

ANTIMICROBIAL RESISTANCE EVENT LINE LIST

Description

The line list is an organized, detailed list of each record entered into NHSN, which can be used by both facilities and groups. The default settings are likely to produce a report that is too lengthy to be useful. Therefore, modifying the AR line list is recommended. The example below demonstrates a sample modification of AR data reported using the AUR Module.

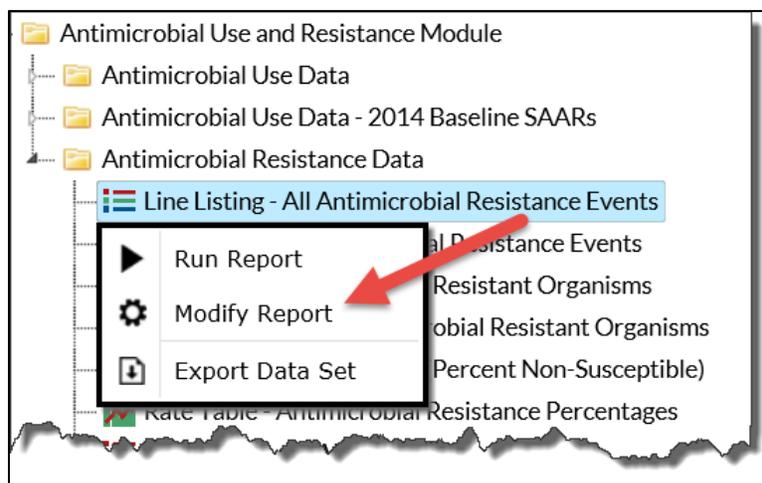
For a more basic explanation of the NHSN modification screen, refer to this document:

<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/howtomodifyreport.pdf>.

Example

Suppose you are interested in looking at all drug-specific susceptibility results for *Staphylococcus aureus* isolates identified in blood specimens in the fourth quarter of 2018. You would like to produce a line list that includes facility org ID, event ID, patient ID, date of birth, location label, date specimen collected, isolate ID, specimen group, pathogen, drug description, and final interpretation.

There is one AR Option report to generate a line listing for AR Events. After generating data sets, to run a line list report, click Analysis > Reports > Antimicrobial Use and Resistance Module > Antimicrobial Resistance Data. After selecting the report, in this case, "Line Listing – All Antimicrobial Resistance Events," 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 report title and select the format in which you want the report displayed, such as HTML or PDF.

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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 line list to include only antimicrobial resistance data in the fourth quarter of 2018 (Specimen Date~Yr/Qtr = 2018Q4).

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).

Modify "Line Listing - All Antimicrobial Resistance Events"

Show descriptive variable names (Print List) Type: Line Listing Data Set Generated On: 01/09/2019 16:00:00

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

Time Period:

Date Variable Beginning Ending

Specimen Date~Yr/Qtr 2018Q4 2018Q4 x Clear Time Period

Enter Date variable/Time period at the time you click the Run button

Run Save... Export... Close

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 Pathogen = Staphylococcus aureus - SA and Specimen group = Blood.

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

Modify "Line Listing - All Antimicrobial Resistance Events"

Show descriptive variable names (Print List) Type: Line Listing Data Set Generated On: 01/09/2019 16:00:00

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

Additional Filters: Show Clear

AND OR Add group

AND OR Add rule

Pathogen equal Delete

Staphylococcus aureus - SA

Specimen Group equal Blood Delete

Run Save... Export... Close

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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? Use the variable reference list: http://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/varlabelxref-ps_current.pdf.

The screenshot shows a web application window titled "Modify 'Line Listing - All Antimicrobial Resistance Events'". At the top, it indicates "Analysis Data Set: AUR_Detail", "Type: Line Listing", and "Last Generated (UTC): January 24, 2025 3:44 PM". Below this is a navigation bar with tabs: "Title/Format", "Time Period", "Filters", "Display Variables" (which is active), "Sort Variables", and "Display Options".

The "Display Variables" section is divided into two main areas:

- Available Variables:** A list of variables including admitDateYH, admitDateYM, admitDateYQ, admitDateYr, Bed Size, CDA Vendor ID, CDC Location, CMS Certification Number, Create Date, Date of Birth, Drug Code, E-test sign, E-test value, and Final interpretation.
- Selected Variables:** A list of variables including Facility Org ID, Event ID, Patient ID, Fac Admission Date, Date Specimen Collected, Location, Isolate ID, Specimen Group, Pathogen Description, Drug Description, and Final interpretation Description.

Between these two lists are four buttons: "All" (with a double arrow), "Selected" (with a right arrow), "Selected" (with a left arrow), and "All" (with a double arrow). To the right of the "Selected Variables" list are three buttons: "Up", "Down", and "Undo".

At the bottom of the window are four buttons: "Run", "Save...", "Export...", and "Close".

Final Report

The example line list shown below is the result of the modifications shown in this document. Within the line list, one row is displayed for each antimicrobial submitted for the specific organism. Blood specimens identifying *Staphylococcus aureus* are required to include susceptibility testing information on 26 antimicrobials (see AUR Module protocol for complete list). Therefore, for each single AR *Staphylococcus aureus* blood isolate event reported to NHSN, there will be 26 rows of data in the line list.

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

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National Healthcare Safety Network Line Listing - Antimicrobial Resistance Events by Pathogen

As of: January 9, 2019 at 5:13 PM
Date Range: AUR_DETAIL_SpecimenDateYQ 2018Q4 to 2018Q4

Pathogen Description=SA

Event ID	Patient ID	Fac Admission Date	Date Specimen Collected	Location	Isolate ID	Specimen Group	Pathogen Description	Drug Description	Final interpretation
1 34818739	MRSA_2018_2	01/13/2018	12/20/2018	MSICU	MRSA_2018_2	Blood	Staphylococcus aureus - SA	AZITH - Azithromycin	R
34818739	MRSA_2018_2	01/13/2018	12/20/2018	MSICU	MRSA_2018_2	Blood	Staphylococcus aureus - SA	CEFOX - Cefoxitin	S
34818739	MRSA_2018_2	01/13/2018	12/20/2018	MSICU	MRSA_2018_2	Blood	Staphylococcus aureus - SA	CHLOR - Chloramphenicol	S
2 34818739	MRSA_2018_2	01/13/2018	12/20/2018	MSICU	MRSA_2018_2	Blood	Staphylococcus aureus - SA	CIPRO - Ciprofloxacin	S
34818739	MRSA_2018_2	01/13/2018	12/20/2018	MSICU	MRSA_2018_2	Blood	Staphylococcus aureus - SA	CLARTH - Clarithromycin	S

1. *Staphylococcus aureus* was isolated in the blood specimen collected from the patient on 12/20/2018 and it was resistant to Azithromycin.
2. *Staphylococcus aureus* from the same blood specimen collected from this patient on 12/20/2018 was susceptible to Ciprofloxacin. In fact, *Staphylococcus aureus* was susceptible to multiple drugs as shown in this report snapshot.

Additional Resources

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

Introduction to NHSN Analysis: <https://www.cdc.gov/nhsn/pdfs/training/2018/intro-to-analysis-508.pdf>

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

Surveillance for Antimicrobial Resistance Options: <https://www.cdc.gov/nhsn/acute-care-hospital/aur/>