Introduction to the NHSN 2023 Baseline Standardized Antimicrobial Administration Ratio (SAAR) Models and Analysis Reports

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ANTIMICROBIAL USE OPTION

Objectives

- **By the end of this presentation, the audience should be able to:**
  - Identify, locate, and use key components and resources for the 2023 baseline SAAR, including:
    - Risk adjustment factors
    - Calculation for the number of predicted antimicrobial days
    - 2023 baseline SAAR analysis reports
    - 2023 baseline SAAR resources
  - Explain the importance of risk adjustment factors and where these data are reported within NHSN
  - Analyze the new 2023 baseline SAAR reports and evaluate the impact of different risk adjustment factors on the SAARs

Disclaimers

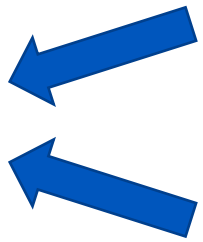
- **The 2023 baseline has not yet been implemented into the NHSN application**
  - This webinar is occurring prior to the availability of new 2023 baseline SAAR Reports in NHSN.
  - This training will provide information to help NHSN users feel prepared for the upcoming release of the 2023 baseline SAAR reports, scheduled to be released soon.

Background

Understanding the risk adjustment models for the 2023 baseline SAAR

Standardized Antimicrobial Administration Ratio (SAAR)

- $$\text{SAAR} = \frac{\#\ \text{observed antimicrobial days of therapy}}{\#\ \text{predicted antimicrobial days of therapy}}$$



Reported to NHSN

Calculated by CDC

- When the number of observed antimicrobial days of therapy (DOT) is greater than the number predicted, the SAAR will be >1.0.

$$\frac{\text{500 observed DOT}}{\text{300 predicted DOT}} = \text{SAAR of 1.67}$$

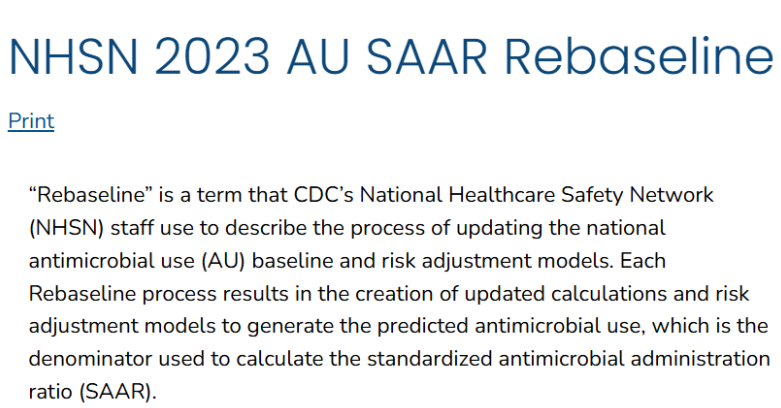
- If the number of observed DOT is less than the number predicted, the SAAR will be <1.0.
- P-values and 95% confidence intervals provide information about statistical significance.

Calculating Predicted Antimicrobial Days of Therapy

- The number of predicted DOT (SAAR denominator) is calculated in the NHSN application for a specific location or group of locations.
- These calculations are based on statistical predictive models that include risk adjustment and were developed by CDC using data reported to NHSN for the baseline year of 2023.
    - Models use location and facility characteristics (factors) reported to NHSN that are statistically significantly associated with rates of antimicrobial use.
    - More information on SAAR models, including factors assessed, SAAR agent categories, and number of locations and facilities included in models, can be found in the NHSN "How will my SAARs change?" webinar and NHSN's SAAR Guide.

Where can I find the predictive models?

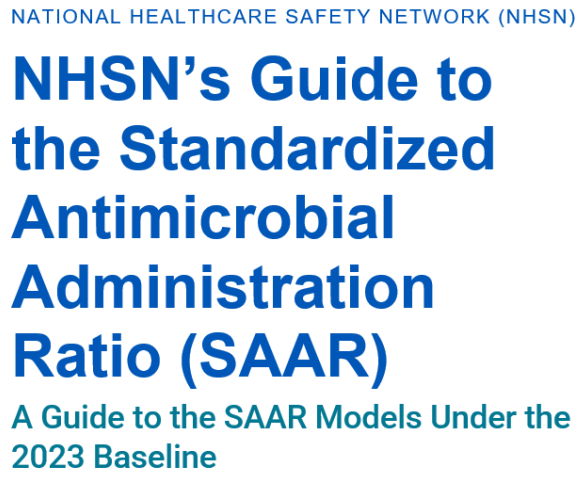
- NHSN 2023 AU SAAR Rebaseline webpage
  - Contains training materials related to the SAAR rebaseline
  - Webpage is updated on a rolling basis
- Updated NHSN SAAR Guide (pdf)
  - Can be found under the **Understanding New Models** tab on the SAAR Rebaseline webpage
  - Current version posted is interim and includes the 2023 baseline SAAR model details
  - A comprehensive SAAR Guide, including methods used in model development and recommendations for use, will be posted soon



NHSN 2023 AU SAAR Rebaseline

Print

"Rebaseline" is a term that CDC's National Healthcare Safety Network (NHSN) staff use to describe the process of updating the national antimicrobial use (AU) baseline and risk adjustment models. Each Rebaseline process results in the creation of updated calculations and risk adjustment models to generate the predicted antimicrobial use, which is the denominator used to calculate the standardized antimicrobial administration ratio (SAAR).



NATIONAL HEALTHCARE SAFETY NETWORK (NHSN)

NHSN's Guide to the Standardized Antimicrobial Administration Ratio (SAAR)

A Guide to the SAAR Models Under the 2023 Baseline

Understanding SAAR Model Details

Example of how to use the SAAR model details to calculate SAARs

Understanding SAAR Model Details

Parameter: factor included in the model. Each factor has at least two levels/groupings.

Estimate: the adjustment each level or grouping gets in the model. The larger the estimate, the higher the rate of AU predicted for that level, based on the 2023 baseline referent population.

REF: referent group in the model, to which each of the other levels is compared. Referent groups have an estimate of 0.0000. In this example, hospitals with ≥12.8% ICU beds have rates that are 0.2131 times higher than those with <12.8%.

Pediatric: Antibacterial agents predominantly used for resistant gram-positive infections (e.g., MRSA)	
Parameter	**Estimate**
Intercept	-3.3660
Location Type	
Medical ICU, Medical-Surgical ICU, Surgical Cardiothoracic ICU	0.9304
General Hematology-Oncology Ward, Hematopoietic Stem Cell Transplant Ward	0.6033
Medical Ward, Medical-Surgical Ward, Surgical Ward	0.2058
Step-down Unit	REF
Number of beds, facility-wide	
Group 2: ≥780	0.2272
Group 1: <780	REF
ICU beds (as a percentage of total beds), facility-wide	
Group 2: ≥12.8%	0.2131
Group 1: <12.8%	REF

Calculating SAARs using Model Details

- To calculate a SAAR, we need:
  - The risk factors included in that specific model (e.g., location type, facility type and their associated estimates)
  - Number of days present for time period of interest
  - Observed days of therapy for time period of interest
- For the adult and pediatric All antibacterial agents SAARs, there is one additional step needed to calculate the SAAR – we must pool observed and predicted DOT across multiple mutually exclusive SAAR categories.
  - This step is NOT needed to calculate the All antibacterial agents SAAR for neonatal locations.

Calculating All Antibacterial Agents SAAR for Adults & Peds

- In the AU Option, 1 patient can contribute a maximum of 1 antimicrobial day for a specific agent on a given calendar day.
- As a result, for any month and any antibacterial agent, DOT cannot exceed days present.
- However, when patients are on multiple agents, and you sum DOT across all antibacterial agents to calculate the All antibacterial agents SAAR, it is possible for the pooled DOT to exceed days present.
- While valid and correct from an AU-reporting standpoint, DOT values exceeding days present for any SAAR category violates the assumptions of the negative binomial distribution.

Calculating All Antibacterial Agents SAAR for Adults & Peds *Continued*

- To avoid having DOT exceed days present, we created a group of "Complementary agents," or antibacterials not found in any other mutually exclusive SAAR agent category, and produced SAAR models for this group of agents.
  - This does **not** include the Antifungal agents or Antibacterials posing the highest risk for CDI.

- To calculate the All antibacterial agents SAAR, we calculate observed and predicted DOT for our complementary agent group along with our other mutually exclusive categories: antibacterial agents predominantly used to treat hospital-onset, community-acquired, and resistant gram-positive infections, azithromycin (pediatric locations only), and narrow-spectrum B-lactam agents.

- We then sum observed DOT across these categories, sum predicted DOT across these categories, and then divide summed observed by summed predicted to obtain the All antibacterial agents SAAR.

Calculating All Antibacterial Agents SAAR for Adults

- A1 – broad spectrum antibacterial agents predominantly used for hospital-onset infections
- A2 – broad spectrum antibacterial agents predominantly used for community-acquired infections
- A3 – antibacterial agents predominantly used for resistant Gram-positive infections
- A4 – narrow spectrum beta-lactam agents
- A6 – complementary agents
- Adult All Antibacterial Agents SAAR = $\frac{\mathrm{ObsA1+ObsA2+ObsA3+ObsA4+ObsA6}}{\mathrm{PredA1+PredA2+PredA3+PredA4+PredA6}}$

Observed DOT

Predicted DOT

Calculating All Antibacterial Agents SAAR for Pediatrics

- P1 – broad spectrum antibacterial agents predominantly used for hospital-onset infections
- P2 – broad spectrum antibacterial agents predominantly used for community-acquired infections
- P3 – narrow spectrum beta-lactam agents
- P4 – antibacterial agents predominantly used for resistant gram-positive infections
- P5 – azithromycin
- P7 – complementary agents
- Pediatric All Antibacterial Agents SAAR = $\frac{\text{ObsP1}+\text{ObsP2}+\text{ObsP3}+\text{ObsP4}+\text{ObsP5}+\text{ObsP7}}{\text{PredP1}+\text{PredP2}+\text{PredP3}+\text{PredP4}+\text{PredP5}+\text{PredP7}}$

Observed DOT

Predicted DOT

Example SAAR Calculation: Pediatric All Antibacterial Agents SAAR

- Let's imagine we have the following location and facility information:
  - Location Type: step-down unit
  - Facility Type: general acute care hospital
  - Number of beds: 450
  - Number of ICU beds: 90
  - % ICU beds: 16.7%
  - Average hospital length of stay (LOS): 6.5 days
  - Medical school affiliation type: graduate teaching
  - Days present (DP) for 2024: 6,000

- Models we'll need to calculate the Pediatric All antibacterial agents SAAR: broad spectrum hospital-onset (P1), broad spectrum community-acquired (P2), narrow spectrum beta-lactam (P3), resistant gram-positive (P4), azithromycin (P5), complementary (P7)

Fictitious data used for illustrative purposes only.

Example SAAR Calculation: Pediatric All Antibacterial Agents SAAR *Continued*

- Let's make up observed DOT for each component group.

Model	P1	P2	P3	P4	P5	P7
Observed DOT	450	475	550	300	150	600

- Formula we will use to calculate predicted DOT for each of these categories (P1, P2, P3, P4, P5, P7):

$log\ (\lambda) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_i X_i$, where:

α = Intercept

β_i = Parameter estimate

X_i = Value of risk factor (categorical variables: 1 if present, 0 if not present)

i = Number of predictors

Fictitious data used for illustrative purposes only.

Example SAAR calculation: Pediatric All SAAR – P1 component

- **Factors relevant for P1 model:**
  - Location Type: step-down unit
  - Number of beds: 450
- **P1** predicted DOT
  = Exp [-1.3584
  + (-1.4433) (Step-down)
  + 0.1479 (Beds = 450)] x 6000 DP
  = Exp [-2.6538] x 6000
  = 0.07038 x 6000
  = 422.299

P1: Broad spectrum antibacterial agents predominantly used for hospital-onset infections	
Factor and Level	**Estimate**
Intercept	**-1.3584**
Location Type	
Step-down Unit	**-1.4433**
Medical Ward, Medical-Surgical Ward, Surgical Ward	-1.3442
Medical ICU, Medical-Surgical ICU	-0.7061
Surgical Cardiothoracic ICU	-0.4758
Gen Hem-Onc Ward, Hematopoietic Stem Cell Transplant Ward	REF
Number of beds, facility-wide	
Group 3: ≥592	0.3110
Group 2: 199 - 591	**0.1479**
Group 1: <199	REF

Fictitious data used for illustrative purposes only.

Example SAAR calculation: Pediatric All SAAR – P2 component

- **Factors relevant for P2 model:**
  - Location Type: step-down unit
  - Facility Type: general acute care
  - Number of ICU beds: 90
  - Medical school affiliation: graduate
- **P2** predicted DOT
  = Exp [-3.2972
  + 0.3452 (Step-down)
  + 0.1926 (ICU Beds = 90)
  + 0.1832 (General acute care)
  + 0.0000 (Graduate)] x 6000 DP
  = Exp [-2.5762] x 6000
  = 0.07606 x 6000
  = 456.375

P2: Broad spectrum antibacterial agents predominantly used for community-acquired infections	
Factor and Level	**Estimate**
Intercept	**-3.2972**
Location Type	
Medical ICU, Medical-Surgical ICU	1.1726
Medical Ward, Medical-Surgical Ward, Surgical Ward	0.8299
General Hematology-Oncology Ward	0.5658
Step-down Unit	**0.3452**
Hematopoietic Stem Cell Transplant Ward	0.0890
Surgical Cardiothoracic ICU	REF
Number of ICU beds, facility-wide	
Group 1: <54	0.1698
Group 2: 54 - 69	0.3648
Group 3: 70 - 167	**0.1926**
Group 4: ≥168	REF
Facility Type	
General Acute Care	**0.1832**
Children's, Military, Women's and Children's	REF
Medical school affiliation type	
None	0.3129
Undergraduate, **Graduate**, Major	**REF**

Fictitious data used for illustrative purposes only.

Example SAAR calculation: Pediatric All SAAR – P3 component

- **Factors relevant for P3 model:**
  - Location Type: step-down unit
  - % ICU beds: 16.7%
  - Medical school affiliation: graduate

- **P3** predicted DOT
  = Exp [-3.0255
  + 0.5609 (Step-down)
  + 0.1197 (% ICU = 16.7)
  + 0.0000 (Graduate)] x 6000 DP
  = Exp [-2.3449] x 6000
  = 0.09586 x 6000
  = 575.141

P3: Narrow spectrum beta-lactam agents	
Factor and Level	**Estimate**
Intercept	**-3.0255**
Location Type	
Surgical Cardiothoracic ICU	1.2786
Surgical Ward	0.8010
Step-down Unit	**0.5609**
Medical ICU, Medical-Surgical ICU	0.5461
Medical Ward, Medical-Surgical Ward, Hematopoietic Stem Cell Transplant Ward	0.5200
General Hematology-Oncology Ward	REF
ICU beds (as a percentage of total beds), facility-wide	
Group 2: ≥12.8%	**0.1197**
Group 1: <12.8%	REF
Medical school affiliation type	
None, Major	0.0999
Undergraduate, **Graduate**	**REF**

Fictitious data used for illustrative purposes only.

Example SAAR calculation: Pediatric All SAAR – P4 component

- **Factors relevant for P4 model:**
  - Location Type: step-down unit
  - Number of beds: 450
  - % ICU beds: 16.7%

- **P4** predicted DOT
  = Exp [-3.3660
  + 0.0000 (Step-down)
  + 0.0000 (Beds = 450)
  + 0.2131 (% ICU = 16.7%)] x 6000 DP
  = Exp [-3.1529] x 6000
  = 0.04273 x 6000
  = 256.368

P4: Antibacterial agents predominantly used for resistant gram-positive infections (e.g., MRSA)	
Factor and Level	**Estimate**
Intercept	-3.3660
Location Type	
Medical ICU, Medical-Surgical ICU, Surgical Cardiothoracic ICU	0.9304
Gen Hem-Onc Ward, Hematopoietic Stem Cell Transplant Ward	0.6033
Medical Ward, Medical-Surgical Ward, Surgical Ward	0.2058
Step-down Unit	REF
Number of beds, facility-wide	
Group 2: ≥780	0.2272
Group 1: <780	REF
ICU beds (as a percentage of total beds), facility-wide	
Group 2: ≥12.8%	0.2131
Group 1: <12.8%	REF

Fictitious data used for illustrative purposes only.

Example SAAR calculation: Pediatric All SAAR – P5 component

- **Factors relevant for P5 model:**
  - Location Type: step-down unit
  - Facility Type: general acute care
  - Number of ICU beds: 90
  - Average hospital LOS: 6.5 days
  - Medical school affiliation: graduate
- **P5** predicted DOT
  = Exp [-5.9067
  + 1.3805 (Step-down)
  + 0.1347 (General acute care)
  + 0.2036 (LOS = 6.5)
  + 0.0000 (ICU beds & Grad)] x 6000 DP
  = Exp [-4.1879] x 6000
  = 0.01518 x 6000
  = 91.069

P5: Azithromycin	
Factor and Level	**Estimate**
Intercept	**-5.9067**
Location Type	
Medical ICU, Medical-Surgical ICU	1.9580
Medical Ward, General Hematology-Oncology Ward, Hematopoietic Stem Cell Transplant Ward	1.5633
Step-down Unit	**1.3805**
Medical-Surgical Ward	1.2032
Surgical Cardiothoracic ICU	1.0997
Surgical Ward	REF
Facility Type	
General Acute Care	**0.1347**
Children's, Military, Women's and Children's	REF
Number of ICU beds, facility-wide	
Group 1: <70	0.3820
Group 2: ≥70	**REF**
Average length of stay, facility-wide (in days)	
Group 2: ≥4.7	**0.2036**
Group 1: 1.0 - 4.6	REF
Medical school affiliation type	
None	0.5432
Undergraduate, **Graduate**, Major	**REF**

Fictitious data used for illustrative purposes only.

Example SAAR calculation: Pediatric All SAAR – P7 component

- **Factors relevant for P7 model:**
  - Location Type: step-down unit
  - Facility Type: general acute care
  - Number of ICU beds: 90
  - Average hospital LOS: 6.5 days

- **P7** predicted DOT
  = Exp [-3.1831
  + 0.2464 (Step-down)
  + 0.0000 (General acute care)
  + 0.4884 (ICU Beds = 90)
  + 0.1996 (LOS=6.5)] x 6000 DP
  = Exp [-2.2487] x 6000
  = 0.10554 x 6000
  = 633.218

P7: Complementary Agents	
Factor and Level	**Estimate**
Intercept	**-3.1831**
Location Type	
Gen Hem-Onc Ward, Hematopoietic Stem Cell Transplant Ward	0.7701
Step-down Unit	**0.2464**
Medical ICU, Medical-Surgical ICU, Surgical Cardiothoracic ICU	0.2450
Medical Ward, Medical-Surgical Ward, Surgical Ward	REF
Facility Type	
Children's, Military, Women's and Children's	0.2253
General Acute Care	**REF**
Number of ICU beds, facility-wide	
Group 4: ≥168	0.6063
Group 3: 85 - 167	**0.4884**
Group 2: 55 - 84	0.2444
Group 1: <55	REF
Average length of stay, facility-wide (in days)	
Group 3: ≥6.1	**0.1996**
Group 1: 1.0 - 3.5	0.1925
Group 2: 3.6 - 6.0	REF

Fictitious data used for illustrative purposes only.

Calculating All Antibacterial Agents SAAR for Pediatrics

- Pediatric All antibacterial agents SAAR = $\frac{\text{ObsP1+ObsP2+ObsP3+ObsP4+ObsP5+ObsP7}}{\text{PredP1+PredP2+PredP3+PredP4+PredP5+PredP7}}$

- Using results of slides 15-22, we now have observed and predicted DOT for each component:

Model	P1	P2	P3	P4	P5	P7	Sum
Observed DOT	450	475	550	300	150	600	2525
Predicted DOT	422.299	456.375	575.141	256.368	91.069	633.218	2434.470

- Pediatric All antibacterial agents SAAR = $\frac{2525}{2434.470} = 1.037$

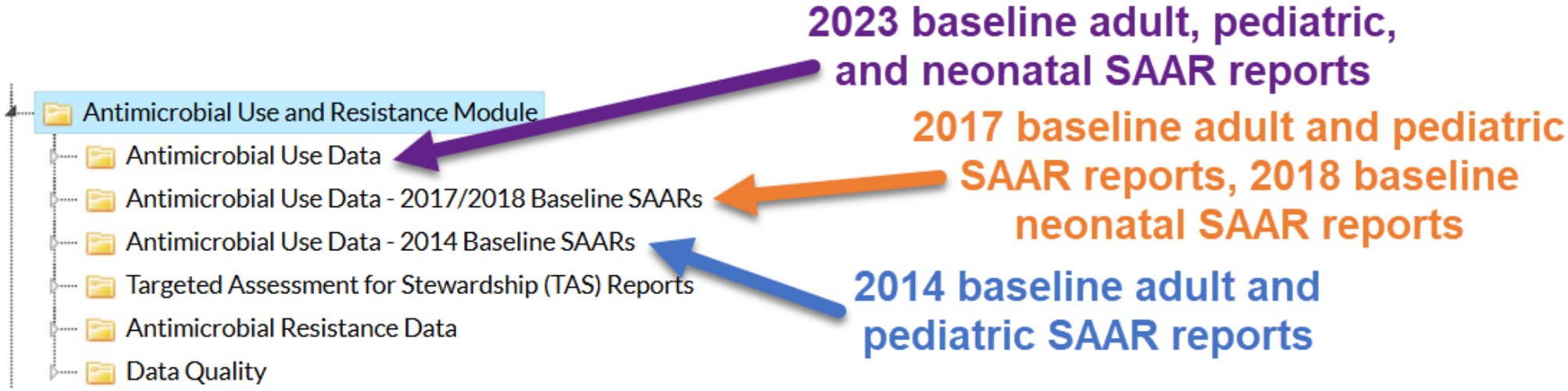
Fictitious data used for illustrative purposes only.

SAAR Reports (2023 baseline)

How to run and use the new analysis reports within NHSN

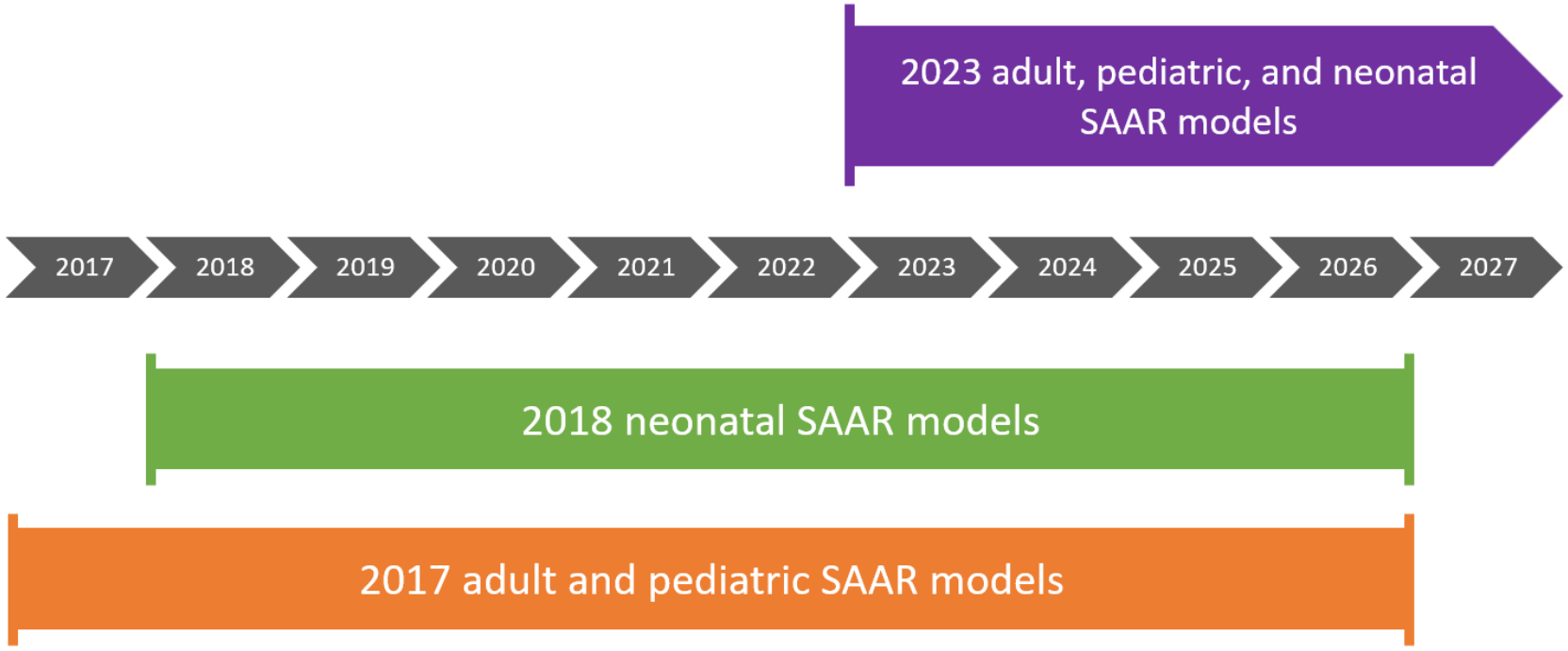
Analysis and Reporting Treeview

- **Required:** Generate datasets before running the new reports
- Analysis treeview has been updated to include a new subfolder for the 2017/2018 baseline SAAR reports
  - Antimicrobial Use Data – 2017/2018 Baseline SAARs
- 2023 baseline SAAR reports are included in the main Antimicrobial Use Data subfolder



Available SAAR Baseline Reports in NHSN

- **2017** Baseline Adult and Pediatric SAAR Reports: Users can generate for AU data reported **January 2017** through **December 2026**
- **2018** Baseline Neonatal SAAR Reports: Users can generate for AU data reported **January 2018** through **December 2026**



Fundamentals for the New 2023 Baseline SAAR Reports

- The new SAAR reports under the **2023** baseline will only run for data from **January 2023 and forward.**
- Adult, pediatric, and neonatal populations will have separate reports.
- Footnotes have been slightly updated but the format of the reports remain the same as the 2017/2018 baseline reports.
- The SAAR reports are available at the monthly-level by default. Users will have the option to generate SAAR reports by month, quarter, half-year, year, and cumulative.
- Certain facility types may generate specific population SAAR reports.

Facility Types that can Generate 2023 Baseline SAAR Reports

Facility type	Which 2023 baseline SAAR reports are available?
Critical access hospital (HOSP-CAH)	Adult
Children's hospital (HOSP-CHLD)	Adult, Pediatric, Neonatal
General acute care hospital (HOSP-GEN)	Adult, Pediatric, Neonatal
Military hospital (HOSP-MIL)	Adult, Pediatric, Neonatal
Oncology hospital (HOSP-ONC)	Adult
Orthopedic hospital (HOSP-ORTHO)	Adult
Psychiatric hospital (HOSP-PYSCH)	Adult
Surgical hospital (HOSP-SURG)	Adult, Neonatal
Veterans Affairs hospital (HOSP-VA)	Adult
Women's hospital (HOSP-WOM)	Adult, Neonatal
Women/Children's hospital (HOSP-WOMCHILD)	Adult, Pediatric, Neonatal

Knowledge Check 1

True or False: The 2023 baseline SAAR reports can be run for data prior to January 2023.

Knowledge Check 1 – Answer

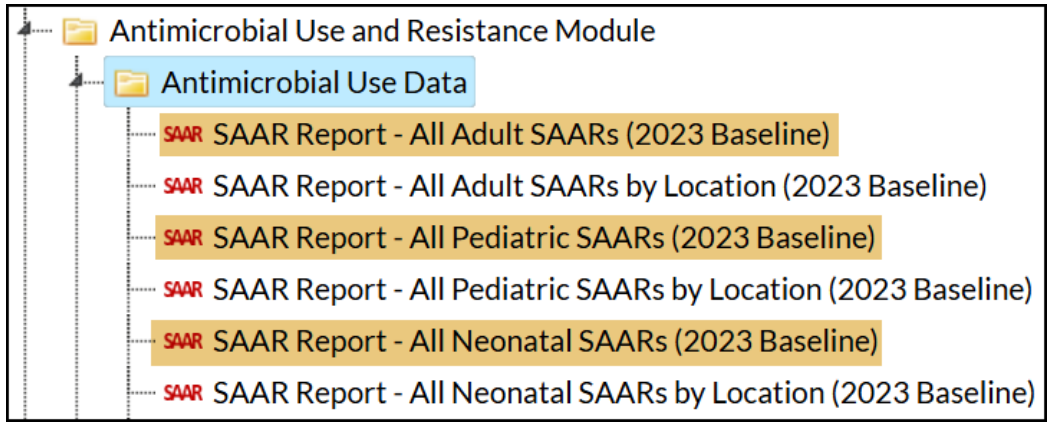
True or False: The 2023 baseline SAAR reports can be run for data prior to January 2023.

FALSE

The correct answer is FALSE. *The 2023 baseline SAAR reports can only be generated for data from January 2023 and forward.*

Difference Between SAAR Report Types: By Location Groups

- Aggregated SAARs generated for specific SAAR-eligible location groups:
  - SAAR Report – All Adult SAARs (2023 Baseline)
  - SAAR Report – All Pediatric SAARs (2023 Baseline)
  - SAAR Report – All Neonatal SAARs (2023 Baseline)
- For example, data for all Labor & Delivery Wards, Labor, Delivery, Recovery, Postpartum Suites, and Postpartum Wards are aggregated together to generate an Obstetrics Wards location group SAAR
- Only select adult patient care location groups are included in the aggregate SAAR report



Aggregate SAAR Reports: Adult Patient Care Location Groupings

SAARTypeAdult2023 Code	Location Group	CDC Location(s) Included
Adult_All-Antibacterial_Select_2023	Select SAAR Locations	Only includes the 16 CDC Locations listed in this slide and next.
Adult_BSHO_GeneralICU_2023	General ICUs	Medical Critical Care (IN:ACUTE:CC:M) Surgical Critical Care (IN:ACUTE:CC:S) Medical-Surgical Critical Care (IN:ACUTE:CC:MS)
Adult_BSHO_GeneralWard_2023	General Wards	Medical Ward (IN:ACUTE:WARD:M) Surgical Ward (IN:ACUTE:WARD:S) Medical-Surgical Ward (IN:ACUTE:WARD:MS)
Adult_BSHO_OB_2023	Obstetrics Wards	Labor and Delivery Ward (IN:ACUTE:WARD:LD) Labor, Delivery, Recovery, Postpartum Suite (IN:ACUTE:WARD:LD_PP) Postpartum Ward (IN:ACUTE:WARD:PP)
Adult_BSHO_ORTHO_2023	Orthopedic Wards	Orthopedic Ward (IN:ACUTE:WARD:ORT) Orthopedic Trauma Ward (IN:ACUTE:WARD:T_ORT)

Aggregate SAAR Reports: Adult Patient Care Location Groupings *Continued*

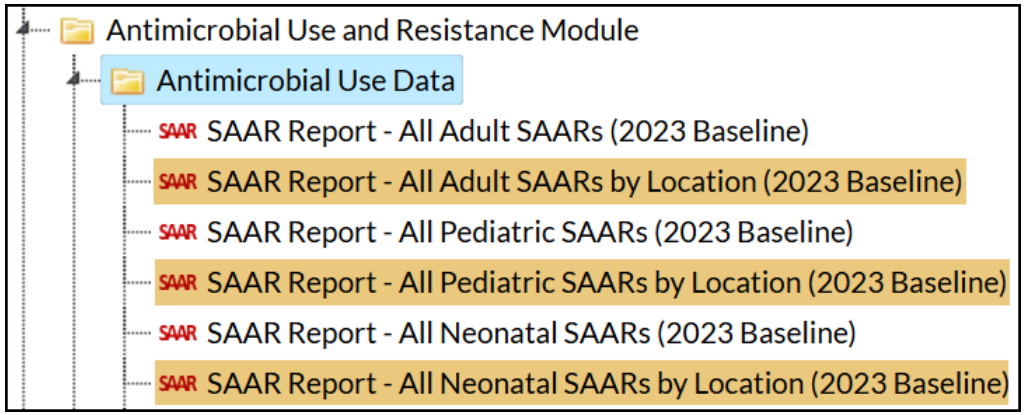
SAARTypeAdult2023 Code	Location Group	CDC Location(s) Included
Adult_BSHO_MixedAcuity_2023	Mixed Acuity Unit	Adult Mixed Acuity Unit (IN:ACUTE:MIXED:ALL_ADULT)
Adult_BSHO_Step_2023	Step Down Unit	Adult Step Down Unit (IN:ACUTE:STEP)
Adult_BSHO_SOTP_2023	Solid Organ Transplant Unit	Solid Organ Transplant Specialty Care Area (IN:ACUTE:SCA:SOTP)
Adult_BSHO_ONC_2023	Oncology Units	Oncology General Hematology-Oncology Ward (IN:ACUTE:WARD:ONC_HONC) Oncology Hematopoietic Stem Cell Transplant Ward (IN:ACUTE:WARD:ONC_HSCT)

Aggregate SAAR Reports: Pediatric Patient Care Location Groupings

SAARTypePed2023 Code	Location Group	CDC Location(s) Included
Ped_All-Antibacterial_2023	All SAAR Locations	Includes the 9 CDC Locations listed below.
Ped_BSHO_GeneralICU_2023	General ICUs	Pediatric Medical Critical Care (IN:ACUTE:CC:M_PED) Pediatric Medical-Surgical Critical Care (IN:ACUTE:CC:MS_PED)
Ped_BSHO_SurgCardICU_2023	Surgical Cardiothoracic ICU	Pediatric Surgical Cardiothoracic Critical Care (IN:ACUTE:CC:CT_PED)
Ped_BSHO_GeneralWard_2023	General Wards	Pediatric Medical Ward (IN:ACUTE:WARD:M_PED) Pediatric Medical-Surgical Ward (IN:ACUTE:WARD:MS_PED) Pediatric Surgical Ward (IN:ACUTE:WARD:S_PED)
Ped_BSHO_Step_2023	Step Down Unit	Pediatric Step-Down Unit (IN:ACUTE:STEP:PED)
Ped_BSHO_ONC_2023	Oncology Units	Oncology Pediatric General Hematology/Oncology Ward (IN:ACUTE:WARD:ONC_HONC_PED) Oncology Pediatric Hematopoietic Stem Cell Transplant Ward (IN:ACUTE:WARD:ONC_HSCT_PED)

Difference Between SAAR Report Types: By Location

- SAARs generated for each individual SAAR-eligible location:
  - SAAR Report – All Adult SAARs by Location (2023 Baseline)
    - Includes all 26 SAAR-eligible location types
  - SAAR Report – All Pediatric SAARs by Location (2023 Baseline)
    - Includes all 9 SAAR-eligible location types
  - SAAR Report – All Neonatal SAARs by Location (2023 Baseline)
    - Includes all 4 SAAR-eligible location types (same as 2018 baseline)
- Like previous 2017 and 2018 baseline SAAR reports, the SAAR by location reports under the 2023 baseline will include SAAR percentiles



Knowledge Check 2

Which statement best describes the key difference between the aggregate SAAR report and the by location SAAR report for the adult patient population under the 2023 baseline?

A. Both reports include all SAAR-eligible locations

B. The aggregate report groups select locations into location categories, while the by location report includes every individual SAAR-eligible location

C. The by location report only includes ICU locations

D. The aggregate report includes more locations than the by location report

Knowledge Check 2 – Answer

Which statement best describes the key difference between the aggregate SAAR report and the by location SAAR report for the adult patient population under the 2023 baseline?

A. Both reports include all SAAR-eligible locations

B. The aggregate report groups select locations into location categories, while the by location report includes every individual SAAR-eligible location

C. The by location report only includes ICU locations

D. The aggregate report includes more locations than the by location report

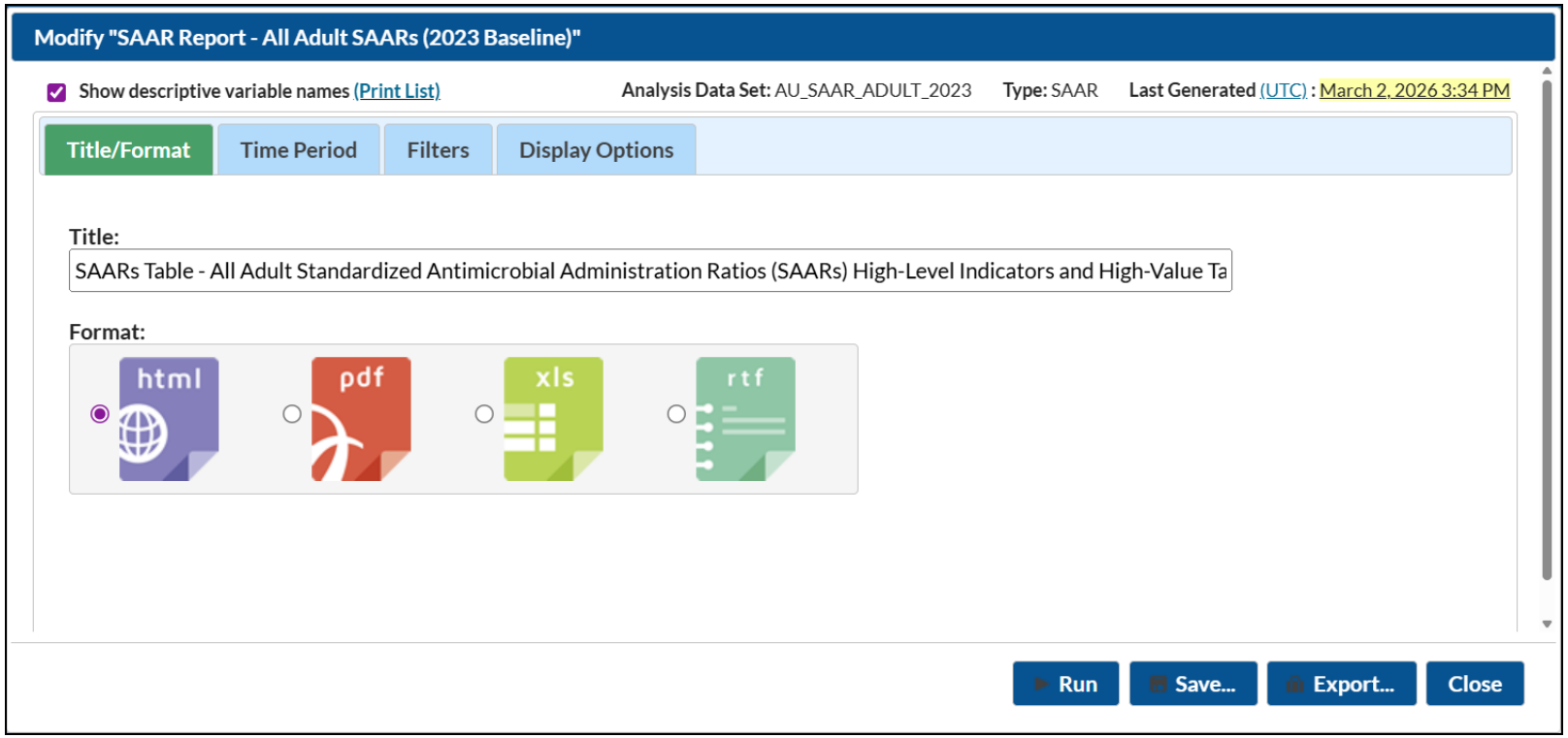
The correct answer is B. *In the by location SAAR report, every SAAR-eligible location type receives its own SAAR. In the aggregate SAAR report, data are summarized across select grouped locations, such as general ICUs or obstetrics wards.*

Modifying the SAAR Report

SAAR Report – All Adult SAARs (2023 Baseline)

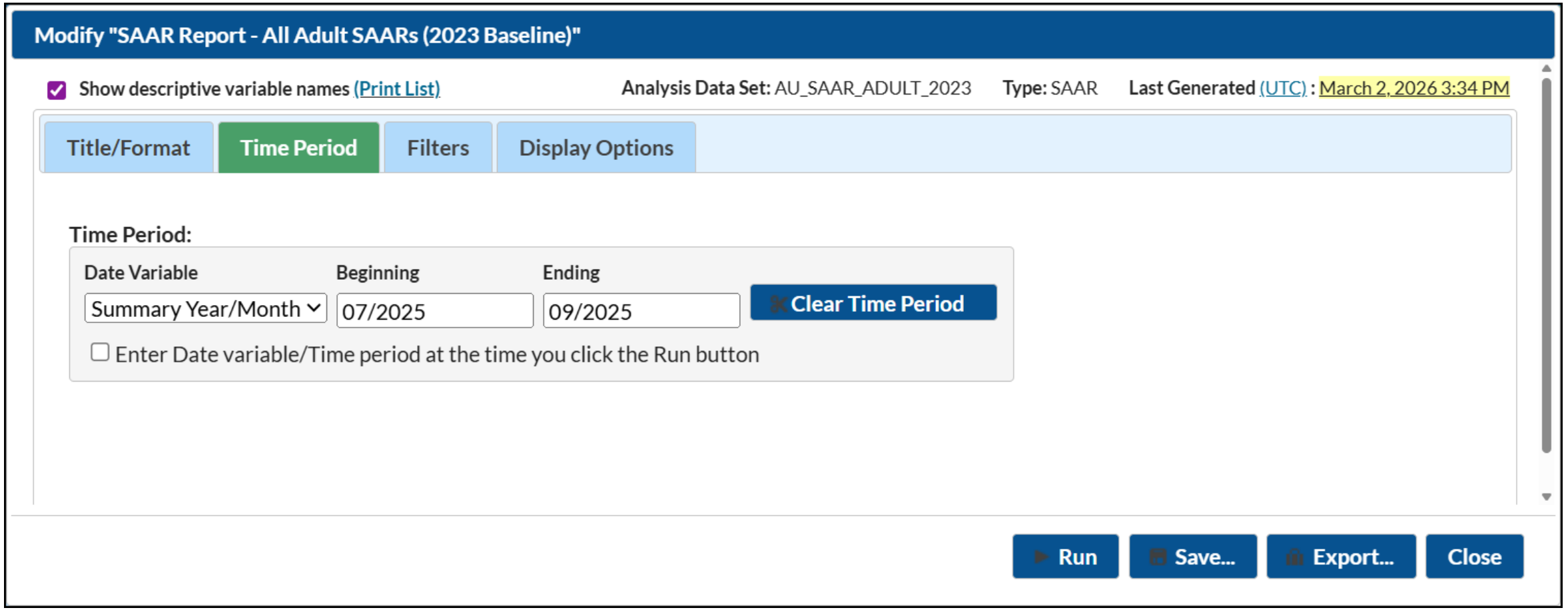
Report Modifications

- Users will have the same options to modify the 2023 baseline SAAR reports in the NHSN application as the current SAAR reports
- The following can be modified:
  - Title/Format
  - Time Period
  - Filters
  - Display Options



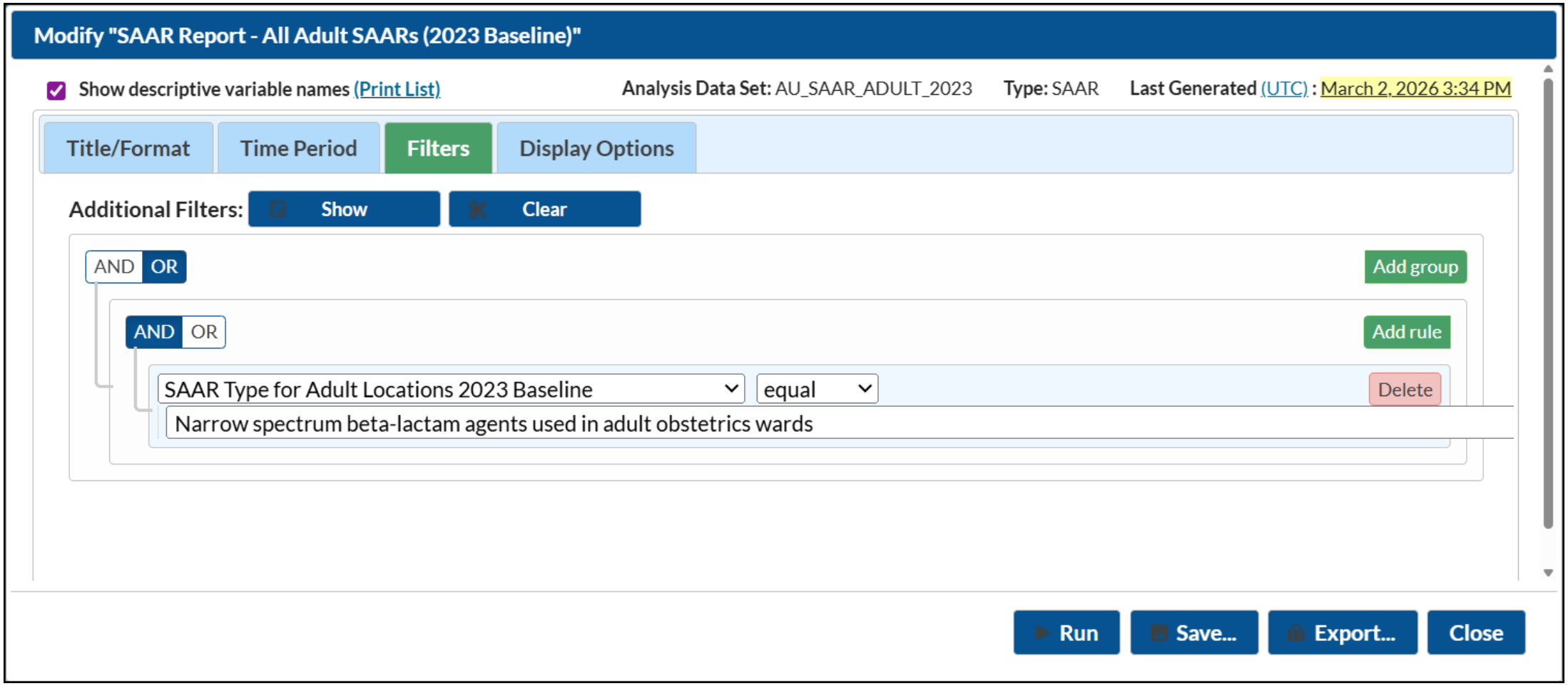
For more information on how to modify reports, review this Quick Reference Guide.

Report Modifications: Time Period



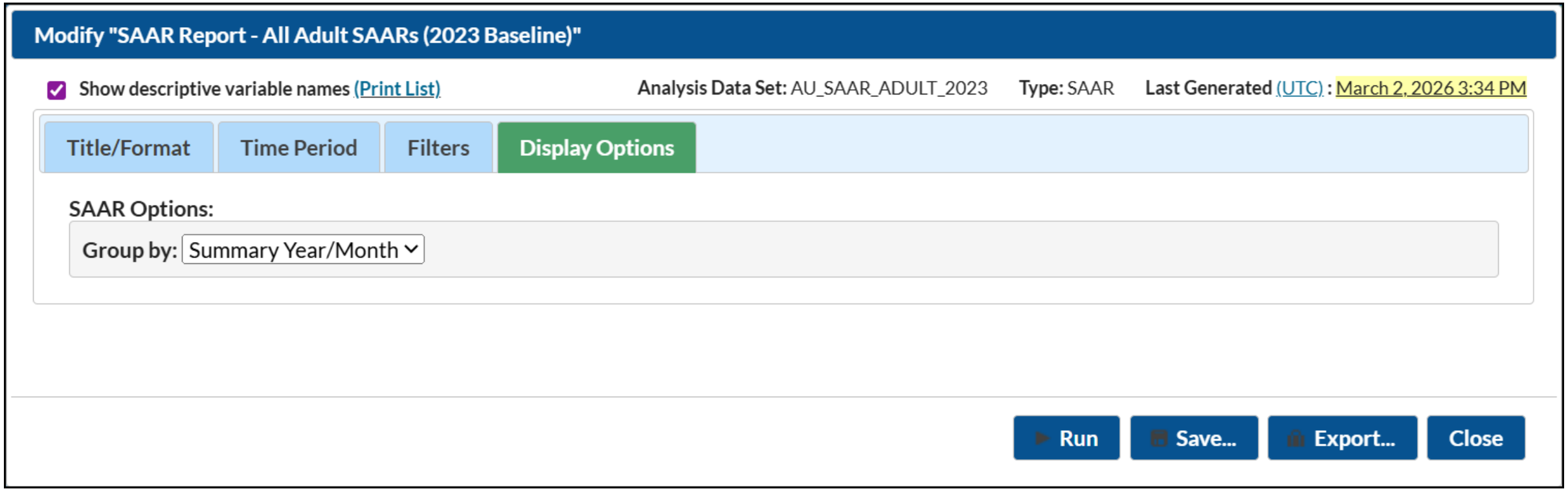
- Users can filter the SAAR reports by time period (please remember that the SAAR reports are only available for January 2023 and forward)

Report Modifications: Filters



- Users can filter the SAAR reports by different variables. It is recommended to filter by SAAR Type since all available SAAR types will print by default.

Report Modifications: Display Options



- Users can run the SAAR reports by Month, Quarter, Half-Year, Year, and Cumulative

Example SAAR Report Output

SAAR Report – All Adult SAARs (2023 Baseline)

Example Adult SAAR Report (2023 Baseline)

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets (2023 Baseline)

As of: March 2, 2026 at 7:38 PM UTC
Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09
if (((SAARTypeAdult2023 = "Adult_NSBL_OB_2023")))

Narrow spectrum beta-lactam agents used in adult obstetrics wards

Facility Org ID	Summary Year/Month	SAAR Type for Adult Locations 2023 Baseline	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval
13860	2025M07	Adult_NSBL_OB_2023	444	1281.567	8280	0.346	0.0000	0.315, 0.380
13860	2025M08	Adult_NSBL_OB_2023	472	1422.692	8640	0.332	0.0000	0.303, 0.363
13860	2025M09	Adult_NSBL_OB_2023	489	1477.587	9220	0.331	0.0000	0.303, 0.361

Any reported use of Colistin will be combined with and reported as Colistimethate. Any reported use of Amikacin Liposomal will be combined with and reported as Amikacin.
Includes data for January 2023 and forward.
The SAAR is only calculated if the number of predicted antimicrobial days (numAUDaysPredicted) is >=1.
If antimicrobial days exceed days present for any SAAR categories except the All Antibacterial SAAR, a SAAR will not be calculated and data should be validated for accuracy.
Data restricted to specific location types. See NHSN AUR Module Protocol or SAAR Guide for details.
Source of aggregate data: 2023 NHSN AU Data
Data contained in this report were last generated on March 2, 2026 at 3:29 PM UTC to include all data .

Fictitious data used for illustrative purposes only.

Example Adult SAAR Report (2023 Baseline): Display Changes

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets (2023 Baseline)

As of: March 2, 2026 at 7:38 PM UTC

Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09

if (((SAARTypeAdult2023 = "Adult_NSBL_OB_2023")))

Narrow spectrum beta-lactam agents used in adult obstetrics wards

Facility Org ID	Summary Year/Month	SAAR Type for Adult Locations 2023 Baseline	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval
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Any reported use of Colistin will be combined with and reported as Colistimethate. Any reported use of Amikacin Liposomal will be combined with and reported as Amikacin.

Includes data for January 2023 and forward.

The SAAR is only calculated if the number of predicted antimicrobial days (numAUDaysPredicted) is >=1.

If antimicrobial days exceed days present for any SAAR categories except the All Antibacterial SAAR, a SAAR will not be calculated and data should be validated for accuracy.

Data restricted to specific location types. See NHSN AUR Module Protocol or SAAR Guide for details.

Source of aggregate data: 2023 NHSN AU Data

Data contained in this report were last generated on March 2, 2026 at 3:29 PM UTC to include all data .

- The display of the tables in the SAAR reports has not changed
- Several places denote that the 2023 baseline is being used including the AU_SAAR_ADULT_2023 analysis dataset

Fictitious data used for illustrative purposes only.

Example Adult SAAR Report (2023 Baseline): Facility ID and Time Period

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets (2023 Baseline)

As of: March 2, 2026 at 7:38 PM UTC

Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09

if (((SAARTypeAdult2023 = "Adult_NSBL_OB_2023")))

Narrow spectrum beta-lactam agents used in adult obstetrics wards

Facility Org ID	Summary Year/Month	SAAR Type for Adult Locations 2023 Baseline	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval
13860	2025M07	Adult_NSBL_OB_2023	444	1281.567	8280	0.346	0.0000	0.315, 0.380
13860	2025M08	Adult_NSBL_OB_2023	472	1422.692	8640	0.332	0.0000	0.303, 0.363
13860	2025M09	Adult_NSBL_OB_2023	489	1477.587	9220	0.331	0.0000	0.303, 0.361

- The Facility orgID is displayed in the first column of the table
- Based on our report modifications, each row in the report represents one month from July 2025 to September 2025

Fictitious data used for illustrative purposes only.

Example Adult SAAR Report (2023 Baseline): SAAR Type

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets (2023 Baseline)

As of: March 2, 2026 at 7:38 PM UTC
Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09
if (((SAARTypeAdult2023 = "Adult_NSBL_OB_2023")))

Narrow spectrum beta-lactam agents used in adult obstetrics wards

Facility Org ID	Summary Year/Month	SAAR Type for Adult Locations 2023 Baseline	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval
13860	2025M07	Adult_NSBL_OB_2023	444	1281.567	8280	0.346	0.0000	0.315, 0.380
13860	2025M08	Adult_NSBL_OB_2023	472	1422.692	8640	0.332	0.0000	0.303, 0.363
13860	2025M09	Adult_NSBL_OB_2023	489	1477.587	9220	0.331	0.0000	0.303, 0.361

- The SAAR Report includes the SAAR type that corresponds to the table title
- Based on our report modifications, we filtered the report to only include the Narrow spectrum beta-lactam agents used in adult obstetrics wards (Adult_NSBL_OB_2023) so one table is printed in the output
  - The default report will print tables for all SAAR types and location groups

Fictitious data used for illustrative purposes only.

Example Adult SAAR Report (2023 Baseline): Antimicrobial Days

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets (2023 Baseline)

As of: March 2, 2026 at 7:38 PM UTC
Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09
if (((SAARTypeAdult2023 = "Adult_NSBL_OB_2023")))

Narrow spectrum beta-lactam agents used in adult obstetrics wards

Facility Org ID	Summary Year/Month	SAAR Type for Adult Locations 2023 Baseline	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval
13860	2025M07	Adult_NSBL_OB_2023	444	1281.567	8280	0.346	0.0000	0.315, 0.380
13860	2025M08	Adult_NSBL_OB_2023	472	1422.692	8640	0.332	0.0000	0.303, 0.363
13860	2025M09	Adult_NSBL_OB_2023	489	1477.587	9220	0.331	0.0000	0.303, 0.361

- Antimicrobial days and days present are reported by the facility for each month
- Antimicrobial days are the SAAR numerator
- Days present are used in the calculation of predicted antimicrobial days
- **444** NSBL antimicrobial days were reported for patients contributing **8,280** days present in the obstetrics wards during July 2025
  - **472** antimicrobial days and **8,640** days present reported for August 2025
  - **489** antimicrobial days and **9,220** days present reported for September 2025

Fictitious data used for illustrative purposes only.

Example Adult SAAR Report (2023 Baseline): Predicted Antimicrobial Days

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets (2023 Baseline)

As of: March 2, 2026 at 7:38 PM UTC
Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09
if (((SAARTypeAdult2023 = "Adult_NSBL_OB_2023")))

Narrow spectrum beta-lactam agents used in adult obstetrics wards

Facility Org ID	Summary Year/Month	SAAR Type for Adult Locations 2023 Baseline	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval
13860	2025M07	Adult_NSBL_OB_2023	444	1281.567	8280	0.346	0.0000	0.315, 0.380
13860	2025M08	Adult_NSBL_OB_2023	472	1422.692	8640	0.332	0.0000	0.303, 0.363
13860	2025M09	Adult_NSBL_OB_2023	489	1477.587	9220	0.331	0.0000	0.303, 0.361

- Predicted antimicrobial days are the SAAR denominator
- This is calculated using the adult 2023 baseline NSBL model
- The NSBL SAAR model predicted **1,281.567** antimicrobial days for obstetrics wards using 2023 baseline data from similar locations for July 2025
  - The NSBL SAAR model predicted **1,422.692** antimicrobial days for August 2025
  - The NSBL SAAR model predicted **1,477.587** antimicrobial days for September 2025

Fictitious data used for illustrative purposes only.

Example Adult SAAR Report (2023 Baseline): SAAR

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets (2023 Baseline)

As of: March 2, 2026 at 7:38 PM UTC
Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09
if (((SAARTypeAdult2023 = "Adult_NSBL_OB_2023")))

Narrow spectrum beta-lactam agents used in adult obstetrics wards

Facility Org ID	Summary Year/Month	SAAR Type for Adult Locations 2023 Baseline	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval
13860	2025M07	Adult_NSBL_OB_2023	444	1281.567	8280	0.346	0.0000	0.315, 0.380
13860	2025M08	Adult_NSBL_OB_2023	472	1422.692	8640	0.332	0.0000	0.303, 0.363
13860	2025M09	Adult_NSBL_OB_2023	489	1477.587	9220	0.331	0.0000	0.303, 0.361

- The SAAR is calculated by dividing observed antimicrobial days by predicted antimicrobial days
- The NSBL SAAR for obstetrics wards was **0.346** for July 2025
  - The NSBL SAAR for obstetrics wards was **0.332** for August 2025
  - The NSBL SAAR for obstetrics wards was **0.331** for September 2025
- A **SAAR < 1.0** indicates antimicrobial use was less than predicted

Fictitious data used for illustrative purposes only.

Example Adult SAAR Report (2023 Baseline): SAAR p-value and 95% Confidence Interval

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets (2023 Baseline)

As of: March 2, 2026 at 7:38 PM UTC
Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09
if (((SAARTypeAdult2023 = "Adult_NSBL_OB_2023")))

Narrow spectrum beta-lactam agents used in adult obstetrics wards

Facility Org ID	Summary Year/Month	SAAR Type for Adult Locations 2023 Baseline	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval
13860	2025M07	Adult_NSBL_OB_2023	444	1281.567	8280	0.346	0.0000	0.315, 0.380
13860	2025M08	Adult_NSBL_OB_2023	472	1422.692	8640	0.332	0.0000	0.303, 0.363
13860	2025M09	Adult_NSBL_OB_2023	489	1477.587	9220	0.331	0.0000	0.303, 0.361

- For all three months, the p-value < 0.05 and the 95% Confidence Interval did not include 1.0
- The NSBL SAAR for adult obstetrics wards was **statistically significantly less than 1.0** for all three months

Fictitious data used for illustrative purposes only.

Example SAAR Report Output

SAAR Report – All Adult SAARs by Location (2023 Baseline)

Example Adult SAAR Report by Location (2023 Baseline)

National Healthcare Safety Network

SAARs Table - All Adult Standardized Antimicrobial Administration Ratios (SAARs) High-Level Indicators and High-Value Targets by Location (2023 Baseline)

As of: March 2, 2026 at 11:16 PM UTC

Date Range: AU_SAAR_ADULT_2023 summaryYM 2025M07 to 2025M09

Antibacterial agents posing the highest risk for CDI used in adult orthopedic wards

Facility Org ID	SAAR Type for Adult Locations 2023 Baseline	Location	Summary Year/Month	CDC Location	Antimicrobial Days	Predicted Antimicrobial Days	Days Present	SAAR	SAAR p-value	95% Confidence Interval	SAAR Percentile
13860	Adult_CDI_ORTHO_2023	ORTHO2	2025M07	IN:ACUTE:WARD:ORT	215	499.914	3940	0.430	0.0000	0.375, 0.491	14
13860	Adult_CDI_ORTHO_2023	ORTHO2	2025M08	IN:ACUTE:WARD:ORT	212	399.677	3150	0.530	0.0000	0.463, 0.606	18
13860	Adult_CDI_ORTHO_2023	ORTHO2	2025M09	IN:ACUTE:WARD:ORT	198	296.903	2340	0.667	0.0000	0.579, 0.765	25
13860	Adult_CDI_ORTHO_2023	ORTHOT	2025M07	IN:ACUTE:WARD:T_ORT	195	458.043	3610	0.426	0.0000	0.369, 0.489	1
13860	Adult_CDI_ORTHO_2023	ORTHOT	2025M08	IN:ACUTE:WARD:T_ORT	186	257.570	2030	0.722	0.0000	0.624, 0.832	24
13860	Adult_CDI_ORTHO_2023	ORTHOT	2025M09	IN:ACUTE:WARD:T_ORT	224	364.151	2870	0.615	0.0000	0.538, 0.700	20

Any reported use of Colistin will be combined with and reported as Colistimethate. Any reported use of Amikacin Liposomal will be combined with and reported as Amikacin.
Includes data for January 2023 and forward.
The SAAR is only calculated if the number of predicted antimicrobial days (numAUDaysPredicted) is >=1.
If antimicrobial days exceed days present for any SAAR categories except the All Antibacterial SAAR, a SAAR will not be calculated and data should be validated for accuracy.
Data restricted to specific location types. See NHSN AUR Module Protocol or SAAR Guide for details.
The SAAR percentile is not shown if the SAAR is not shown.
Source of aggregate data: 2023 NHSN AU Data
Data contained in this report were last generated on March 2, 2026 at 3:29 PM UTC to include all data .

- The SAAR by Location report includes additional columns: Location, CDC Location, and SAAR Percentile. An additional footnote is included about the SAAR percentile.

Fictitious data used for illustrative purposes only.

SAAR Percentiles

- The position of a specific SAAR within the distribution of location-specific SAARs can be found in the most recent NHSN AU Option Report Data Tables.
  - All data in 2023 baseline SAAR reports will use SAAR percentiles from the 2024 AU Data Report but will be updated after completion of the 2025 AU Data Report.
- For example, a SAAR for a medical ICU location with a SAAR percentile of **90** indicates **89%** of SAAR values reported from medical ICU locations are **less than** that SAAR and **10%** of SAAR values reported from medical ICU locations are **greater than** it.
- SAAR percentiles are not generated if the SAAR is not generated, nor are they generated for locations where the aggregate sample size was too small for analysis (<20 locations nationwide reporting at least nine months of data).
  - For example, pediatric oncology hematopoietic stem cell transplant wards did not have enough locations reporting at least 9 months of data in 2024 for inclusion in the SAAR percentile calculations.

Data Quality

How to ensure the quality and accuracy of the 2023 baseline SAAR reports

Circumstances under which NHSN cannot generate SAAR values

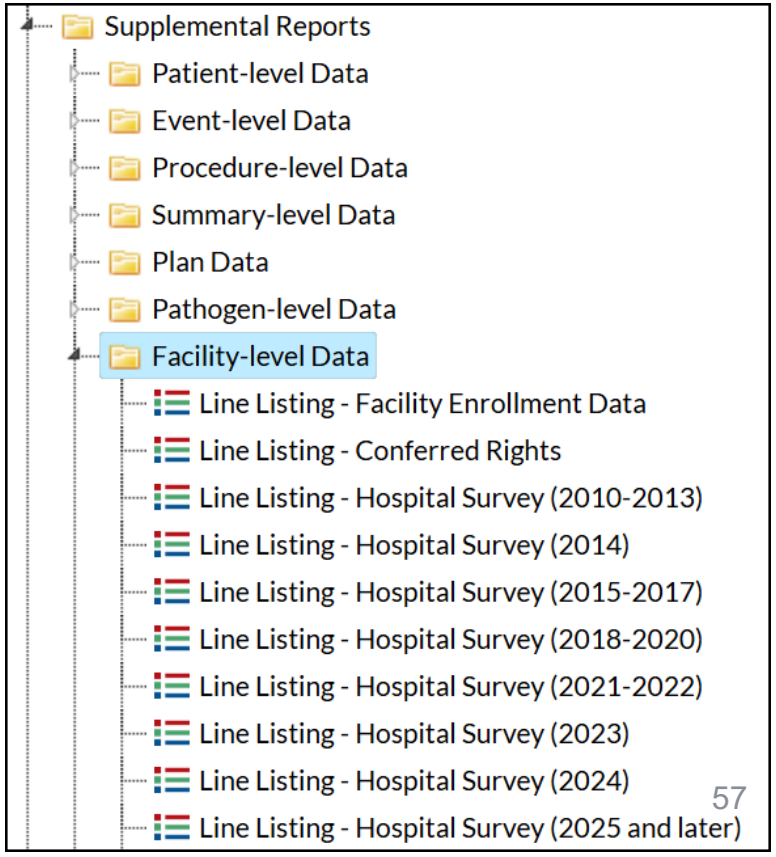
- NHSN does not generate a SAAR when the number of **predicted** antimicrobial days is **less than 1.0** to enforce a minimum precision criterion.
  - Recommendation: Analyze SAAR data at a higher level of aggregation (specifically, quarter, half year, year, or cumulative.
- Locations reporting **zero** days present for the selected time period
- Locations reporting **more antimicrobial days than days present** for any SAAR agent category (except for adult and pediatric All Antibacterial Agents SAARs)
- Certain facility types will not be able to generate adult, pediatric, and/or neonatal SAARs (for example, LTACs and IRFs cannot generate any SAARs).
- Neonatal SAARs will not be generated for these hospitals:
  - Hospitals that responded "**N/A, my hospital does not provide neonatal or newborn patient care services at any level**" on the NHSN Patient Safety Component Annual Hospital Survey.
  - Hospitals reporting **zero inborn** and **zero outborn admissions** on the NHSN Patient Safety Component Annual Hospital Survey.

Review Annual Survey and Enrollment Data

Review these variables:

- Hospital type (facType)
- Hospital teaching status (medAff, medType)
- Total number of beds (numBeds)
- Number of ICU beds (numICUbeds)
- Annual patient days (numPatDays)
- Annual admissions (numAdmits)
- Annual inborn neonatal admissions (neoInbornAdm)
- Annual outborn neonatal admissions (neoOutbornAdm)
- Levels of neonatal care provided by the hospital (NICU3andUp)
- Whether hospital accepts neonates as transfers for various specified complex procedures (neoTransfer)
- Number of neonatal admissions with birthweight in the following five categories: a) ≤750g (bwAAdm), b) 751-1000g (bwBAdm), c) 1001-1500g (bwCAdm), d) 1501-2500g (bwDAdm), e) >2500g (bwEAdm)

Note: *The survey used for risk adjustment aligns with the year of data being analyzed (for example, 2025 survey would be used for 2025 SAAR calculations, if available). If the corresponding survey is not reported in NHSN yet, the SAAR will use the most recent survey available.*



Annual Survey Changes

- SAAR models use data from the **most recent Patient Safety Component Annual Hospital Survey** for facility-level risk adjustment.
- SAAR reports automatically update once:
  - The facility completes the **current annual survey**, and
  - New data sets are generated in NHSN.
- **Before survey completion:**
  - SAARs are risk adjusted using the **previous year's survey responses.**
  - *Example:* 2025 SAARs are based on 2024 survey data until the 2025 survey is completed.
- **After survey completion:**
  - SAARs are risk adjusted using the **current year's survey responses.**
  - *Example:* 2025 SAARs update to reflect 2025 survey data.
- Survey responses may shift a facility into a **different risk adjustment category** for one or more SAARs.
- It is normal to see **small changes in predicted antimicrobial days and SAAR values** after survey completion in March due to updated risk adjustment.

Example: Impact of Annual Survey Changes on Neonatal 3rd Generation Cephalosporins SAAR

Scenario: Acute care hospital with a level IV NICU reported 5 antimicrobial days and 500 days present for calendar year 2025.

Risk Factor	2024 Survey	2025 Survey
Total number of beds (numBeds)	250	255
Number of annual outborn neonatal admissions (neoOutbornAdm)	60	62
Percentage of annual neonatal admissions in lowest birthweight category A (≤750g) (bwAAdm)	1.0%	1.2%
Percentage of annual neonatal admissions in low birthweight category D (1501-2500) (bwDAdm)	25.0%	26.0%

Fictitious data used for illustrative purposes only.

Fictitious data used for illustrative purposes only.

Example: Impact of Annual Survey Changes on Neonatal 3rd Generation Cephalosporins SAAR

Scenario: Acute care hospital with a level IV NICU reported 5 antimicrobial days and 500 days present for calendar year 2025.

Parameter	Estimate	2024 Survey	2025 Survey
Intercept	-6.5786		
Location Type			
Level III NICUs; Level IV NICUs	0.5220	**Level IV**	**Level IV**
Level II special care nurseries; Level II/III NICUs	REF		
Number of annual outborn neonatal admissions			
≥61	0.8421		**62**
2 - 60	0.3952	**60**	
<2	REF		
Percentage of annual neonatal admissions in very lowest birthweight category A (≤750g)			
≥0.8%	0.5058	**1.0%**	**1.2%**
<0.8%	REF		
Percentage of annual neonatal admissions in low birthweight category D (1501-2500g)			
<26.3%	0.5779	**25.0%**	**26.0%**
≥26.3%	REF		
Number of beds, facility-wide			
≥253	0.4126		**255**
<253	REF	**250**	

Estimate based on 2024 survey:

-6.5786 + 0.5220 + 0.3952 + 0.5058 + 0.5779 + 0.0000 = **-4.5777**

Predicted DOT = exp(-4.5777)*500 = **5.1393**

$$\text{SAAR} = \frac{5}{5.1393} = 0.973$$

Estimate based on 2025 survey:

-6.5786 + 0.5220 + 0.8421 + 0.5058 + 0.5779 + 0.4126 = **-3.7182**

Predicted DOT = exp(-3.7182)*500 = **12.1388**

$$\text{SAAR} = \frac{5}{12.1388} = 0.412$$

Knowledge Check 3

A hospital notices that its neonatal vancomycin predicted and SAAR values changed slightly after March. What is the *most likely* explanation?

A. The hospital's observed antimicrobial days decreased

B. The SAAR percentiles were updated

C. The annual survey was completed and updated risk adjustment was applied

D. The hospital switched vendors

Knowledge Check 3 – Answer

A hospital notices that its neonatal vancomycin predicted and SAAR values changed slightly after March. What is the *most likely* explanation?

A. The hospital's observed antimicrobial days decreased

B. The SAAR percentiles were updated

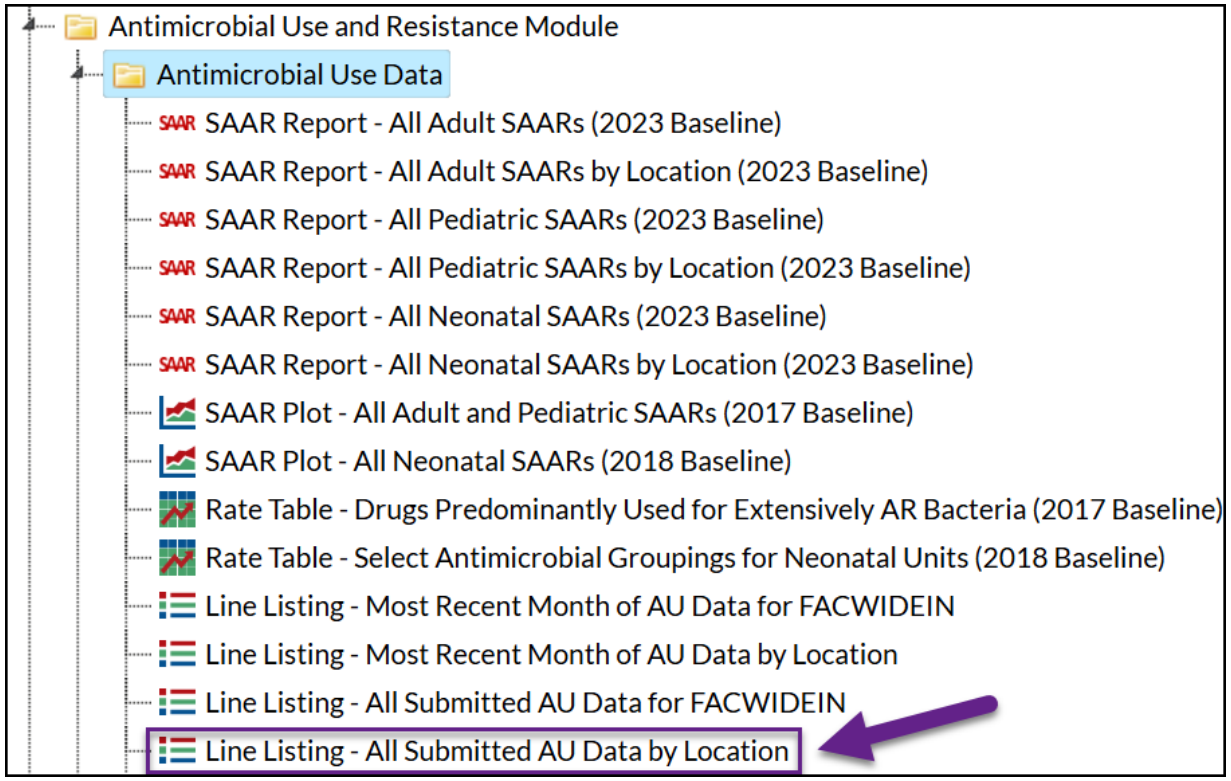
C. The annual survey was completed and updated risk adjustment was applied

D. The hospital switched vendors

The correct answer is C. *Once a facility completes the most recent annual survey and generates new data sets, their SAARs automatically update to reflect any changes made to the risk adjustment variables, which can shift predicted antimicrobial days and the SAAR.*

AU Line Listing Report

- To confirm the SAAR numerator (antimicrobial days) was correctly reported, run and review the “Line Listing – All Submitted AU Data by Location” report.
- The AU Line Listing Report can also be used to review the days present reported for each location.



orgID	location	locCDC	summaryYM	drugIngredientDesc	antimicrobialDays	numDaysPresent
13860	PMICU	IN:ACUTE:CC:M_PED	Jul-25	AZITH	19	250
13860	PMSICU	IN:ACUTE:CC:MS_PED	Jul-25	AZITH	8	308

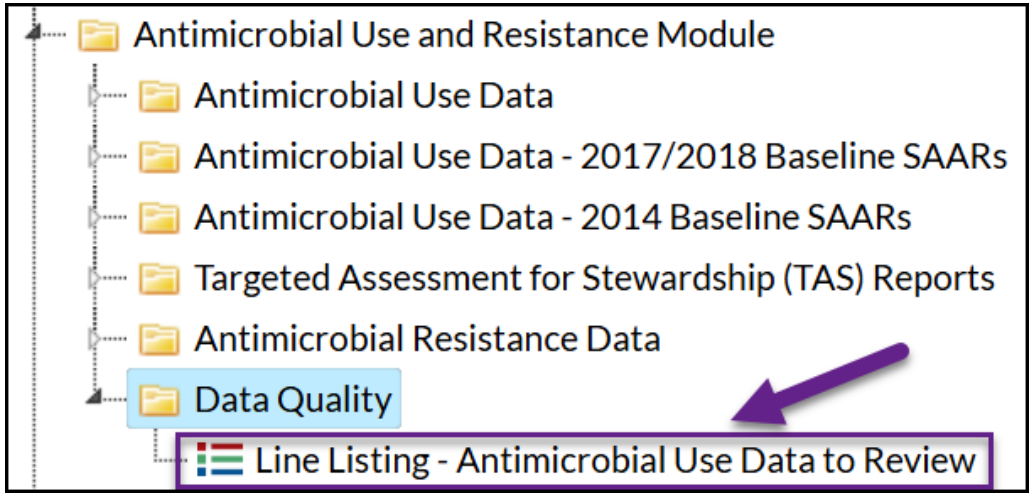
Fictitious data used for illustrative purposes only.

AU Data Quality Line Listing Report

- The **AU Data Quality Report** ("Line Listing – Antimicrobial Use Data to Review") helps facilities identify potential quality issues in AU data submitted to NHSN.
- Facilities should:
  - **Review flagged issues** with your AU data for accuracy.
  - **Engage with your vendor** to correct any data issues identified (for example, mapping problems, missing or inconsistent values).
  - After corrections, **generate data sets and rerun the report** to confirm issues are resolved.

Types of Data Quality Issues the Report Flags

- Zero or missing antimicrobial days for all drugs in a location/month
- Antimicrobial days reported when patients were not present
- Antimicrobial days greater than days present
- Route counts less than total antimicrobial days
- Facility-wide (FacWideIN) antimicrobial days greater than sum of location counts
- FacWideIN days present greater than the sum of inpatient location days present



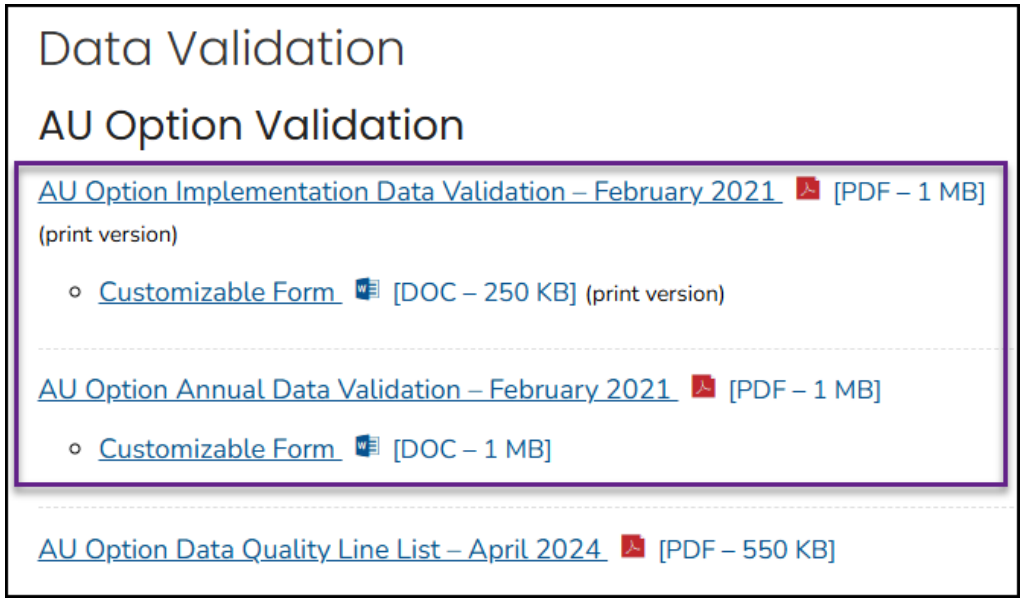
AU Data Validation: At Implementation and Annually

Validate at Implementation (or Vendor Change)

- Confirm correct drug mapping, routes, locations, and calculations.
- Spot check source data vs. NHSN submissions.
- Run the AU Data Quality Line List.
- Resolve issues with your vendor before routine reporting.

Validate Annually

- Review location setup and reporting plan completeness.
- Examine SAARs and drug trends for unexpected changes.
- Compare denominators against HAI/MDRO Module for consistency.
- Rerun the AU Data Quality Line List.
- Meet with your vendor to address findings.



See AU Data Validation Protocols for more details.

Knowledge Check 4

Which of the following actions is recommended to help ensure the quality and accuracy of your 2023 baseline SAAR reports?

A. Rely solely on vendor-submitted AU data without additional review

B. Skip checking Annual Survey data unless errors occur

C. Review AU line lists and AU Data Quality reports as part of routine data validation

D. Only validate data once every two years

Knowledge Check 4 – Answer

Which of the following actions is recommended to help ensure the quality and accuracy of your 2023 baseline SAAR reports?

A. Rely solely on vendor-submitted AU data without additional review

B. Skip checking Annual Survey data unless errors occur

C. Review AU line lists and AU Data Quality reports as part of routine data validation

D. Only validate data once every two years

The correct answer is C. *Ensuring accurate SAAR reports requires reviewing the AU line list and the AU Data Quality report, as well as following the NHSN AU Data Validation protocol. These tools help facilities verify the accuracy of antimicrobial days, days present, and other key data elements used in SAAR calculations. Regular review helps identify reporting errors early and improves data reliability.*

New Resources

Resources available for understanding the SAAR Rebaseline

SAAR Rebaseline Resources

- NHSN AU SAAR Rebaseline webpage and resources – 2023 AU SAAR Rebaseline | NHSN |CDC
- The NHSN AU SAAR Rebaseline page will contain links to resources including:
  - How will my SAARs change? Webinar slides
  - NHSN SAAR Guide under the 2023 Baseline
  - What is the SAAR Rebaseline and Why is it Important
  - Talking points for Pharmacists, Physicians, & Healthcare Staff when speaking to Hospital Leadership
  - Talking points for Organizations & Health Departments
- Resources will be posted on a rolling basis.
- Additional SAAR resources to be updated: Keys to Success with the SAAR and quick reference guides

SAAR Rebaseline Webpage

Refer to the resources below for additional information, FAQs, and training materials. The NHSN team remains committed to working with facilities to advance antimicrobial stewardship. Measuring progress under an updated national standard is important in evaluating prescribing practices and identifying opportunities for stewardship. The newly baselined data will continue to drive patient safety and the effort to optimize antimicrobial use.

Note 3 tabs

Education & Analysis Resources | Understanding New Models | Using New Reports in NHSN

Content Type	Title	Description
Recorded Webinar	How will my SAARs change? Understanding the impact of the 2023 SAAR Rebaseline [PDF – 1,006 KB]	A presentation that explains the impact of the 2023 SAAR baseline and provides guidance for the analysis and interpretation of SAARs under different baselines. Designed for users of NHSN AU SAAR data looking to understand how SAARs may change when the new baseline is implemented.

Education & Analysis Resources | **Understanding New Models** | Using New Reports in NHSN

NHSN's Guide to the SAAR (2023 Baseline) [PDF – 700 KB] – An interim resource for understanding the Standardized Antimicrobial Administration Ratio (SAAR), including eligible location types, antimicrobial agents included in each SAAR category, and risk adjustment model details under the 2023 national baseline. A comprehensive SAAR Guide—including methods used in model development and recommendations for use—will be updated and released in the coming months.

2026 NHSN Annual Training

- Please join us during this year's NHSN Annual Training.
- All AUR Module sessions will occur on **Thursday, March 26 from 12:00 – 4:35 PM ET**. Presentations will include:
  - CDC Antibiotic Stewardship Updates
  - **Using Data for Action with the 2023 AU SAAR Rebaseline**
  - Beyond the Basics: Advanced Analysis and Interpretation of NHSN AU Option Data
  - Common Antimicrobial Use and Antimicrobial Resistance Option Upload Errors
  - Mastering AU Option Data Quality Validation: Tools & Best Practices
  - A Guide to the Antimicrobial Resistance (AR) Option Data Report

For any questions or concerns, contact the NHSN Helpdesk

Use **NHSN-ServiceNow** to submit questions to the NHSN Help Desk using the **subject line: "2023 SAAR Rebaseline."**

If you do not have a SAMS login, or are unable to access ServiceNow, you can still email the NHSN Help Desk at nhsn@cdc.gov.

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 https://www.cdc.gov/
Follow us on social **@CDCgov**

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the U. S. Centers for Disease Control and Prevention.