# Line List

## Antimicrobial-Resistant Organisms

*Updated 12/2023*

**This document provides instructions for the antimicrobial-resistant organism line list that is available in the NHSN analytic reports located in the following analysis folder: HAI Detailed Reports > HAI Antimicrobial Resistance (DA + PA Modules) > Antimicrobial Resistant HAIs.**

## Overview

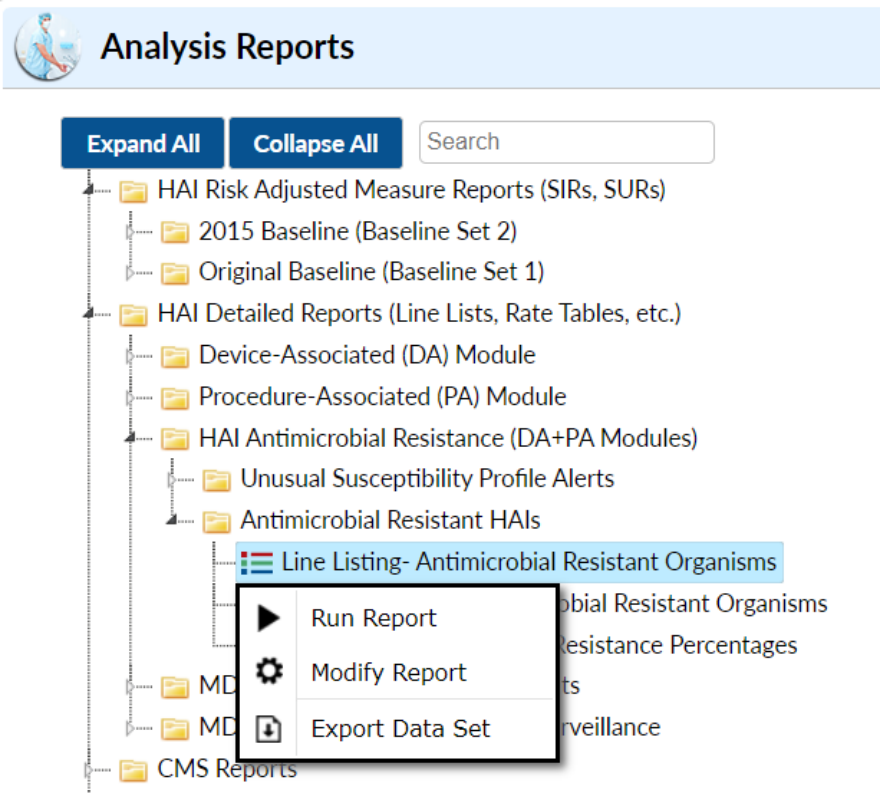
There are several analysis reports available in NHSN that will allow you to analyze HAI events from your facility (or group) in which a specific antimicrobial-resistant organism (or "phenotype") was identified. CDC has defined 13 phenotypes of epidemiologic importance; the analysis reports will display data from these 13 phenotypes by default. Criteria and definitions for the pre-defined phenotypes can be found here: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/phenotype_definitions.pdf

*Note: If you are interested in reviewing events and organisms beyond the 13 phenotypes, you can export the Antimicrobial Resistant Organism Line List analysis dataset to view event records and antibiogram data for other reported pathogens. You can also run the Antibiogram Line List option, found in HAI Detailed Reports > HAI Antimicrobial Resistance (DA + PA Modules) > Antimicrobial Resistant HAIs > Line Listing-Antibiogram which will include all events/pathogens regardless of their susceptibility results.*

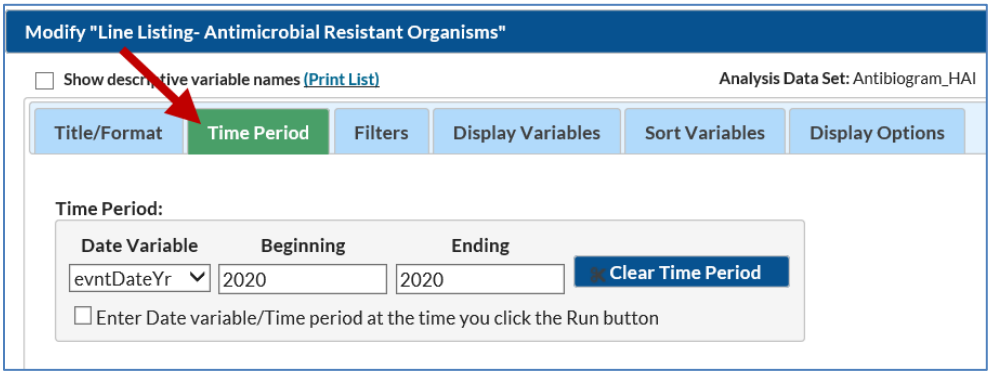
## Example

The line list will allow for a record-level review of each event in which an associated pathogen meets the criteria for at least one of the pre-defined phenotypes. In this example, we are interested in reviewing all HAI events that occurred in our facility in 2020 that had an associated organism meeting one of the antimicrobial resistant phenotype definitions.

1. On the Reports screen, navigate through the following folders: HAI Detailed Reports > HAI Antimicrobial Resistance (DA + PA Modules) > Antimicrobial Resistant HAIs > Line Listing- Antimicrobial Resistant Organisms. Click on the report title to view options for running or modifying the report. On the pop-up menu, click "Run" to view all events and pathogens from each of the 13 phenotypes, or click "Modify" to specify a time period and/or phenotype of interest.




2. In this example, we will use the modify screen to edit the time period. To modify the time period, open the tab called “Time Period” shown at the top of the Modify screen. Set “EvntDateYr” to 2020.




3. You can make additional modifications to the line list, such as limiting the report to a single phenotype, by using the tab called “Filters”. By default, several specifications are already made in the “Filters” tab, and for this example, no further modifications are needed. However, if you wish to modify the phenotypes displayed in the line list, you could edit the Filters screen to only display certain phenotypes.

4. After all necessary changes have been made, click “Run” at the bottom of the Modify screen. You may also choose “Export” if you wish to obtain this output in another format (e.g., xls).

# Report

The report will contain one line list for each phenotype that your facility has reported. Not all phenotypes are shown in this example. Fictitious data are presented below.

**National Healthcare Safety Network**
**Line Listing- Antimicrobial Resistant Organisms**
**CREall_HAI - Carbapenem-resistant Enterobacterales**

As of: December 28, 2021 at 11:50 AM
Date Range: ANTIBIOGRAM_HAI eventDateYr 2020 to 2020
if (((phenotype IN ("MRSA_HAI", "CREall_HAI", "ESCecoli_HAI", "ESCklebsiella_HAI", "carbNS_Acine_HAI", "carbNS_PA_HAI", "MDR_Acine_HAI", "MDR_PA_HAI", "VREfaecium_HAI", "VREfaecalis_HAI" )) ))

| orgID | patID | dob | gender | admitDate | eventID | eventDate | eventType | location | pathogenDesc | phenotype |
|---|---|---|---|---|---|---|---|---|---|---|
| 10401 | 1234 | 12/12/2007 | M | 12/15/2019 | 90658 | 01/01/2020 | BSI | MED | Klebsiella aerogenes - EA | CREall_HAI |
| 10401 | 123456 | 02/02/1960 | M | 02/14/2020 | 104255 | 02/21/2020 | BSI | 2WEST | Klebsiella aerogenes - EA | CREall_HAI |
| 10401 | 0629 | 12/03/1959 | M | 01/31/2020 | 104270 | 02/29/2020 | UTI | MED | Escherichia coli - EC | CREall_HAI |
| 10401 | 4326 | 05/16/1995 | M | 01/20/2020 | 104273 | 01/27/2020 | SSI | MED | Klebsiella aerogenes - EA | CREall_HAI |
| 10401 | 4327 | 01/01/2001 | M | 01/24/2020 | 104274 | 02/01/2020 | UTI | MED | Escherichia coli - EC | CREall_HAI |

Criteria used to define each phenotype can be found on the Patient Safety Analysis Resources webpage at: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/phenotype_definitions.pdf
The data in this table include all applicable pathogens entered for an HAI, and are not limited to the first pathogen.
Sorted by orgID eventDate
Data contained in this report were last generated on December 28, 2021 at 11:27 AM to include data beginning January 2019 through June 2021 .

**National Healthcare Safety Network**
**Line Listing- Antimicrobial Resistant Organisms**
**ESCecoli_HAI - Extended-spectrum cephalosporin-resistant E.coli**

As of: December 28, 2021 at 11:50 AM
Date Range: ANTIBIOGRAM_HAI eventDateYr 2020 to 2020
if (((phenotype IN ("MRSA_HAI", "CREall_HAI", "ESCecoli_HAI", "ESCklebsiella_HAI", "carbNS_Acine_HAI", "carbNS_PA_HAI", "MDR_Acine_HAI", "MDR_PA_HAI", "VREfaecium_HAI", "VREfaecalis_HAI" )) ))

| orgID | patID | dob | gender | admitDate | eventID | eventDate | eventType | location | pathogenDesc | phenotype |
|---|---|---|---|---|---|---|---|---|---|---|
| 10401 | 4327 | 01/01/2001 | M | 01/24/2020 | 104274 | 02/01/2020 | UTI | MED | Escherichia coli - EC | ESCecoli_HAI |

Criteria used to define each phenotype can be found on the Patient Safety Analysis Resources webpage at: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/phenotype_definitions.pdf
The data in this table include all applicable pathogens entered for an HAI, and are not limited to the first pathogen.
Sorted by orgID eventDate

In 2020, this facility reported bloodstream infections, urinary tract infections, and a surgical site infection with carbapenem-resistant Enterobacterales (CRE) pathogens identified; the two BSI CRE pathogens identified were *Klebsiella aerogenes*, the two UTI pathogens were *Escherichia coli,* and the SSI was *Klebsiella aerogenes*. This facility also reported a UTI with an extended-spectrum cephalosporin-resistant *E. coli* pathogen.

# Additional Resources

Antimicrobial Resistance Definitions:
https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/phenotype_definitions.pdf

How to run and modify a Line List in NHSN:
http://www.cdc.gov/nhsn/PS-Analysis-resources/PDF/LineLists.pdf