Antimicrobial Resistance Percentages Rate Table

Description

The Rate Table – Antimicrobial Resistance Percentages report allows you to analyze Antimicrobial Resistance (AR) Option Events from your facility or group in which a specific antimicrobial resistant organism (or "phenotype") is identified by NHSN based on the susceptibility results included in the uploaded AR Event Clinical Document Architecture file. CDC has defined many AR Option phenotypes of epidemiologic importance; the analysis report will display data from these phenotypes by default. Criteria and definitions for the pre-defined phenotypes can be found in Appendix I of the AUR Module Protocol.

The rate table will display the percentage of isolates that tested non-susceptible or resistant to certain antimicrobials for each defined phenotype. For example, the resistant percentage for methicillin-resistant *Staphylococcus aureus* (MRSA) is calculated as:

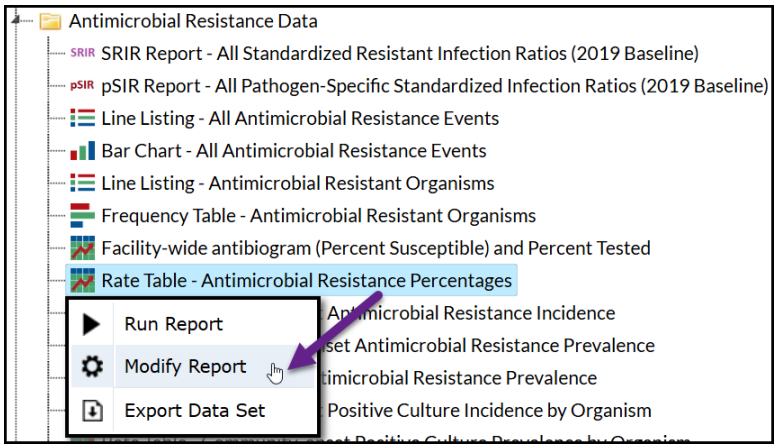
$$\frac{\#\text{ of } Staphylococcus\ aureus \text{ isolates resistant to oxacillin or cefoxitin}}{\#\text{ of } Staphylococcus\ aureus \text{ isolates tested for susceptibility to oxacillin or cefoxitin}} \times 100$$

The resistance percentage will only be calculated when the denominator contains at least 30 isolates to ensure a minimum level of precision.

For a general, step-by-step explanation of the NHSN modification screen, please refer to this How to Modify a Report document.

Example

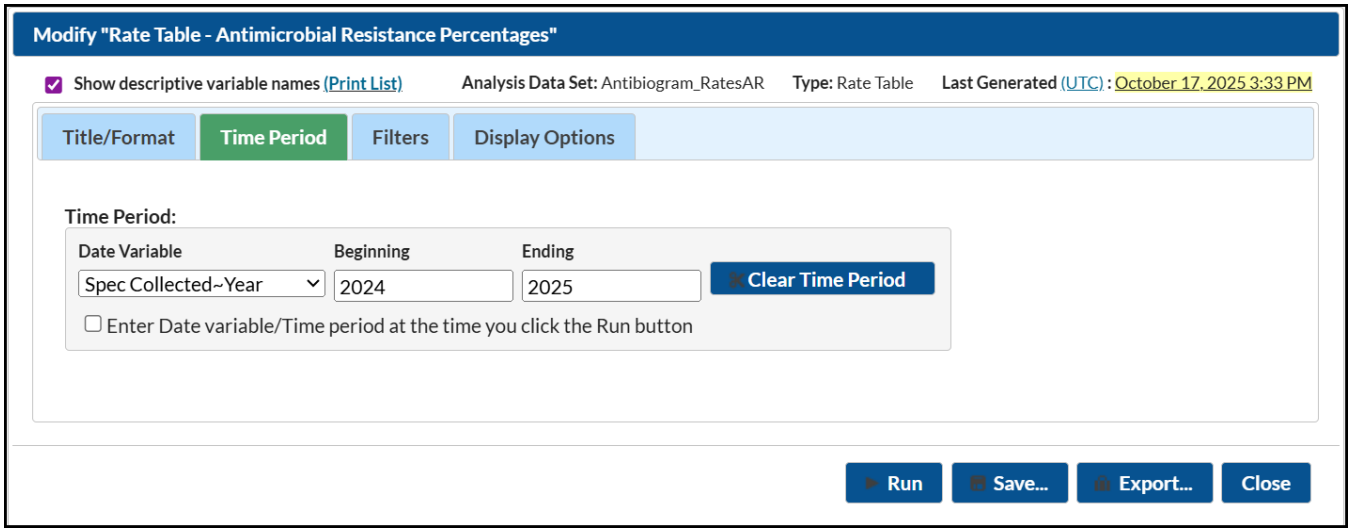
In this example, you are asked to calculate your facility's resistance percentage of MRSA for calendar years 2024 and 2025. After generating datasets, to run the rate table report, click Analysis > Reports > Antimicrobial Use and Resistance Module > Antimicrobial Resistance Data. After selecting "Rate Table – Antimicrobial Resistance Percentages," a pop-up box will appear that will allow you to **Run Report**, **Modify Report**, and **Export Data Set**. Select **Modify Report** to customize your report.



Modifying the Report

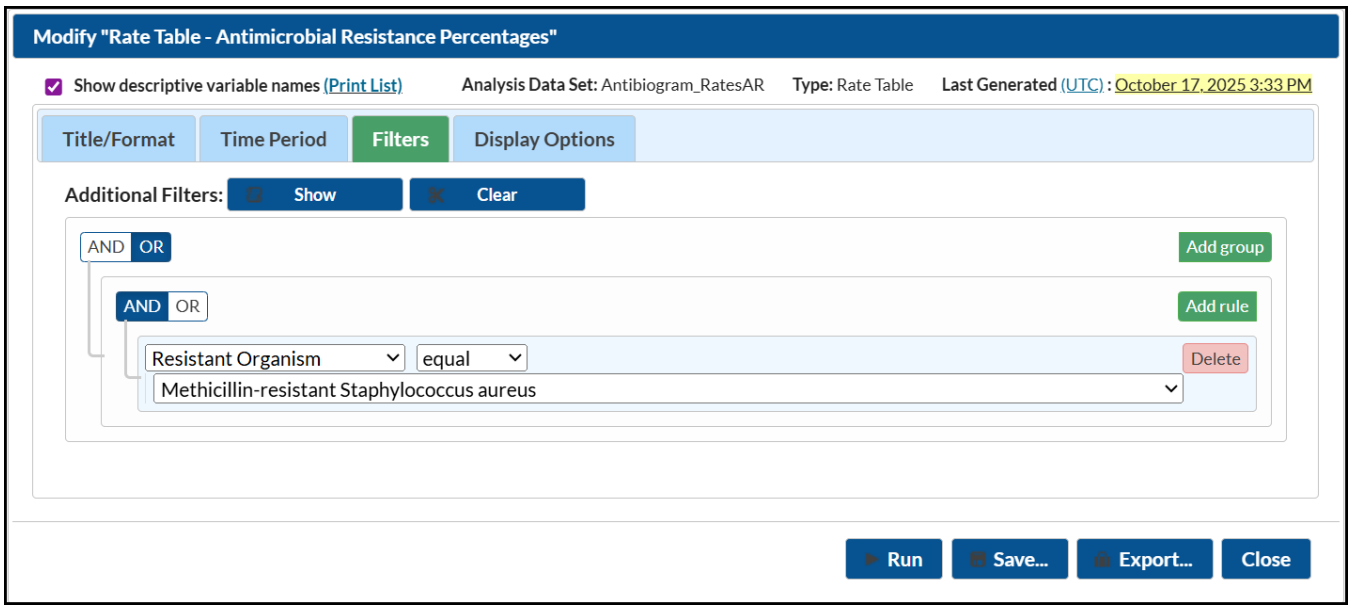
When you choose to modify the report, the modification screen appears showing multiple tabs containing available modifications for the given report. The “Title/Format” tab allows you to update the report title and select the format in which you want the report displayed, such as HTML or PDF. To filter the data by time period, choose the “Time Period” tab at the top of the page. In this example, we have limited the report to include only AR Events that were collected from 2024 through 2025 (Spec Collected~Year Beginning = 2024 and Ending = 2025).

Tip: *For more descriptive variable labels on your report, check the box “Show descriptive variable names” that appears near the top of the modification window (recommended).*



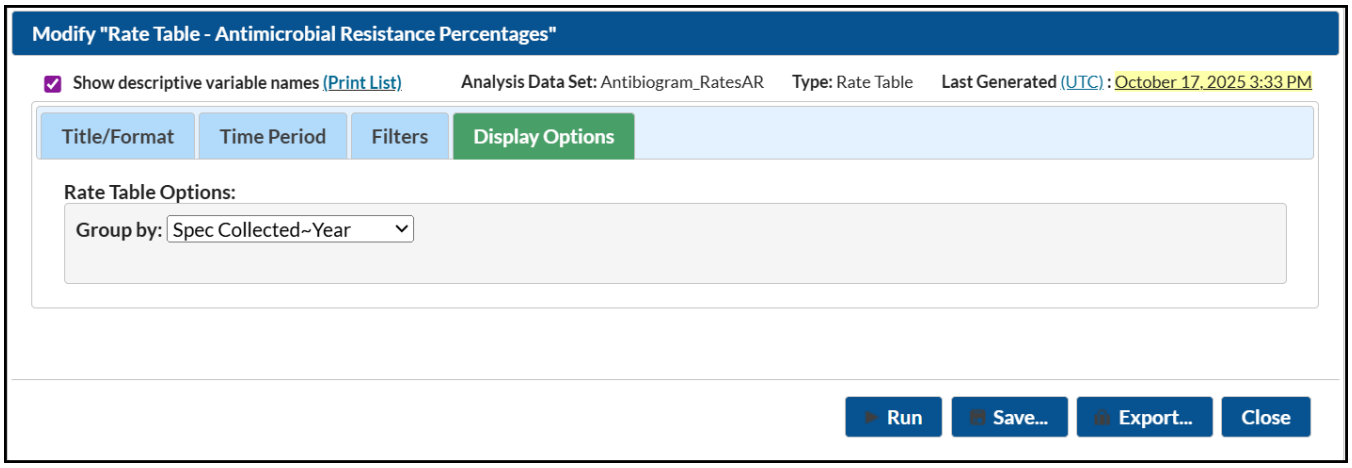
The “Filters” tab allows you to further filter the data that will be displayed in the report. You can filter the data by a specific location or phenotype. For our example, we want to filter the report to only show data for the methicillin-resistant *Staphylococcus aureus* phenotype. After clicking **Add rule**, select “Resistant Organism” from the dropdown menu, then select “Methicillin-resistant *Staphylococcus aureus*”. Ensure the “equal” operator appears in the dropdown between “Resistant Organism” and “Methicillin-resistant *Staphylococcus aureus*”.

Tip: *For including more than one item in each filter such as multiple locations or multiple phenotypes, the “in” operator can be used instead of the “equal” operator.*



The “Display Options” tab allows you to view your rates by month, quarter, half-year, year, or cumulative time periods for the entire time period selected. Specimen Collected Year is used in this example to show yearly antimicrobial resistance percentage rates.

Tip: *Not sure of the meaning of the variables in the list? Click “Print List” in the upper left corner of the modification window.*



Final Report

The default report will contain one rate table for each phenotype. In this example, because we specified a single phenotype of interest, we will see only one table. The output below shows a rate table with the percentage of methicillin-resistant *Staphylococcus aureus* isolates collected in 2024 and 2025.

Note: This example uses fictitious data for illustrative purposes only.

National Healthcare Safety Network
Rate Table - Antimicrobial Resistance Percentages
As of: October 22, 2025 at 5:53 PM UTC
Date Range: ANTIBIOGRAM_RATESAR specDateYr 2024 to 2025
if (((phenotype_AR = "MRSA_AR")))

Facility Org ID=13860 Phenotype Description=Methicillin-resistant Staphylococcus aureus

Facility Org ID	Resistant Organism	Spec Collected Year	Number Isolated	Number Tested	Number Resistant	Percent Resistant	95% confidence interval
13860	MRSA_AR (1)	2024	34	29	23	.	
13860	MRSA_AR (2)	2025	48	48	48	100.0	93.9,100.0

1. MRSA includes any Staphylococcus aureus that has tested Resistant (R) to oxacillin or cefoxitin.
2. Percent resistant is only calculated when at least 30 isolates have been tested.
3. If the percent of isolates tested is less than 70%, caution should be used when interpreting the percent resistant.

Data contained in this report were last generated on October 17, 2025 at 3:30 PM UTC to include all data .

1. In 2024, 34 *Staphylococcus aureus* isolates were reported to the AR Option (Number Isolated). Twenty-nine of those were tested (Number Tested) by the laboratory for susceptibility to oxacillin or cefoxitin (see the first footnote beneath this rate table). The Number Resistant column shows that 23 isolates tested resistant to either oxacillin or cefoxitin. Since the Number Tested was less than 30 isolates, the Percent Resistant and 95% Confidence Interval were not calculated.
2. In 2025, 48 *Staphylococcus aureus* isolates were reported to the AR Option (Number Isolated). All 48 isolates were tested (Number Tested) by the laboratory for susceptibility to oxacillin or cefoxitin. In addition, all 48 isolates tested resistant to either oxacillin or cefoxitin. Dividing 48 (Number Resistant) by 48 (Number Tested) and multiplying by 100 is 100%. This can be interpreted as 100% of *Staphylococcus aureus* isolates tested were resistant to either oxacillin or cefoxitin in 2025.

Note: The percent resistant is only calculated when at least 30 isolates have been tested. To include more data in the calculation, you could select a wider time period or choose a different “group by” option on the Modification screen.

Additional Resources

- How to Export Data from NHSN
- AUR Module Protocol
- Surveillance for AU and AR Options
- AUR Training
- NHSN Analysis Quick Reference Guides