



# National Healthcare Safety Network (NHSN) Antimicrobial Use and Resistance (AUR) Reporting

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# NHSN Provides Analytic Outputs for Clinical and Public Health Use

## ■ National benchmarks

- Standardized Antimicrobial Administration Ratios (SAARs)
- Standardized Resistant Infection Ratio (SRIR), pathogen-specific Standardized Infection Ratios (pSIR) – work in progress



Individual Facilities



NHSN Group Users:

- State & Local Health Departments
- Large Healthcare Systems

## ■ Data visualizations

- Rate tables, cumulative AntibioGrams, bar charts, and line lists, etc.



National Statistics & Reports

# NHSN's Requirements for AUR Data Submission

Hospitals\* that have:

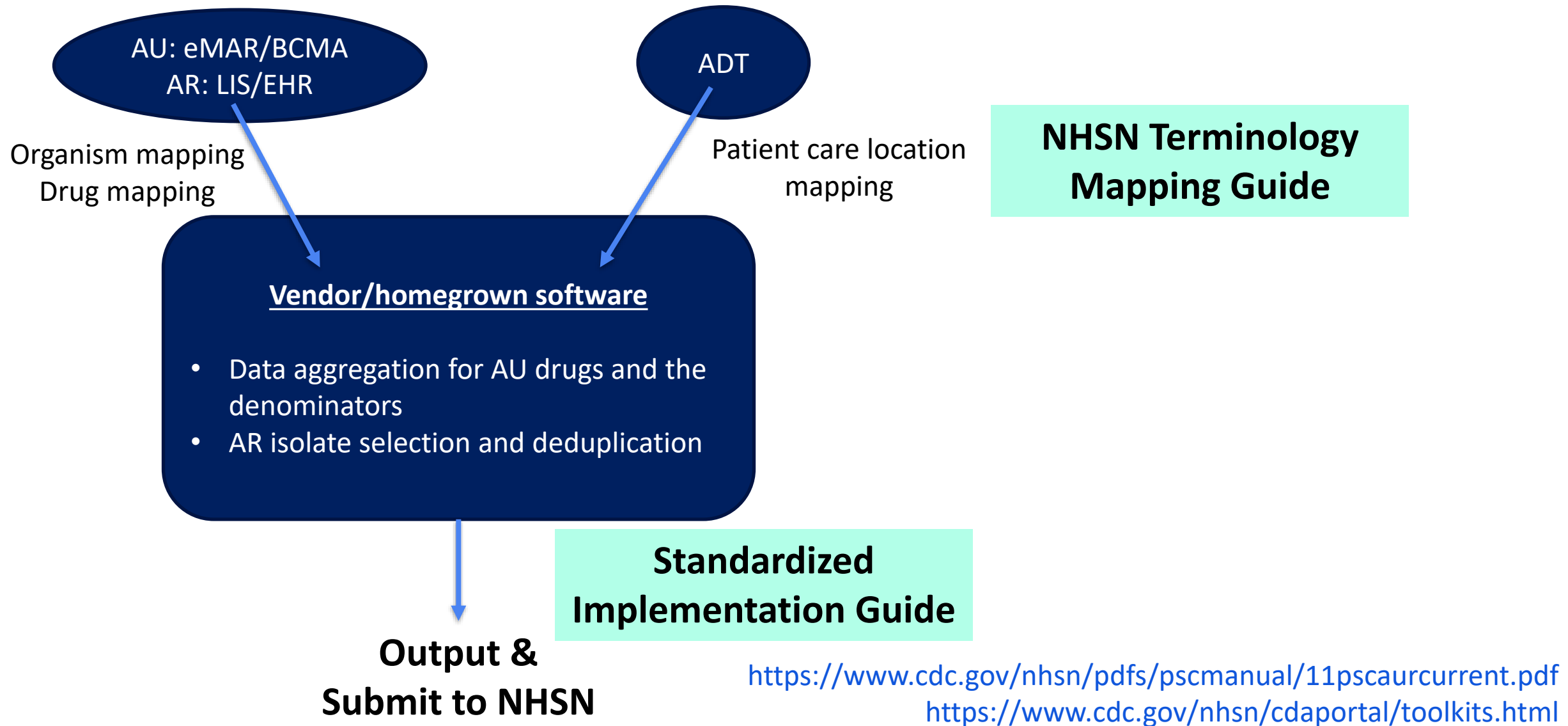
- Admission Discharge Transfer (ADT) System
- Electronic Medication Administration Record (eMAR) or Bar Coding Medication Administration (BCMA) systems
- Laboratory Information System (LIS) or Electronic Health Records

AND

- Ability to collect and package data using HL7 standardized format: Clinical Document Architecture (<https://www.cdc.gov/nhsn/cdaportal/index.html>)
  - Commercial software vendors: <http://www.sidp.org/aurvendors>
  - “Homegrown” vendors (facility’s internal IT/Informatics resources)

\*General acute care hospitals, long-term acute care hospitals (LTAC), inpatient rehabilitation facilities (IRF), oncology hospitals, critical access hospitals enrolled in NHSN & participating in the Patient Safety Component

# Requires Facilities to Configure Local Data to NHSN Standardized Format



# NHSN Validation of Submitting Vendors: Synthetic Data Sets (SDS)

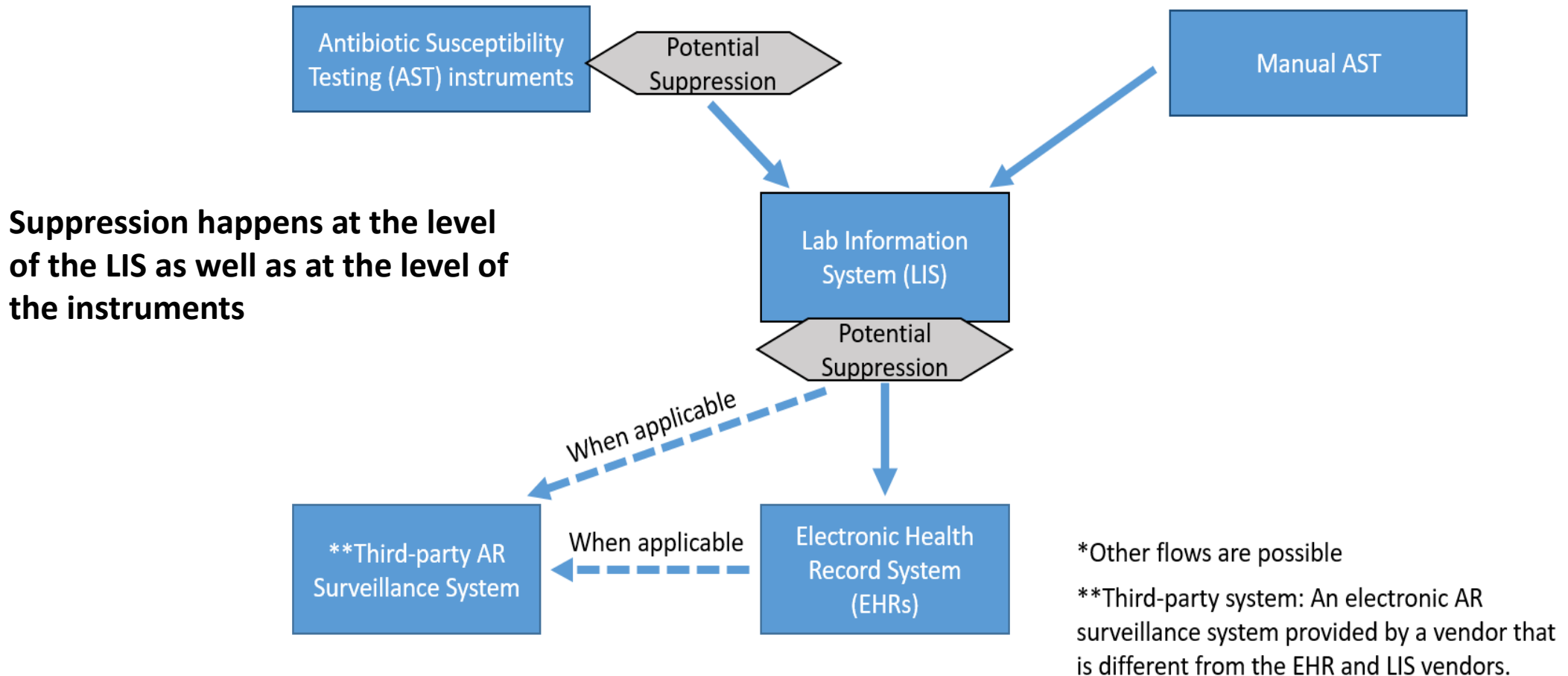
- NHSN provides synthetic data that is used by implementers to validate their data capture & aggregation methods
- Needs to pass the synthetic dataset validation before being able to implement on behalf of a facility

# Challenges Related to Certification

- Need for standardized use of LOINC codes and RxNorm and other terminology standards in a way that provides data that is optimally usable
- Concerns about how FHIR resources will be opened up — for example medication administration FHIR resource will be needed but is not currently available

# Challenges: Data management across hospital systems presents ongoing challenge for data completeness

## Example Antimicrobial Susceptibility Data Flow\*



# Thank you.

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

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





# CMS Promoting Interoperability Program

- Data for **both** AU and AR Options required
- Steps for participation
  - Prerequisite – have a certified vendor:  
<https://chpl.healthit.gov/#/search>
  - Step 1: Register intent to submit within NHSN application
  - Step 2: Testing and validation of CDA files
  - Step 3: Reporting production data
- Resource guide: <https://www.cdc.gov/nhsn/pdfs/cda/PHDI-Facility-Guidance-508.pdf>
- NHSN provides verification letters to hospitals for each step completed