

Ontario Respiratory Pathogen Bulletin

Interactive Website Data Caveats and Glossary

The Ontario Respiratory Pathogen Bulletin (ORPB) interactive website allows users to select, overlap and analyze multiple respiratory pathogen data sets from Ontario, as well as view highlights for the current week and view reported influenza activity by jurisdiction. In order to do so effectively, please read the following caveats:

Current highlights of respiratory virus activity in Ontario

- Dates used for laboratory-confirmed influenza cases are based on the date the case was reported to the public health unit (PHU).
- Percent positivity for influenza and other circulating non-influenza respiratory viruses represents viral respiratory specimens tested by 16 Ontario laboratories that submit results to the Centre for Immunization and Respiratory Infectious Diseases (CIRID).
- The number of new institutional influenza outbreaks reported for the current week is based on the date the outbreak was reported to the PHU; when reported date is unavailable, the date the outbreak was created in iPHIS was used.
- Influenza activity levels are provided weekly by PHUs to Public Health Ontario.
- Colours used for the highlight boxes are defined as follows:
 - **Green** = Values are lower when compared to previous week's value(s)
 - **Blue** = Values are similar when compared to previous week's value(s)
 - **Red** = Values are higher when compared to previous week's values(s)
 - **Yellow** = Alert to the user for announcements (e.g. start of the influenza season based on influenza activity, reset of the influenza season or change in schedule for the ORPB)
 - **Grey** = Data not comparable to previous week's value(s)

Decision rules for influenza indicator assessments:

Indicator	Higher	Similar	Lower
Case	If counts were under 25 then: an increase of 5 or more cases.	If case counts were under 25: A change less than 5 cases	If case counts were under 25: A decrease of 5 or more cases
	If case counts in the previous week were over 25: An increase of 20% or more cases	If case counts in the previous week were over 25: A change less than 20% of cases	If case counts in the previous week were over 25: A decrease of 20% or more cases
	If case counts in the previous week were over 500: An increase of 10% or more	If case counts in the previous week were over 500: A change less than 10%	If case counts in the previous week were over 500: A decrease of 10% or more
Percent positivity	Minimum increase of 1 percentage point up to 10% then a 2 percentage point increase up to 20% and a 3 percentage point increase up to 30% etc.	Change is less than the number of percentage points required to call activity higher or lower.	Minimum decrease of 1 percentage point up to 10% then a 2 percentage point decrease up to 20% and a 3 percentage point decrease up to 30% etc.
Influenza outbreaks	If the number of new outbreaks declared in the previous week was under 50 : An increase of 5 or more outbreaks.	If the number of new outbreaks in the previous week was under 50: A change that less than 5 outbreaks	If the number of new outbreaks declared in the previous week was under 50: An decrease of 5 or more outbreaks
	If number of new outbreaks in the previous week was over 50: An increase of 10% or more.	If the number of new outbreaks in the previous week was over 50: A change less than 10%	If number of new outbreaks in the previous week was over 50: A decrease of 10% or more
Activity levels	If average of activity levels reported (4 = widespread, 3 = localized, etc.) is > than the previous week.	If average of activity levels reported is equal to that of the previous week.	If average of activity levels reported (4=widespread, 3=localized, etc.) is < than in previous week.
Overall assessment*	More indicators are listed as higher than lower (E.g. 2 higher, 2 similar)	There is a balance between indicators showing higher versus lower (e.g. 4 similar)	More indicators are listed as lower than higher (e.g. 2 lower, 2 similar).

*Note: If there is discordance between the indicator assessments, the magnitude of the change in each indicator is considered and cases and percent positivity are given greater consideration.

Interactive graph outbreak and case counts

- Interpret most recent case and outbreak counts for the current season with caution due to reporting lags.
- Unlike the other seasons presented, the 2014-2015 season included a week 53; a week 53 occurs once every five to six years. Week 53 in 2014-15 corresponded to December 28, 2014 to January 3, 2015.
- Data used for influenza cases are based on the 'episode date' to better approximate when influenza activity was taking place. In order to determine this date, the following hierarchy is in place in iPHIS: Onset Date > Specimen Collection Date > Lab Test Date > Reported Date. If an onset date exists it will be used as the episode date. If not available, then the next available date in the hierarchy will be used.
- Institutional respiratory infection outbreaks are assigned to a week based on the date of onset of illness for the first case. Outbreaks without an onset of illness in the first case are excluded.
- Any outbreak where influenza was identified is reported under the appropriate influenza category ("Influenza A", "Influenza B", or "Both influenza A & B") regardless of whether other viruses were also identified in the outbreak.
- Changes in the testing algorithm used by the Public Health Ontario Laboratory (PHOL) will impact the interpretation of respiratory virus reports over time. Please see the laboratory data section with regard to the changes to the PHOL testing algorithm.

Laboratory data

- Percent positivity data have been obtained from the Public Health Agency of Canada's (PHAC) Centre for Immunization and Respiratory Infectious Diseases (CIRID) respiratory virus detection tables, which are shared with Public Health Ontario each week.
- The numbers reported represent results submitted to the CIRID by 16 participating laboratories in Ontario, including 11 Public Health Ontario Laboratories (PHOLs) and five hospital-based laboratories.
- Results were assigned to a particular surveillance week based on when test results were reported to PHAC.
- These data represent the number of tests performed, which may not necessarily correspond with the number of patients as more than one specimen may have been submitted per patient.
- Unlike case and outbreak data, these data are not updated retroactively when results are submitted late for previous surveillance weeks.
- Starting November 5, 2018, an updated testing algorithm was implemented at PHOL for respiratory viruses. This algorithm will be implemented across four testing sites (Toronto, Ottawa, London and Timmins). All respiratory specimens will be initially tested for influenza and

RSV by multiplex PCR and those that test negative will undergo Rapid Viral Culture. This change will impact comparability with reports from previous seasons for the following reasons:

- The Rapid Viral Culture test does not test coronavirus, parainfluenza virus 4 or entero/rhinoviruses.
- For the viruses it tests for, the Rapid Viral Culture is less sensitive than the multiplex PCR.
- No routine respiratory virus testing is offered to ambulatory and emergency department patients.
- Influenza-positive specimens tested by multiplex PCR do not undergo further testing to determine if other pathogens are present.
- More details about the new testing algorithm can be found [here](#).

Influenza activity by jurisdiction

- PHUs provide Public Health Ontario with weekly assessments of influenza activity levels in their jurisdiction.
- Activity levels are assigned based on laboratory confirmations, ILI reports from various sources, and laboratory-confirmed institutional respiratory infection outbreaks.
- Activity levels reported for a particular surveillance week may not necessarily correspond to the number of new outbreaks reported in the same week because ongoing outbreaks from previous weeks, as well as laboratory confirmed outbreaks in schools, may be included in the assessment of the activity level
- Influenza activity levels are defined as follows:
 - **No activity:** no laboratory-confirmed cases of influenza reported and no ongoing laboratory-confirmed influenza outbreaks in an institution or public hospital
 - **Sporadic:** at least one laboratory-confirmed case of influenza* with no ongoing laboratory-confirmed influenza outbreaks in an institution or public hospital
 - **Localized:** at least one ongoing laboratory-confirmed influenza outbreak in an institution or public hospital during the surveillance week even if the outbreak was declared over on the first day of the surveillance week.
 - **Widespread:** multiple ongoing laboratory-confirmed influenza outbreaks in institutions or public hospitals separated by some geographic distance, in other words, non-adjacent areas. PHUs should also consider the numerator of institutions or public hospitals in active outbreaks out of the denominator of all eligible institutions or public hospitals in their unit when assigning this activity level. As a general rule, for health units with 30 or more institutions or public hospitals at least 10% of these institutions or public hospitals should be experiencing an ongoing influenza outbreak to declare “widespread” activity. For health

units with less than 30 institutions or public hospitals, at least 15% should be in an active influenza outbreak. Note: Outbreaks in schools may be considered when assessing activity.

- *Confirmation of influenza within the surveillance area at any time within the surveillance week based on the date the health unit received the laboratory report.

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Glossary

- **Case:** Individual with laboratory-confirmed influenza who has been reported to a PHU and entered into the integrated Public Health Information System (iPHIS). Influenza is a disease of public health significance in Ontario and PHUs are required to report all confirmed cases via iPHIS. The current case definition for influenza can be found in the [Infectious Diseases Protocol](#).
- **Combined outbreak:** an outbreak involving two or more non-influenza viruses at once.
- **Institution:** organization such as long-term care home, correctional facility, group home, shelter, or facility operating under the Developmental Services Act.
- **Other organism outbreak:** an outbreak in which adenovirus, coronavirus, or human metapneumovirus has been detected.
- **Percent positivity:** the percentage of all tests performed on respiratory specimens submitted for testing for a particular respiratory virus in a given surveillance week that tested positive for that virus. Influenza activity related to percent positivity is defined as follows:
 - Low activity: <10% positivity
 - Medium activity: 10-24.99% positivity
 - High activity: >=25% positivity
- **Respiratory infection outbreak:** An institutional or hospital respiratory infection outbreak that meets the provincial case definition for an outbreak, and has been reported to a PHU and entered into the integrated Public Health Information System (iPHIS). Respiratory infection outbreaks in institutions and public hospitals are diseases of public health significance under the Health Protection and Promotion Act and PHUs are required to report them via iPHIS. The current case definition for respiratory infection outbreaks in institutions and public hospitals can be found in the [Infectious Disease Protocol](#).
- **Surveillance season:** Each surveillance season starts from September 1 of one year to August 31 of the following year.
- **Surveillance week:** defined as Sunday to Saturday. A list of the surveillance weeks is available for the [2018-2019 season](#) .

Disclaimer

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Public Health Ontario acknowledges the financial support of the Ontario Government.

