

USER GUIDE

Immunization Data Tool

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Introduction

The <u>Immunization Data Tool</u> provides immunization program surveillance data 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 sections:

- **Immunization coverage**: contains information on the immunization status for routine infant and childhood immunizations, as well as school-based immunizations. This section contains six tabs 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
- Vaccine safety: contains information collected from Adverse Events Following Immunization (AEFI) reports in Ontario. This section contains six tabs 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 tab within the immunization coverage and vaccine safety sections contains different selection criteria and controls for users to view the data across several stratifiers. A final section 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 both the immunization coverage and vaccine safety sections including the tabs contained within each section. The available selection areas of the tool are numbered and summarized below.



- 1. **Navigation banner:** This top navigation banner is used to move between the immunization coverage section, the vaccine safety section, and a list of downloadable datasets. The section being viewed is indicated by the purple underline.
- 2. **Navigation bar:** The blue navigation bar is used to change between tabs containing different figures, stratifiers, and filters used to visualize immunization data in Ontario. The content of each tab varies depending on the focus of a particular tab. The current selection is indicated in white, while the other tabs remain solid blue.
- 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 purple.
 - The 'time period' slider available in some tabs is used to aggregate several years of data together by dragging the slider below the year selection. Users can also type the desired years in the slides 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 + S).
- 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 tab are brief notes describing important considerations for data interpretation. Further details can be found in the technical notes.

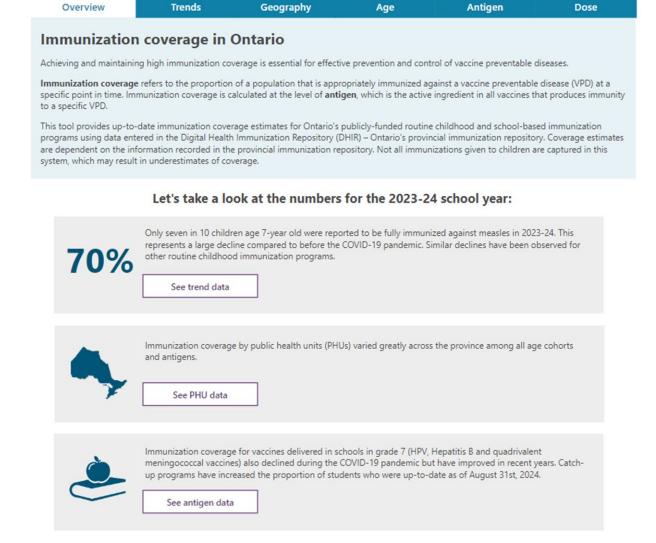
User Guide: Immunization Data Tool

Immunization Coverage Section

Vaccine safety

Immunization coverage

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



This section contains six tabs:

Overview Tab

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

Download data

Trends Tab

This tab 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 34 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 (i) icon provides a description of the term "antigen."

Geography Tab

This tab 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 tab 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 (i) icon provides a description of the term "antigen."

Age Tab

This tab 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 34 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 (i) icon provides a description of the term "antigen."

Antigen Tab

This tab contains a bar graph displaying coverage rates across disease antigen. Users can filter the data by geography (Ontario or one of the 34 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 (i) icon provides a description of the term "antigen."

Doses Tab

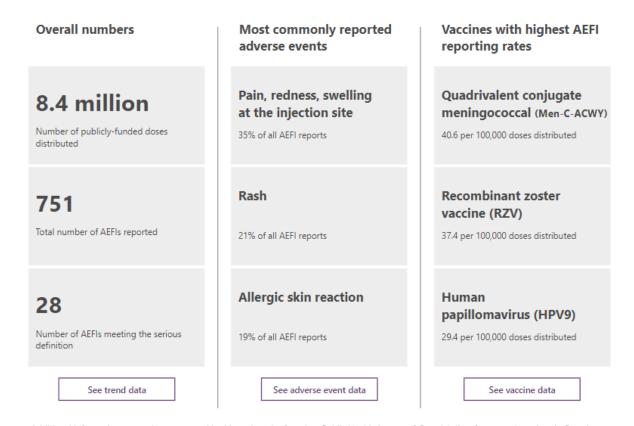
This tab contains a stacked bar graph displaying the proportion of the population receiving vaccines by number of doses received across school-years, allowing users to compare doses received over time. Users can filter the data by geography (Ontario or one of the 34 PHUs in the province), and select antigen and age milestone. Hovering over the (i) icon provides a description of the term "antigen."

Vaccine Safety Section

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



Let's take a look at the numbers for 2023:



Additional information on vaccines presented in this tool can be found on Public Health Agency of Canada's <u>list of approved vaccines in Canada</u> and the <u>National Vaccine Catalogue</u>. The <u>Canadian Immunization Guide</u> is also a comprehensive resource on immunization and the diseases prevented by vaccines.

This section contains six tabs:

Overview Tab

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

Trends Tab

This tab 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 34 PHUs in the province), age group, sex, and by severity.

Age and Sex Tab

This tab 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 34 PHUs in the province), 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 Tab

This tab 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 tab 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 Tab

This tab 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 34 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 Tab

This tab 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 34 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 Section

This section contains a list of datasets available for download, with information about the contents of each. Clicking the purple "Download .csv" button initiates the download process.

Immunization coverage Vaccine safety Download data

Download immunization data

Immunization coverage data

Immunization coverage for age milestones

Download .csv

- · Immunization coverage for routine childhood and school-based immunizations, by year, antigen, public health unit and age milestone
- Date range: 2013-14 to 2023-24 school year
- Data last updated: October 2024

Immunization coverage by age

Download .csv

- · Immunization coverage for routine childhood and school-based immunizations, by year, antigen, public health unit and age
- Date range: 2023-24 school year
- Data last updated: October 2024

Immunization coverage by dose

Download .csv

- Immunization coverage for measles, HPV, and Hep B by year, public health unit and number of doses
- Date range: 2013-14 to 2023-24 school year
- Data last updated: October 2024

Vaccine safety data

AEFI data by age, sex and PHU

Download .csv

- AEFI counts and population denominators across year, public health unit, age, sex, and serious/non-serious
- Date range: 2012 to 2023
- Data last updated: August 2024

AEFI reports by event type

Download .csv

- Number of AEFI reports by adverse event, vaccine, serious/non-serious, year, and public health unit
- Date range: 2012 to 2023
- Data last updated: August 2024

AEFI reports by event category

Download .csv

- Number of AEFI reports by event category, vaccine, serious/non-serious, year, and public health unit
- Date range: 2012 to 2023
- Data last updated: August 2024

AEFI reports by vaccine

Download .csv

- Number of AEFI reports and number of doses distributed by vaccine, serious/non-serious, year, and public health unit
- Date range: 2012 to 2023
- Data last updated: August 2024

AEFI reports by map categories

Download .csv

- Number of AEFI reports and population denominators by vaccine type, serious/non-serious, year, and public health unit
- Date range: 2012 to 2023
- Data last updated: August 2024

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