

USER GUIDE

Sexually Transmitted Infections (STI) Laboratory Data Tool

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Introduction

The Sexually Transmitted Infections (STI) Laboratory Data Tool is a web-based analytics tool developed by Public Health Ontario (PHO) which uses PHO laboratory test results to deliver integrated, up-to-date laboratory data on gonorrhea and chlamydia to clinicians and STI program staff in public health units. Through the use of this tool, timely and locally relevant anonymized STI data sources from Public Health Ontario can be used to guide key decisions about: whom to test, which infections to test for, empiric antimicrobial therapy that should be offered before individual results become available, who to target in sexual health promotion, prevention, screening, counselling and contact tracing activities.

Data is included since January 1, 2010 and is provided by public health unit and Ontario overall. Data is updated on a monthly basis. No personal health information is included. The tool provides users with the ability to manipulate STI lab data using pre-defined reports and variables to quickly derive relevant information. This analytics tool provides public health professionals with the opportunity for interactive data exploration and drill-down analysis.

The tool is restricted to public health unit staff with:

- a role in providing health information for public health decision-making
- epidemiological skills to understand and interpret data
- content expertise (e.g., sexually transmitted infections, infectious diseases)
- an understanding and respect for the confidential and sensitive nature of the information

The tool is organized into three tabs which provide different views of the data:

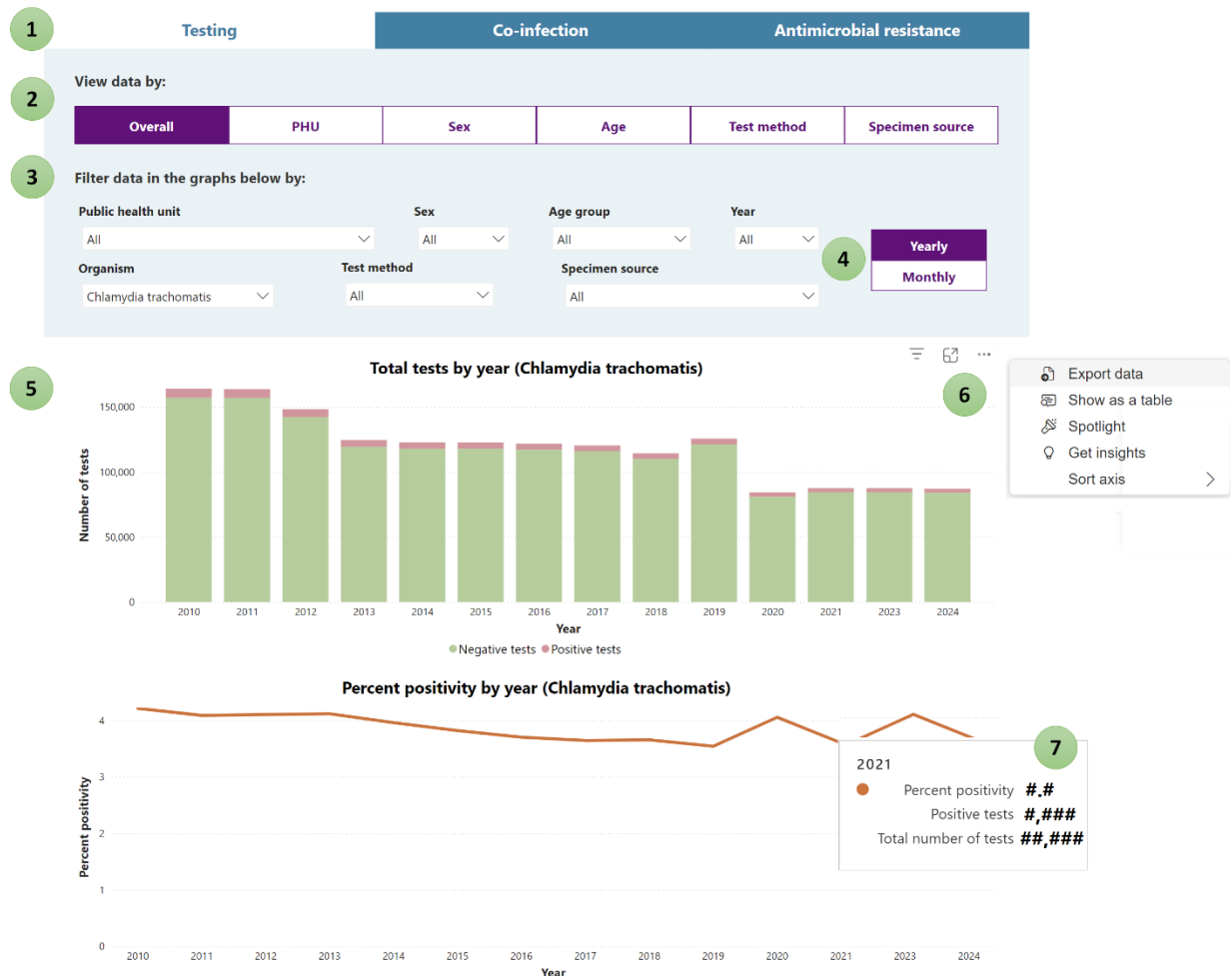
- **Testing tab:** presents data for total tests, total positive tests, and percent positivity for chlamydia and gonorrhea
- **Co-infection tab:** presents data on chlamydia and gonorrhea co-infections
- **Antimicrobial resistance tab:** presents data on antibiotic susceptibility testing of *Neisseria gonorrhoeae*

Each tab contains different selection criteria for users to view the data by several stratifiers, enabling them to make comparisons. Some of the options available include selecting by public health unit, sex, age group, test method, and specimen source. Specific details on what is contained in all the tabs and sections is outlined throughout this document.

Using the STI Laboratory Data Tool

Overview

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

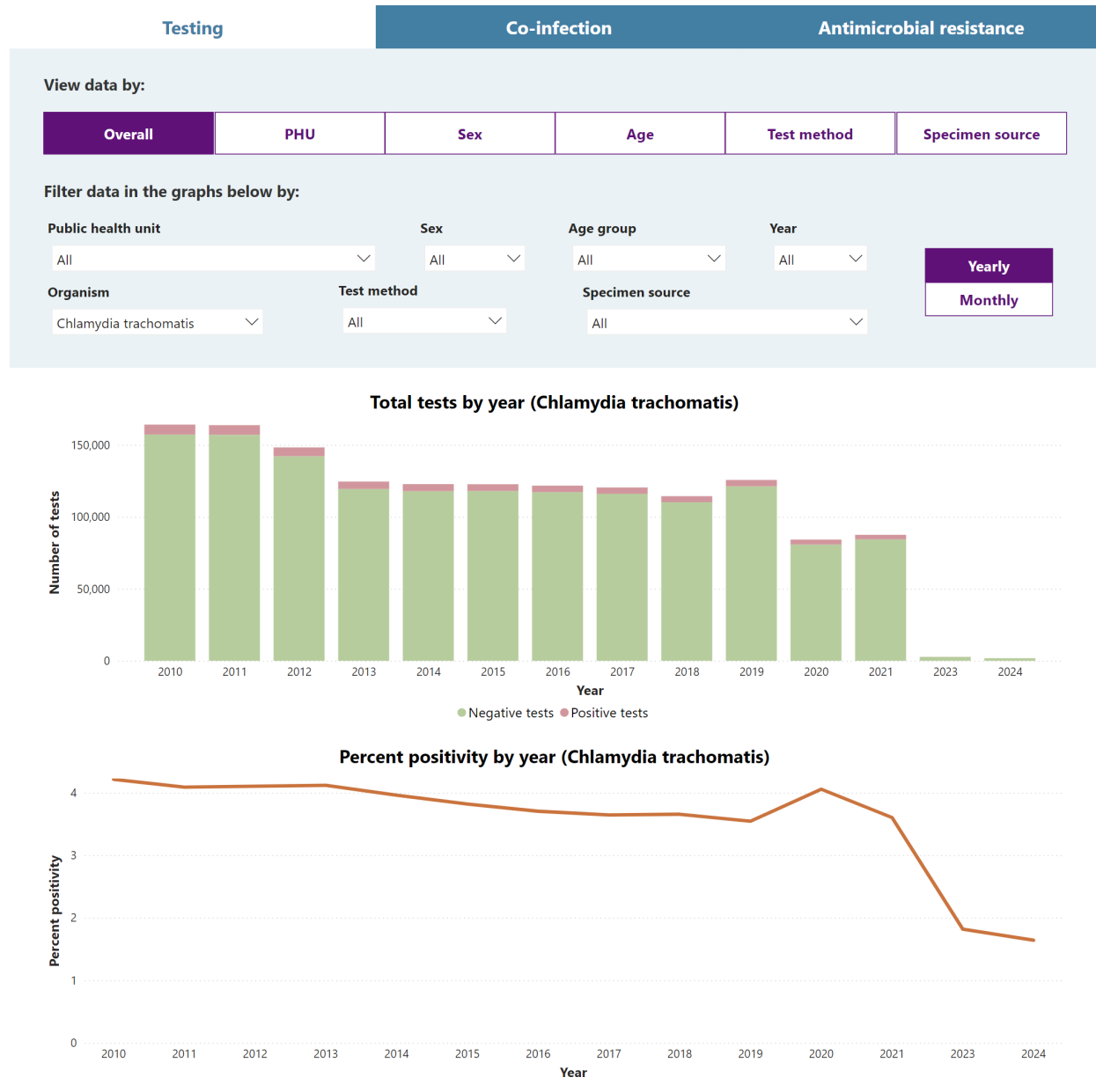


1. **Navigation bar:** This top navigation bar is used to move between the different tabs (Testing, Co-infection, Antimicrobial resistance). The tab being viewed is indicated in white, while the others remain blue.
2. **Stratifiers (View data by):** The buttons in the 'View data by' navigation bar are used to change the stratifier used in the graph. Selecting a stratifier organizes the larger data sets and allows users to view the data by subsets with similar characteristics (e.g., public health unit, sex, age group). The stratifiers for this tool vary depending on the tab users have selected. The current selection is indicated in purple, while the others remain white.

3. **Filters:** Filters are used to select or remove content included in the graphs, and can be opened by selecting the drop down arrow on the right side. The filter will either allow for a single selection or multi-selection depending on the chosen stratifier. Further details on filters in specific tabs are available later in this guide.
4. **Time unit:** All of the graphs in the report can be changed between a yearly or a monthly unit of time on the x-axis.
5. **Graph:** Each tab contains a two graphs that are adjusted based on user selection in the above filters.
6. **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).
7. **Tooltips:** When hovering over any data point on a graph, a tooltip will appear with related information about that data point.

Testing Tab

This tab provides data on total tests (positive and negative) and percent positivity by year or month and gives users the ability to view data by key stratifiers with options to further filter the data.



This tab contains six sections:

Overall

This section contains a stacked bar graph displaying positive and negative tests and a line graph displaying percent positivity by year or by month. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Organism' filter which only allows for a single selection and the 'Year' filter which affects which years of data are included in the graphs.

PHU

This section contains a small-multiple view of stacked bar graphs displaying positive and negative tests and a multi-line graph displaying percent positivity, allowing users to compare trends by public health unit. Users can filter the data by public health unit, sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Organism' filter which only allows for a single selection, the 'Year' filter which affects which years of data are included in the graphs, and the 'Public health unit' filter which changes what PHUs are being displayed in the graphs.

Sex

This section contains a small-multiple view of stacked bar graphs displaying positive and negative tests and a multi-line graph displaying percent positivity, allowing users to compare trends by sex. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Organism' filter which only allows for a single selection, the 'Year' filter which affects which years of data are included in the graphs, and the 'Sex' filter which changes what sexes are being displayed in the graphs.

Age group

This section contains a small-multiple view of stacked bar graphs displaying positive and negative tests and a multi-line graph displaying percent positivity, allowing users to compare trends by age group. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Organism' filter which only allows for a single selection, the 'Year' filter which affects which years of data are included in the graphs, and the 'Age group' filter which changes what age groups being displayed in the graphs.

Test method

This section contains a small-multiple view of stacked bar graphs displaying positive and negative tests and a multi-line graph displaying percent positivity, allowing users to compare trends by test method. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Organism' filter which only allows for a single selection, the 'Year' filter which affects which years of data are included in the graphs, and the 'Test method' filter which changes what test methods are being displayed in the graphs.

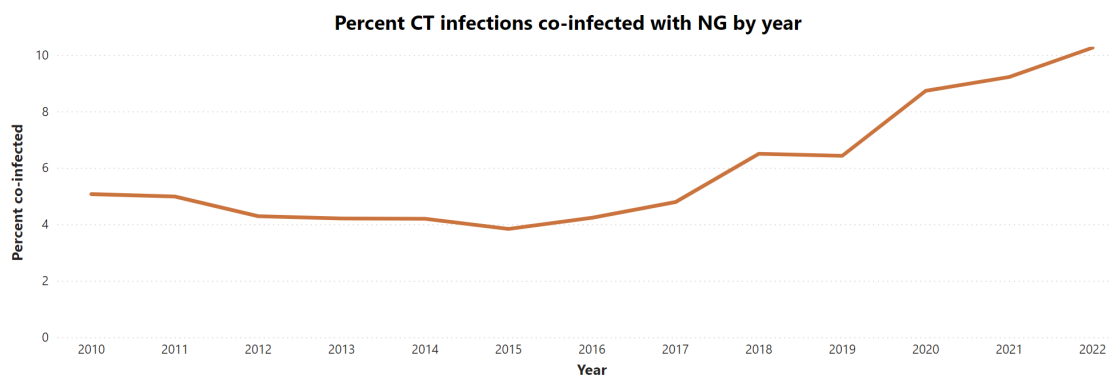
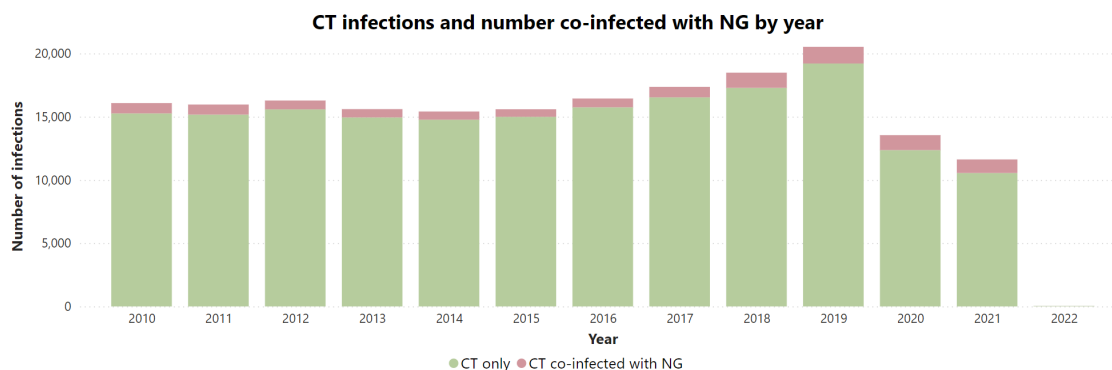
Specimen source

This section contains a small-multiple view of stacked bar graphs displaying positive and negative tests and a multi-line graph displaying percent positivity, allowing users to compare trends by specimen source. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Organism' filter which only allows for a single selection, the 'Year' filter which affects which years of data are included in the graphs, and the 'Specimen source' filter which changes what specimen sources are being displayed in the graphs.

Co-infection Tab

This tab provides data on both the number and percent of *Chlamydia trachomatis* (CT) infections co-infected with *Neisseria gonorrhoeae* (NG) with trends by year/year and month as well as the number and percent of *Neisseria gonorrhoeae* (NG) infections co-infected with *Chlamydia trachomatis* (CT) by year or month and gives users the ability to view data by key stratifiers with options to further filter the data.

Testing	Co-infection	Antimicrobial resistance
View data for <i>Chlamydia trachomatis</i> (CT) by: Overall PHU Sex		
View data for <i>Neisseria gonorrhoeae</i> (NG) by: Overall PHU Sex		
Filter data in the graphs below by: Public health unit Sex Age group Year All All All All Specimen source All Yearly Monthly		



This tab contains six sections:

Overall (CT)

This section contains a stacked bar graph displaying the number of tests showing either CT only or CT co-infected with NG and a line graph displaying percent of all CT positive tests that were co-infected with NG by year or by month. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, and specimen source. The filters affect which data are grouped in the graph, with the exception of the 'Year' filter which affects which years of data are included in the graphs.

PHU (CT)

This section contains a small-multiple view of stacked bar graphs displaying the number of tests showing either CT only or CT co-infected with NG and a line graph displaying percent of all CT positive tests that were co-infected with NG by year or by month, allowing users to compare trends by public health unit. Users can filter the data by public health unit, sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Year' filter which affects which years of data are included in the graphs and the 'Public health unit' filter which changes what PHUs are being displayed in the graphs.

Sex (CT)

This section contains a small-multiple view of stacked bar graphs displaying the number of tests showing either CT only or CT co-infected with NG and a line graph displaying percent of all CT positive tests that were co-infected with NG by year or by month, allowing users to compare trends by sex. Users can filter the data by public health unit, sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Year' filter which affects which years of data are included in the graphs and the 'Sex' filter which changes what sexes are being displayed in the graphs.

Overall (NG)

This section contains a stacked bar graph displaying the number of tests showing either NG only or NG co-infected with CT and a line graph displaying percent of all NG positive tests that were co-infected with CT by year or by month. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, and specimen source. The filters affect which data are grouped in the graph, with the exception of the 'Year' filter which affects which years of data are included in the graphs.

PHU (NG)

This section contains a small-multiple view of stacked bar graphs displaying the number of tests showing either NG only or NG co-infected with CT and a line graph displaying percent of all NG positive tests that were co-infected with CT by year or by month, allowing users to compare trends by public health unit. Users can filter the data by public health unit, sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Year' filter which affects which years of data are included in the graphs and the 'Public health unit' filter which changes what PHUs are being displayed in the graphs.

Sex (NG)

This section contains a small-multiple view of stacked bar graphs displaying the number of tests showing either NG only or NG co-infected with CT and a line graph displaying percent of all NG positive tests that were co-infected with CT by year or by month, allowing users to compare trends by sex. Users can filter the data by public health unit, sex, age group, year, organism, test method, and specimen source. The filters affect which data are grouped in the graphs, with the exception of the 'Year' filter which affects which years of data are included in the graphs and the 'Sex' filter which changes what sexes are being displayed in the graphs.

Antimicrobial Resistance Tab

This tab provides data on antibiotic susceptibility testing of *Neisseria gonorrhoeae*.

Testing

Co-infection

Antimicrobial resistance

View data by:

By susceptibility group

By minimum inhibitory concentration (MIC) group

Filter data in the graphs below by:

Public health unit

Sex

Age group

Year

Antibiotic

Specimen source

All

All

All

All

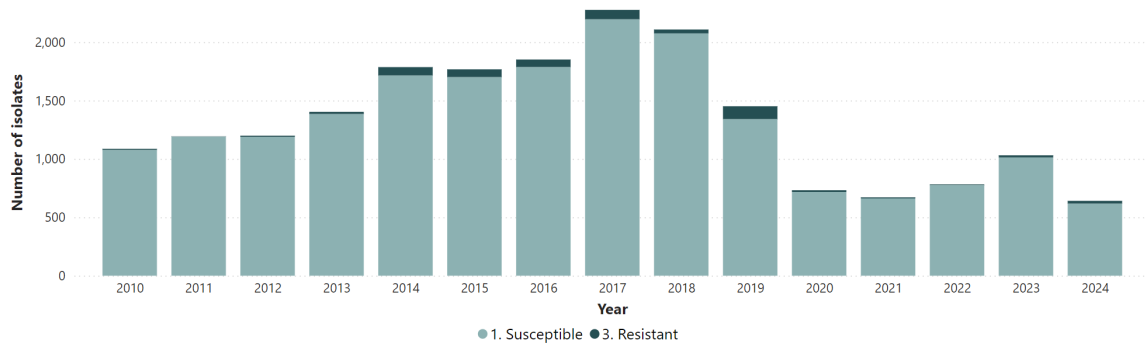
Azithromycin

All

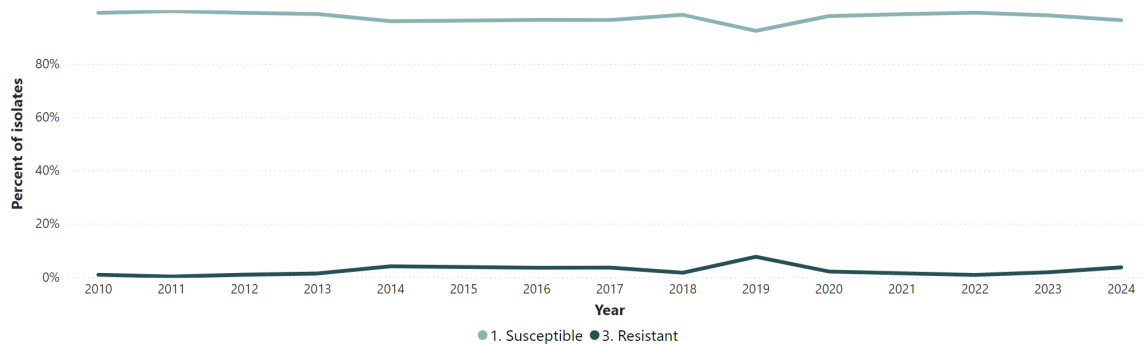
Yearly

Monthly

Total number of *Neisseria gonorrhoeae* isolates by year and susceptibility group (azithromycin)



Percent of *Neisseria gonorrhoeae* isolates by year and susceptibility group (azithromycin)



This tab contains two sections:

By interpretation

This section contains a stacked bar graph displaying the number of isolates and a multi-line graph showing resistance to antibiotics by minimum inhibitory concentration (MIC) interpretation. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, antibiotic, and specimen source. The filters affect which data are grouped in the graph, with the exception of the 'Antibiotic' filter which only allows for a single selection and the 'Year' filter which affects which years of data are included in the graphs.

By minimum inhibitory concentration (MIC)

This section contains a stacked bar graph displaying the number of isolates and a multi-line graph showing resistance to antibiotics by MIC. Users can filter the data by public health unit (when 'All' public health units are selected the provincial results are displayed), sex, age group, year, antibiotic, and specimen source. The filters affect which data are grouped in the graph, with the exception of the 'Antibiotic' filter which only allows for a single selection and the 'Year' filter which affects which years of data are included in the graphs.

Citation

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Disclaimer

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Public Health Ontario

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