Public Health Ontario | Santé publique Ontario

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 and reported influenza activity by jurisdiction for the current week. To do so effectively, please read the following caveats:

Current Highlights of Respiratory Virus Activity in Ontario

- The Highlights are not updated retroactively.
- Dates used for laboratory-confirmed influenza cases are based on the date the case was reported to the public health unit (PHU). For the 2020–21 season, cases of influenza A&B are included in the influenza A counts.
- Percent positivity for influenza and other circulating non-influenza respiratory viruses represents viral respiratory specimens tested by 17 Ontario laboratories that submit results to the Public Health Agency of Canada's 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. For the 2020–21 season, outbreaks of influenza A and B are included in the counts for outbreaks of influenza A.
- Influenza activity levels are calculated weekly for each PHU by Public Health Ontario (PHO) using influenza case and outbreak data from iPHIS.
- 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 compared to previous week's value(s)

Decision Rules for Influenza Indicator Assessments

Indicator	Higher	Similar	Lower
Laboratory-Confirmed Influenza Cases	If case counts were under 25: an increase of 5 or more cases. If case counts in the previous week were equal to or over 25: an increase in case counts of 20% or more. If case counts in the previous week were equal to or over 500: an increase in case counts of 10% or more.	If case counts were under 25: a change of less than 5 cases. If case counts in the previous week were equal to or over 25: a change in case counts of less than 20%. If case counts in the previous week were equal to or over 500: a change in case counts of less than 10%.	If case counts were under 25: a decrease of 5 or more cases. If case counts in the previous week were equal to or over 25: a decrease in case counts of 20% or more. If case counts in the previous week were equal to or over 500: a decrease in case counts of 10% or more.
Percent positivity for Influenza	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 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 30% etc.
Institutional 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 equal to or over 50: an increase in the number of new outbreaks of 10% or more.	If the number of new outbreaks in the previous week was under 50: a change of less than 5 outbreaks. If the number of new outbreaks in the previous week was equal to or over 50: a change in the number of new outbreaks of less than 10%.	If the number of new outbreaks declared in the previous week was under 50: a decrease of 5 or more outbreaks. If the number of new outbreaks in the previous week was equal to or over 50: a decrease in the number of new outbreaks of 10% or more.
Health Unit Influenza Activity Levels	If average of activity levels reported (4 = widespread, 3 = localized, etc.) is greater than in 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 less than in the 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

- Outbreak and case counts are obtained from the Ministry of Health's (MOH) integrated Public Health Information System (iPHIS) database and extracted by PHO. The data for the 2020–21 season are current as of the most recent Wednesday. For 2011–12 and 2012–13, the data are current as of *Sep 3, 2013*, the 2013–14 data are current as of *Oct 6, 2014*, the 2014–15 data are current as of *Oct 5, 2015*, the 2015–16 data are current as of *Oct 19, 2016*, the 2016–17 data are current as of as of *Oct 17, 2017*, the 2017–18 data are current as of *Oct 11, 2018*, the 2018–19 data are current as of as of *Oct 9, 2019,* the 2019-20 data are current as of *September 2, 2020*.
    - iPHIS is a dynamic disease reporting system, which allows ongoing updates to data previously entered. As a result, data extracted from iPHIS represent a snapshot at the time of extraction and may differ from previous or subsequent reports.
    - Case and outbreak data displayed in the graphs are updated for the entire 2020–21 season each week.
- Data used for influenza cases in the graphs are based on the 'Episode Date' to better approximate when influenza activity took place. 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.
- The most recent case and outbreak counts for the current season should be interpreted with caution due to reporting lags.
- Unlike the other seasons presented, the 2014–15 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. The 2020-21 season will also have a week 53 corresponding to December 27, 2020 to January 2, 2021.
- For the 2020–21 data, cases of influenza A&B are included in the influenza A counts. In recent years, cases of influenza A&B have made up less than 0.4% of all influenza cases.
- Respiratory infection outbreaks in the graphs 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" or "Influenza B") regardless of whether other viruses were also identified in the outbreak. Outbreaks of influenza A and B are included in the counts for outbreaks of influenza A.
- Changes in the testing algorithm used by PHO's Laboratory will impact the interpretation of respiratory virus reports over time. Please see the laboratory data section with regard to the changes to the PHO's 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 PHO each week.
- The numbers reported represent results submitted to the CIRID by 17 participating laboratories in Ontario, including 11 PHO Laboratory locations and six 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 in the graphs, these data are not updated retroactively when results are submitted late for previous surveillance weeks.

Influenza Activity by Jurisdiction

Activity Level and Case Counts Map

- The number of laboratory confirmed cases for the week and the cumulative number for the year are displayed by PHU. These correspond to data extracted from the MOH database, iPHIS, on the Wednesday following the end of the surveillance week.
    - iPHIS is a dynamic disease reporting system, which allows ongoing updates to data previously entered. As a result, data extracted from iPHIS represent a snapshot at the time of extraction and may differ from previous or subsequent reports.
    - Cases of influenza A&B are included in the influenza A counts.
    - The data in this map are not updated retroactively.
- Activity levels are assigned based on laboratory confirmations and laboratory-confirmed institutional respiratory infection outbreaks.
- PHO conducts weekly assessments of influenza activity levels in for each PHU jurisdiction using influenza case and outbreak data as reported in iPHIS.
- Due to lags in data entry in iPHIS, the activity level reported may, in some instances, not align with a PHU's true activity level.
- Activity levels calculated 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 and based on data report from iPHIS:
    - **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 long term care homes, retirement homes or public hospitals. For PHUs with 30 or more of these institutions or public hospitals, at least 10% must be experiencing an ongoing influenza outbreak to be assessed as having "widespread" activity. For PHUs with fewer than 30 of these institutions or public hospitals, at least 15% must be in an active influenza outbreak. Denominator information is based on the number of long-term care homes, retirement homes and hospitals in each PHU.

      *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.

Percent Positivity Map

- The data in this map are obtained from PHO's Laboratory and are not updated retroactively.
- The number of specimens tested is determined based on the date specimens were collected from the patient.
- The data are assigned to a PHU based on the jurisdiction where each patient resides. In the event this is not available, the PHU of the specimen submitter is used.
- The calculation of percent positivity is possible because PHO's Laboratory tests the samples and knows the numbers of positive and negative results. Percent positivity for PHUs that had less than 40 respiratory specimens tested for the current week may be unstable due to small numbers.
- PHO's Laboratory performs testing for influenza and other respiratory viruses, but other microbiology laboratories also perform these tests. Therefore, it is important to note that the numbers reported here do not represent the total number of influenza viruses identified in Ontario.

Glossary

- **Case**: Individual with laboratory-confirmed influenza who has been reported to a PHU and entered into 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**: A congregate setting, such as a long-term care home, correctional facility, group home, shelter or a 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: <10.0% positivity
    - Medium activity: 10.0%-24.9% positivity
    - High activity: 25.0%-49.9%positivity
    - Very high activity: ≥50.0% 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 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 and ends August 31 of the following year.
- **Surveillance week:** Defined as Sunday to Saturday. A list of the surveillance weeks is available for the 2020–21 season.

Disclaimer

This document was developed by Public Health Ontario (PHO), an agency of the Government of Ontario. PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence at the time of publication.

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