Public Health Ontario | Santé publique Ontario

SURVEILLANCE REPORT

Integrated Respiratory Virus Risk Indicators for Ontario: February 15 to February 28, 2026

Updated: February 20, 2026

Introduction

This weekly report provides short-term projections of SARS-CoV-2, influenza, and respiratory syncytial virus (RSV) activity, along with projections for the combined risk of hospitalization associated with all three viruses among pediatric, adult and senior age groups in Ontario. The "nowcast" estimation methodology[1] used to create these indicators relies on data reported up to February 14, 2026.

The projections in this report are intended to provide situational awareness of potential near-term changes in respiratory virus activity in the province. They should be used in combination with context-specific indicators (e.g., the group at risk, current trajectory of trends, immunization coverage), consideration of local factors (e.g., health care capacity and access to care), and other measures for assessing respiratory virus activity (e.g., wastewater concentration for SARS-CoV-2, hospital admissions).

The highlights from this report are presented in the Ontario Respiratory Virus Tool,[2] which provides additional information on respiratory virus surveillance activity in Ontario.

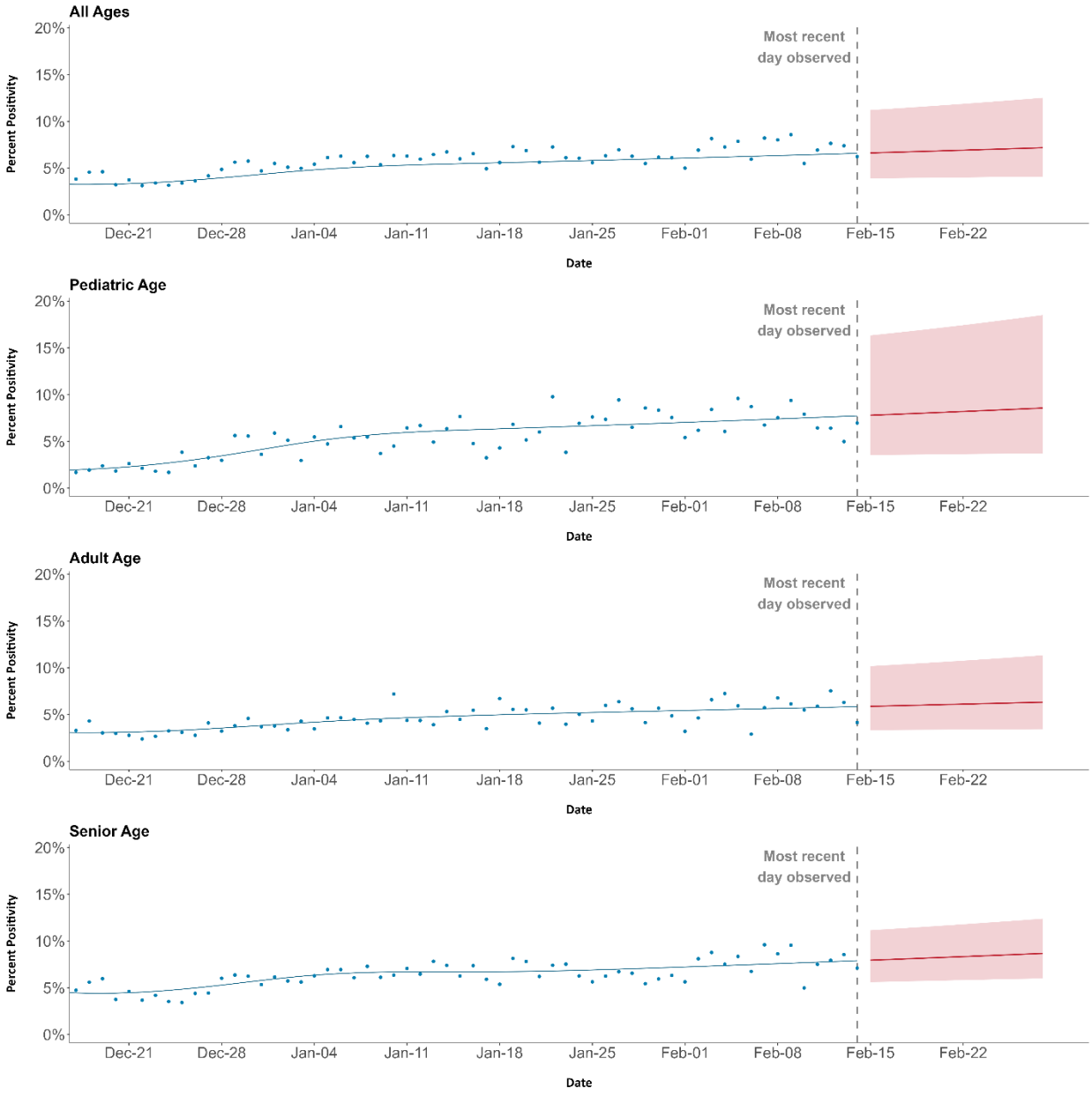
Highlights

- Over the next two weeks (February 15 to February 28, 2026), the following trends are projected for SARS-CoV-2, influenza, and RSV among Ontarians:
  - SARS-CoV-2 activity is projected to **increase** (Figure 1a, 1b).
  - Influenza activity is projected to **decrease** (Figure 2a, 2b).
  - RSV activity is projected to **remain stable** (Figure 3a, 3b).
- The combined risk of hospitalization for the most recent assessment week of February 8 to February 14, 2026 is **very high** in the pediatric (<18 years), **very high** in the adult (18-64 years) and **high** in the senior (65 years and older) age groups. Over the next two weeks (February 15 to February 28, 2026):
  - The risk of hospitalization among the pediatric age group is projected to **increase** (Figure 4a).
  - The risk of hospitalization among the adult age group is projected to **decrease** (Figure 4b).
  - The risk of hospitalization among the senior age group is projected to **remain stable** (Figure 4c).

Projections of Viral Respiratory Activity

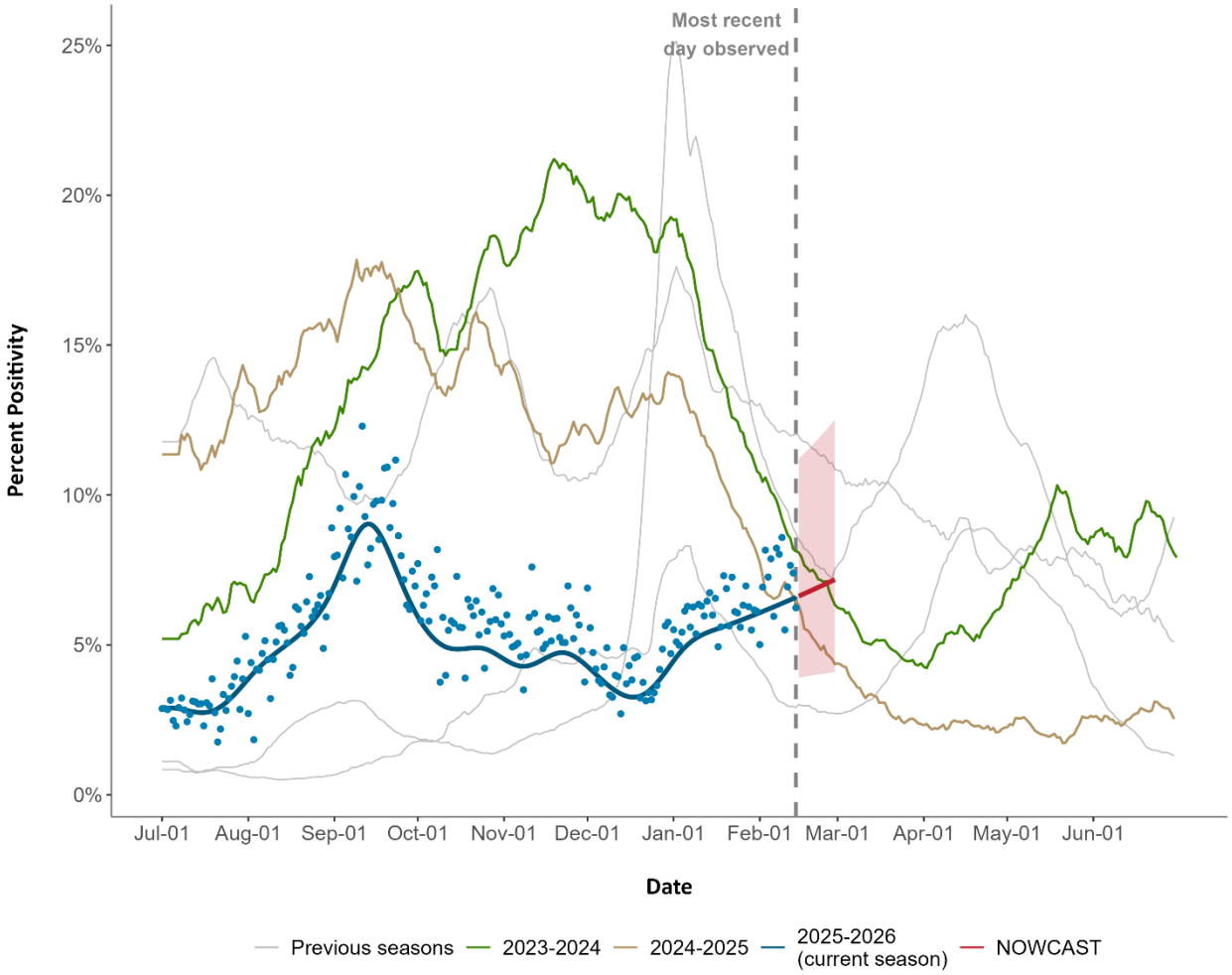
Pathogen-specific activity was determined from patterns in percent positivity using laboratory testing data reported in the Ontario Laboratory Information System (OLIS). Projections using a "nowcast" estimation methodology[1] were calculated for each age group (<18, 18-64 and 65+ years) separately and combined into an overall projection. Comparisons of projections across age groups should take into consideration differences in factors including testing eligibility and immunization coverage. Refer to the Technical Notes for further details on the data sources and statistical approaches used in this report, and additional caveats.

Figure 1a: Recent and Projected SARS-CoV-2 Activity (Percent Positivity) Among Ontarians, Overall and by Age Group



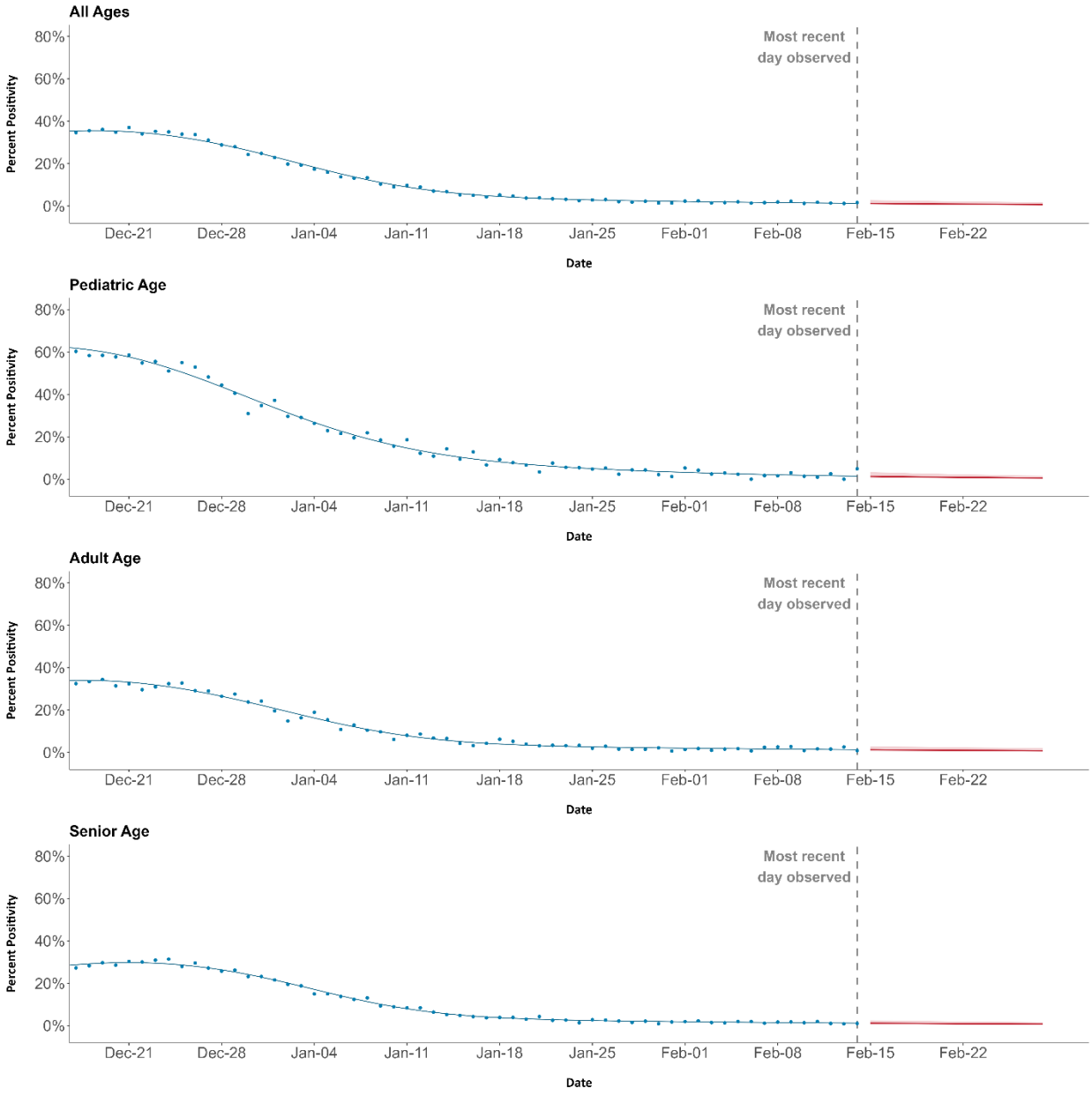
Note: This figure shows a subset of the data presented in Figure 1b below for the 2025-26 (current) season. It is comprised of the most recent eight weeks of data and the two-week projection. The blue line shows the smoothed daily observed percent positivity (blue dots) for recent weeks. The grey vertical dashed line indicates the most recent day with observed data. The red line represents the estimated viral activity (percent positivity) from nowcast projection modelling. The light red shaded area represents the 95% prediction interval around the projected estimates.
Data Source: Ontario Laboratories Information System (OLIS)

Figure 1b: Historic and Projected SARS-CoV-2 Activity (Percent Positivity) Among Ontarians



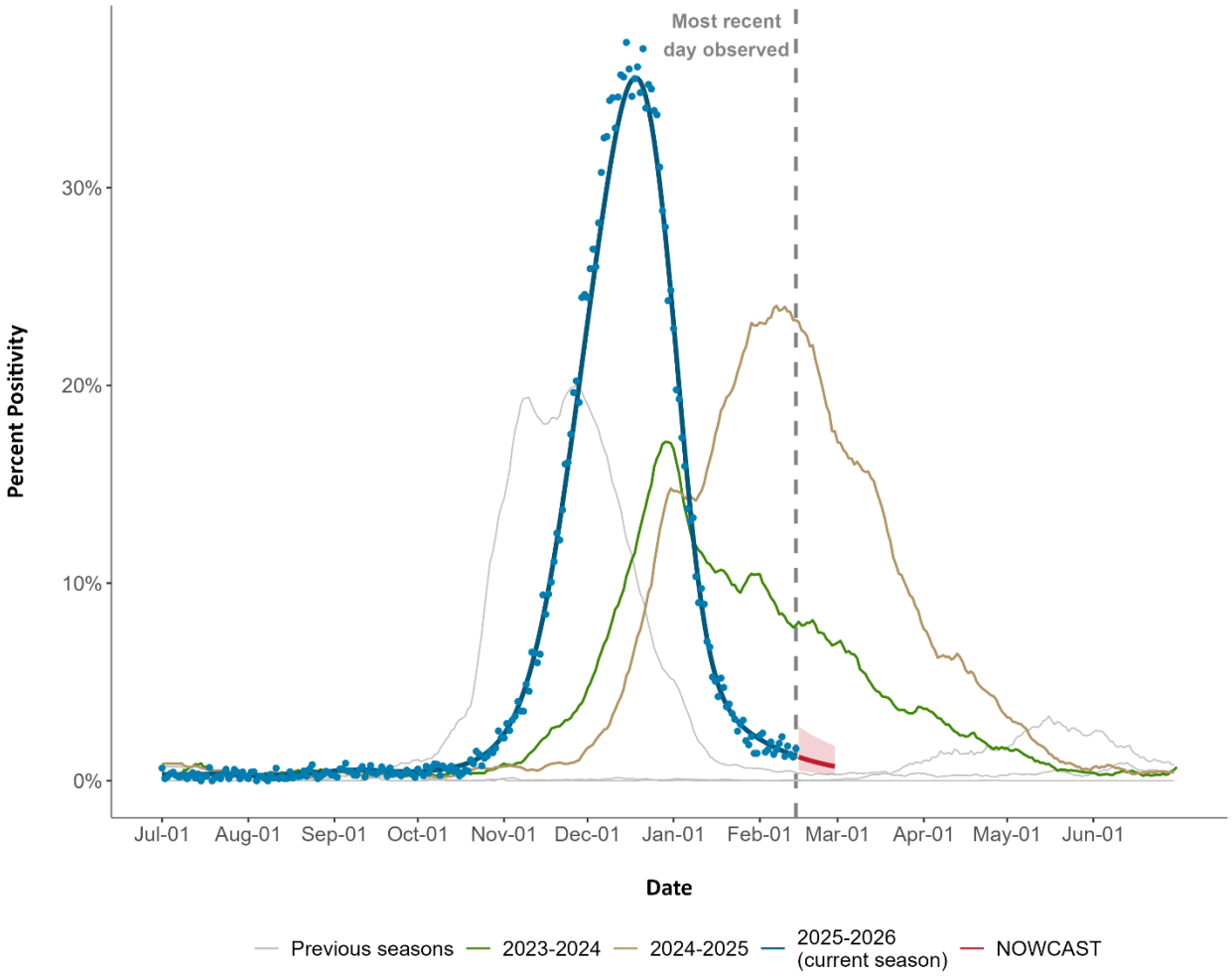
Note: The blue line shows the smoothed daily observed percent positivity (blue dots) for the 2025-26 season. The grey vertical dashed line indicates the most recent day with observed data. The red line represents the estimated viral activity (percent positivity) from nowcast projection modelling, which makes projections using the past two years of daily OLIS data in a generalized additive model (GAM). The light red shaded area represents the 95% prediction interval around the model estimates. The brown line shows the smoothed daily observed percent positivity for the 2024-25 season and the green line shows the 2023-24 season. The grey line shows the smoothed daily percent positivity for earlier seasons (i.e., 2020-2023). Notably, surveillance periods are shown starting on July 1st of each year to align with annual influenza and RSV activity.
Data Source: Ontario Laboratories Information System (OLIS)

Figure 2a: Recent and Projected Influenza Activity (Percent Positivity) Among Ontarians, Overall and by Age Group



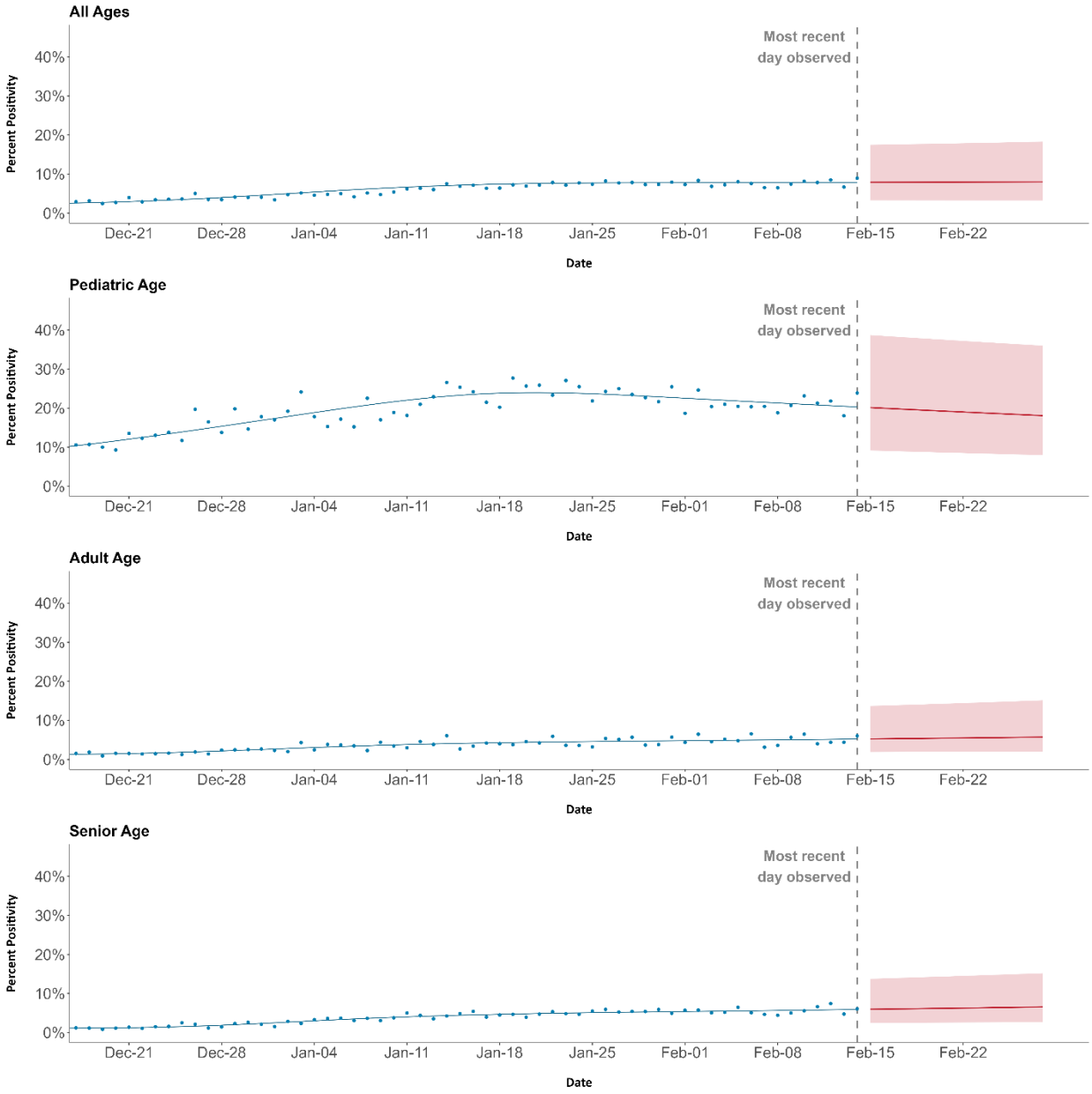
Note: This figure shows a subset of the data presented in Figure 2b below for the 2025-26 (current) season. It is comprised of the most recent eight weeks of data and the two-week projection. The blue line shows the smoothed daily observed percent positivity (blue dots) for recent weeks. The grey vertical dashed line indicates the most recent day with observed data. The red line represents the estimated viral activity (percent positivity) from nowcast projection modelling. The light red shaded area represents the 95% prediction interval around the projected estimates.
Data Source: Ontario Laboratories Information System (OLIS)

Figure 2b: Historic and Projected Influenza Activity (Percent Positivity) Among Ontarians*



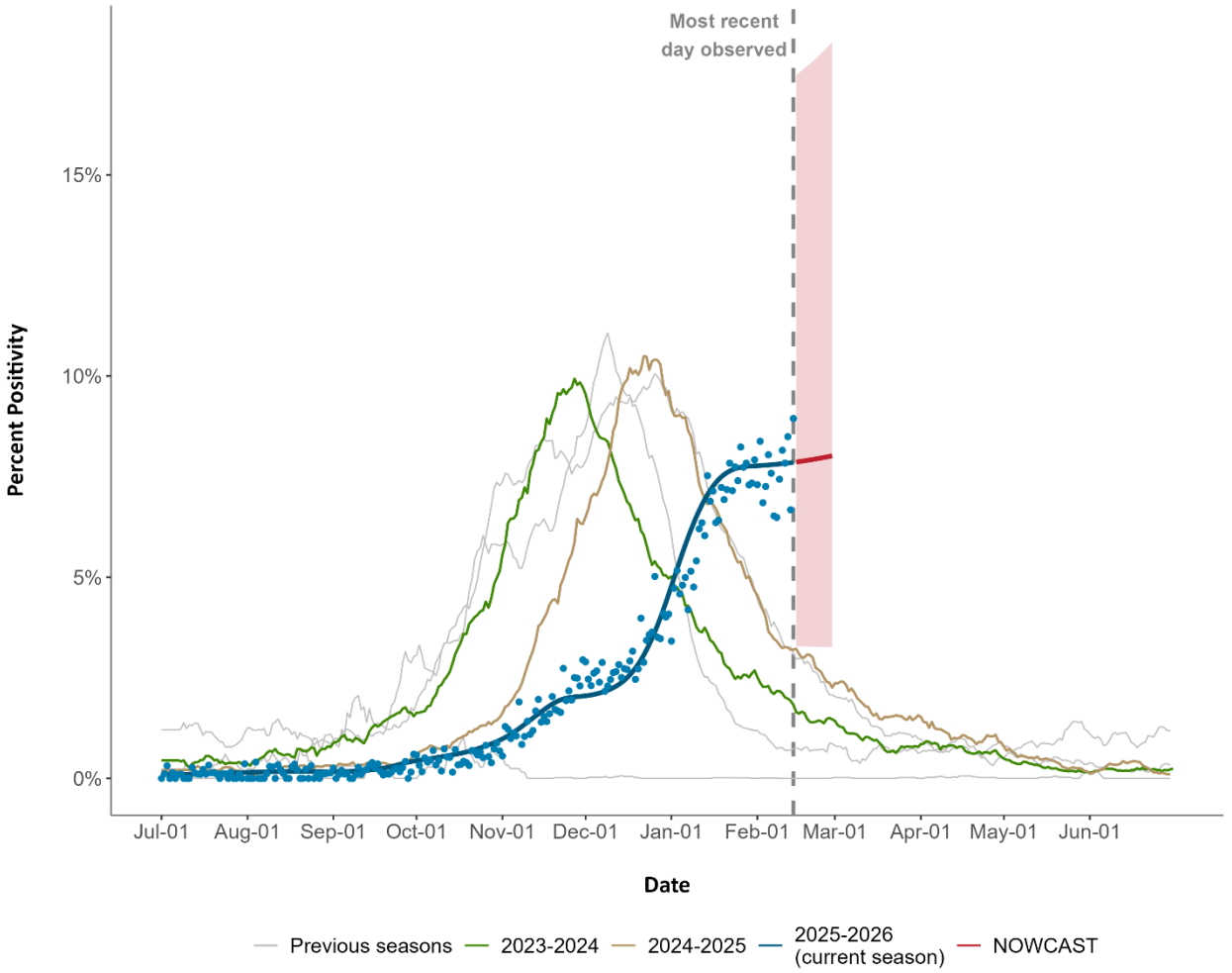
Note: The blue line shows the smoothed daily observed percent positivity (blue dots) for the 2025-26 season. The grey vertical dashed line indicates the most recent day with observed data. The red line represents the estimated viral activity (percent positivity) from nowcast projection modelling, which makes projections using the past two years of daily PHO laboratory data in a generalized additive model (GAM). The light red shaded area represents the 95% prediction interval around the model estimates. The brown line shows the smoothed, daily observed percent positivity for the 2024-25 season, and the green line shows the 2023-24 season. The grey lines show the smoothed daily percent positivity for earlier seasons (i.e., 2020-23). Notably, surveillance periods are shown starting on July 1st of each year to align with annual influenza and RSV activity.
Data Source: Ontario Laboratories Information System (OLIS)

Figure 3a: Recent and Projected RSV Activity (Percent Positivity) Among Ontarians, Overall and by Age Group



Note: This figure shows a subset of the data presented in Figure 3b below for the 2025-26 (current) season. It is comprised of the most recent eight weeks of data and the two-week projection. The blue line shows the smoothed daily observed percent positivity (blue dots) for recent weeks. The grey vertical dashed line indicates the most recent day with observed data. The red line represents the estimated viral activity (percent positivity) from nowcast projection modelling. The light red shaded area represents the 95% prediction interval around the projected estimates.
Data Source: Ontario Laboratories Information System (OLIS)

Figure 3b: Historic and Projected RSV Activity (Percent Positivity) Among Ontarians

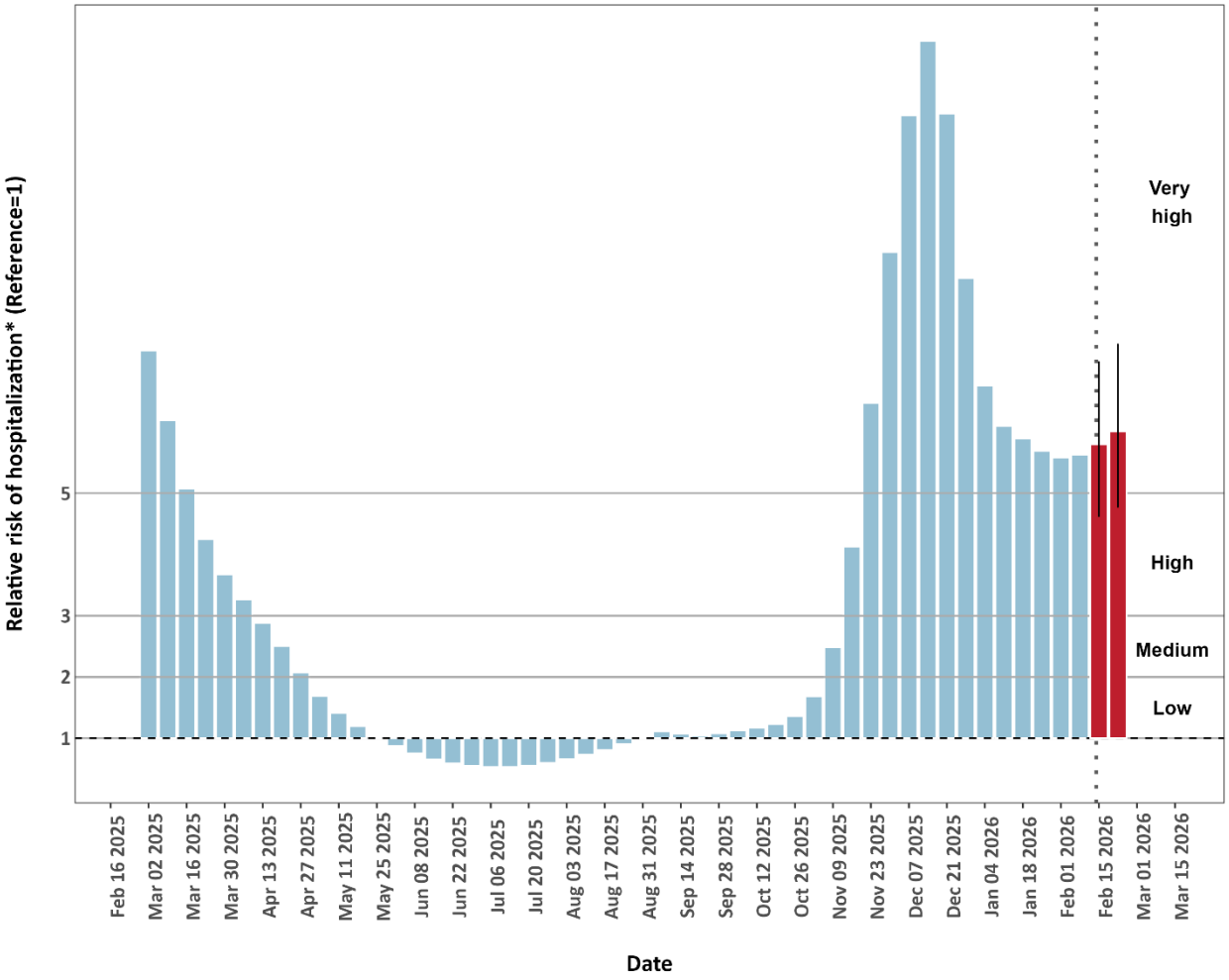


Note: The blue line shows the smoothed daily observed percent positivity (blue dots) for the 2025-26 season. The grey vertical dashed line indicates the most recent day with observed data. The red line represents the estimated viral activity (percent positivity) from nowcast projection modelling, which makes projections using the past two years of daily PHO laboratory data in a generalized additive model (GAM). The light red shaded area represents the 95% prediction interval around the model estimates. The brown line shows the smoothed, daily observed percent positivity for the 2024-25 season and the green line shows the 2023-24 season. Grey lines show the smoothed daily percent positivity for earlier seasons (i.e., 2020-23). Notably, surveillance periods are shown starting on July 1st of each year to align with annual influenza and RSV activity.
Data Source: Ontario Laboratories Information System (OLIS)

Projections of Hospitalization Risk

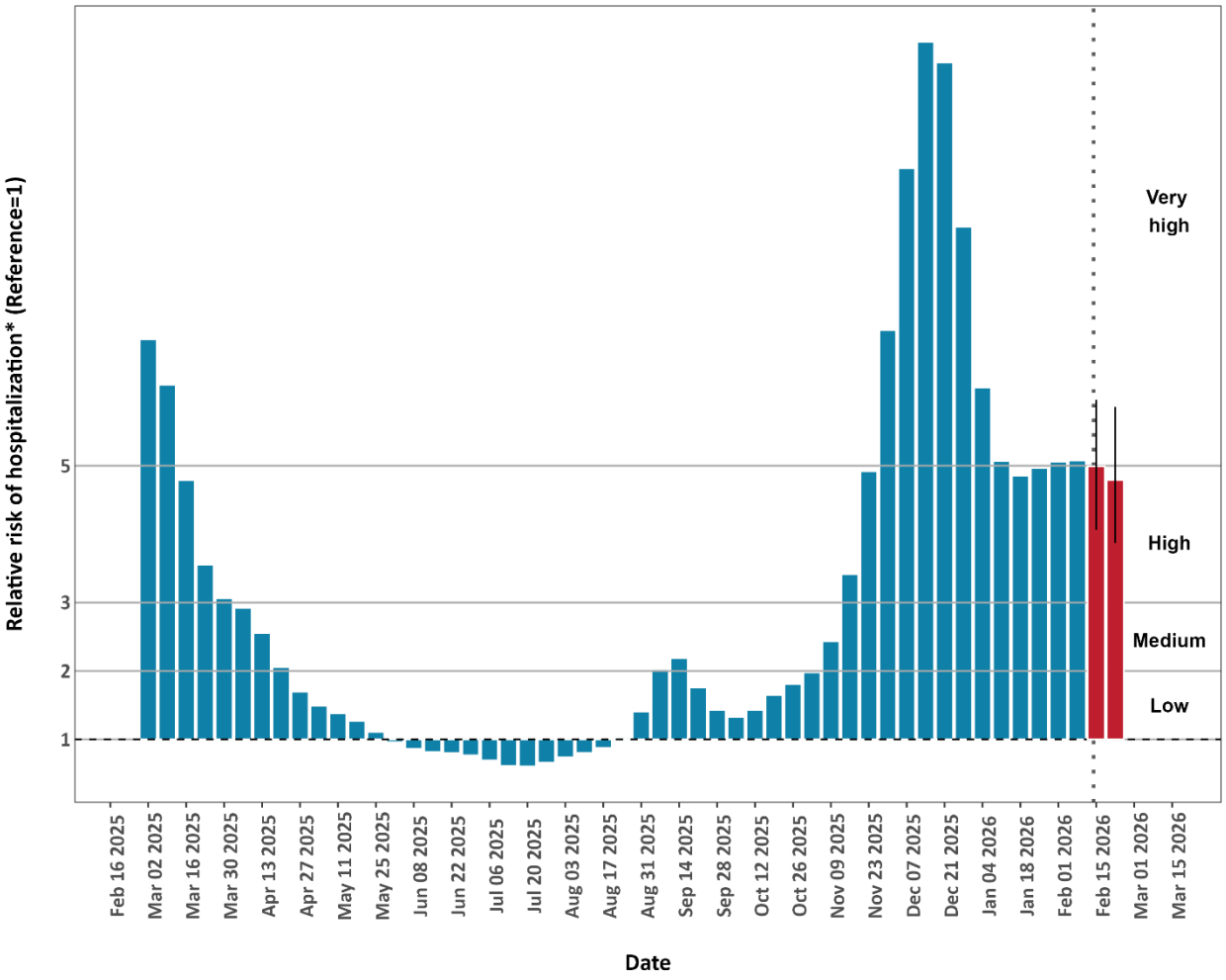
Weekly indicators of the current and projected hospitalization risk among pediatric, adult and senior age groups in Ontario, relative to the lowest activity period over the past two years (which is a fixed period determined at the start of each respiratory season), were determined using a combination of data sources. The projections are calculated for each age group separately and the statistical approaches for doing so are outlined in the Methods section below. Comparisons of projections across age groups should take into consideration differences in factors including testing eligibility and immunization coverage; refer to the Technical Notes for additional caveats.

Figure 4a: Estimated Weekly Risk of Hospitalization by Age Group, Pediatric Age



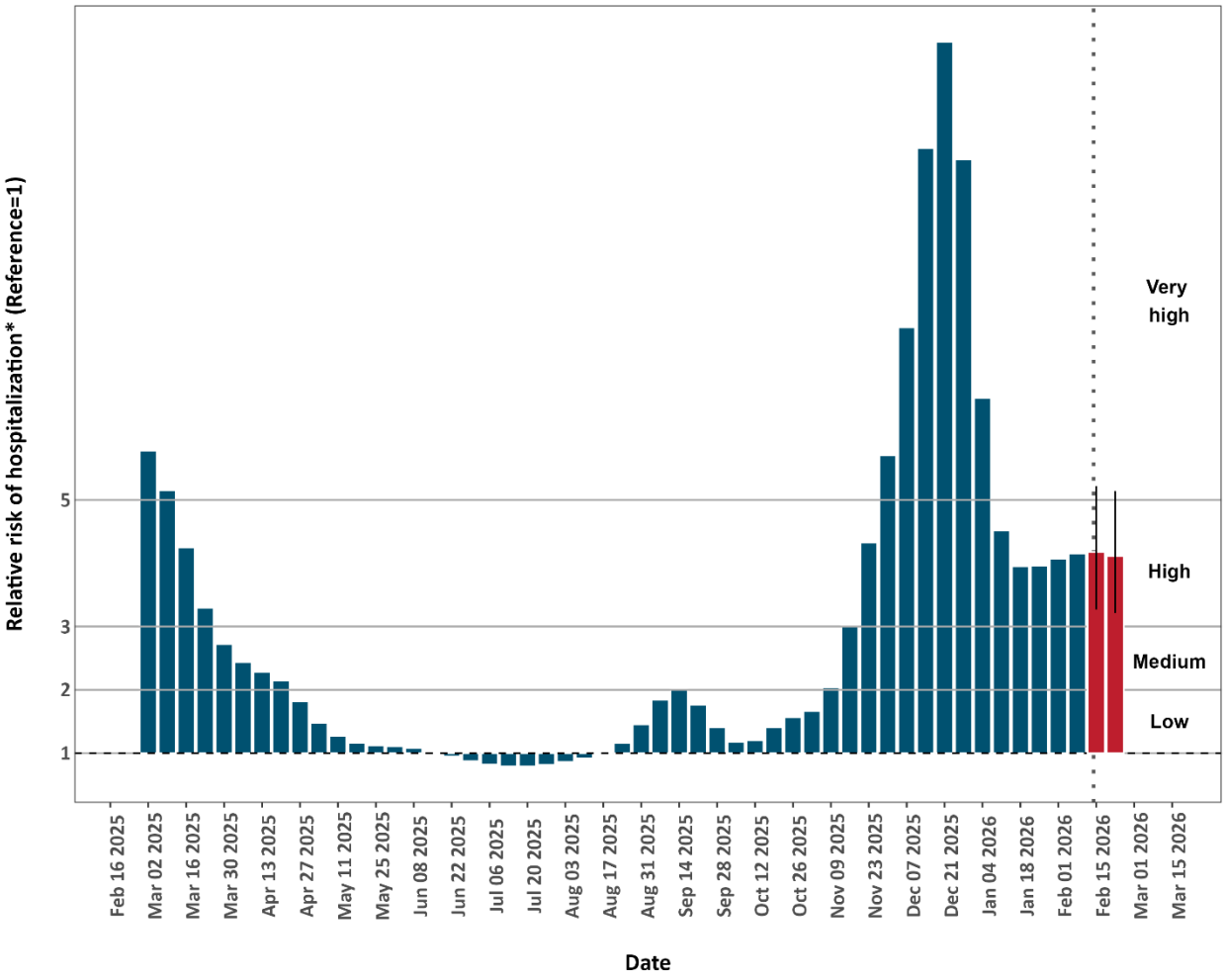
Note: Blue bars represent the estimated weekly relative risk of hospitalization from nowcast modelling, which uses the past two years of daily OLIS data in a generalized linear model. Red bars represent the projected relative risk for the next two weeks. The vertical grey dotted line indicates the most recent day with observed data (February 14, 2026). The red lines indicate the 95% prediction interval. The grey horizontal lines represent the historical threshold values, as indicated (i.e., low, moderate, high, or very high relative risk of hospitalization).
*The y-axis uses a log scale and shows the risk of hospitalization relative to a reference period of low incidence that occurred from May 1, 2025 through June 30, 2025. A relative risk equal to 1 indicates similar risk of hospitalization as the reference period; a relative risk greater than 1 indicates higher risk of hospitalization; and a relative risk of 2 indicates a two-fold higher risk of hospitalization relative to the reference period. A relative risk less than 1 indicates less hospitalizations relative to the reference period.
Data Sources: Ontario Laboratories Information System (OLIS); Ministry of Health

Figure 4b: Estimated Weekly Risk of Hospitalization by Age Group, Adult Age



Note: Blue bars represent the estimated relative risk of hospitalization from nowcast modelling, which uses the past two years of daily OLIS data in a generalized linear model. Red bars represent the projected relative risk. The vertical grey dotted line indicates the most recent day with observed data (February 14, 2026). The red lines represent the 95% prediction interval. The grey horizontal lines represent the historical threshold values, as indicated (i.e., low, moderate, high, or very high relative risk of hospitalization).
*The y-axis uses a log scale and shows the risk of hospitalization relative to a reference period of low incidence that occurred from May 1, 2025 through June 30, 2025. A relative risk equal to 1 indicates similar risk of hospitalization as the reference period; a relative risk greater than 1 indicates higher risk of hospitalization; and a relative risk of 2 indicates a two-fold higher risk of hospitalization relative to the reference period.
Data Sources: Ontario Laboratories Information System (OLIS); Ministry of Health

Figure 4c: Estimated Weekly Risk of Hospitalization by Age Group, Senior Age



Note: Blue bars represent the estimated weekly relative risk of hospitalization from nowcast modelling, which uses the past two years of daily OLIS data in a generalized linear model. Red bars represent the projected relative risk. The vertical grey dotted line indicates the most recent day with observed data (February 14, 2026). The red lines represent the 95% prediction interval. The grey horizontal lines represent the historical threshold values, as indicated (i.e., low, moderate, high, or very high relative risk of hospitalization).
*The y-axis uses a log scale and shows the risk of hospitalization to a reference period of low incidence that occurred from May 1, 2025 through June 30, 2025. A relative risk equal to 1 indicates similar risk of hospitalization as the reference period; a relative risk greater than 1 indicates higher risk of hospitalization; and a relative risk of 2 indicates a two-fold higher risk of hospitalization relative to the reference period.
Data Sources: Ontario Laboratories Information System (OLIS); Ministry of Health

Technical Notes

Data Sources

Ontario Laboratories Information System (OLIS):

- SARS-CoV-2, influenza, and RSV testing data reported by microbiology laboratories in the province were obtained from OLIS on February 17, 2026, and include data reported up to February 14, 2026.

Ministry of Health (MOH) Bed Census (I9):

- Hospital bed occupancy data were obtained from the Ministry of Health on February 17, 2026, and include data reported up to February 14, 2026.

Methods

Projections of Respiratory Virus-Specific Activity

- For the three pathogen-specific indicators of viral respiratory activity, generalized additive models (GAMs) were applied to daily laboratory testing data, stratified by age group.
  - Figures 1a through 3b show OLIS data and related projections for individuals of all ages in Ontario.
  - For all pathogens, GAMs were applied to observed percent positivity data for the past two-year period to project the daily pathogen-specific percent positivity forward 14 days, along with 95% prediction intervals.
- Specifically, GAMs were fitted using restricted cubic splines applied to the date of testing, with knots located 28 days apart throughout the summer (i.e., June 1 through August 31, inclusive) and 14 days apart throughout the rest of the surveillance period. The most recent knot is located 14 days from the most recent date of observed data included in the model, meaning that the positivity projection is based on a linear interpolation of percent positivity.

Projections of Combined Hospitalization Risk

- Projected values obtained from the pathogen-specific age-stratified GAMs described above (refer to “Projections of Respiratory Virus-Specific Activity”) were included in a previously calibrated generalized linear model (GLM) (refer to “Detailed Description of Statistical Methods” below) to estimate the risk of hospitalization for all the three viruses combined specific to each age subgroup: pediatric, adult and senior.
- Weekly relative risk estimates, along with 95% prediction intervals, are provided in Figures 4a through 4c.
- For each age group-specific estimate of hospitalization risk, thresholds values representing low, medium, high, and very high risk of hospitalization were determined using a combination of empirical analyses of quantiles within each age group and subject matter expertise.

Detailed Description of Statistical Methods

- For each pathogen and age group (<18, 18-64, and 65+ years), generalized additive models (GAMs) were fitted to observed daily pathogen percent positivity data for the past two-year period to project daily pathogen-specific percent positivity forward 14 days. Projected estimates from each age group were combined to estimate an overall projection for each virus.

- For the influenza model, influenza A and B percent positivity were modelled separately before combining.
- To ensure estimates of hospitalization risk accurately reflect observed trends and to allow pathogen-specific percent positivity trends to be appropriately combined into a single indicator of age-specific hospitalization risk, the following modelling approach was taken.
- Total daily age-specific hospital admissions for COVID-19, influenza, and RSV were obtained from Ministry of Health Bed Census Data for the past two-year period.
    - Of note, hospital admissions may underestimate the true level of severe viral respiratory disease in the population as some individuals with severe disease may not seek hospital care and so may not be captured in the bed census data.
    - Hospital admission data were available in the following age groups and categorized as follows: <18 years were assigned as pediatric, 18-64 years as adults, and 65+ years as seniors.
- In addition to the age-stratified, pathogen-specific percent-positivity models described above, an age-stratified generalized linear model (GLM) was developed using daily pathogen-specific percent positivity, date, and annual and biannual Fourier seasonality terms (to account for underlying viral respiratory disease trends) as independent variables. The total, age-specific number of hospitalizations reported for COVID-19, influenza, and RSV were the outcomes of interest (dependent variable).
    - Influenza A and B percent positivity were included as separate age-specific covariates.
    - The calibration model was based on percent positivity and hospitalization data for the period February 15, 2024 through February 14, 2026, as this is when hospitalization data for all three pathogens was readily available from the provincial reporting system.
    - Several model specifications were considered, including different methods to account for seasonality (e.g., number of Fourier terms), approaches for implementing smoothing splines (e.g., cubic regression), and model functional forms (e.g., GLM, GAM). The best fitting model was defined as having the smallest prediction error when compared against a testing data set which was not included when training the model.
    - The calibrated models were subsequently applied to the projected virus-specific percent positivity data (described above) to obtain estimates of the projected risk of hospitalization in the upcoming 14-day period.
    - To ensure the continued accuracy of these calibration weights, ongoing calibration activities and assessments of predictive performance occur throughout the respiratory virus season, with changes documented in future reports.
- The relative risk of hospitalization was calculated relative to a period with historically low hospitalization risk. For our calculation of risk, the average estimated weekly risks between May 1, 2025 through June 30, 2025 for each age group were used. For reference, the average total number of new observed hospitalizations for COVID-19, influenza, and RSV (i.e., combined) during this period was:
    - 9.4 per week among the pediatric age group,
    - 25.0 per week among the adult age group, and
    - 104.3 per week among the senior age group.
- Threshold values (i.e., low, medium, high, very high) were determined using a combination of subject matter expertise and empirical analyses of quantiles for each age group.
    - These threshold values are: 2.0, 3.0, and 5.0, respectively.

Highlights Change Assessment

The table below provides an overview of how the week over week change for each indicator is assessed and reported on in the highlights section of this report. Changes are assessed by comparing the percent change between the observed values of the fitted line for the most recent date with observed data, to the predicted values for the latest prediction date (i.e., the most recent date with observed data plus 14 days). Assessed changes are mapped to thresholds that are based on those used for the Ontario Respiratory Virus Tool and described in the accompanying Technical Notes, Appendix A.[2]

Indicators	Change Assessment Threshold
SARS-CoV-2, Influenza, and RSV Percent Positivity (Figures 1a-3b)	**Increase:** • If the percent positivity in the previous week was exactly 0%, then an increase of any percent • If the percent positivity in the previous week was under 10%, then an increase of 0.5 percentage points or more • If the percent positivity in the previous week was 10% or over, then an increase of 5% or more **Remain Stable:** • If the percent positivity in the previous week was under 10%, then a change less than 0.5 percentage points • If the percent positivity in the previous week was 10% or over, then a change less than 5% **Decrease:** • Regardless of the percent positivity in the previous week, any decrease to exactly 0% • If the percent positivity in the previous week was under 10%, then a decrease of 0.5 percentage points or more • If the percent positivity in the previous week was 10% or over, then a decrease of 5% or more
Risk of Hospitalization – Pediatric, Adult and Senior Ages (Figures 4a-4c)	**Increase:** • An increase of 5% or more **Remain Stable:** • A change less than 5% **Decrease:** • A decrease of 5% or more

Data and Methodological Caveats

- Additional data caveats and methods are available in the Technical Notes of the Ontario Respiratory Virus Tool[2] Refer to the "Lab Testing" tab of the tool to further explore the laboratory data used in this report.
- COVID-19 and influenza are diseases of public health significance in Ontario and cases are therefore reportable to the province as per Designation of Diseases, O Reg 135/18 and amendments under the Health Protection and Promotion Act (HPPA).[3,4] RSV is only reportable as respiratory infection outbreaks in institutions and public hospitals.
- Percent positivity is calculated by dividing the number of positive tests by the total number of tests performed in a given period.
- Testing volumes may change over time. Testing eligibility for SARS-CoV-2, influenza, and RSV differ along with the number of tests performed. Higher numbers of tests might be conducted at the same time in one surveillance period compared to another. The reason for differences can vary, with one example being that testing criteria may change.
- For the most up to date information on testing eligibility in Ontario, refer to the provincial testing guidance for SARS-CoV-2 and Public Health Ontario laboratory's guidance for influenza and RSV.[5,6]
    - All data and projections exclude those with a missing age group.
    - For the senior age group, interpretation of projections should additionally account for differences in hospital admission patterns and the higher likelihood of residence in congregate care facilities (e.g., long-term care homes) compared to the adult age group.
    - This report does not provide estimates of the expected number of cases or hospitalizations due to SARS-CoV-2, influenza, or RSV.
    - Trends should be interpreted with caution as the most recent period of data may be subject to reporting and/or data entry lags, which may impact the accuracy of projections. Changes in testing eligibility over time and in testing and reporting practices across different laboratories may also impact the accuracy of projections.
- COVID-19, influenza, and RSV activity should be assessed independently due to differences in provincial testing strategies and populations eligible for testing.
- Decisions regarding public health action and/or infection prevention and control should not solely rely on percent positivity levels as context specific indicators (e.g., the group at risk, current trajectory of trends, immunization coverage, transmissibility, severity, risk tolerance, as well as local factors such as health care capacity and access to care, current measures in place, etc.) should also be considered.
- PHO will consistently assess the accuracy of these models to ensure accurate and timely projections of respiratory virus activity in Ontario. Thus, refinements to the models and recalibration activities may occur throughout the respiratory virus season with updates reflected in future reports. Considerations for updating models may include: changes in testing eligibility, evolving data availability, emerging variants, and emerging seasonal patterns and trends as the respiratory virus season progresses.
- Model validations have demonstrated a likelihood of overestimating activity as respiratory viruses approach their seasonal peaks. This pattern suggests that projected values for the weeks leading up to the seasonal peaks may exceed subsequently observed activity.

References

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2. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Technical notes: Ontario respiratory virus tool [Internet]. Toronto, ON: King's Printer for Ontario; 2024 [updated 2024 Oct 25; cited 2024 Nov 05]. Available from: https://www.publichealthontario.ca/-/media/data-files/respiratory-virus-tool-technical-notes.pdf?la=en
3. *Designation of Diseases*, O Reg 135/18. Available from: https://www.ontario.ca/laws/regulation/180135
4. *Health Protection and Promotion Act*, RSO 1990, c H.7. Available from: https://www.ontario.ca/laws/statute/90h07
5. Ontario. Ministry of Health; Ontario. Ministry of Long-Term Care. COVID-19: guidance for the health sector [Internet]. Toronto, ON: King's Printer for Ontario; 2024 [updated 2024 Oct 16; cited 2024 Nov 05]. Available from: https://www.ontario.ca/page/covid-19-testing-and-treatment
6. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Test information index: respiratory viruses (including influenza) [Internet]. Toronto, ON: King's Printer for Ontario; 2024 [updated 2024 Oct 02; cited 2024 Nov 05]. Available from: https://www.publichealthontario.ca/en/Laboratory-Services/Test-Information-Index/Virus-Respiratory

Citation

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