Public Health Ontario | Santé publique Ontario

PARTNERS FOR HEALTH | PARTENAIRES POUR LA SANTÉ

Ontario Respiratory Pathogen Bulletin | 2015-2016
SURVEILLANCE WEEKS 23 AND 24 (June 5, 2016 – June 18, 2016)

This issue of the Ontario Respiratory Pathogen Bulletin provides information on the surveillance period from June 5, 2016 to June 18, 2016 (Weeks 23 and 24). Unless otherwise specified data extraction occurred on Wednesday, June 22, 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 18 influenza cases (5 influenza A and 13 influenza B) reported in Weeks 23 and 24, which was lower than the 106 influenza cases reported in Week 21 and 22 (22 influenza A and 84 influenza B).
Percent positivity for influenza[2]	Lower	Percent positivity of laboratory tests for all influenza types in Weeks 23 and 24 was 1.3%, which was lower than the percent positivity in Weeks 21 and 22 (5.3%). In Weeks 23 and 24, percent positivity was 0.5% for influenza A and 0.8% for influenza B.
Institutional influenza outbreaks[3]	Lower	There were no new influenza outbreaks reported in Weeks 23 and 24, which was lower than Weeks 21 and 22, when two influenza outbreaks were reported.
Influenza activity levels reported by health units	Lower	In Week 23, 3 public health units reported 'localized' activity, 5 reported sporadic activity, 27 reported no activity and 1 did not report. In Week 24, 0 public health units reported 'localized' activity, 4 health units reported sporadic activity, 30 reported no activity, and 2 did not report.
OVERALL ASSESSMENT	**Lower**	**Overall, the indicators show that influenza activity for Weeks 23 and 24 was lower than Weeks 21 and 22.**
Measures of severity for influenza		
Hospitalizations among laboratory-confirmed cases of influenza[4]	There were 31 hospitalized cases reported in Weeks 23 and 24; the number of hospitalized cases reported in Weeks 21 and 22 was 48.	
Deaths among laboratory-confirmed cases of influenza[4]	There was 3 deaths reported in Weeks 23 and 24; there were 4 deaths reported in Weeks 21 and 22.	

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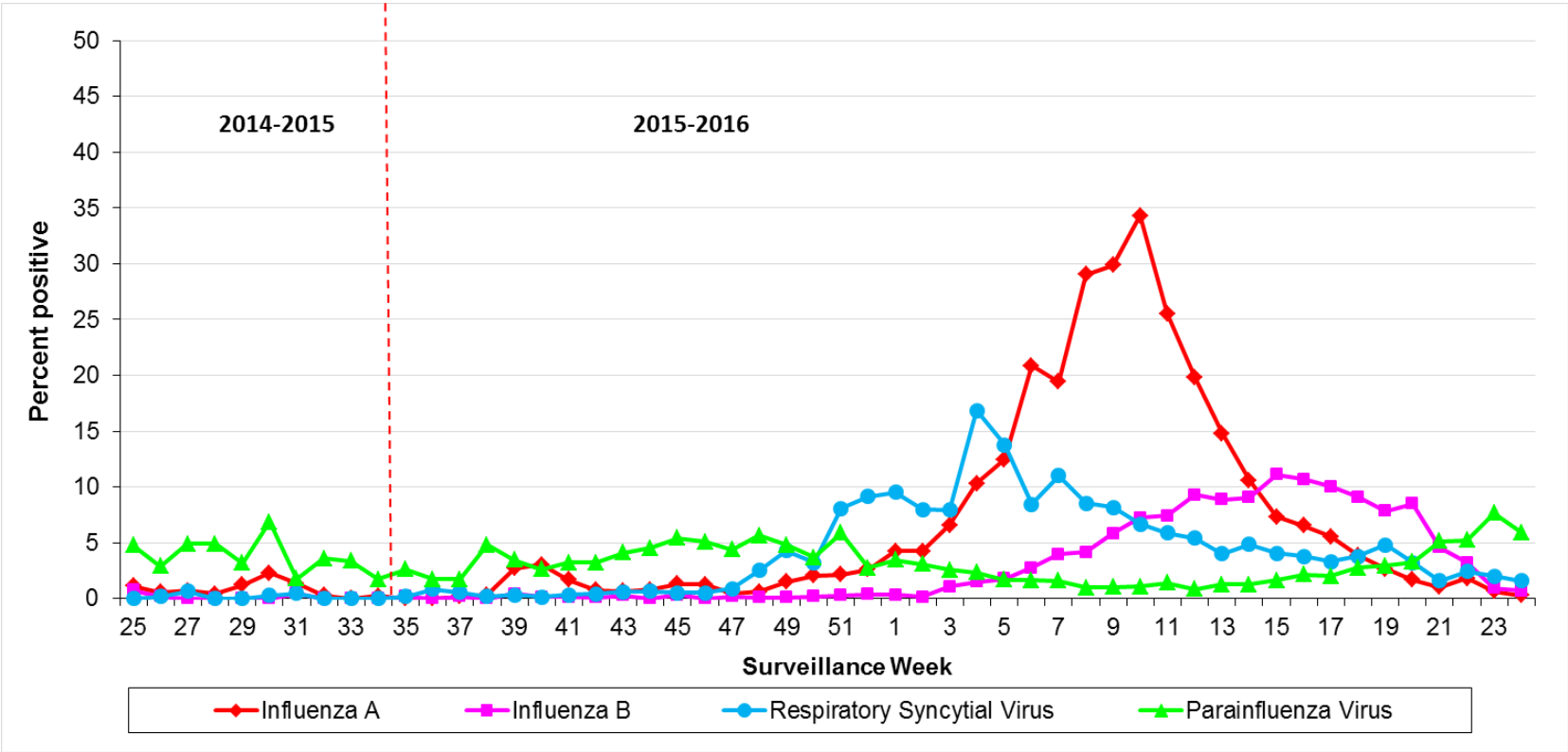
Summary of current and season-to-date respiratory virus activity in Ontario

- 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 0.5% and 0.8% respectively in Weeks 23 and 24 (Figure 1). Of the 4 influenza A positive specimens for which subtyping was reported, 25% were (H1N1)pdm09 in Weeks 23 and 24; for the season to date, 88.8% (3266/3679) were (H1N1)pdm09.[1]
    - For the 2015-2016 surveillance season to date, 12,105 laboratory-confirmed influenza cases have been reported. Among these cases, 68.2% (8,255/12,105) were influenza A and 31.6% (3,828/12,105) were influenza B.
    - No institutional influenza outbreaks were reported in Weeks 23 and 24. Influenza was detected in 22.7% (225/990) of institutional repiratory infection outbreaks reported to date in the 2015-2016 season. 14.3% (142/990) were influenza A and 7.6% (75/990) influenza B. Among the institutional influenza A outbreaks reported to date, 63 (44.4%) were (H1N1)pdm09 and 20 (14.1%) were H3N2 with the subtype not reported for the remaining influenza A outbreaks.
    - For the season to date, 2,616 hospitalizations and 125 deaths have been reported among laboratory-confirmed influenza cases. The majority of hospitalizations (1,925/2,616 or 73.6%) and deaths (93/125 or 74.4%) have occurred among influenza A cases. Of the 649 hospitalized laboratory-confirmed influenza cases where subtype was reported, 89.4% (580) were (H1N1)pdm09 and 10.2% (69) were H3N2
- Among other circulating non-influenza respiratory viruses identified through laboratory testing:
    - Rhinovirus was the dominant circulating virus in Weeks 23 and 24, with provincial positivity at 21.5% (Figure 2).

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

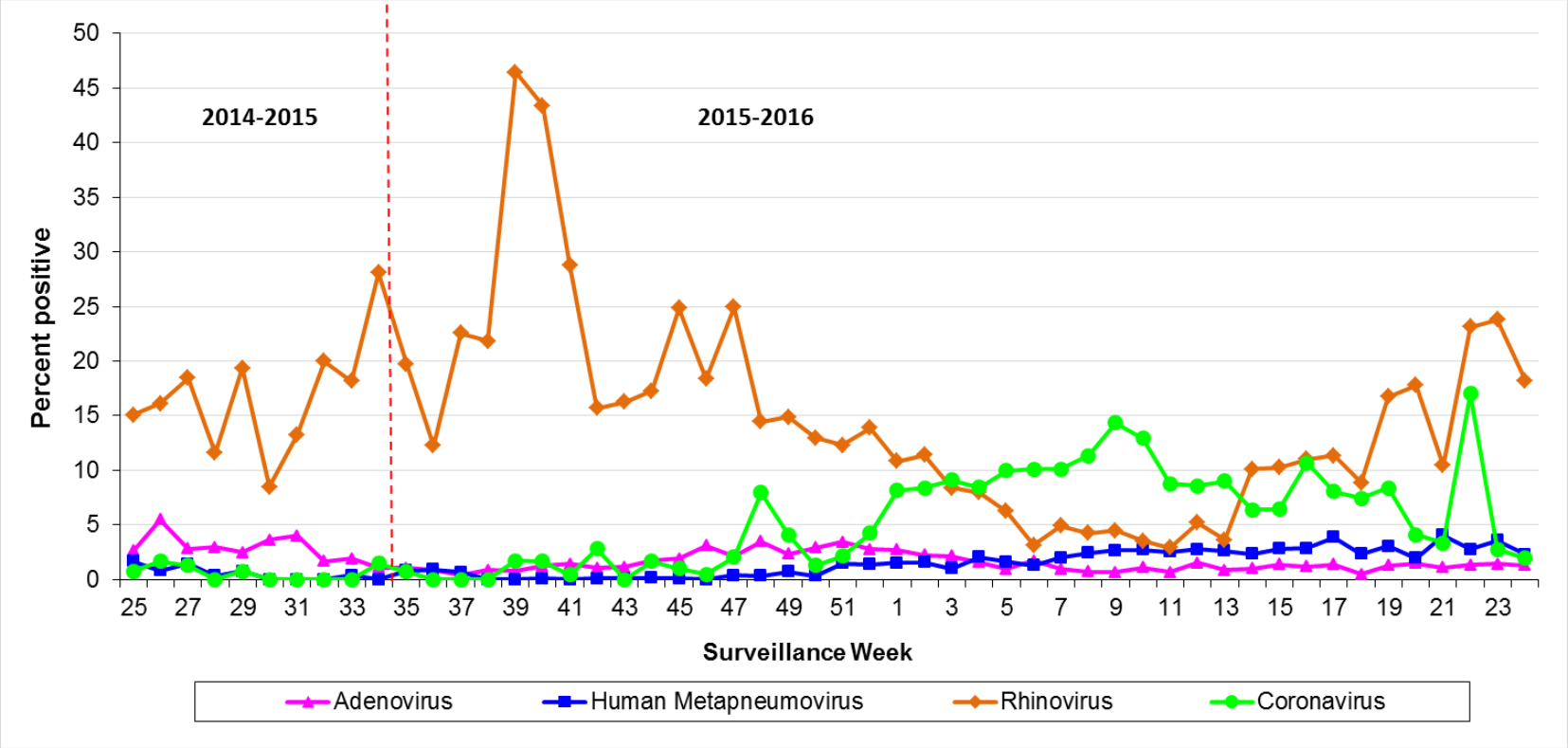
[1] Based on percent positivity among specimens submitted for testing to laboratories reporting to the Public Health Agency of Canada's Centre for Immunization and Respiratory Infectious Diseases (CIRID).

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 21 , 2015 to June 18, 2016



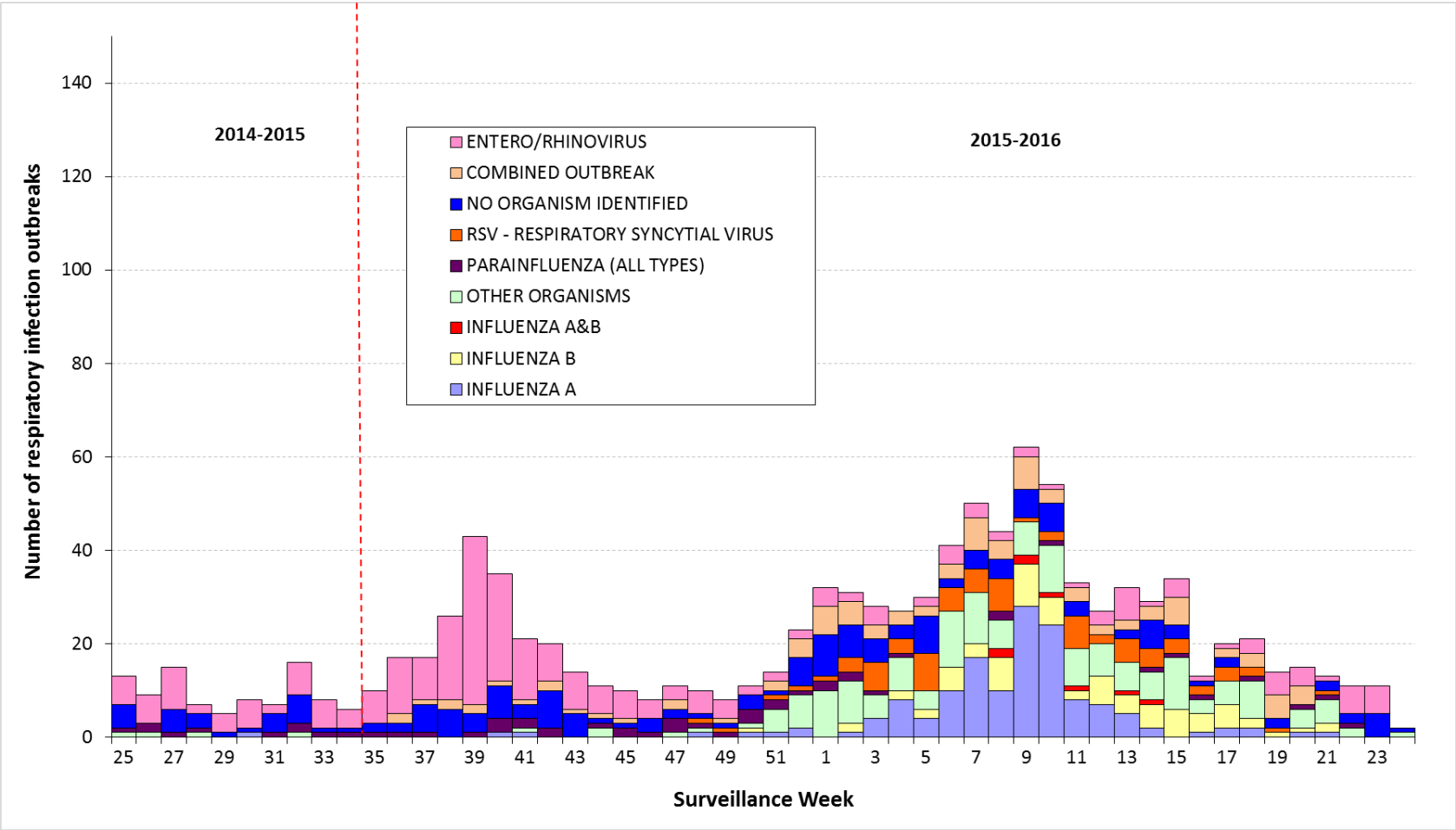
Source: Centre for Immunization and Respiratory Infectious Diseases (CIRID)

Figure 2. Percentage of respiratory viral pathogens (adenovirus, human metapneumovirus, rhinovirus and coronavirus) detected among specimens tested by all methods: Ontario, June 21, 2015 to June 18, 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 21, 2015 to June 18, 2016

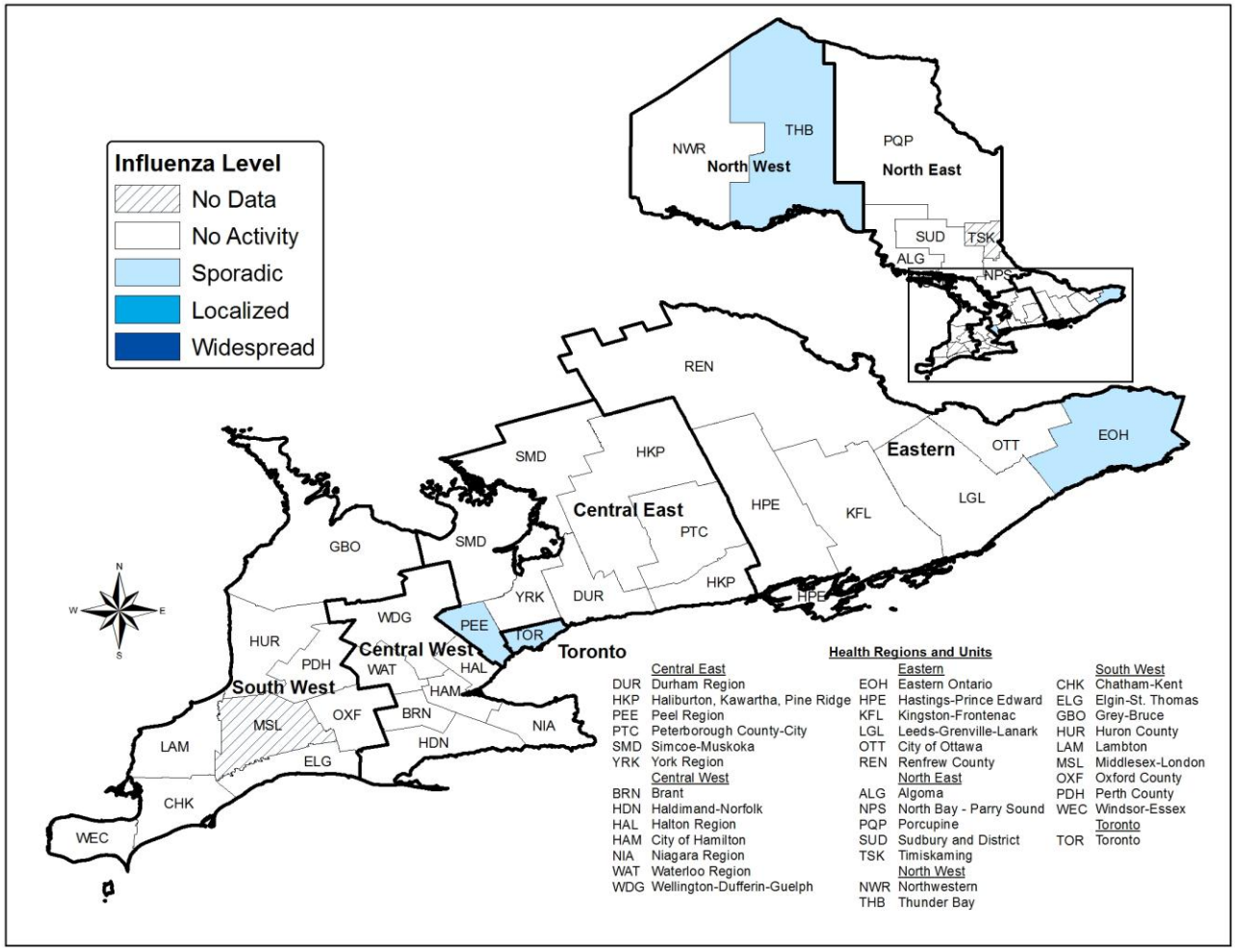


Source: Integrated Public Health Information System (iPHIS)

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, June 12, 2016 to June 18, 2016 (Week 24)



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 22, 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.