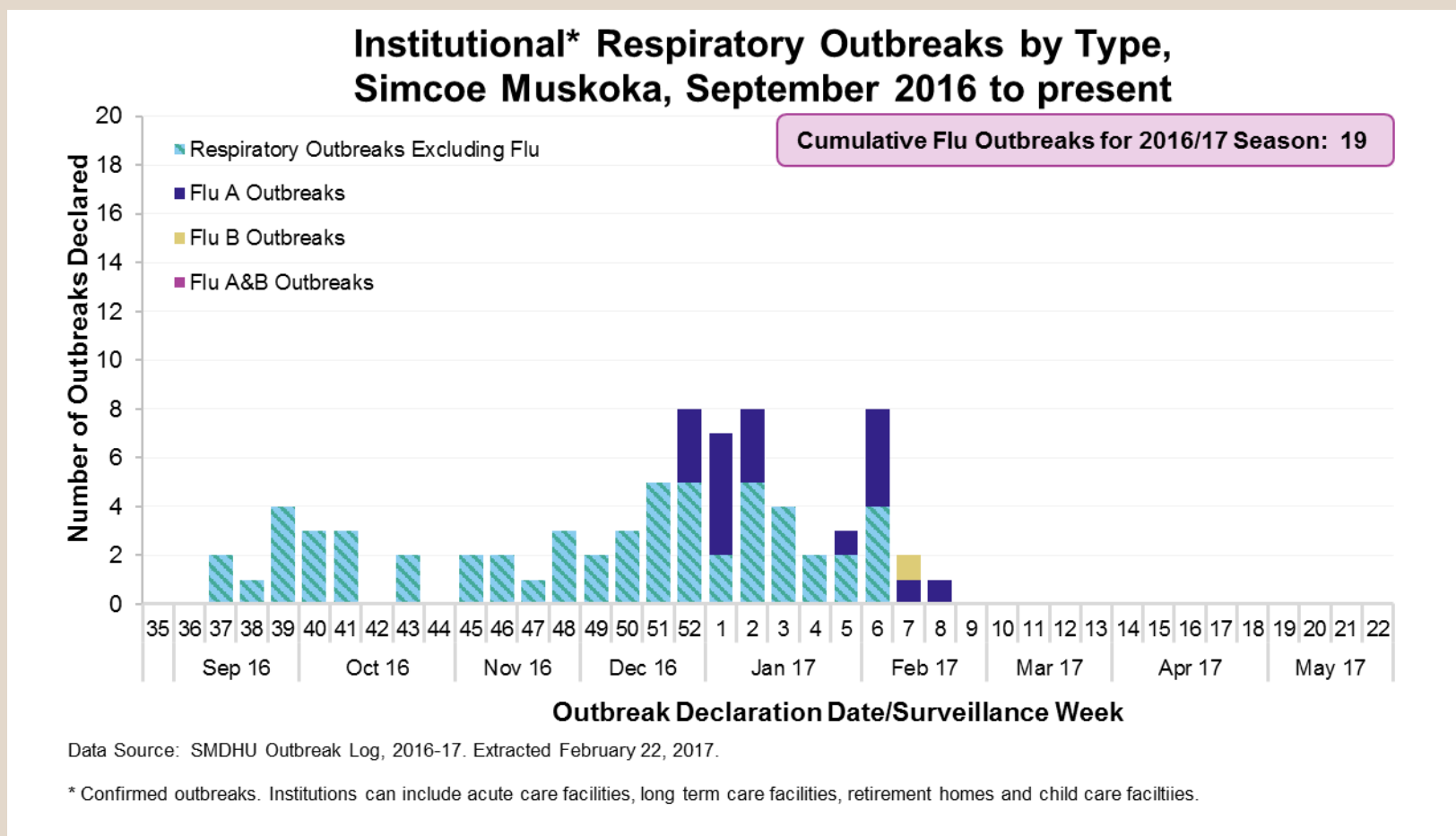


## Institutional Respiratory Outbreaks

There have been 19 *lab-confirmed institutional flu outbreaks* in Simcoe Muskoka since September 1, 2016:

- Influenza A: 18 outbreaks
- Influenza B: one outbreak

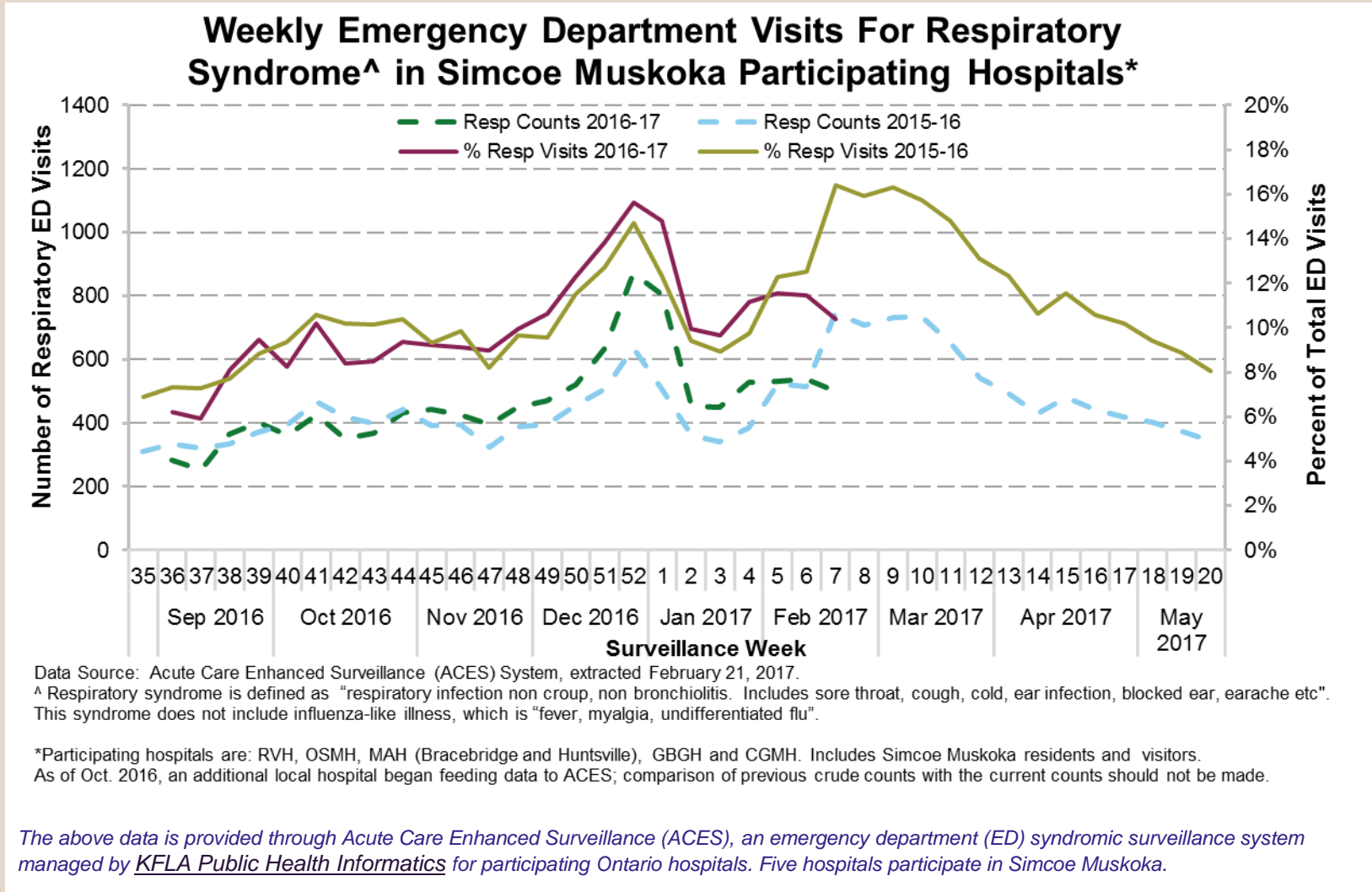
Figure 5: Institutional Outbreaks by Respiratory Pathogen, Simcoe Muskoka, 2016/17



### Local Emergency Department Visits

Emergency department visits for respiratory syndrome in Simcoe Muskoka accounted for 10.4% of visits in week 7. This is similar to week 6, 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, 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.

*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 |                          |
| <b>Influenza A Vaccine Strains</b>                       |  |         |        |                          |
| <b>Influenza A (H3N2)<br/>A/Hong Kong/4801/2014-like</b> | 2  | 122     | 200    | 95%                      |
| <b>Influenza A (H1N1)<br/>A/California/07/09-like</b>    | 0  | 7       | 11     | 5%                       |
| <b>Influenza B Vaccine Strains</b>                       |  |         |        |                          |
| <b>B/Brisbane/60/08-like</b>                             | 0  | 6       | 17     | 47%                      |
| <b>B/Phuket/3073/13-like</b> (Quad vaccine only)         | 0  | 6       | 19     | 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 6; SMDHU Counts: CD Intake Database, extracted February 22, 2017.

\*Simcoe Muskoka counts are current to the most recently completed surveillance week (week 7). 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 6, an additional 348 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 6 Provincial Summary:** For the 2016-2017 surveillance season to week 6, 7841 laboratory-confirmed influenza cases have been reported across Ontario, 662 (8.4%) of which were reported in week 6. Among cumulative cases, 98.3% (7707/7841) were influenza A. Of the 4095 reported influenza A cases with subtype information available, 99.5% (4076/4095) were H3N2 and 0.5% (19/4095) were (H1N1)pdm09. Influenza A activity in week 6 was moderate.

(Source: Public Health Ontario Respiratory Pathogen Bulletin, Surveillance Week 6, extracted February 14, 2017.)

### National

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

### International Resources

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