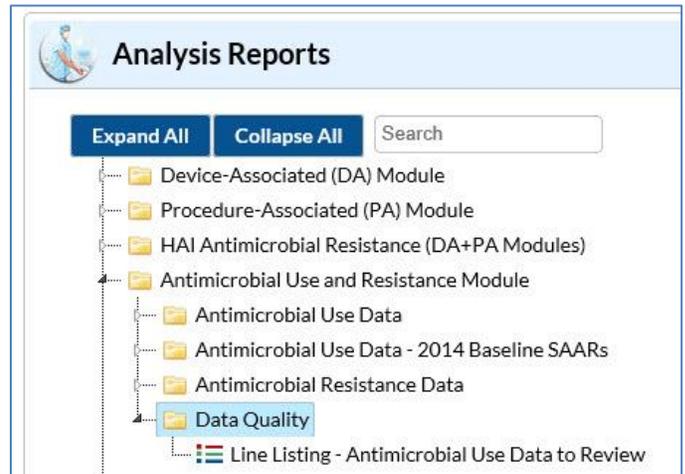


# AU Option Data Quality Line List

Facilities capture, aggregate, and submit Antimicrobial Use (AU) Option data to NHSN electronically. It is important for facilities to assess the quality of AU data on a regular basis. The NHSN AUR Module website lists both an Implementation Data Validation Protocol and an Annual Data Validation Protocol which provide detailed guidance on reviewing AU data quality.

As a supplement to those guides, after generating new data sets, facilities can also produce a data quality line list within NHSN. The “Line Listing – Antimicrobial Use Data to Review” provides facilities the opportunity to review data containing four potential data quality issues.

Facilities should run this report periodically and follow-up with your vendor to address data quality concerns. After you’ve addressed the identified issues with your vendor and corrected the data, simply re-generate data sets and rerun this report to determine whether the data are correct in NHSN.



If NHSN does not identify one of the four below errors in the facility’s AU data, NHSN will generate the following message:

**National Healthcare Safety Network**  
**Line Listing for Antimicrobial Use Data to Review**  
 As of: December 9, 2019 at 4:58 PM  
 Date Range: AU\_DATAQUALITY summaryYM 2019M10 to 2019M10

No Records Met Your Criteria.
Please check your time period and/or filter criteria.

## Data Quality Concern #1: Zero or Missing Antimicrobial Days

The first table in the report will show months for which every drug reported zero or missing (“.”) antimicrobial days.

**National Healthcare Safety Network**  
**Line Listing for Antimicrobial Use Data to Review**  
**Zero and/or “.” antimicrobial days for all drugs in a specific location or FacWideIN**  
 As of: December 4, 2019 at 4:12 PM  
 Date Range: AU\_DATAQUALITY summaryYM After and Including 2019M01  
 Locations appearing in this table have reported zero or N/A antimicrobial days for all antimicrobials in the given month. Please review these records to ensure data accuracy. In the event that no patients were present in this unit during this month, these data are accurate.

Facility Org ID=13860

Facility Org ID	Summary Year/Month	Location
13860	2019M04	MEDWARD

**Items to review:** In the event no patients were present in that location during that month (e.g., unit was under construction), reporting zero antimicrobial days for all drugs would be accurate. If patients were present in that location during that month, please review the antimicrobial use data in your source electronic medication administration record (eMAR) or bar-coding medication administration (BCMA) system.



**Centers for Disease Control and Prevention**  
 National Center for Emerging and Zoonotic Infectious Diseases

## Data Quality Concern #2: Antimicrobial Days Reported when Patients were Not Present

The second table in the report will show months the facility reported antimicrobial days for any drug, but also reported zero days present. Reporting zero days present indicates that no patients were present in that unit for the entire calendar month.

**National Healthcare Safety Network**  
**Line Listing for Antimicrobial Use Data to Review**  
**Antimicrobial days reported for any drug when days present are zero for any location or FacWideIN**  
 As of: August 19, 2020 at 11:26 AM  
 Date Range: All AU\_DATAQUALITY  
 Carefully review this list which includes locations for which zero days are present, meaning zero patients, were reported in the location during the given month; however, antimicrobial days were reported for one or more drugs. If no patients were present in the location, no antimicrobial days should be reported. This is a data quality error that should be addressed.

Facility Org ID=13860

Facility Org ID	Summary Year/Month	Location	Antimicrobial Agent Description	Antimicrobial Days	Days Present
13860	2020M05	NICU IV	PENG - Penicillin G	1	0

**Items to review:** If patients were present in that location, check with your vendor to determine why the vendor system is not accurately reporting denominator data. If no patients were present in that location, check with your vendor to determine why the vendor system is incorrectly attributing antimicrobial days to that location.

## Data Quality Concern #3: Antimicrobial Days ≥ Days Present

The third table in the report will show one row for each location/month/drug where the total antimicrobial days is greater than the days present count for that location. A single patient can attribute just one antimicrobial day per drug per calendar day. Therefore, the total antimicrobial days for a single drug should never be greater than or equal to days present.

**National Healthcare Safety Network**  
**Line Listing for Antimicrobial Use Data to Review**  
**Antimicrobial days for a single drug greater than or equal to days present for given location or FacWideIN**  
 As of: December 9, 2019 at 2:55 PM  
 Date Range: AU\_DATAQUALITY summaryYM 2019M06 to 2019M06  
 Carefully review this list which includes individual drugs for which the total number of antimicrobial days are greater than or equal to the number of days present in the given location and month. Since a patient can contribute only one antimicrobial day per drug per location, the total antimicrobial days should never be greater than or equal to days present. This is a data quality error that should be addressed.

Facility Org ID=13860

Facility Org ID	Summary Year/Month	Location	Antimicrobial Agent Description	Antimicrobial Days	Days Present
13860	2019M06	MEDWARD	PENG - Penicillin G	701	700

**Items to review:** Review your eMAR/BCMA system antimicrobial day counts to ensure the vendor system attributes only one total antimicrobial day per drug per patient per calendar day regardless of how many doses the provider administers to the patient during that day. Review the Admission Discharge Transfer (ADT) system days present to ensure the vendor system attributes one day present per patient if the patient is in the location at any time during that calendar day. Then check with your vendor for the next steps on addressing this data quality issue.

## Data Quality Concern #4: Sum of Routes < Total Antimicrobial Days

The final table in the report will show one row for each location/month/drug where the sum of the routes of administration (IV + IM + Digestive + Respiratory) is less than the total antimicrobial day count for that specific drug. The total antimicrobial day count should only include the four routes indicated above. The sum of the routes should always be greater than (for example, a provider administers the drug via multiple routes, multiples times a day) or equal (for example, a provider administers the drug via single or multiple routes but only once daily) to the total antimicrobial days for a given drug.

### National Healthcare Safety Network

#### Line Listing for Antimicrobial Use Data to Review

#### Sum of routes (IM\_Count, IV\_Count, Digestive\_Count, Respiratory\_Count) less than total antimicrobial days for a single drug in any location or FacWideIN

As of: December 9, 2019 at 2:59 PM

Date Range: AU\_DATAQUALITY summaryYM 2019M03 to 2019M03

Carefully review this list which includes drugs for which the sum of the routes of administration are less than the total number of antimicrobial days for a given drug. The total antimicrobial day count should only include IV, IM, digestive, and respiratory administrations as outlined in the AU Option protocol. Therefore, the total antimicrobial days should always be less than or equal to the sum of the routes. This is a data quality error that should be addressed.

Facility Org ID=13860

Facility Org ID	Summary Year/Month	Location	Antimicrobial Agent Description	Antimicrobial Days	sumRoutesAdmin
13860	2019M03	MEDWARD	TETRA - Tetracycline	89	85

**Items to review:** For each location/month/drug listed in this table, review the data in your source eMAR/BCMA system to determine if your vendor system is incorrectly including additional routes of administration (for example, intrapleural, irrigation, topical) in your total antimicrobial day counts. If so, work with your vendor to correct the route mapping for your facility.

## Additional Resources

AU Option Implementation Data Validation Protocol: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/aur/AU-Option-Implementation-Data-Validation-P.pdf>

AU Option Annual Data Validation Protocol: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/aur/annual-au-data-validation-508.pdf>

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