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) as recorded in the integrated Public Health Information System (iPHIS). For the 2022–23 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 18 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 is used. For the 2022–23 season, outbreaks of influenza A and B are included in the counts for outbreaks of influenza A.
- Public health unit 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 provincial percent positivity level ≥5%, or change in schedule for the ORPB)
  - **Grey** = Data not compared to previous week’s value(s)
### Decision Rules for Influenza Indicator Assessments

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Compare to previous week</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cases</strong></td>
<td>Any move from 0 is considered <strong>Higher</strong>&lt;br&gt;Any move to 0 is considered <strong>Lower</strong>&lt;br&gt; <strong>If case counts in the previous week were under</strong> 25:&lt;br&gt;  • an increase of 5 or more cases is considered <strong>Similar</strong>&lt;br&gt;  • a change less than 5 cases is considered <strong>Lower</strong>&lt;br&gt; <strong>If case counts in the previous week were over</strong> 25:&lt;br&gt;  • an increase of 20% or more cases is considered <strong>Higher</strong>&lt;br&gt;  • a change less than 20% of cases is considered <strong>Similar</strong>&lt;br&gt;  • a decrease of 20% or more cases is considered <strong>Lower</strong>&lt;br&gt; <strong>If case counts in the previous week were over</strong> 500:&lt;br&gt;  • an increase of 10% or more cases is considered <strong>Higher</strong>&lt;br&gt;  • a change less than 10% is considered <strong>Similar</strong>&lt;br&gt;  • a decrease of 10% or more is considered <strong>Lower</strong></td>
</tr>
<tr>
<td><strong>Percent positivity</strong></td>
<td>Any move from 0 is considered <strong>Higher</strong>&lt;br&gt;Any move to 0 is considered <strong>Lower</strong>&lt;br&gt; 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. is considered <strong>Higher</strong>&lt;br&gt; Change is less than the number of percentage points required to call activity higher or lower is considered <strong>Similar</strong>&lt;br&gt; 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. is considered <strong>Lower</strong></td>
</tr>
<tr>
<td><strong>Influenza outbreaks</strong></td>
<td>Any move from 0 is considered <strong>Higher</strong>&lt;br&gt;Any move to 0 is considered <strong>Lower</strong>&lt;br&gt; <strong>If the number of new outbreaks in the previous week was under</strong> 50:&lt;br&gt;  • an increase of 5 or more outbreaks is considered <strong>Higher</strong>&lt;br&gt;  • a change less than 5 outbreaks is considered <strong>Similar</strong>&lt;br&gt;  • a decrease of 5 or more outbreaks is considered <strong>Lower</strong>&lt;br&gt; <strong>If the number of new outbreaks in the previous week was over</strong> 50:&lt;br&gt;  • an increase of 10% or more is considered <strong>Higher</strong>&lt;br&gt;  • a change less than 10% is considered <strong>Similar</strong>&lt;br&gt;  • a decrease of 10% or more is considered <strong>Lower</strong></td>
</tr>
<tr>
<td>Indicator</td>
<td>Compare to previous week</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Public health unit activity levels</td>
<td>If average of activity levels is &gt; than in previous week then PHU activity level is considered <strong>Higher</strong>&lt;br&gt;If average of activity levels is equal to that of the previous week then PHU activity level is considered <strong>Similar</strong>&lt;br&gt;If average of activity levels is &lt; than in previous week then PHU activity level is considered <strong>Lower</strong></td>
</tr>
</tbody>
</table>
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 2022–23 season are current as of the most recent Wednesday.

**Table 1: List of historical date ranges and data currency dates**

<table>
<thead>
<tr>
<th>Date range</th>
<th>Data current as of</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013–14</td>
<td>Oct 6, 2014</td>
</tr>
<tr>
<td>2016–17</td>
<td>Oct 17, 2017</td>
</tr>
<tr>
<td>2017–18</td>
<td>Oct 11, 2018</td>
</tr>
<tr>
<td>2018–19</td>
<td>Oct 9, 2019</td>
</tr>
<tr>
<td>2019–20</td>
<td>Sept 2, 2020</td>
</tr>
<tr>
<td>2020–21</td>
<td>Sept 8, 2021</td>
</tr>
<tr>
<td>2021–22</td>
<td>Sept 7, 2022</td>
</tr>
</tbody>
</table>

- 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 2022–23 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.


- For the 2022–23 data, cases of influenza A&B are included in the influenza A counts. In the seasons before the COVID-19 pandemic, cases of influenza A&B 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. For the most up to date information on testing eligibility please refer to the Public Health Ontario Laboratory’s guidance for respiratory viruses (including influenza).

Laboratory Data

• Percent positivity data are 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.

  • As of the 2022-23 season, the Shared Hospital Laboratory and the Sault Area Hospital (week 46 onwards) began reporting testing data to CIRID, resulting in an increase in the weekly number of tests reported.

• The numbers reported represent results submitted to the CIRID by 18 participating laboratories in Ontario, including 11 PHO laboratory locations and seven hospital-based laboratories.

  • Therefore these data represent a subset of laboratory tests conducted for each respiratory virus in the province.

• 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 prior to 9 a.m. 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-confirmed cases and laboratory-confirmed influenza outbreaks in institutions and public hospitals.

- Influenza public health unit activity levels are calculated weekly for each PHU by PHO using case and outbreak data from iPHIS.

- Due to lags in data entry in iPHIS, the public health unit activity level reported may, in some instances, not align with a PHU’s true activity level.

- Public health unit activity levels calculated for a particular surveillance week may not necessarily correspond to the number of new outbreaks reported in the same week because of ongoing outbreaks from previous weeks.

- Influenza public health unit activity levels are defined as follows and based on data reported 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 within the surveillance area at any time within the surveillance week based on the date the health unit received the laboratory report, 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.
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 positive 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, seasonal human coronavirus or human metapneumovirus has been detected.

- **Percent positivity**: The percentage of tests performed that were positive for a particular respiratory virus in a given surveillance week. Provincial percent positivity levels for influenza (influenza A and influenza B combined) and other respiratory viruses are defined as follows:
  - Low: <10.0% positivity
  - Medium: 10.0%-24.9% positivity
  - High: 25.0%-39.9% positivity
  - Very high: ≥40.0% positivity

- **Respiratory infection outbreak**: An institutional or public 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*. 
- **Seasonal human coronavirus**: Coronaviruses that are non-SARS-CoV-2 coronaviruses.

- **Surveillance season**: Each surveillance season starts from September 1 of one year and ends August 31 of the following year. In online tools (e.g., ORPB, COVID-19 data tool) and graphs depicting respiratory virus data by surveillance week, the surveillance week containing September 1 (week 35) is used as the first week of the surveillance season if September 1 occurs early in the week (Sunday to Wednesday). If September 1 occurs later in the week (Thursday to Saturday), the following surveillance week is used as the dividing line between seasons (e.g. 2016-17, 2018-19, 2022-2023 seasons).

- **Surveillance week**: Defined as Sunday to Saturday. A list of the surveillance weeks is available for the [2022–23 season](#).