

2023 AU SAAR Rebaseline: Talking Points for Antibiotic Stewards when Speaking with Hospital Leadership Committees

TOP 5 TAKEAWAYS

1 What the SAAR is:

The SAAR compares a hospital's observed, or reported AU, to the amount predicted for specific patient care locations and groupings of drugs. Predicted AU is calculated using statistical predictive models that include risk adjustment and were developed using national data reported during the baseline year.

$$\text{SAAR} = \frac{\text{Observed antimicrobial days}}{\text{Predicted antimicrobial days}}$$

2 How the SAAR should be used:

SAARs support antibiotic stewardship by identifying potential opportunities for improvement and tracking the impact of interventions. A SAAR by itself does not determine whether AU is appropriate and any SAAR may warrant further investigation.

3 Why the baseline changed:

Calendar year 2023, in which substantially more hospitals submitted AU data to NHSN compared with previous baseline years, was selected for the new baseline, allowing risk adjustment models to represent a more recent national average of antimicrobial use rates.

4 What's improved in the new baseline:

The 2023 models use a larger sample size of U.S. hospitals and expand SAAR reporting to additional hospital types and patient care locations, including more specialty ICUs, specialty wards, adult mixed acuity, and oncology units.

5 Important comparison note:

SAARs based on the 2023 baseline should **not** be compared with SAARs calculated from the 2017/2018 baselines because they use different risk adjustment models. The 2023 baseline establishes a new starting point, allowing hospitals to track improvement over time by comparing SAARs year-over-year starting from 2023 forward (for example, comparing 2023 SAARs to 2024, 2024 to 2025, etc.).

SAAR Risk Adjustment

NHSN used 2023 AU Option data to recalibrate the SAAR models. SAAR risk adjustment is based on [facility and location/unit-specific factors](#). No new factors were assessed compared to 2017/2018 baselines; however, the 2023 models use different groupings of variables. As with 2017/2018 baseline SAAR models, patient-level AU data and NHSN Antimicrobial Resistance (AR) Option data were not included in the 2023 baseline SAAR models.

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Shifting SAAR Values

When calculated using the 2023 baseline, the SAARs may shift closer to 1 compared to those calculated using the 2017 or 2018 baseline. For many SAAR categories, national average antimicrobial use was lower in 2023 than in 2017/2018, which can result in higher SAAR values under the new baseline. This may change a hospital's perceived performance over a given time period without a true change in prescribing.

Presenting SAAR Data

Sample language for presentations: "Our SAAR for (category) in (location group/location) for (time period) is ____."

- SAAR > 1.0: More antimicrobial use than predicted based on the 2023 national baselines. For example: SAAR of 1.10 = 10% more AU than predicted.
- SAAR < 1.0: Less antimicrobial use than predicted based on the 2023 national baseline. For example: SAAR of 0.90 = 10% less AU than predicted.

Statistical significance:

P-value (<0.05): Observed antimicrobial days are significantly different from predicted.

- **Caution:** Due to large amount of data in NHSN models, most p-values show statistical significance; interpret carefully.

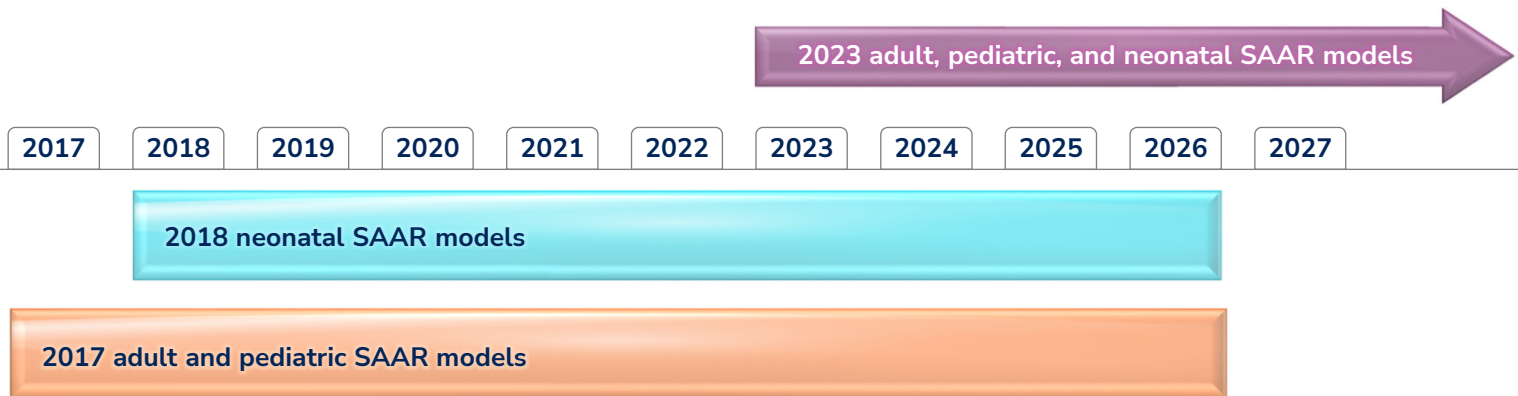
95% Confidence Interval (CI):

- CI excludes 1: SAAR is statistically different from 1.
- CI includes 1: SAAR is not statistically different from 1.

Note: P-value and 95% CI indicate the same statistical significance and are interchangeable.

SAARs in NHSN

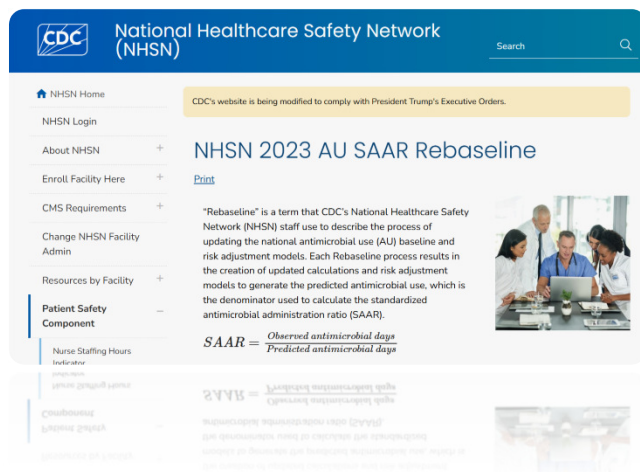
The NHSN application will continue to provide reports that calculate SAARs under the 2017/2018 baselines; however, data from January 1, 2027, and forward will not be included in those reports. In addition, new reports are available that calculate SAARs under the 2023 baseline.



Remember:

NHSN does not provide AUR data, including SAARs, to the Centers for Medicare and Medicaid Services (CMS).

The NHSN application includes built-in analysis reports that calculate SAARs for each SAAR-eligible location; however, it does not produce a "Facility-wide" SAAR. SAARs are generated only for eligible locations within each population type (adult, pediatric, or neonatal). For example, if a hospital reports AU data for a unit mapped as a respiratory critical care location, because that location type is not a SAAR eligible location, the AU from that location will not be included in the hospital's "All antibacterial agents" SAAR.



Interested in learning more?

[NHSN's Guide to the SAAR](#) provides detailed information on the locations and antimicrobials included in the SAARs along with risk adjustment factors and example calculations.

Additional materials can be found on the [2023 AU SAAR Rebaseline webpage](#)