

ANTIMICROBIAL RESISTANT ORGANISMS LINE LISTING

Description

The line listing is an organized, detailed list of each record entered into NHSN which can be used by both facilities and groups. The Antimicrobial Resistance (AR) Organisms Line Listing report will allow you to analyze AR events from your facility (or group) in which a specific antimicrobial resistant organism (or “phenotype”) was identified. CDC has defined 16 AR Option phenotypes of epidemiologic importance; the analysis report will display data from 12 of these 16 phenotypes by default. Criteria and definitions for the pre-defined phenotypes can be found here: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/aur/ar-phenotype-definitions-508.pdf>.

The default settings for the AR line listings may produce a report that is too lengthy to be useful. Therefore, modifying the AR Line Listing is recommended. The example below demonstrates a sample modification of the AR Line Listing using AR data reported using the AUR Module.

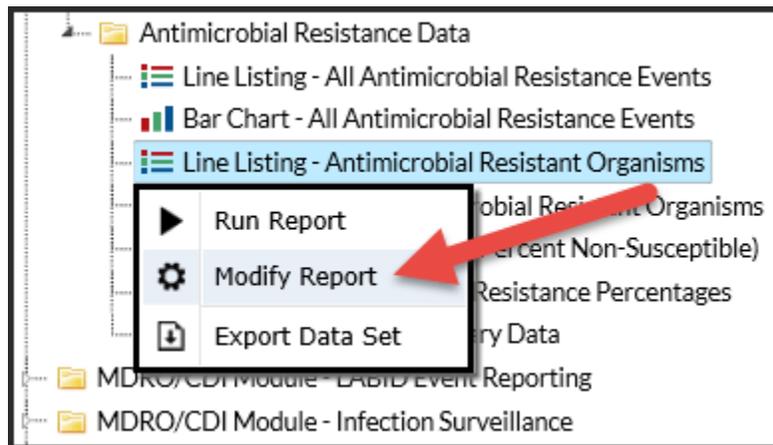
For a general, step-by-step explanation of the NHSN modification screen, please refer to this document: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/howtomodifyreport.pdf>.

Example

Suppose you are concerned about Methicillin-resistant *Staphylococcus aureus* (MRSA) at your facility. Luckily, one of the 16 AR Option phenotypes is *Staphylococcus aureus* that has tested Resistant (R) to at least one of the following: oxacillin or ceftazidime. This matches Clinical and Laboratory Standards Institute’s (CLSI) recommended method for testing for MRSA (<https://www.cdc.gov/mrsa/lab/index.html>). You would like to produce a line listing of all events at your facility with this phenotype during fiscal year (FY) 2018 that includes NHSN facility ID, patient ID, facility admission date, event ID, specimen collection date, event type, location, pathogen description, and resistance status for oxacillin and ceftazidime.

There are two AR Option reports to generate line listings. To view AR Option events that meet the AR Option phenotype definitions, use the Antimicrobial Resistant Organisms line listing. After generating data sets, to run an AR Organisms Line Listing report, click Analysis > Reports > Antimicrobial Use and Resistance Module > Antimicrobial Resistance Data. After selecting the report, in this case, “Line Listing – 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.

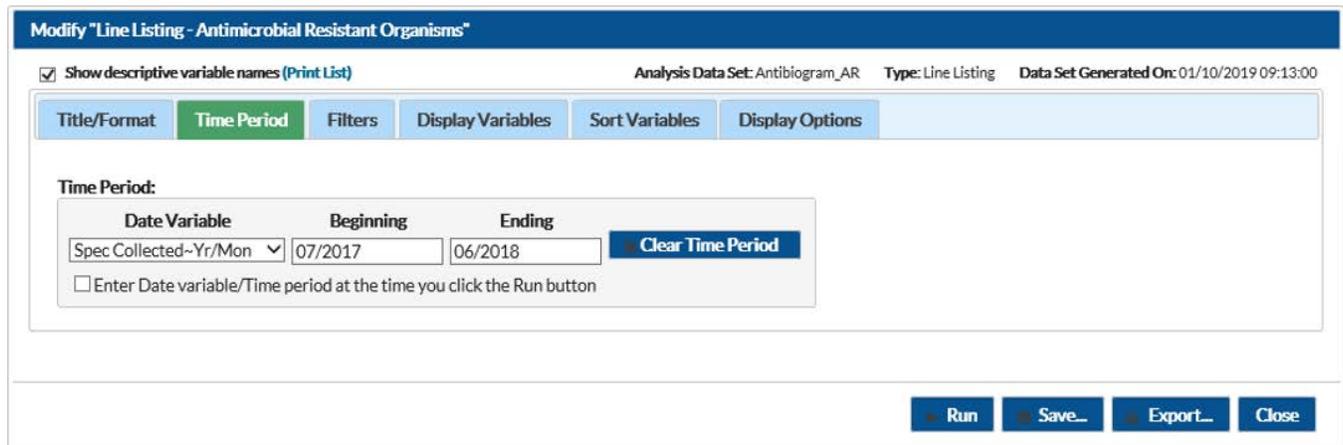
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Modifying the Report

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. Your facility’s FY starts on July 1 and ends on June 30, so you will modify the line listing to include only AR events between July 2017 and June 2018 (Specimen Date~Yr/Mon = 07/2017 – 06/2018).

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. For our example, we want to filter the report to only show data for the Methicillin-resistant *Staphylococcus aureus* phenotype. By default, the AR Organisms Line Listing report includes 12 phenotypes. For your report, you will remove the unwanted phenotypes by clicking the red “Delete” button and then clicking “Add rule” to add a new rule for only the phenotype you are interested in. Select “Resistant Organism” from the dropdown menu, then select

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“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 a filter such as phenotypes, the “in” operator can be used instead of the “equal” operator.

Modify "Line Listing - Antimicrobial Resistant Organisms"

Show descriptive variable names (Print List) Analysis Data Set: Antibigram_AR Type: Line Listing Data Set Generated On: 01/10/2019 09:13:00

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

Additional Filters: Show Clear

AND OR Add group

AND OR Add rule

Resistant Organism equal

Methicillin-resistant Staphylococcus aureus Delete

Run Save... Export... Close

The “Display Variables” and “Sort Variables” tabs allow you to display and sort specific variables in your report. Both tabs will produce a similar window, shown below, which allows you to move variables from the available list in the left column to the selected list in the right column by using the directional arrows in the center. You can also re-order the selected variables using the “Up” and “Down” buttons, found to the right of the selected variables list.

Tip: Not sure of the meaning of the variables in the list? Click “Print List” in the upper left corner of the modification window or use the variable reference list here: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/VarLabelXref-PS_current.pdf.

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Show descriptive variable names (Print List) Analysis Data Set: Antiblogram_AR Type: Line Listing Data Set Generated On: 01/10/2019 09:13:00

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

Display Variables:

Available Variables:		Selected Variables:	
Admissions	All	Facility Org ID	Up
Amikacin	Selected	Patient ID	Down
AMOX	Selected	Fac Admission Date	
AMOXWC		Event ID	
Ampicillin		Date Specimen Collected	
AMPIWS	All	Event Type	Undo
Anidulafungin		Location	
AR Option Plan?		Pathogen Description	
arID		Cefoxitin	
Azithromycin		Oxacillin	
Aztreonam			
Bedsize			
Caspofungin			
CDC Location			
Cefazolin			

Run Save... Export... Close



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Final Report

The example line listing shown below is the result of the modifications shown in this document.

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

National Healthcare Safety Network
Line Listing - Antimicrobial Resistant Organisms
MRSA_AR - Methicillin-resistant Staphylococcus aureus
 As of: January 16, 2019 at 7:24 PM
 Date Range: ANTIBIOGRAM_AR specDateYM 2017M07 to 2018M06
 if (((phenotype_AR = MRSA_AR)))

Facility Org ID	Patient ID	Fac Admission Date	Event ID	Date Specimen Collected	Event Type	Location	Pathogen Description	Cefoxitin	Oxacillin
1 13860	MRSA_2018_2	01/13/2018	79698	01/20/2018	AR	MSICU	Staphylococcus aureus - SA	R	R
2 13860	MRSA_2018_1	01/15/2018	79697	01/21/2018	AR	MSICU	Staphylococcus aureus - SA	S	R

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>
 Sorted by orgID specimenDate
 Data contained in this report were last generated on January 10, 2019 at 9:13 AM.

1. There were only two events at your hospital during FY 2018 that met the criteria for the Methicillin-resistant *Staphylococcus aureus* phenotype. One isolate was resistant to both cefoxitin and oxacillin.
2. The other isolate was resistant to oxacillin but susceptible to cefoxitin.

Additional Resources

NHSN Analysis Training: <https://www.cdc.gov/nhsn/training/analysis/index.html>

How to Export Data from NHSN: <http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/exportdata.pdf>

AUR Module Protocol: <https://www.cdc.gov/nhsn/pdfs/pscmanual/11pscaurcurrent.pdf>

Surveillance for AU and AR Options: <https://www.cdc.gov/nhsn/acute-care-hospital/aur/>

