Public Health Ontario | Santé publique Ontario

PARTNERS FOR HEALTH | PARTENAIRES POUR LA SANTÉ

Ontario Respiratory Pathogen Bulletin | 2015-2016
SURVEILLANCE WEEKS 21 AND 22 (May 22, 2016 – June 4, 2016)

This issue of the Ontario Respiratory Pathogen Bulletin provides information on the surveillance period from May 22, 2016 to June 4, 2016 (Weeks 21 and 22). Unless otherwise specified data extraction occurred on Wednesday, June 8, 2016. Weekly production of the expanded version of the bulletin will resume in the fall for the 2016-17 season.

Assessment of Influenza Activity in Ontario

Measure of activity	Assessment of measure compared to the previous week (Lower, Similar, Higher)	Reasoning behind assessment
Laboratory-confirmed influenza cases[1]	Lower	There were 106 influenza cases (22 influenza A and 84 influenza B) reported in Weeks 21 and 22, which was lower than the 256 influenza cases reported in Week 19 and 20 (42 influenza A and 214 influenza B).
Percent positivity for influenza[2]	Lower	Percent positivity of laboratory tests for all influenza types in Weeks 21 and 22 was 5.3%, which was lower than the percent positivity in Weeks 19 and 20 (10.4%). In Weeks 21 and 22, percent positivity was 1.4% for influenza A and 3.9% for influenza B.
Institutional influenza outbreaks[3]	Similar	There were two new influenza outbreaks reported in Weeks 21 and 22, which was similar to Weeks 19 and 20, when three influenza outbreaks were reported.
Influenza activity levels reported by health units	Lower	In Week 21, 6 public health units reported 'localized' activity, 9 reported sporadic activity, 19 reported no activity and 2 did not report. In Week 22, 4 public health units reported 'localized' activity, 12 health units reported sporadic activity, 14 reported no activity, and 6 did not report.
OVERALL ASSESSMENT	**Lower**	**Overall, the indicators show that influenza activity for Weeks 21 and 22 was lower than Weeks 19 and 20.**
Measures of severity for influenza		
Hospitalizations among laboratory-confirmed cases of influenza[4]	There were 48 hospitalized cases reported in Weeks 21 and 22; the number of hospitalized cases reported in Weeks 19 and 20 was 85.	
Deaths among laboratory-confirmed cases of influenza[4]	There was 4 deaths reported in Weeks 21 and 22; there were 8 deaths reported in Weeks 19 and 20.	

Notes:

[1] Based on the date the case was reported to the public health unit.

[2] Positivity among specimens tested by Ontario laboratories that submit results to the Centre for Immunization and Respiratory Infectious Diseases (CIRID). Due to rounding, percentages presented here may not add up to the overall influenza percent positivity.

[3] The number of new outbreaks reported for the current week is based on the date the outbreak was reported to the public health unit; when reported date is unavailable, the date the outbreak was created in iPHIS is used.

[4] Hospitalization / death data are based on the date reported to the public health unit. These data are likely under-reported and may not be comparable to prior years.

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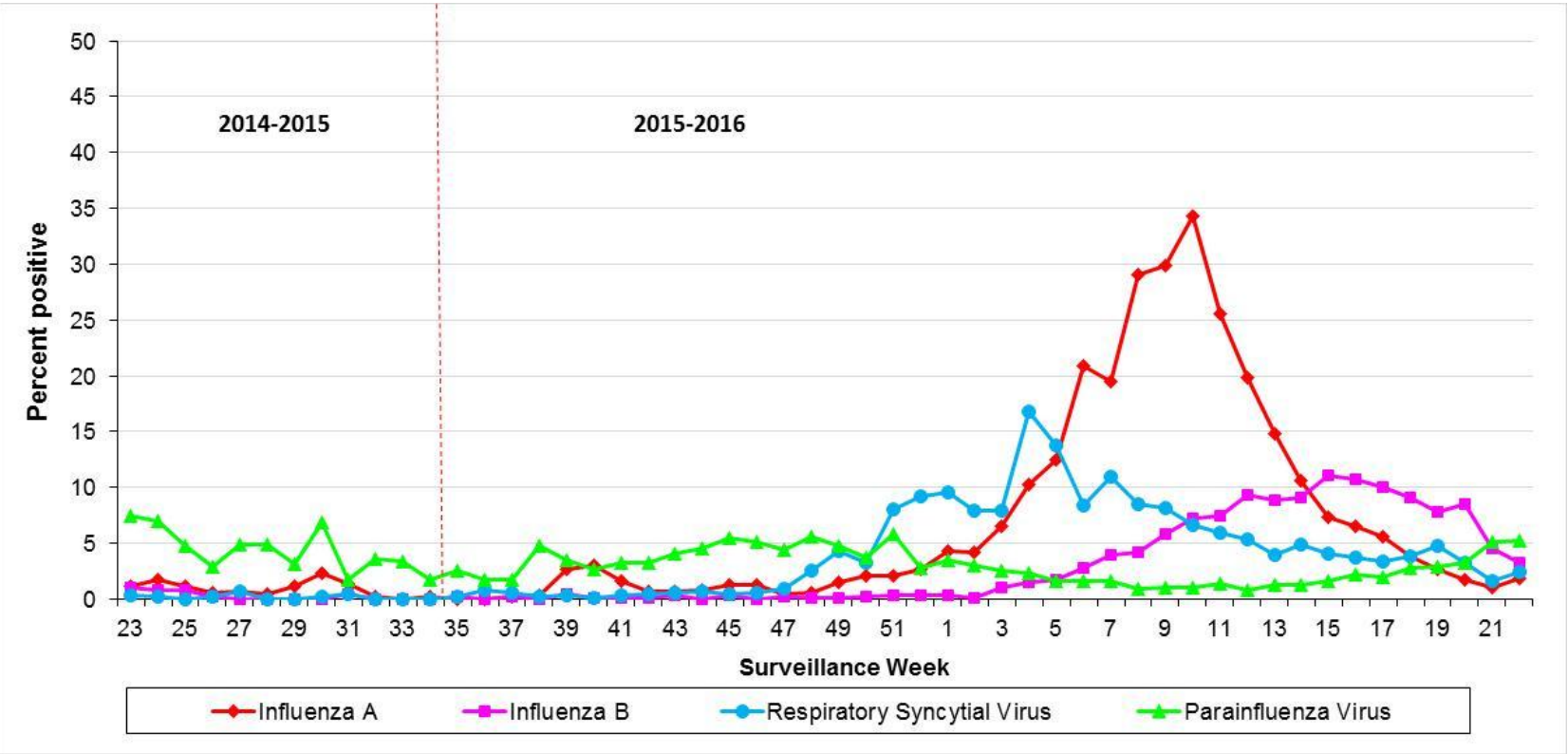
Summary of current and season-to-date respiratory virus activity in Ontario

- Influenza activity in the current surveillance weeks was lower compared to the previous weeks. Influenza A (H1N1)pdm09 was the dominant influenza type/subtype circulating during the 2015-2016 season.
    - Provincial percent positivity[1] was low for both influenza A and influenza B, at 1.4% and 3.9% respectively in Weeks 21 and 22 (Figure 1). Of the 14 influenza A positive specimens for which subtyping was reported, 14.3% were (H1N1)pdm09 in Weeks 21 and 22; for the season to date, 88.9% (3265/3673) were (H1N1)pdm09.[1]
    - For the 2015-2016 surveillance season to date, 12,078 laboratory-confirmed influenza cases have been reported. Among these cases, 68.3% (8,245/12,078) were influenza A and 31.6% (3,811/12,078) were influenza B.
    - Two institutional influenza outbreaks were reported in Weeks 21 and 22. One of the outbreaks during this timeframe was influenza A, for which no subtype information was reported, and one outbreak was influenza B. Influenza was detected in 23.2% (223/962) of institutional repiratory infection outbreaks reported to date in the 2015-2016 season. 14.7% (141/962) were influenza A and 7.7% (74/962) influenza B. Among the institutional influenza A outbreaks reported to date, 57 (40.4%) were (H1N1)pdm09 and 17 (12.1%) were H3N2 with the subtype not reported for the remaining influenza A outbreaks.
    - For the season to date, 2,597 hospitalizations and 122 deaths have been reported among laboratory-confirmed influenza cases. The majority of hospitalizations (1,918/2,597 or 73.9%) and deaths (92/122 or 75.4%) have occurred among influenza A cases. Of the 646 hospitalized laboratory-confirmed influenza cases where subtype was reported, 89.8% (580) were (H1N1)pdm09 and 10.2% (66) were H3N2
- Among other circulating non-influenza respiratory viruses identified through laboratory testing:
    - Rhinovirus was the dominant circulating virus in Weeks 21 and 22, with provincial positivity at 18.0% (Figure 2).

Note: A full summary bulletin for the 2015-2016 respiratory pathogen surveillance season will be released in October 2016.

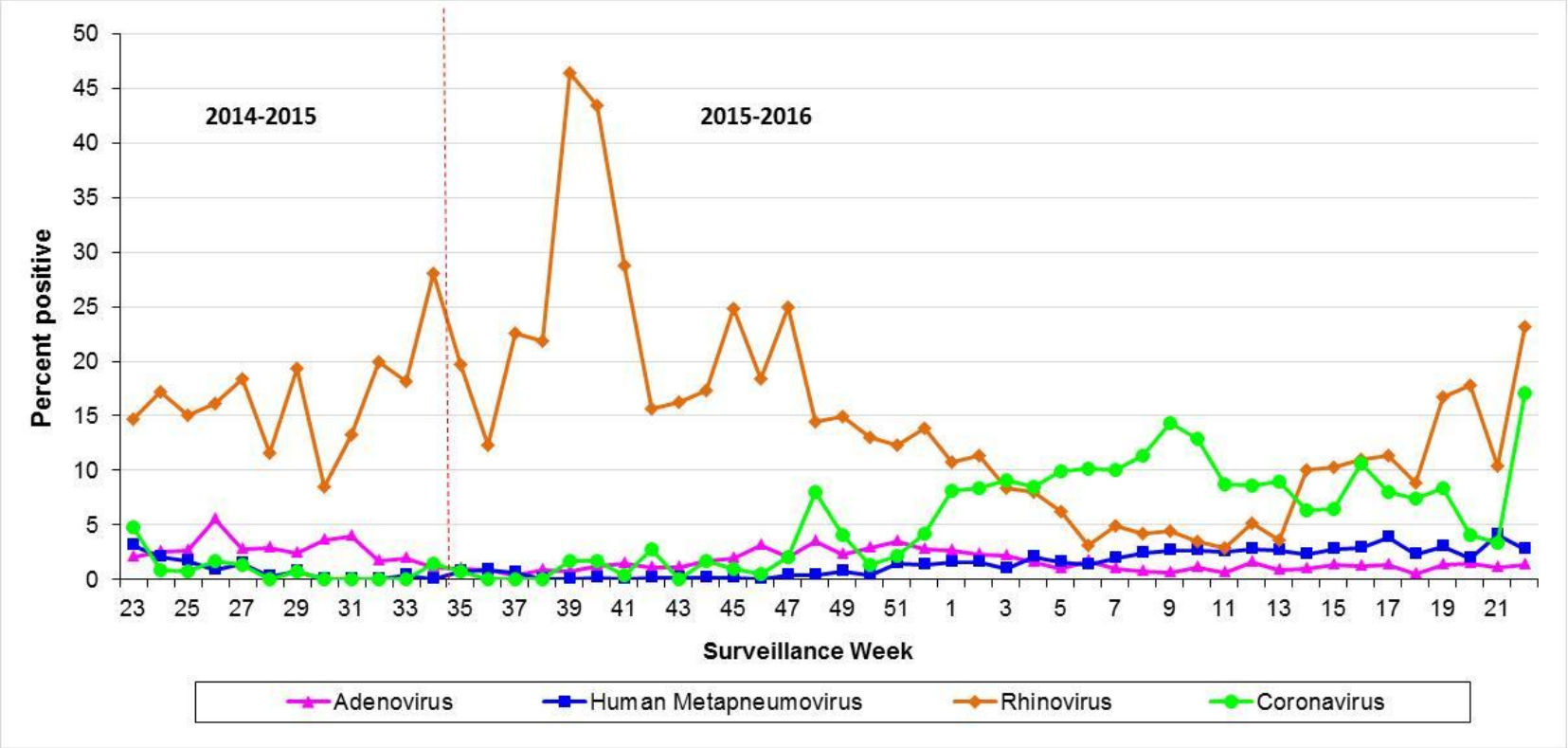
[1] Based on percent positivity among specimens submitted for testing to laboratories reporting to the Public Health Agency of Canada's Centre for Immunization and Respiratory Infectious Diseases (CIRID).

Figure 1. Percentage of respiratory viral pathogens (influenza A, influenza B, respiratory syncytial virus, and parainfluenza virus) detected among specimens tested by all methods: Ontario, June 7, 2015 to June 4, 2016



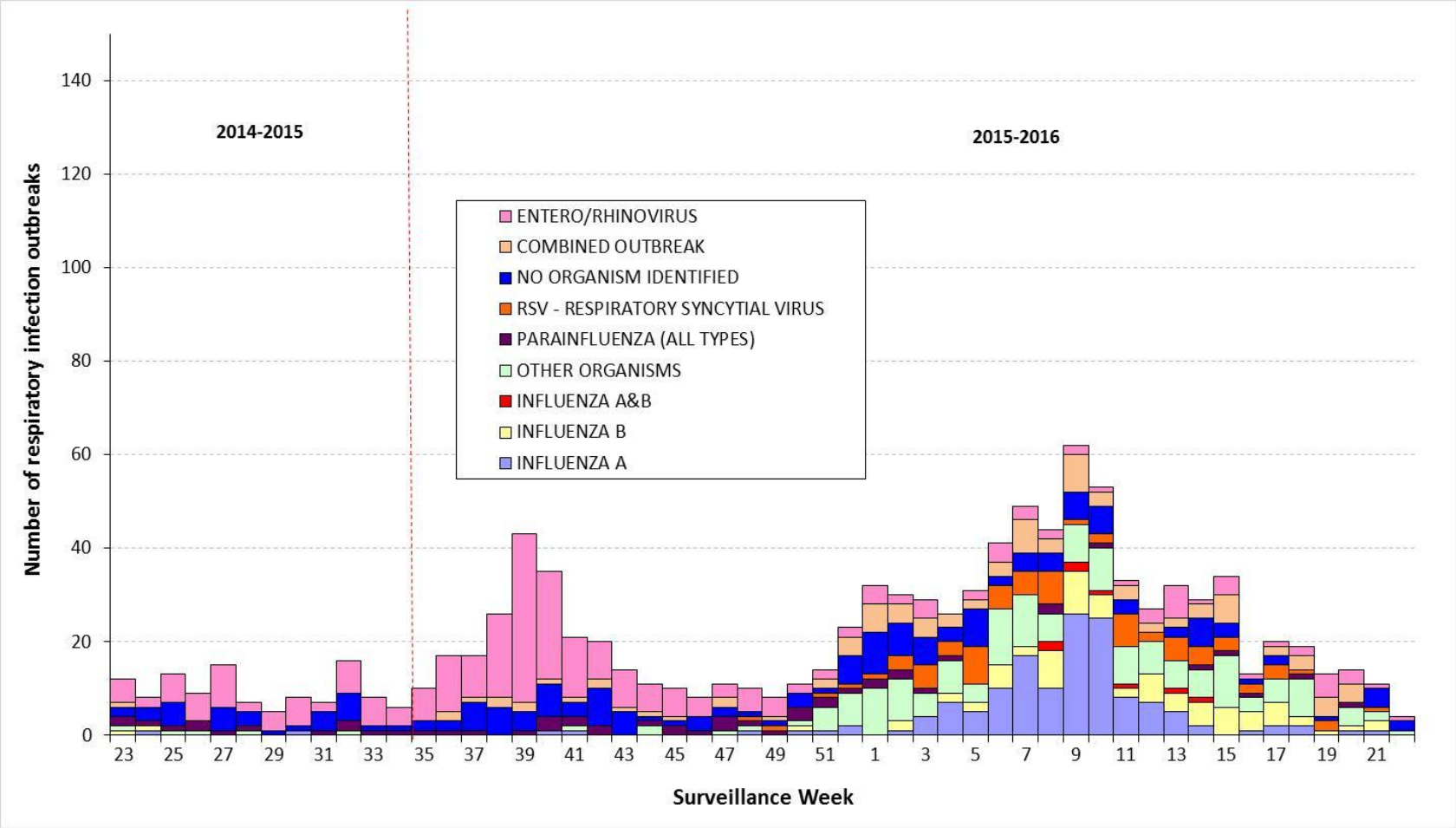
Source: Centre for Immunization and Respiratory Infectious Diseases (CIRID)

Figure 2. Percentage of respiratory viral pathogens (adenovirus, human metapneumovirus, rhinovirus and coronavirus) detected among specimens tested by all methods: Ontario, June 7, 2015 to June 4, 2016



Source: Centre for Immunization and Respiratory Infectious Diseases (CIRID)

Figure 3. Institutional respiratory infection outbreaks by week of illness onset in the first case: Ontario, June 7, 2015 to June 4, 2016

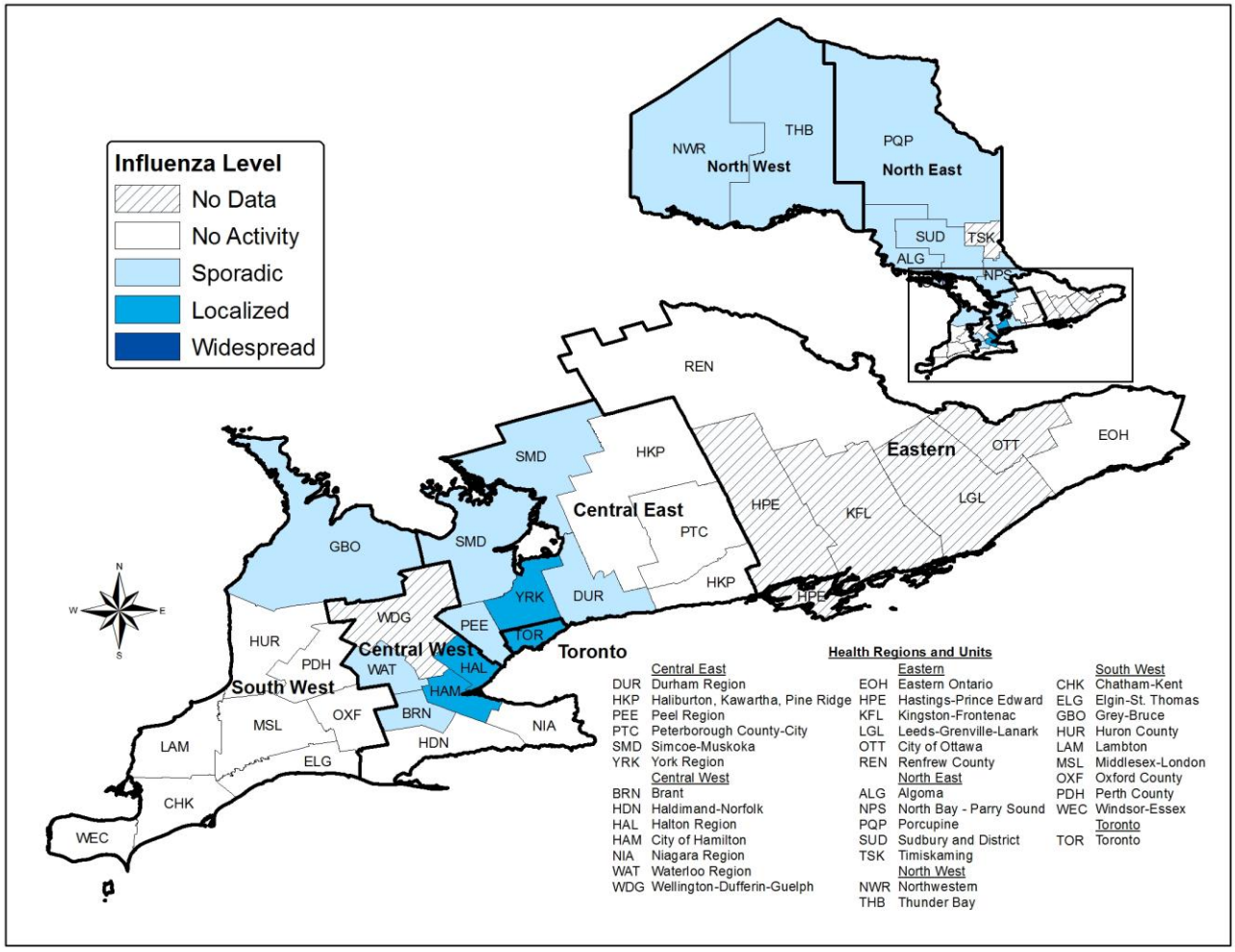


Source: Integrated Public Health Information System (iPHIS)

Notes:

- Interpret most recent outbreak counts for the current season with caution due to reporting lags.
- Institutional respiratory infection outbreaks for which the date of onset of illness for the first case is missing are excluded in this figure. However, these outbreaks are counted in the cumulative outbreaks section of Table 1.
- Any outbreak where influenza was identified is reported under the appropriate influenza category (“Influenza A”, “Influenza B”, or “Both influenza A & B”) regardless of what other virus is also identified in the outbreak

Figure 4. Influenza activity levels reported by public health units: Ontario, May 29, 2016 to June 4, 2016 (Week 22)



Source: Public Health Ontario from public health units

Data sources for this report

- **Integrated Public Health Information System (iPHIS):** provides information on laboratory-confirmed cases of influenza reported to local public health units, and institutional outbreaks of influenza and other respiratory pathogens reported to local public health units. iPHIS is administered by the Ontario Ministry of Health and Long-Term Care; data for this issue was extracted by Public Health Ontario on June 8, 2016.

  Case counts for influenza A and B cases are based on the 'Reported Date', which was the date the public health unit was notified of the case; however, cases are assigned to a particular surveillance week based on the episode date entered in iPHIS for the case. Episode date for a case corresponds to the earliest date on record for the case according to the iPHIS hierarchy (Symptom Date > Clinical Diagnosis Date > Specimen Collection Date > Lab Test Date > Reported Date). Cases are excluded from these counts if the episode date is based on reported date, and the reported date occurs after the latest surveillance week.

- **Centre for Immunization and Respiratory Infectious Diseases (CIRID) of the Public Health Agency of Canada (PHAC):** provides information on the number of influenza tests and number that are positive based on submissions from 16 participating laboratories in Ontario including 11 Public Health Ontario Laboratories (PHOLs) and five hospital-based laboratories. The results are assigned to a particular surveillance week based on when test results are reported to PHAC; these data are not updated when results are submitted late for previous surveillance weeks. These data represent the number of specimens tested, which may not necessarily correspond with the number of patients as more than one specimen may have been submitted per patient. Cumulative numbers for the season to date are also available through FluWatch.

- **Public Health Ontario from public health units:** Public health units provide Public Health Ontario with weekly reports of influenza activity levels in their areas [Provincial Influenza Activity Report (Appendix C) Database]. Influenza activity levels are assigned by local public health units and reported to Public Health Ontario by 4:00 pm on the Tuesday following the end of each surveillance week. Activity levels are assigned based on laboratory confirmations, ILI reports from various sources, and laboratory-confirmed institutional respiratory infection outbreaks. Please refer to the detailed definitions for the 2015-2016 season for more information. Activity levels reported for a particular surveillance week may not necessarily correspond to the number of new outbreaks reported in the same week in Table 3 because ongoing outbreaks from previous weeks, as well as laboratory confirmed outbreaks in schools, may be included in the assessment of the activity level.