

Antimicrobial Resistant Organisms Frequency Table

Description

A frequency table is an organized display of counts and percentages. The data are organized by a row variable and a column variable, and the frequency table provides a count of the number of observations in the data set that meet the specifications of both the row and column variables.

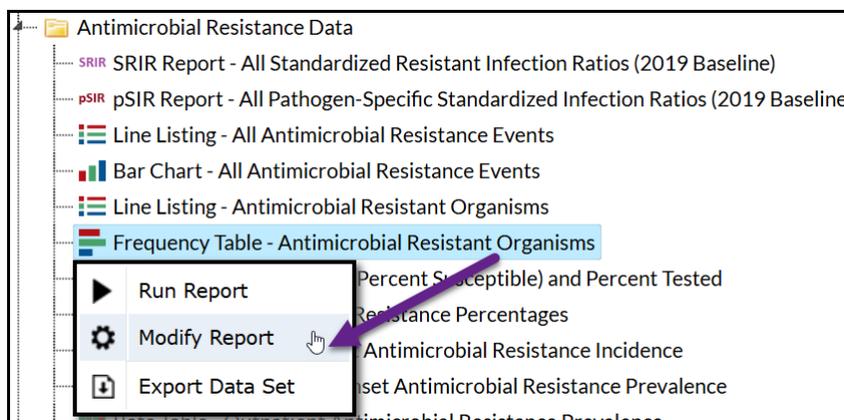
The Antimicrobial Resistant Organisms Frequency Table report allows you to analyze Antimicrobial Resistance (AR) Option Events from your facility (or group) in which a specific antimicrobial resistant organism (or “phenotype”) is identified by NHSN based on the susceptibility results included in the 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](#).

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

Example

Suppose you are interested in looking at the distribution of AR Events that met the NHSN AR phenotype definitions across each calendar year, by the locations in your facility.

After generating data sets, to run the frequency table report, click Analysis > Reports > Antimicrobial Use and Resistance Module > Antimicrobial Resistance Data. After selecting the report, in this case, “Frequency Table – Antimicrobial Resistant Organisms,” a pop-up box will appear that will allow you to **Run Report**, **Modify Report**, or **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



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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 screen. In this example, we have limited the report to include only AR Events that were collected from 2022 through 2024 (Spec Collected~Year Beginning = 2022 and Ending = 2024).

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 screenshot shows the 'Modify Frequency Table - Antimicrobial Resistant Organisms' window with the 'Time Period' tab selected. At the top, there is a checkbox for 'Show descriptive variable names (Print List)' which is checked. To the right, it displays 'Analysis Data Set: Antibiogram_AR', 'Type: Frequency Table', and 'Last Generated (UTC): October 17, 2025 3:33 PM'. Below this are four tabs: 'Title/Format', 'Time Period' (active), 'Filters', and 'Display Options'. The 'Time Period' section contains a 'Date Variable' dropdown set to 'Spec Collected~Year', a 'Beginning' input field with '2022', and an 'Ending' input field with '2024'. A 'Clear Time Period' button is to the right. Below these fields is an unchecked checkbox: 'Enter Date variable/Time period at the time you click the Run button'. At the bottom right, there are four buttons: 'Run', 'Save...', 'Export...', and 'Close'.

The “Filters” tab allows you to further filter the data that will be displayed in the report. For this example, we included several AR phenotypes by selecting “Resistant Organism” from the dropdown menu then selecting “in” to select multiple AR phenotypes.

Tip: For including just one item in each filter such as a single phenotype, the “equal” operator can be used instead of the “in” operator.

The screenshot shows the same window with the 'Filters' tab selected. At the top, the 'Show descriptive variable names' checkbox is checked. The 'Filters' section has a dropdown menu set to 'Resistant Organism' and an operator dropdown set to 'in'. Below this is a list of 15 AR phenotypes, each with a checkmark in a box to its right. The phenotypes are: Methicillin-resistant Staphylococcus aureus, Extended-spectrum cephalosporin-resistant E.coli, Extended-spectrum cephalosporin-resistant Klebsiella spp., Carbapenem-non-susceptible Acinetobacter spp., Carbapenem-non-susceptible Pseudomonas aeruginosa, Multidrug-resistant Acinetobacter spp., Multidrug-resistant Pseudomonas aeruginosa, Vancomycin-resistant Enterococcus faecium, Vancomycin-resistant Enterococcus faecalis, Carbapenem-resistant Enterobacterales (expanded), Fluconazole-resistant Candida spp., Nakaseomyces glabratus (Candida glabrata), Pichia kudriavzevii (Candida krusei), Drug-resistant Streptococcus pneumoniae, Fluoroquinolone-resistant Enterobacterales, Fluoroquinolone-resistant Enterobacterales_2025, and Extended-spectrum cephalosporin-resistant Enterobacterales. There are 'Add rule' and 'Delete' buttons on the right side of the list. At the bottom right, there are four buttons: 'Run', 'Save...', 'Export...', and 'Close'.

The “Display Options” tab allows you to customize the variables to display in your report. In our example, we used the default “Resistant Organism” for Row, selected “Spec Collected~Year” for Column, and selected “Location” for Page in the drop-down menus. Additional selections are available below the Frequency Table Options and Two-Way Table Options for even more customization.

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

Modify "Frequency Table - Antimicrobial Resistant Organisms"

Show descriptive variable names ([Print List](#))

Analysis Data Set: Antibiogram_AR Type: Frequency Table Last Generated (UTC): October 17, 2025 3:33 PM

Title/Format Time Period Filters **Display Options**

Frequency Table Options:

Selected Variables to include in report:

Row	Column	Page by
Resistant Organism	Spec Collected~Year	Location

Frequency Table Options:

- Table percent - Display cell frequency divided by table total
- Missing - Include observations with missing values
- Print the table in list form

Two-Way Table Options:

- Row Percent - Display cell frequency divided by row total
- Column Percent - Display cell frequency divided by column total
- Expected - Expected cell frequencies
- Chi-square - Test for independence

Run Save... Export... Close

Final Report

The example frequency table shown below is the result of the modifications described in this document. There is one row for each AR phenotype and one column for each year. The output below shows only the frequency table for the MEDWARD location (medical ward), but the full report would include the facility’s other locations in separate tables.

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



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Frequency Table - Antimicrobial Resistant Organisms

As of: **October 21, 2025 at 7:49 PM UTC**

Date Range: **ANTIBIOGRAM_AR specDateYr 2022 to 2024**

if (((phenotype_AR IN ("MRSA_AR", "ESCCecoli_AR", "ESCKlebsiella_AR", "carbNS_Acine_AR", "carbNS_PA_AR", "MDR_Acine_AR", "MDR_PA_AR", "VREfaecium_AR", "VREfaecalis_AR", "CREexpanded_AR", "FR_Candi_AR", "DR_SP_AR", "FQEall_AR", "ESCEall_AR", "VRE_general_AR", "FQPA_AR", "FQEall_AR_2025", "CREall_AR", "CREecoli_AR")))

Location=MEDWARD

Frequency	Table of phenotype_AR by specDateYr				
	phenotype_AR(Resistant Organism)	specDateYr(Spec Collected~Year)			Total
	2022	2023	2024		
	CREall_AR	0	2	5	7
	CREecoli_AR	0	0	1	1
1	CREexpanded_AR	0	2	9	11
	DR_SP_AR	0	1	2	3
	ESCEall_AR	0	2	7	9
	ESCCecoli_AR	0	0	1	1
	ESCKlebsiella_AR	0	0	3	3
	FQEall_AR	0	1	4	5
	FQEall_AR_2025	0	1	4	5
2	FQPA_AR	0	0	2	2
	FR_Candi_AR	0	0	2	2
	MDR_Acine_AR	2	1	2	5
	MDR_PA_AR	0	0	2	2
	carbNS_Acine_AR	1	1	1	3
	carbNS_PA_AR	0	0	4	4
	Total	3	11	49	63

1. Please find the document containing Phenotype_AR definitions at <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/aur/ar-phenotype-definitions-508.pdf>

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

1. In the three-year timeframe shown, the orange box (#1 above) shows a total of 11 carbapenem-resistant Enterobacterales (expanded) (phenotype_AR = CREexpanded_AR) reported from the MEDWARD with none reported in 2022, two in 2023, and nine in 2024.
2. The purple box (#2 above) shows in 2024, two fluoroquinolone-resistant *Pseudomonas aeruginosa* (phenotype_AR = FQPA_AR) were reported from the MEDWARD but none were reported in 2022 and 2023.

Additional Resources

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



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