



2026 AUR Module Updates

NHSN AUR Team

Division of Healthcare Quality Promotion National Center for Emerging and Zoonotic Infectious Diseases December 17, 2025

Meeting Agenda

- 2026 AUR Module Reporting
- Updates & fixes in the NHSN application
- 2026 Medicare Promoting Interoperability Program
- Relevant 2025 updates
- Upcoming
 - SAAR Rebaseline
 - Reporting Culture Independent Diagnostic Tests
- Helpful reminders for reporting AUR Module data
- Newly posted materials

2026 AUR Module Reporting

Stephanie Sutton

Update to AU Option Drugs

- Effective January 1, 2026
- Add:
 - Aztreonam/avibactam
 - Gepotidacin
 - Sulopenem/probenecid
 - o Monoclonal antibody: Clesrovimab
- No removals for 2026

Update to AR Option Drug Panels

- Effective January 1, 2026
- Acinetobacter panel (AntiP20):
 - Add: Sulbactam/Durlobactam
 - Remove: Doxycycline
- Remove Acinetobacter urine panel (AntiP20Ur):
 - All Acinetobacter specimens will use same panel (AntiP20) as of 1/1/2026
- Candida panel (AntiP21):
 - Add: Rezafungin

Update to AR Option Specimen Sources

- Effective January 1, 2026
 - All specimen source groups were reviewed & updated using Snomed 09/2025
 - Terms added within each specimen source group to make reporting more inclusive using a rule-based approach to creating the value set
 - Blood: added smear & various other terms
 - CSF: added smear & spun terms
 - LRS: added cytologic & smear terms
 - Urine: added timed urine terms, urine specimen from various sources
 - SSTWM: added synovial fluid terms & skin crust
 - o Terms removed no longer existed in Snomed 09/2025
 - Specimen obtained by bronchioloalveolar lavage procedure (441917002) should now use Specimen from lung obtained by bronchial washing procedure (122609004)
 - First void urine specimen (437921000124103) should now use First stream urine sample (698276005)
 - See Specimen Source 2026 tab in IDM for complete details

Update to AR Pathogens

- Remove three *Candida* organisms:
 - o Candida duobushaemulonii
 - o Candida haemulonii
 - Candida stellatoidea
- AR Option Pathogen Roll-up Workbook updated using SNOMED version 09/2025

Upcoming Enhancement: Report AR Option Summary Data by Inpatient Location

- Allow facilities to report AR Option summary data (patient days) at the individual inpatient location level
- Key Updates:
 - Reporting Plan: Update to allow the AR box to be checked for each inpatient location
 - Business Rules: Modify to accept AR Summary CDA files for individual inpatient locations
 - Report No AR Events at the individual inpatient location level
- Why This Matters:
 - Enables alignment of AU and AR data
 - Provides clearer visibility into which inpatient locations are included in AR Option reporting
 - Support more granular analysis and benchmarking
- To be implemented in March 2026
 - Once implemented, facilities can report historical data for January & February

Reminders

- Vendors time to update their software after NHSN provides the documentation for the annual updates.
 Please plan accordingly to ensure your facility will be aligned with the 2026 requirements.
- AUR Module value sets can be found in the <u>AU and AR</u> CDA Toolkits

- AUR Module Value Set Training
 - o PDF slides
 - o 36-minute webinar recording

Updates & fixes in the NHSN Application

Stephanie Sutton

AR Option phenotype updates

- Phenotypes used in NHSN analysis reports are updated
 - Added phenotypes consistent with those used for SRIR calculations
 - Updated phenotypes to reflect 2025 pathogen updates
 - Removed two phenotypes
- After generating new data sets within NHSN, users will see the above updates applied to the following reports:
 - Line Listing Antimicrobial Resistant Organisms
 - Frequency Table Antimicrobial Resistant Organisms
 - Rate Table Antimicrobial Resistant Percentages
 - Rate Table Hospital-onset Antimicrobial Resistance Incidence
 - Rate Table Community-onset Antimicrobial Resistance Prevalence
 - Rate Table Outpatient Antimicrobial Resistance Prevalence

Newly added AR Option phenotypes

- Extended-spectrum cephalosporin-resistant Enterobacterales (ESCEall_AR)
- Fluoroquinolone-resistant Enterobacterales (FQEall_AR)
- Vancomycin-resistant Enterococcus (VRE_general_AR)
- Fluoroquinolone-resistant Pseudomonas aeruginosa (FQPA_AR)
- Fluoroquinolone-resistant
 Enterobacterales_2025 (FQEall_AR_2025)
 - "2025" version reflects updates made to expand some pathogens within Enterobacterales group to genus level starting in 2025

Updated AR Optionphenotypes

- Carbapenem-resistant Enterobacterales (CREexpanded_AR)
 - Definition change only reflects updates made to expand some pathogens within Enterobacterales group to genus level starting in 2025
- Extended-spectrum cephalosporin-resistant Klebsiella spp. (ESCklebsiella_AR)
 - Name and definition change reflects updates made to expand capture of Klebsiella to genus level starting in 2025
- Fluconazole-resistant Candida spp., Nakaseomyces glabratus (Candida glabrata), Pichia kudriavzevii (Candida krusei) (FR_Candi_AR)
 - Name and definition change reflects updates made to expand capture of Candida to genus level starting in 2025

Removed AR Option phenotypes

- Carbapenem-resistant Enterobacter spp. and Klebsiella aerogenes (CREenterobacter_AR)
- Carbapenem-resistant Klebsiella pneumoniae/oxytoca (CREklebsiella_AR)

New specimen source group added to Incidence & Prevalence reports

- Beginning in 2025, a new specimen group is eligible for AR
 Option submission: skin, soft tissue, wound, musculoskeletal
 (SSTWM)
- SSTWM was added as a separate group to the incidence and prevalence reports within the NHSN application
- Counts also included in the "All Specimen Type" columns

National Healthcare Safety Network

Rate Table for Incidence of Hospital-onset Antimicrobial Resistance by Phenotype (per 10,000 patient days)

As of: October 17, 2025 at 3:22 PM UTC

Date Range: ANTIBIOGRAMRATES HO PHEN summaryYr After and Including 2025

orgID=13860 phenotypeDesc_AR=Methicillin-resistant Staphylococcus aureus

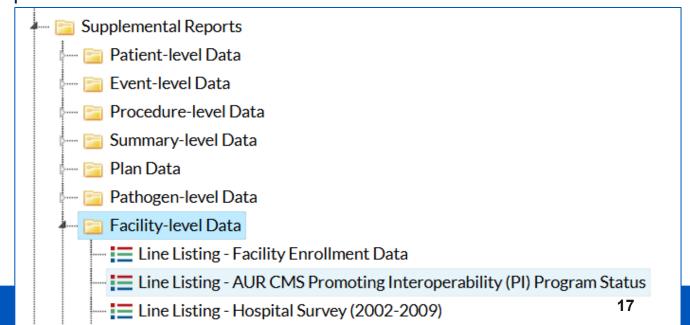
-		_										4		
Phenotype_AR	summaryYQ	Patient Days	Blood Count	Blood Incidence Rate	CSF Count	CSF Incidence Rate	LRS Count	LRS Incidence Rate	Urine Count	Urine Incidence Rate	SSTWM Count	SSTWM Incidence Rate	All Specimen Type Count	All Specimen Type Incidence Rate
MRSA_AR	2025Q1	6867	1	1.46	0	0.00	1	1.46	3	4.37	2	2.91	7	10.19
MRSA_AR	2025Q2	10261	0	0.00	0	0.00	1	0.97	0	0.00	0	0.00	1	0.97
MRSA_AR	2025Q3	2989	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00

AR event deduplication rules

- AR Option Protocol outlines how to de-duplicate AR Events
 - Invasive sources 1 per 14 days per patient and organism
 - Non-invasive sources 1 per month per patient and organism
 - Same day duplicates within the same category (invasive or non-invasive)
- Vendors should apply that logic in their software
- While the NHSN application performs validation during upload, some duplicates were still getting into NHSN
- NHSN strengthened logic checking for duplicates
 - Facilities may notice more AR Event upload failures depending on logic included in vendor software

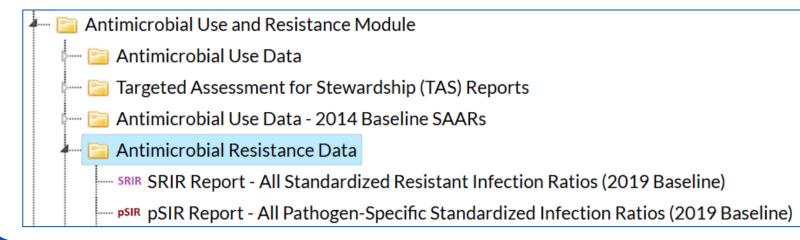
NHSN Group Promoting Interoperability report

- Report will accurately reflect "Yes" after two fixes
 - If facility only submitted AR Summary record for an eligible outpatient location, report now accurately shows "Yes" for that month
 - The beginning month of the user's data set generation will now show as "Yes" if data were submitted for that month
- Haven't run the Group level Medicare Promoting Interoperability Program AUR status report yet? Find it under Supplemental Reports.



AR Option SRIR and pSIR Reports

- Issues were identified with the calculation of patient days for several tables in the Standardized Resistant Infection Ratio (SRIR) and Pathogen-specific Standardized Infection Ratio (pSIR) reports
 - This affects the calculation of the predicted and SRIR/pSIR values
 - Issue occurred after a previous NHSN release
- The reports will be fixed in an upcoming NHSN release



2026 Medicare Promoting Interoperability Program

Stephanie Sutton

2026 PROMOTING INTEROPERABILITY PROGRAM

AU & AR Reporting

- No changes to AU Surveillance and AR Surveillance reporting measures for 2026
 - Option 1 Pre-production & validation
 - Registration within NHSN
 - Working on generating test files
 - Option 2 Validated data production
 - Submitting data for 180 consecutive days
 - Exclusions
- Can attest to different levels of engagement for each measure
- Hospitals attesting to Option 1 for the AU or AR measure for CY 2025 MUST move to Option 2 for those measures or claim an eligible exclusion for CY 2026

2026 PROMOTING INTEROPERABILITY PROGRAM

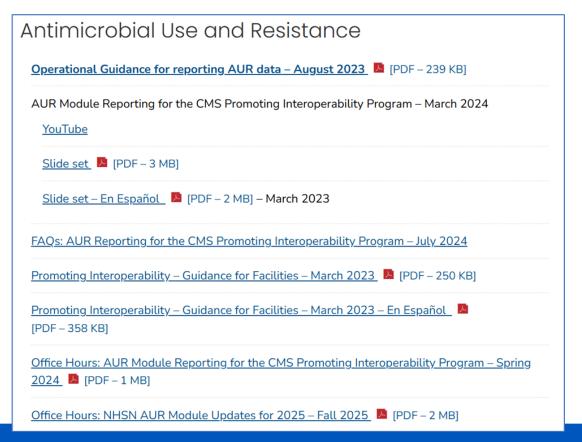
Test File Reminders

- If your hospital already sent test file (in any previous calendar year), no further test files are needed
- If test files have not been provided, submit the required relevant test files:
 - Attest to active engagement for AU Surveillance measure only: Send 1 AU Summary CDA test file
 - Attest to active engagement for AR Surveillance measure only: Send 2 AR CDA test files (AR Denominator & AR Numerator)
 - Attest to active engagement for AU & AR Surveillance measure: Send all 3 CDA test files (AU Summary, AR Denominator & AR Numerator)

2026 PROMOTING INTEROPERABILITY PROGRAM

Posted resources

- Resources available on our webpage
 - Slides & recorded webinars
 - Operational guidance
 - Extensive FAQs



Relevant 2025 updates

Amy Webb

2025 UPDATES - AU OPTION

2023 SAAR percentiles

- Facility and Group SAAR by location reports have been updated to include 2023 percentiles
 - o Percentiles published in 2023 AU Option Data report
 - Quick Reference Guide: <u>Standardized Antimicrobial Administration Ratio</u> (<u>SAAR</u>) Reports – All <u>SAARs by Location</u>

All Antibacterial Agents used in adult SAAR ICUs, wards, step down units and oncology units

orgID	SAARType_2017	location	summaryYM	locCDC	antimicrobialDays	numAUDaysPredicted	numDaysPresent	SAAR	SAAR_pval	SAAR95CI	SAAR_pctl
13860	Adult_All-Antibacterial_2017	MEDWARD	2025M06	IN:ACUTE:WARD:M	553	467.742	750	1.182	0.0001	1.087, 1.284	83

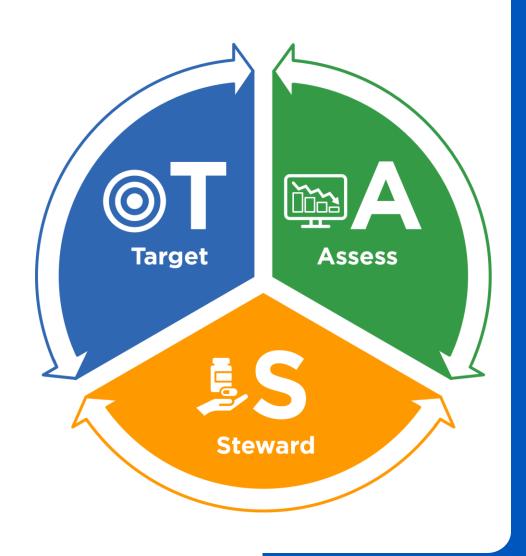
• Interpretation: All Antibacterial Agents SAAR value of 1.182 falls within the 83rd percentile for medical wards. 82% of medical wards have All Antibacterial SAAR values lower than this medical ward.

Fictitious data for illustrative purposes only

2025 UPDATES - AU OPTION

TAS report fix

- Bug impacting SAAR Targets has now been resolved
 - AU cumulative attributable difference (AU-CAD) values should generate correctly using the SAAR target entered on the Display Options tab of the modification screen
- Remember to regenerate data sets to apply the fix
- Want to learn more about TAS?
 - o NHSN TAS Guide
 - o TAS Training Webinar
 - TAS Training Webinar slides



2025 UPDATES - AR OPTION

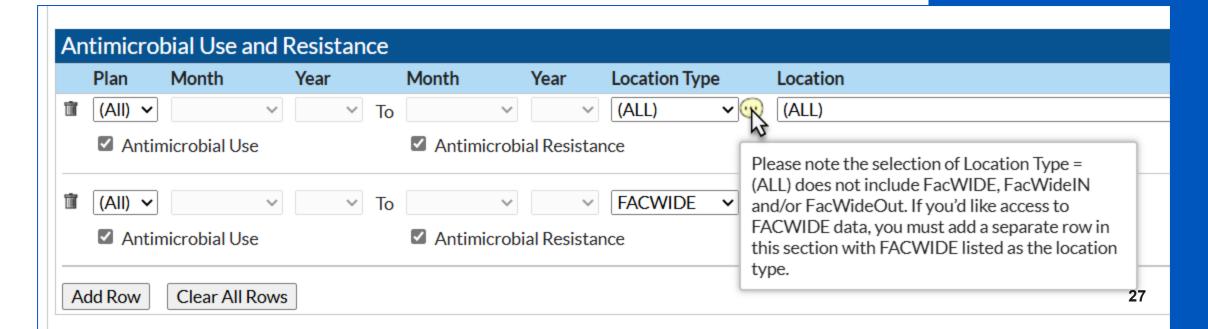
NHSN Antibiogram update

- Updated the NHSN AR Option Antibiogram report to reflect additional eligible pathogens as of 2025
- Data & column headers now reflect genus level as appropriate
 - Citrobacter
 - Klebsiella (excluding K. aerogenes which maintains its own column)
 - o Proteus
 - Candida
- New column added for Streptococcus pyogenes
- Also updated the drug panels in 2025 adding Amphotericin B, Ceftibuten, and Plazomicin which are now reflected in the antibiogram report for their respective pathogens

2025 UPDATES - GROUPS

Updated NHSN group template

- Group template now includes a hover over note explaining that Location
 Type = (ALL) does not include FacWideIN
 - o Group must add a separate row to capture FacWidelN data



Upcoming

Amy Webb

STANDARDIZED ANTIMICROBIAL ADMINISTRATION RATIO (SAAR) REBASELINE

Overview

- 2023 AU data used as baseline data to create new risk models used for SAAR calculations
- With additional reporting, we have SAARs for more locations:
 - 26 adult (including mixed acuity and specialty ICUs and wards)
 - 9 pediatric
 - 4 neonatal
- SAAR categories remain largely the same except for the addition of newly FDA approved drugs
- Pool of available risk factors same as 2017/2018 baseline
 - No patient level variables, no adjustment based on AR Option data

2023 SAAR Baseline Adult SAAR ICU Locations

Current SAAR ICU locations

- Medical ICUs
- Medical-Surgical ICUs
- Surgical ICUs

New SAAR ICU locations

- Burn ICUs
- Medical Cardiac ICUs
- Neurologic ICUs
- Neurosurgical ICUs
- Surgical Cardiothoracic ICUs
- Trauma ICUs

2023 SAAR Baseline Adult SAAR Ward Locations

Current SAAR Ward locations

- Medical Wards
- Medical-Surgical Wards
- Oncology General Hematology-Oncology Wards
- Surgical Wards

New SAAR Ward locations

- Burn Wards
- Labor and Delivery Wards
- Labor, Delivery, Recovery, Postpartum Suites
- Neurology Wards
- Neurosurgical Wards
- Oncology Hematopoietic
 Stem Cell Transplant Wards
- Orthopedic Trauma Wards
- Orthopedic Wards
- Postpartum Wards
- Pulmonary Wards

2023 SAAR
Baseline Adult
SAAR Other
Locations

Current SAAR Other locations

• Step-down Units

New SAAR Other locations

- Mixed Acuity Units
- Solid Organ Transplant
 Special Care Areas

2023 SAAR Baseline Pediatric SAAR Locations

Current Pediatric SAAR locations

- Medical ICUs
- Medical-Surgical ICUs
- Medical Wards
- Medical-Surgical Wards
- Surgical Wards

New Pediatric SAAR Locations

- Surgical Cardiothoracic ICUs
- Oncology General Hematology-Oncology Wards
- Oncology Hematopoietic
 Stem Cell Transplant Wards
- Step-down Units

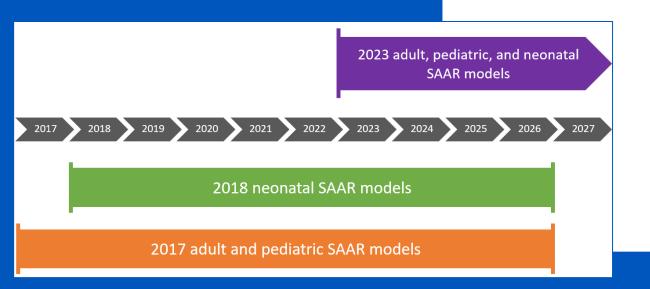
2023 SAAR Baseline Neonatal SAAR Locations

Current Neonatal SAAR locations

- Special Care Nursery (Level II)
- Level II/III NICU
- Level III NICU
- Level IV NICU

SAAR Release plans

- Early 2026
 - o 2024 AU Data Report
 - 2024 AU data added to <u>CDC's Antibiotic Resistance &</u> <u>Patient Safety Portal</u>
 - 2023 baseline SAARs available in the NHSN application for hospitals and groups
 - 2023 SAARs available for 2023 data and forward
 - 2017/2018 SAARs available through end of 2026



Education & Training

- Materials posted on a rolling basis
- Planning for SAAR rebaseline specific webpage, updated SAAR Guide, fact sheets, analysis quick reference guides, slides and recorded webinars
 - Information sent to all NHSN users when new materials have been posted
- Upcoming postings:
 - What is the AU SAAR Rebaseline & Why is it Important?
 - SAAR & rebaseline talking points for hospital staff & leadership
 - SAAR & rebaseline talking points for groups (Health Departments, hospital systems, hospital associations)
 - 2023 SAAR model details
- Upcoming webinar:
 - January: "How will my SAARs change? Understanding the impact of the 2023 SAAR Rebaseline"

MIDYEAR 2026

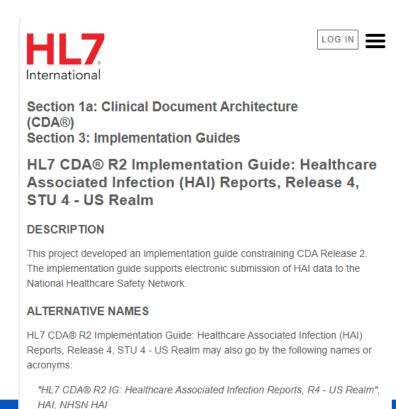
Rapid molecular detection of antimicrobial resistance markers

- AR Option reporting will be updated to include reporting of molecular tests
 - Additional 88 LOINC terms added to the value set
 - Examples:
 - Bacterial carbapenem resistance blaKPC-18 gene [Presence] by Molecular method
 - Bacterial carbapenem resistance blaNDM-1 gene [Presence] by Molecular method
- Molecular test included in the AR Event CDA file if conducted
 - Include as many molecular tests for a single isolate as conducted by the lab
- Results reported as: detected, not detected, indeterminate, invalid, or NA (no discrete data available)

MIDYEAR 2026

Rapid molecular detection of antimicrobial resistance markers, cont.

- Reporting will be optional
- Vendors will need to optionally update to the R4-D4 Implementation Guide (IG) to report resistance gene tests
 - Current IG (R3) does not allow for reporting these tests



Helpful reminders for reporting AUR Module Data

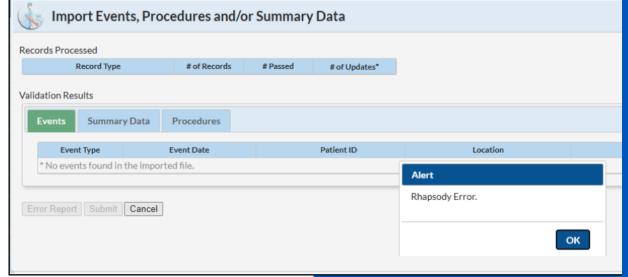
Terence Robinson

File Size limit

- Limit: 1000 files or 2MB zipped whichever comes first
- Larger zip files will take longer to process
- Recommend splitting large files into separate smaller zip files
- Note:
 - NHSN only accepts alphanumeric characters, hyphens, and underscores in CDA and zip file names. NHSN does not accept other special characters.
- See question #2 in Data Import section of <u>AR Option FAQ</u>

Rhapsody errors

- Added infrastructure and code changes in July
 & August to mitigate Rhapsody errors
- If an upload generates a Rhapsody error, try the upload again outside of peak hours (prior to 10am ET or after 4pm ET)
- If error message persists, separate files into smaller zip files and try the upload again to isolate which file(s) may be causing the issue
 - For assistance in troubleshooting, send your file(s) to NHSNCDA@cdc.gov for further investigation.



Intermittent Upload Error: AR Event Files

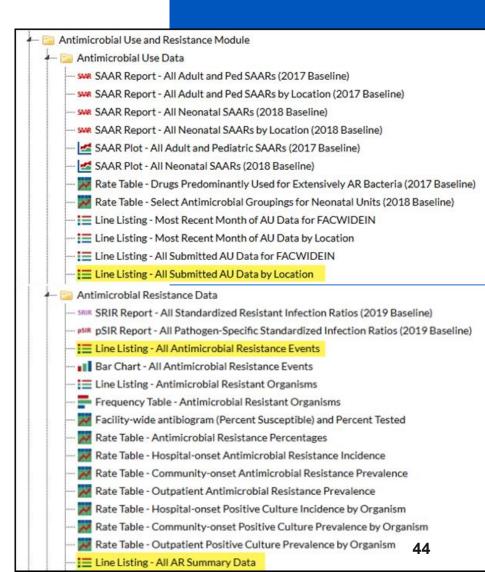
- AR Event uploads (manual or Direct) intermittently fail with the following error:
 - "Error in Data registration: (uploaded zip file name). Error message: null"
- One or more AR Events in the zip file fail to upload
- Upon re-upload, the same file often passes successfully into the NHSN database

Intermittent Upload Error: AR Event Files continued

- Current status:
 - This is a known intermittent issue
 - Working on replicating then will assign to a future release
 - Known causes:
 - S PatientID on subsequent version of file does not match original saved in NHSN database
 - **SetID** in CDA file longer than 99 characters
 - **S** IsolateID in CDA file longer than 50 characters
 - NHSN to clarify error messages in future release

Verifying AUR data uploaded into NHSN

- Facilities can verify AU/AR data uploaded successfully by reviewing the Line List reports.
 - AU Summary data: <u>Line Listing All Submitted AU Data by</u> Location
 - AR Event (Numerator) data: <u>Line Listing All Antimicrobial</u> <u>Resistance Event report</u>
 - AR Summary (Denominator) data: <u>Line Listing All AR</u>
 <u>Summary Data report</u>
- Reports are available for both facility and group users.
- Note: Remember to generate data sets within your NHSN facility before running your analysis reports so the data set includes any newly uploaded data.
 - See the <u>Generating Datasets Guide</u> for more information.



Newly Posted Materials

Terence Robinson

NEWLY POSTED MATERIALS

AR Option resources

- Analysis Cheat Sheet
 - NHSN AR Option Analysis Cheat Sheet
- Antibiogram Quick Reference Guide
 - Antimicrobial Resistance Facility-wide Antibiogram and Percent Tested
- Frequently Asked Questions:
 - o FAQS: Antimicrobial Resistance (AR) Option

NEWLY POSTED MATERIALS

AU & AR Data Reports

- AU Data Report:
 - 2024 AU Option Data Report
 - 2024 AU Option Data Report Tables
- AR Data Reports:
 - 2022 AR Option Data Report
 - 2022 AR Option Data Report Tables
 - 2023 AR Option Data Report
 - 2023 AR Option Data Report Tables
- The reports will be posted on the <u>Antimicrobial Use and Resistance (AUR) Module Reports</u> webpage upon completion.

Thank you!

Questions?

Email NHSN@cdc.gov

ServiceNow ticket

