

USER GUIDE

Immunization Data Tool

Updated: June 2026

Introduction

The [Immunization Data Tool](#) provides immunization program surveillance information by integrating data on immunization coverage and vaccine safety in Ontario. This user guide describes the content of this interactive report, how it is organized, and the functionality available to visualize the content.

This interactive report is organized into separate tabs:

- **Routine immunization:** contains information on the immunization status for routine infant and childhood immunizations, as well as school-based immunizations. This tab contains seven sections for exploring different aspects of immunization coverage:
 - Overview
 - Trends over time
 - Comparison of coverage across public health unit geographies
 - Coverage across ages
 - Comparison of coverage by disease antigen
 - Number of doses received
 - Immunization exemptions
- **COVID-19 immunization:** contains information on Ontario's COVID-19 immunization program. This tab contains three sections for exploring COVID-19 immunization data:
 - Overview
 - COVID-19 immunization coverage
 - Number of COVID-19 vaccine doses administered
- **Vaccine safety:** contains information collected from Adverse Events Following Immunization (AEFI) reports in Ontario. This tab contains six sections for exploring the number and rate of AEFI's in Ontario:
 - Overview
 - Trends over time
 - AEFI's by age and sex
 - Comparison of AEFI's across public health unit geographies
 - AEFI's by vaccine
 - Type of adverse events

Each section within the routine immunization, COVID-19 immunization, and vaccine safety tabs contain different selection criteria and controls for users to view the data across several stratifiers. A final tab allows users to download the data. Specific details on what is contained in all the sections and tabs are outlined throughout this document.

Using the Immunization Data Tool

Overview

Generally, the functionality is similar in tabs within the tool. The available selection areas of the tool are numbered and summarized below.

The screenshot shows the top navigation bar with four tabs: 'Routine immunization', 'COVID-19 immunization', 'Vaccine safety', and 'Download data'. Below this is a 'View data by:' section with six sub-tabs: 'Overview', 'Trends', 'Age and sex', 'Geography', 'Vaccine', and 'Adverse event'. A 'Filter data in the figure below by:' section contains four dropdown menus: 'Measure' (set to 'Number of AEFI reports'), 'Geography' (set to 'Ontario'), 'Serious AEFIs' (set to 'All AEFIs'), and 'Sex' (set to 'Multiple selections'). Below the filters is a 'Group data by:' section with two options: 'Age group' (selected) and 'Years'. A 'Time period' section shows '2024' selected for both years. A '3a' callout points to the 'Age group' option, and a '3b' callout points to the 'Time period' section. A '4' callout points to a menu icon in the bottom right corner.

Number of AEFI reports for all vaccines (by population) by age group and sex, all AEFIs, Ontario, 2024



- 6** Notes:
- Data for COVID-19 vaccine are presented from 2020 onwards as the COVID-19 vaccine program was first implemented in December 2020. Due to the impact of the COVID-19 pandemic on the public health and health care sectors, there may be limitations with the 2020-2022 data presented in this tool for the non-COVID-19 AEFIs. Trends should be interpreted with caution.
 - AEFIs associated with a COVID-19 vaccine co-administered with a non-COVID-19 vaccine (e.g., influenza vaccine) will be counted under both the 'Non-COVID-19 vaccines' and 'COVID-19 vaccines' vaccine types. Thus, the sum of 'COVID-19 vaccines' and 'Non-COVID-19 vaccines' counts will not equal 'All vaccines'.
 - In Ontario, serious AEFIs are defined as those reporting an in-patient hospitalization or fatal outcome. Most serious AEFIs reported in Ontario are reports involving hospitalization; fatal outcomes are rare. Refer to the [technical notes](#) for more information.
 - 'All ages' category includes AEFI reports with unknown age. 'All sexes' include AEFI reports with unknown or unspecified/other sex.

1. **Navigation bar:** The blue navigation bar is used to move between the routine immunization tab, the COVID-19 immunization tab, the vaccine safety tab, and a list of downloadable datasets. The current selection is indicated in white, while the other tabs remain solid blue.
2. **Section buttons (view data by):** The buttons in the “View data by” navigation bar are used to change between different sections displaying different figures, stratifiers, and filters used to visualize immunization data in Ontario. The content of each tab varies depending on the focus. The current selection is indicated in purple, while the other tabs remain white.
3. **Filters, toggle buttons, and sliders:** Filters are used to break down the data within each section by selecting the drop down arrow. The filter will either allow for a single selection or multi-selection depending on the chosen filter.
 - Toggle buttons are single-selection switches to control content or figure type. The current toggle button selection is indicated in green.
 - The ‘time period’ slider available in some tabs is used to aggregate several years of data together, or select a time period of interest by dragging the slider below the year selection. Users can also type the desired years in the slider boxes.
4. **Download data from the graph:** When hovering over a graph, a context menu (denoted by three dots) will appear at the top right. Once selected, users can choose to export the data in the graph or view the data in the graph as a table. To capture an image of the graph, users can use the Snipping tool built into Microsoft Windows (Windows logo key + Shift + S) or macOS (Command + Shift + 5).
5. **Tooltips:** When hovering over any data point on a graph, a tooltip will appear with related information about that data point.
6. **Notes:** Beneath the visualization in each section are brief notes describing important considerations for data interpretation. Further details can be found in the [technical notes](#).

Routine Immunization Tab

This tab contains information on immunization coverage for the routine infant and childhood immunization and school-based immunization programs.

View data by:

Overview

Trends

Geography

Age

Antigen

Dose

Exemptions

Immunization coverage in Ontario

Achieving and maintaining high immunization coverage is essential for effective prevention and control of vaccine preventable diseases.

Immunization coverage refers to the proportion of a population that is appropriately immunized against a vaccine preventable disease (VPD) at a specific point in time. Immunization coverage is calculated at the level of **antigen**, which is the active ingredient in all vaccines that produces immunity to a specific VPD.

This tool provides up-to-date estimates of immunization coverage and exemptions for Ontario's publicly-funded routine childhood and school-based immunization programs using data entered in the Digital Health Immunization Repository (DHIR) – Ontario's provincial immunization repository (also known as Panorama).

Immunization data in the DHIR rely on reporting of immunization by parents/guardians to public health units (PHUs). This is strongly influenced by how and when PHUs conduct immunization assessments and enforcement under the Immunization of School Pupils Act (ISPA). ISPA practices vary across PHUs and school years, including which age groups are targeted. As a result, coverage and exemptions may be underestimated for a PHU if student records have not been entered into the DHIR in time to be reflected in the estimates presented in this tool.

Let's take a look at the numbers for the 2024-25 school year:

78%

Almost 80% of 7-year-old children were reported to be fully immunized against measles in 2024-25. This represents a continued increase in coverage since the large decline during the COVID-19 pandemic. Similar increases have been observed for many of the other routine childhood immunization programs.

[See trend data](#)


Immunization coverage by public health units (PHUs) varied greatly across the province among all age cohorts and antigens.

[See PHU data](#)


Immunization coverage for vaccines delivered in schools in grade 7 (HPV, Hepatitis B and quadrivalent meningococcal vaccines) increased in 2022-23 following declines observed during the COVID-19 pandemic. Catch-up programs have increased the proportion of students who were up-to-date as of August 31st, 2025.

[See antigen data](#)


Non-medical exemptions (statements submitted on the basis of conscience or religious beliefs) for immunizations required under Ontario's Immunization of School Pupils Act (ISPA) have increased compared to prior to the COVID-19 pandemic. For example, non-medical exemptions for measles among 7-year-olds increased from 2.5% in 2019-20 to 3.1% in 2024-25, with substantial variability across public health units (1.4% to 10.2% for 2024-25). In contrast, medical exemptions have remained low over time.

[See exemptions data](#)

This tab contains seven sections:

Overview Section

This tab showcases key messages about the data being reported in the other immunization coverage tabs. Clicking on the white and green buttons will take users to the relevant section to further explore the data.

Trends Section

This section contains a multi-line graph displaying trends in coverage rates over time for selected antigens and age milestones by school year. Users can filter the data by geography (Ontario or one of the 29 PHUs in the province), antigen, and age milestone. A toggle button enables users to switch between viewing routine childhood or school-based immunization program-specific antigens and age milestones. Hovering over the ⓘ icon provides a description of the term “antigen.”

Geography Section

This section contains a multi-line trend graph showing immunization coverage rates for selected antigens and age milestones across public health units. Users can change the antigen and age milestone using the dropdown menu. Clicking ‘Show national targets’ displays a dashed line indicating the national Canadian immunization target for a given age milestone and antigen. A toggle button enables users to switch between routine childhood or school-based immunization program-specific antigens and age milestones. This section also contains a three-way toggle button which enables users to view a bar graph showing the distribution of immunization coverage rates across public health units for selected school years, or display a shaded map of Ontario immunization coverage by public health unit for the most recent school year. Hovering over the ⓘ icon provides a description of the term “antigen.”

Age Section

This section contains a bar graph displaying coverage rates for single years by age, allowing users to compare how age impacts immunization coverage. Users can filter the data by geography (Ontario or one of the 29 PHUs in the province), and antigen. A toggle button enables users to switch between routine childhood or school-based immunization program-specific antigens and age milestones. Hovering over the ⓘ icon provides a description of the term “antigen.”

Antigen Section

This section contains a bar graph displaying coverage rates across disease antigen. Users can filter the data by geography (Ontario or one of the 29 PHUs in the province), age milestone and school year. A toggle button enables users to switch between routine childhood or school-based immunization program-specific antigens and age milestones. Clicking ‘Show national targets’ displays blue markers indicating the national Canadian immunization target for a given age milestone and disease antigen, where available. Hovering over the ⓘ icon provides a description of the term “antigen.”

Dose Section

This section contains a stacked bar graph displaying the proportion of the population receiving vaccines by number of doses received across school years, allowing users to compare doses received over time. Users can filter the data by geography (Ontario or one of the 29 PHUs in the province) and select antigen and age milestone. Hovering over the ⓘ icon provides a description of the term “antigen.”

Exemptions Section

This section contains a stacked bar graph displaying the proportion of the population with immunization exemptions across disease and exemption type (medical or non-medical). Users can filter the data by geography (Ontario or one of the 29 PHUs in the province), age milestone, and school year. A toggle button allows users to switch to a view showing a line graph displaying the proportion of the population with immunization exemptions over time for select diseases.

COVID-19 Immunization Tab

This section contains information on Ontario's COVID-19 immunization program.

Routine immunization	COVID-19 immunization	Vaccine safety	Download data
View data by:			
Overview	Immunization coverage	Doses administered	

COVID-19 immunization in Ontario

Ontario's COVID-19 immunization program began on December 14, 2020. Currently, all individuals aged 6 months and older are eligible to receive a [COVID-19 vaccine](#).

2024-25 Immunization Program Recommendations

Fall/Winter program (September 1, 2024 to March 31, 2025): The Ontario Ministry of Health recommended that individuals aged 6 months and older receive one or two doses of a KP.2-containing COVID-19 vaccine (depending on prior immunization history), provided at least 6 months had passed since their last COVID-19 vaccine dose or known SARS-CoV-2 infection.

Spring program (April 1 to June 30, 2025): An additional dose of a KP.2-containing COVID-19 vaccine was recommended for high-risk populations.

Additional eligibility details for the 2024-25 immunization program are available in the [technical notes](#).

Let's take a look at the 2024-25 COVID-19 immunization program:

Immunization coverage

10.6%

of Ontario's population received at least one dose of a KP.2-containing vaccine during the 2024-25 immunization program

[See immunization coverage data](#)

66.3%

of Ontario's population received their last dose of COVID-19 vaccine prior to the 2024-25 immunization program

Doses administered

1,691,875

doses of KP.2-containing vaccine were administered during the Fall/Winter program

[See doses administered data](#)

202,423

doses were administered during the Spring program to individuals who had already received at least one KP.2 dose during the Fall/Winter

This tab contains three sections:

Overview Section

This section showcases key statistics about COVID-19 immunization in Ontario. Clicking on the white and green buttons will take users to the relevant section to further explore the data.

Immunization Coverage Section

This section contains a stacked bar graph displaying COVID-19 immunization coverage across age group (<5, 5–11, 12–17, 18–29, 30–39, 40–49, 50–59, 60–69, 70–79, 80+) by last dose status (last COVID-19 vaccine was received prior to the 2024–25 immunization campaign, last COVID-19 vaccine received during the Fall/Winter immunization campaign, or last COVID-19 vaccine was received during the Spring campaign). Users can filter the data by geography (Ontario or one of the 29 PHUs in the province) and sex.

Doses Administered Section

This section contains a stacked bar graph displaying the number of COVID-19 vaccine doses administered over time and by COVID-19 vaccine product. Users can filter the data by geography (Ontario or one of the 29 PHUs in the province), vaccine product, and use a time slider or slider boxes to select a time period to view.

Vaccine Safety Tab

This section contains information on adverse events following immunization (AEFIs) reported in Ontario.

Routine immunization **COVID-19 immunization** **Vaccine safety** **Download data**

View data by:

Overview Trends Age and sex Geography Vaccine Adverse event

Vaccine safety in Ontario

Vaccines are very safe. As a key component of vaccine safety, Ontario ensures ongoing monitoring of vaccine safety data in collaboration with local, provincial, territorial, and national partners.

Adverse events following immunization (AEFIs) are rare. In 2024, 0.007% of publicly-funded doses distributed/administered were associated with an AEFI.

Let's take a look at the numbers for 2024:

Overall numbers	Most commonly reported adverse events	Vaccines with highest AEFI reporting rates
10.7 million Number of publicly-funded doses distributed/administered	Pain, erythema, swelling at the injection site 34% of all AEFI reports	Pneumococcal polysaccharide 23 valent (Pneu-P-23) 33.7 per 100,000 doses distributed
708 Total number of AEFIs reported	Allergic skin/mucosal reaction 24% of all AEFI reports	Recombinant zoster vaccine (RZV) 33.4 per 100,000 doses distributed
26 Number of AEFIs meeting the serious definition	Rash 22% of all AEFI reports	Quadrivalent conjugate meningococcal (Men-C-ACWY) 30.8 per 100,000 doses distributed
See trend data	See adverse event data	See vaccine data

- Vaccine-specific reporting rates are calculated for publicly-funded vaccines only (per doses administered for COVID-19 vaccines and per doses distributed for other vaccines).
- Additional information on vaccines presented in this tool can be found on Public Health Agency of Canada's [list of approved vaccines in Canada](#) and the [National Vaccine Catalogue](#). The [Canadian Immunization Guide](#) is also a comprehensive resource on immunization and the diseases prevented by vaccines.

This tab contains six sections:

Overview Section

This section showcases key statistics about vaccine safety in Ontario. Clicking on the white and purple buttons will take users to the relevant section to further explore the data.

Trends Section

This section contains a bar and line graph displaying trends in AEFI reports over time. Users can filter the data by geography (Ontario or one of the 29 PHUs in the province), vaccine type, age group, sex, and by severity.

Age and Sex Section

This section contains a clustered bar graph showing AEFI report data by age group (<1 year, 1–3 years, 4–10 years, 11–17 years, 18–64 years, 65+ years) and sex. A measure filter provides the option to display the data as cases or rates. Users can also filter the data by geography (Ontario or one of the 29 PHUs in the province), vaccine type, sex, and AEFI report severity (non-serious or serious). A time slider can be used to aggregate data for the selected years. A toggle button enables users to switch the view to displaying a multi-line graph showing age-specific trends in AEFI reports for the selected measure (cases or rates) over time.

Geography Section

This section contains a multi-line trend graph showing AEFI reporting rate for selected vaccine type across selected public health units. Users can change the vaccine type using the filter. This section contains a three-way toggle button which will switch the view to display a bar graph showing the distribution of AEFI reporting rate for selected vaccine type and year or display a shaded provincial map of AEFI reports by public health unit for the most recent year.

Vaccines Section

This section contains a horizontal stacked bar graph showing AEFI report data by vaccine and AEFI severity (non-serious and serious). A measure provides the option to display the data as cases or rates. Users can also filter the data by geography (Ontario or one of the 29 PHUs in the province), time period, and adverse event category. A toggle button switches the view to display AEFI reports by aggregate vaccine category rather than individual vaccines.

Adverse Events Section

This section contains a horizontal bar graph showing AEFI report data by adverse event. A measure filter allows users to display the data as cases or rates. Users can also filter the data by geography (Ontario or one of the 29 PHUs in the province), vaccine, and adverse event category. The number of non-severe and severe AEFI reports is available in the hover-over tooltip. A time slider can be used to aggregate data for the selected years. A toggle button switches the view to display AEFI reports by aggregate adverse event category rather than individual events.

Download Data Tab

This tab contains a list of datasets available for download, with information about the contents of each. Clicking the purple “Download .csv” hyperlink initiates the download process.

Routine immunization	COVID-19 immunization	Vaccine safety	Download data
Download immunization data			
Routine immunization coverage data			
Immunization coverage for age milestones Immunization coverage for routine childhood and school-based immunizations by year, antigen, public health unit and age milestone. Data for 2015-16 to 2024-25 school years, last updated October 2025. • Download .csv			
Immunization coverage by age Immunization coverage for routine childhood and school-based immunizations by year, antigen, public health unit and age. Data for 2015-16 to 2024-25 school years, last updated October 2025. • Download .csv			
Immunization coverage by dose Immunization coverage for measles, HPV and Hep B by year, public health unit and number of doses. Data for 2019-20 to 2024-25 school years, last updated October 2025. • Download .csv			
Immunization exemptions Immunization exemptions by year, disease, public health unit, age milestone and type of exemption. Data for 2015-16 to 2024-25 school years, last updated January 2026. • Download .csv			
COVID-19 immunization data			
COVID-19 immunization coverage Immunization coverage by age group, public health unit, sex, and last dose status. Data for December 14, 2020 to June 30, 2025, last updated October 2025. • Download .csv			
COVID-19 doses administered Number of doses administered by vaccine product, public health unit, and week. Data for December 14, 2020 to June 30, 2025, last updated October 2025. • Download .csv			
Vaccine safety data			
AEFI data by age, sex and PHU AEFI counts and population denominators across year, public health unit, age group, sex, vaccine type, and serious/non-serious. Data for 2015 to 2024, last updated August 2025. • Download .csv			
AEFI reports by map categories Number of AEFI reports and population denominators by vaccine type, serious/non-serious, year, and public health unit. Data for 2015 to 2024, last updated August 2025. • Download .csv			
AEFI reports by vaccine Number of AEFI reports and number of doses distributed/administered by vaccine, serious/non-serious, year, and public health unit. Data for 2015 to 2024, last updated August 2025. • Download .csv			
AEFI reports by event type Number of AEFI reports by adverse event, vaccine, serious/non-serious, year, and public health unit. Data for 2015 to 2024, last updated August 2025. • Download .csv			
AEFI reports by event category Number of AEFI reports by adverse event category, vaccine, serious/non-serious, year, and public health unit. Data for 2015 to 2024, last updated August 2025. • Download .csv			

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