



Summer 2022 NHSN CDA Vendor Meeting

June 29, 2022

Agenda

- Future Initiatives
- General NHSN Release Updates
- COVID-19 Module Updates
- Patient Safety Component (PSC) – Release 10.1.3
- Long Term Care Facility (LTCF) Component – Release 10.1.5
- PSC – Release 11.1
- Vendor IDM Updates
- CDA HAI Vocabulary
- Gender Variable Update
- AUR Module Updates
- Late Onset Sepsis & Meningitis Module (LOS/MEN)
- NHSN Pre-Production Test Site (NPPT)
- Miscellaneous
- Q&A

Future Initiatives

Andrea Benin

Future Initiatives

- Medication Safety Component – Glycemic Control Hypoglycemia
 - Medication Safety Component – Glycemic Control Hyperglycemia
- Revised *C. difficile*
- Hospital Onset Bacteremia
- Respiratory Pathogens Surveillance
- Venous Thromboembolism (VTE1 and VTE2)
 - Venous Thromboembolism (Expanded VTE Portfolio)
- Sepsis
- Non-Ventilator Associated Pneumonia

General NHSN Release Updates

Joseph Esquibel

NHSN Release Schedule Overview

- Continuing one major release a year
 - Changes included:
 - Protocol changes
 - Transition to new CDA versions due to protocol changes
 - Effective January 1st of each year
- Non-major releases
 - Occurring on a six-week basis as needed
 - May include:
 - New Component
 - Minor change requests
 - Defect resolutions
 - Infrastructure maintenance and support
 - Users notified via message alert when logging into NHSN

Upcoming NHSN Releases

- Release 10.1.4
 - Scheduled for July 30, 2022
 - Defect fixes will be effective post deployment
 - Change Requests (CRs) will be effective July 31, 2022

- Release 10.1.5
 - Scheduled for September 8, 2022
 - Defect fixes will be effective post deployment
 - CRs will be effective September 9, 2022

Upcoming NHSN Releases (continued)

- Release 11.0
 - Scheduled for October 20, 2022
 - Defect fixes will be effective post deployment
 - CRs will be effective October 21, 2022

- Release 11.1
 - Scheduled for December 10, 2022
 - Defect fixes will be effective post deployment
 - CRs will be effective January 1, 2023



COVID-19 Module Updates

Sylvia Shuler

COVID-19 Module Updates – LTC, HPS & Dialysis

- Long-Term Care & Dialysis facilities are using NHSN to report COVID-19 data
- COVID-19 Vaccination data is being reported in the Long-Term Care Component, Healthcare Personnel Safety Component and Dialysis Component

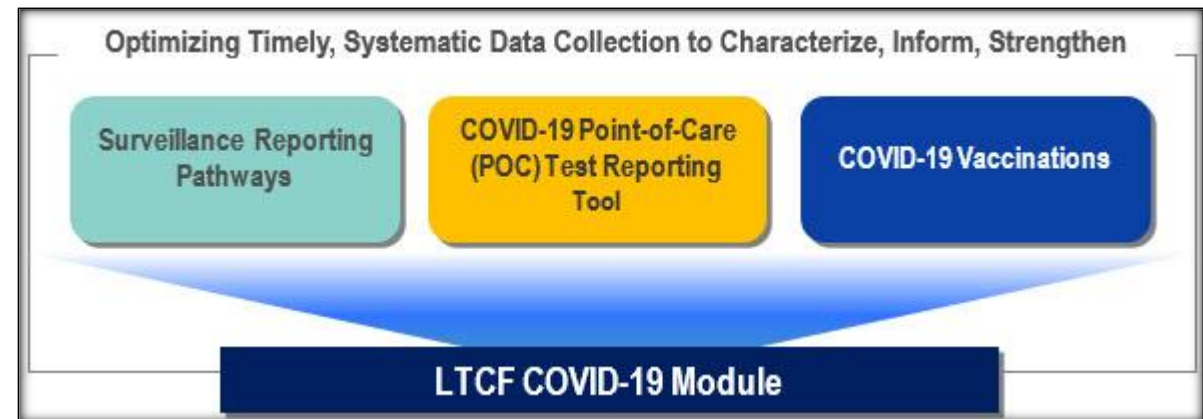
The screenshot displays the NHSN website interface. At the top, the title "National Healthcare Safety Network (NHSN)" is visible. Below the title are social media icons for Facebook, Twitter, LinkedIn, and YouTube. The main content area includes a paragraph describing NHSN as the nation's most widely used healthcare-associated infection tracking system. To the right of this text is a carousel slide titled "COVID-19 Information" with a background image of blue virus particles. The slide text reads: "COVID-19 Information COVID-19 Data Dashboard and resources for reporting into the LTCF and Dialysis COVID-19 Modules". Below the slide are navigation arrows and a progress indicator. At the bottom of the slide, there is a link: "[NHSN Requirements & Recommendations for Application Use](#)".

LTCF COVID-19 Module
Long-term Care Facilities
Includes Nursing Homes, Skilled Nursing & Assisted Living Facilities

Dialysis COVID-19 Module
Dialysis Facilities
Includes Outpatient Dialysis and Home Dialysis Facilities

COVID-19 Module: Long Term Care Facilities

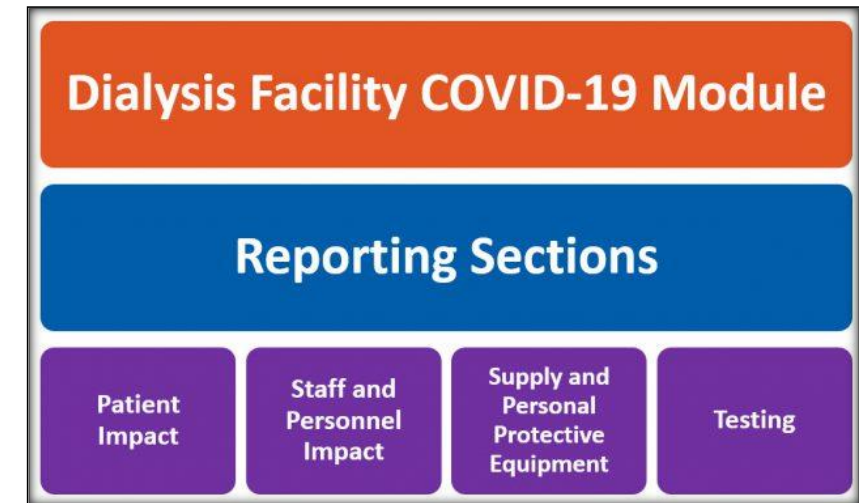
- The following pathways are being reported into NHSN for LTCF:
 - Resident Impact and Facility Capacity
 - Staff and Personnel Impact
 - Therapeutics
 - Vaccinations
 - Point of Care (POC) Testing



COVID-19 Module: Dialysis

- Single data entry page with four sections:
 - Patient Impact
 - Staff and Personnel Impact
 - Supply and Personal Protective Equipment
 - Lab Testing




- COVID-19 Vaccination status for patients and staff



COVID-19 Module Data Submission

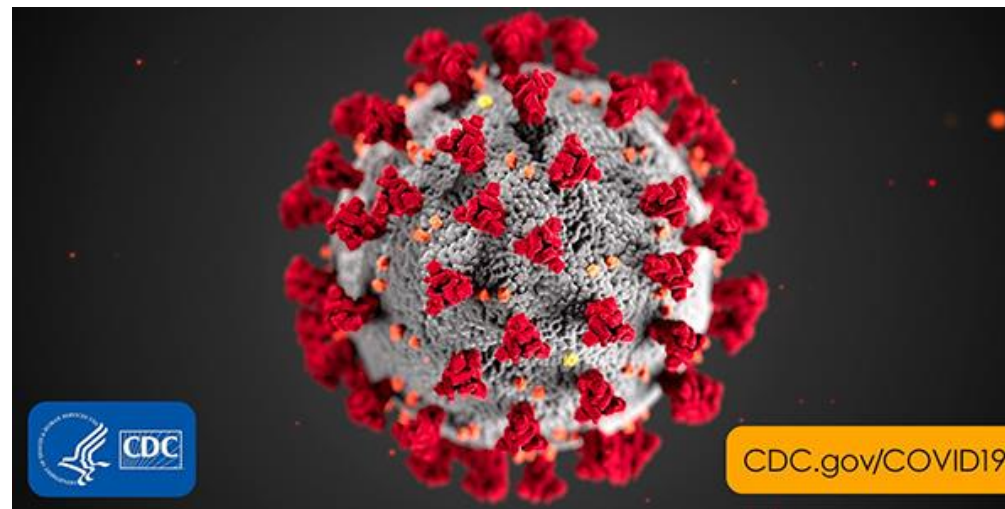
- Direct CSV Submission is now available for Long Term Care and Dialysis Pathways, POC Testing, and Vaccination uploads - for LTC, Dial, HPS Components
- The following are acceptable file formats:
 - CSV
 - HL7 2.5.1
- Instructions on how to sign up and use this method is available on the NHSN website: <https://www.cdc.gov/nhsn/cdaportal/importingdata.html#DIRECTProtocol>

Technical Guides

- [Technical User Guide for DIRECT CDA Automation](#)  [PDF – 300 KB]
This is a quick reference guide for CDA vendors or facility's IT technical staff.
- [Admin User Guide for DIRECT CDA Automation](#)  [PDF – 150 KB]
This is a quick reference guide for NHSN Admins who want to sign-up a facility to have the capability to send data to NHSN without logging into the NHSN application.
- [COVID-19 CSV Guide for Long-term Care & Dialysis Facilities](#)  [PDF – 200 KB]
This is a quick reference guide for LTC & Dialysis Facilities who want to submit their COVID-19 CSV File.

COVID-19 Module Training

- For both modules, training videos are available for each component
- Please visit the NHSN website to find current CSV templates and other information for both LTCF and Dialysis components
 - <https://www.cdc.gov/nhsn/covid19/index.html>
- Questions can be sent to: NHSN@CDC.GOV



Patient Safety Component – Release 10.1.3

Sylvia Shuler

Patient Safety – Release 10.1.3 Updates

- Defect 10205 – Correct the antibiogram for AntiB2B_PS/CEFEP; manual CDA & Direct impact – **Resolved**
 - The susceptibilities for AntiB2B_PS/CEFEP for Events in 2022 now show as S I/S-DD R N

Long Term Care Facility Component – Release 10.1.5

Sylvia Shuler

LTCF Change Request Planned for Release 10.1.5

- **Release 10.1.5 (September 2022)**
 - We will begin to build the ability to accept CDAs for LabID Events (CDI and MDROs) over the next several months
 - More details to come once this initiative gets underway

Patient Safety Component – Release 11.1

Hamna Baig

PS Change Requests Planned for Release 11.1

- **Release 11.1 (December 2022)**
 - **CR 3680** - PedVAE - updates to antimicrobial list within NHSN application
 - **CR 3700** - Update to antimicrobial list within the VAE calculator
 - **CR 3702** - Specific Event-Criteria BRST '3' removed as a selection for SSI-BRST entry
 - **CR 3713** - 2023 Pathogen Codes Update (All Components)
 - **CR 3712** - Remove CLIP from Patient Safety Component Monthly Reporting Plan
 - **CR 2725** - Gender Identity and Sex at Birth (All Components)

Vendor IDM Updates

Joseph Esquibel

Vendor IDM

- The vendor IDM for Release 10.1 has been posted to the Toolkits Webpage as a **version 1**
- Remove “other signs and symptoms” as an option for Conjunctivitis (CONJ) Specific Criteria – update to the vendor IDM is forthcoming

	A	B	C	D	E	F
1	Planned Version	Defect /CR	Event Type	Criteria combination	Specific Event Result	Pathway
77				CONJ		
78	10.1		EENT	((SS_pain and/or SS_redness and/or SS_otherSS)) and ((lab_positive and/or SS_purdrain and/or lab_othPos))	CONJ	1

- Remove Specific Event-Criteria BRST '3'(CR3702) for SSI-BRST- Release 11.x

	A	B	C	D	E	F
1	Planned Version	Defect /CR	Event Type	Criteria combination	Specific Event Result	Pathway
59				BRST		
60			SSI, SST	lab_positive	BRST	1
61			SSI, SST	SS_othInf or SS_abscess	BRST	2
62	11.1.0	3702	SSI, SST	SS_fever and SS_locSwell and diag_ther	BRST	3

- We will notify vendors when the final version has been posted

CDA HAI Vocabulary

Joseph Esquibel

CDA HAI Vocabulary

- There will be Pathogen Code updates for the January 2023 11.1 release
- Reminder: Value sets specified in CDA Implementation Guides that have been distributed in the spreadsheet hai_voc.xlsx are now available in VSAC (Value Set Authority Center) <https://vsac.nlm.nih.gov/>

Gender Variable Update

Henrietta Smith & Joseph Esquibel

New variable fields added

- Birth Sex
- Gender Identity

Value sets in use in the CDA IG (the templates used are C-CDA templates).

IG Timeline

May	Balloting complete, and updates made to the IG
June 20 – 24	Anticipate HL7 Structured Documents Work Group approval for publication
June 27 – July 1	Anticipate CDA Management Group approval
July 2 – 15	Anticipate HL7 Technical Steering Committee approval
Mid to end July	IG fully published

Birth Sex – Captures sex assigned at birth

- Must select from:
 - Male
 - Female
 - Unknown

Birth Sex

- VSAC link to value set: <https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1/expansion>
 - Note that UNK is also allowed but not included in that value set as it's just the one nullFlavor value):
 6. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the code **SHALL** be selected from ValueSet ONC Administrative Sex urn:oid:2.16.840.1.113762.1.4.1 **STATIC** 2016-06-01 (CONF:3250-32947).
 - a. If value/@code not from value set ONC Administrative Sex urn:oid:2.16.840.1.113762.1.4.1 **STATIC** 2016-06-01, then value/@nullFlavor **SHALL** be "UNK" (CONF:3250-32948).

Table 173: ONC Administrative Sex

Value Set: ONC Administrative Sex urn:oid:2.16.840.1.113762.1.4.1 (Clinical Focus: Gender identity restricted to only Male and Female used in administrative situations requiring a restriction to these two categories.),(Data Element Scope: Gender),(Inclusion Criteria: Male and Female only.),(Exclusion Criteria: Any gender identity that is not male or female.) This value set was imported on 10/17/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1/expansion			
Code	Code System	Code System OID	Print Name
F	Administrative Gender	urn:oid:2.16.840.1.113883.5.1	Female
M	Administrative Gender	urn:oid:2.16.840.1.113883.5.1	Male

Gender Identity – Captures patient reported gender

- Select :
 - Male
 - Female
 - Female-to-male transgender
 - Male-to-female transgender
 - Identifies as non-conforming
 - Other
 - Asked but unknown

Gender Identity

- VSAC link to value sets:
 - <https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1021.101/expansion>
 - <https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1114.17/expansion>
(in this case they have created a separate value set for the two allowed nullFlavor codes)

8. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", where the code **SHALL** be selected from ValueSet Gender Identity USCDI core
urn:oid:2.16.840.1.113762.1.4.1021.101 **DYNAMIC** (CONF:4515-1223).

To represent additional Gender Identities, set nullFlavor="OTH". To represent "choose not to disclose", set nullFlavor="ASKU".

- a. This value **MAY** contain zero or one [0..1] @nullFlavor, which **SHOULD** be selected from ValueSet Asked but Unknown and Other
urn:oid:2.16.840.1.113762.1.4.1114.17 **DYNAMIC** (CONF:4515-1232).

Gender Identity – Value set

Table 242: Gender Identity USCDI core



Value Set: Gender Identity USCDI core urn:oid:2.16.840.1.113762.1.4.1021.101
 (Clinical Focus: Concepts that are used to describe a person's socially acknowledged gender that are used, at a minimum, in the USA. This is the gender they identify as. These are not concepts used to describe a person's sexual orientation (who they are attracted to).),(Data Element Scope: gender identity),(Inclusion Criteria: Concepts that can represent a type of gender that as used in the USA. This is not restricted to male and female.),(Exclusion Criteria: Concepts that are improper to use in the USA for gender identity. Concepts used to describe a person's sexual orientation. Concepts that are used to represent when data is absent or not represented in the provided list.)

This value set was imported on 3/16/2022 with a version of Latest.

Value Set Source:

<https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1021.101/expansion>

Code	Code System	Code System OID	Print Name
407376001	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Male-to-female transsexual (finding)
407377005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Female-to-male transsexual (finding)
44613100012 4102	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as non-conforming gender (finding)
44614100012 4107	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as female gender (finding)
44615100012 4109	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as male gender (finding)

Gender Identity – Value set (continued)

Table 243: Asked but Unknown and Other

Value Set: Asked but Unknown and Other urn:oid:2.16.840.1.113762.1.4.1114.17
(Clinical Focus: Data absent reasons specific for representing only asked but unknown and other),(Data Element Scope: any data representation that supports inclusion of data absent reasons),(Inclusion Criteria: Asked but no answer known and Other meant to mean data not available for selection),(Exclusion Criteria: all other codes)

This value set was imported on 3/16/2022 with a version of Latest.

Value Set Source:

<https://vsac.nlm.nih.gov/valueset/2.16.840.1.113762.1.4.1114.17/expansion>

Code	Code System	Code System OID	Print Name
ASKU	HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008	asked but unknown
OTH	HL7NullFlavor	urn:oid:2.16.840.1.113883.5.1008	other

Timeline for implementation within the application

Jan 1, 2023

- Optional reporting
- Reporting only via manual entry and .csv import

Jan 1, 2024

- Required reporting
- CDA upload available for reporting

Questions?

Please send questions and feedback to us: nhsn@cdc.gov.

AUR Module Updates: Previous Application Updates

Malissa Mojica

AUR Updates already in NHSN

- AR Summary files are required for Outpatient Locations (ED, pedED, 24hr obs)
- 2022 AU data requires use of RxNorm codes only
- Two new COVID drugs are required for AU Reporting beginning in March 2022
- AUR data can be reported from Overflow location types

AR Summary Files for Outpatient Locations

- Beginning with January 2021, facilities should report AR Option summary records for their outpatient locations (ED, pediatric ED, and 24-hour observation area) as applicable.
 - Total number of patient encounters for each location/month
 - Initially released summer of 2021 and backdated to apply for January 2021 forward
- Lots of facility confusion over where to find these files within their vendor system

AR Summary Files for Outpatient Locations (cont.)

- We would greatly appreciate you sharing the following information with your client facilities:
 1. Does your software currently generate 2022 AR Option Summary files for ED, pediatric ED, and 24-hour observation locations? If yes, where are they located?
 2. Is your software able to retrospectively generate 2021 AR Option Summary files for ED, pediatric ED, and 24-hour observation locations? If yes, where are they located?
 3. If your software is not currently able to generate AR Option Summary files, is this planned for a future update of your software? If so, when can your client facilities expect to see these new files?
- If these files are not available within your vendor system, please instruct your client facilities to edit their Monthly Reporting Plans to remove the check box in the AR Option column on the rows for the outpatient locations.

2022 AU Data Requires Use of RxNorm Codes Only

- Beginning with January 2022 AU data, all drugs must be reported using RxNorm codes.
- Eight drugs previously used NHSN local codes and were updated to use RxNorm codes.
- As a reminder!
 - NHSN uses the ingredient (IN) level RxNorm codes for AU Option submission.
 - Please review your facilities' data feeds to ensure use reported with a more granular RxNorm code term type (e.g., SCDC, SCD/GPCK, etc.) is rolled up and reported to NHSN using the ingredient level code.

2022 AU Data Requires Use of RxNorm Codes Only (cont.)

- The List of Antimicrobial Agents Eligible for AUR Module – April 2022 displays the RxNorm codes in column B of the spreadsheet:

	A	B	C	D	E	F	G	H	I
	Antimicrobial Agent	Value ^a	NHSN Drug Code	Antimicrobial Category	Antimicrobial Class ^b	Antimicrobial Subclass ^b	First Reported ^c	Last Reported	Notes:
92	RIMANTADINE	9386	RIMAN	Anti-influenza	M2 ion channel inhibitors		Jan-10		
93	SULFAMETHOXAZOLE/TRIMETHOPRIM	10831	SULFAET	Antibacterial	Folate pathway inhibitors		Jan-10		
94	SULFISOXAZOLE	10207	SULFI	Antibacterial	Folate pathway inhibitors		Jan-10	Dec-20	
95	TEDIZOLID	1540825	TEDIZ	Antibacterial	Oxazolidinones		Jun-14		First reported date is the date of FDA Approval
102	TIOBRAMYC...	10627	_dRA	Antibacterial	Aminoglycosides		Jan-1		
103	VANCOMYCIN	11124	VANC	Antibacterial	Glycopeptides	Glycopeptide	Jan-10		
104	VORICONAZOLE	121243	VORI	Antifungal	Azoles		Jan-10		
105	ZANAMIVIR	69722	ZANAM	Anti-influenza	Neuraminidase inhibitors		Jan-10		
107	^a RxNorm								
108	^b Adapted from CLSI M100								

AU COVID Drugs

- Two COVID antiviral agents, **molnupiravir** and **nirmatrelvir**, added to the AU Option in March 2022.
 - Required in the AU Option files beginning in March 2022; files will fail to upload into NHSN if they do not include these two drugs.
 - Facilities can optionally include the two drugs in AU files for January and February 2022
 - Drug variables included in the Eligible Agents spreadsheet and/or IDM

Overflow Location Types

- Facilities can now report data for Overflow Location types (including AUR)
 - Reminder: facilities reporting data from these locations should also include them in the FacWideIN counts

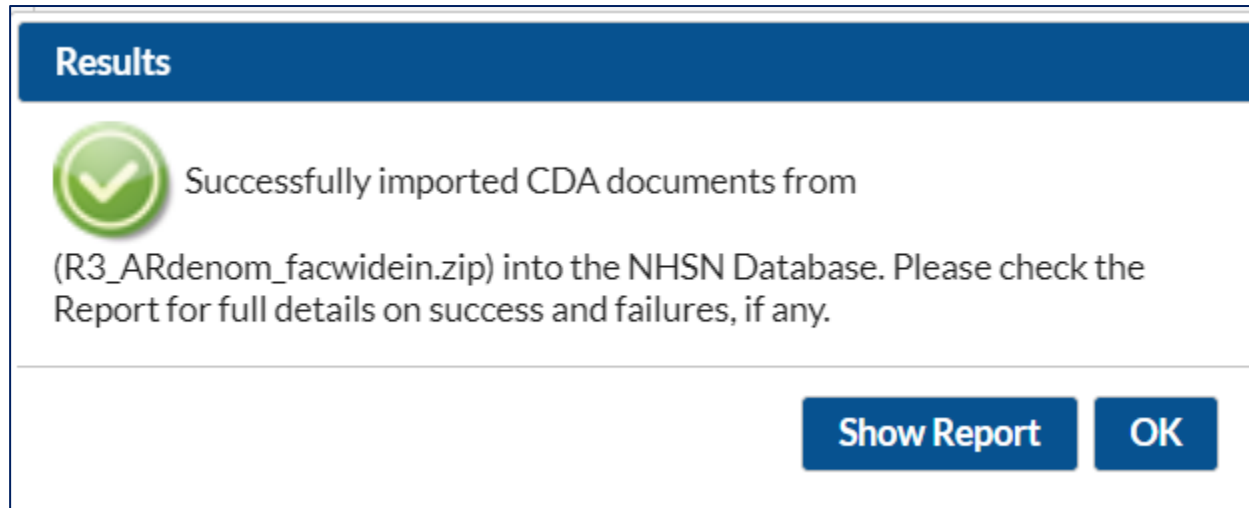
CDC Location Label	NHSN Healthcare Service Location code	CDC Location Code	Location Description
Onsite Overflow Ward	1271-6	IN:ACUTE:WARD:OF_ONSITE	Area previously used for non-patient care which has been repurposed to care for non-critically ill or injured patients
Onsite Overflow Critical Care	1272-4	IN:ACUTE:CC:OF_ONSITE	Area previously used for non-patient care which has been repurposed to care for critically ill or injured patients

AUR Module Updates: Fall Releases

Amy Webb

CR 3604 – Update message displayed after manual CDA upload

- After manually uploading CDA files, NHSN generates a message
- Message is the same regardless of how many files were successfully uploaded:



- Plan to update the message to make it clearer when not all files passed

AR Option Benchmark Metrics

- Will use 2019 as the baseline year
- Standardized Resistant Infection Ratio (SRIR) for prioritized resistant phenotypes:
$$\frac{\# \textit{Observed Resistant isolates}}{\# \textit{Predicted Resistant isolates}}$$
- Pathogen-specific Standardized Infection Ratio (pSIR) for culture-positive infections:
$$\frac{\# \textit{Observed isolates of specific pathogen}}{\# \textit{Predicted isolates of specific pathogen}}$$

Target drug-resistant phenotypes to generate SRIR

- Methicillin-resistant *S. aureus* (MRSA)*
- Multidrug resistant (MDR) *Pseudomonas aeruginosa**
- Vancomycin-resistant Enterococci (VRE)**
- Carbapenem-resistant *E. coli*, *Klebsiella*, and *Enterobacter* (CRE)*
- Fluoroquinolone-resistant *Pseudomonas aeruginosa****
- Fluoroquinolone-resistant *E. coli*, *Klebsiella*, and *Enterobacter*
- Extended-spectrum cephalosporin-resistant *E. coli*, *Klebsiella*, and *Enterobacter*

*Definitions are here: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/aur/ar-phenotype-definitions-508.pdf>

**Any Enterococci that has tested Resistant (R) to vancomycin

****Pseudomonas aeruginosa* that has tested Resistant (R) to ciprofloxacin or levofloxacin

Pathogens to generate pathogen specific-SIR

- *S. aureus*
- *Pseudomonas aeruginosa*
- *Enterococcus*
- Enterobacterales (*E. coli*, *Klebsiella*, and *Enterobacter*)

AUR Module Updates: December Release – 11.1

Laura Blum & Amy Webb

CR 3219 – Update AR Option specimen codes

- Revise list of accepted AR Option specimen source codes to bring them up to date with current standards (Specimen Source tab in IDM)
 - 60+ additions, mostly to LRT
 - 20 removals, mostly from urine and blood
 - <5 display name discrepancies between IDM and Value Set Authority Center (VSAC)
 - Human-readable changes only – will not affect what’s accepted by NHSN

CR 3519 – 2023 AR Option pathogen updates

- Updates to AR Option Pathogen Roll-up workbook in AR CDA Toolkit
 - Additions for new, more specific codes
 - Removal of inactive/irrelevant codes
 - Revise descriptors to align with SNOMED description
- No changes to what's accepted by NHSN

CR 3714 – Update the AR Drug Susceptibility Test value set display name for imipenem

- Update display name for code IMIPWC (LOINC code: 18932-4) from “Imipenem with Cilastatin” to “Imipenem”
 - Human-readable change only – will not affect what’s accepted by NHSN
- Change reflects true susceptibility test completed by labs and aligns with LOINC description
 - Cilastatin is not an antimicrobial; it enhances the effects of imipenem when administered together in certain situations
 - Cilastatin is not included in susceptibility tests for imipenem

CR 3626 – AU Option Drug Validation Updates

- As of 6/29 – no drug additions or removals
- Plan to update NHSN’s validation of drugs included in the file
 - No longer accept a range of drugs
 - All drugs in the IDM (Antimicrobial Ingredients tab) will be required to be included for calendar year 2023 and forward

	A	B	C	D	E	F	G
1	valueSetName="NHSNAntimicrobialAgentAURPCode"		valueSetOid="2.16.840.1.114222.4.11.3360		binding="DYNAMIC"		
2	Store the value in "Code" in the AREvent.arDrug field. Create a map between value and code.						
3	Planned Version	Defect /CR	Value	Code	displayName	codeSystem	Valueset AURPH
4			620	AMAN	AMAN - Amantadine	2.16.840.1.113883.6.88	X
5	9.2	2003	641	AMK	AMK - Amikacin	2.16.840.1.113883.6.88	X
6			723	AMOX	AMOX - Amoxicillin	2.16.840.1.113883.6.88	X
7			19711	AMOXWC	AMOXWC - Amoxicillin with Clavulanate	2.16.840.1.113883.6.88	X
8			733	AMP	AMP - Ampicillin	2.16.840.1.113883.6.88	X
9			732	AMPH	AMPH - Amphotericin B	2.16.840.1.113883.6.88	X
23	9.2	2003	20481	CEFEP	CEFEP - Cefepime	2.16.840.1.113883.6.88	X
24			25033	CEFIX	CEFIX - Cefixime	2.16.840.1.113883.6.88	X
25	9.5	2462	2265702	CEFID	CEFID - Cefiderocol	2.16.840.1.113883.6.88	X

Antimicrobial Ingredients 2022 | AR AST 2022 | Event Type | Procedure Codes 2018 | Drug (HAI Drug Susc) | Pathogen Codes - 2021 | AntiB_10.0 | Criteria

CR 2725 – Gender Identity & Sex at Birth

- See Henrietta's slides for additional details
- Will be added to AR Events in January 2024
 - No way to optionally report these fields on AR Events in CY 2023
 - Must wait until IG has been updated

CR 3550 – Update language to PI Program

- Meaningful Use >> Promoting Interoperability
- Will be updating language throughout the app

<https://www.cdc.gov/nhsn/cdaportal/datainteroperability.html>

The screenshot displays the NHSN CDA Submission Support Portal (CSSP) website. The header is dark green with the title "NHSN CDA Submission Support Portal (CSSP)". Below the header, there is a breadcrumb trail "NHSN Home > NHSN CSSP" and social media icons for Facebook, Twitter, LinkedIn, and YouTube. The main content area is divided into three columns. The left column is a navigation menu with items: "NHSN CSSP" (with a home icon), "About CDA", "Getting Started", "FAQs", "Implementation Toolkits & Resources" (with a plus icon), "Data Validation & Testing" (with a plus icon), "Importing Data", "Promoting Interoperability Program" (highlighted in a grey box), and "Webinars & Training Videos". The middle column features the title "Promoting Interoperability Program" and a paragraph: "The NHSN Antimicrobial Use (AU) and Antimicrobial Resistance (AR) (AUR) Module reporting is an option to meet the Public Health Registry reporting element within the CMS Medicare Promoting Interoperability (PI) Program for eligible hospitals and critical access hospitals (CAH).". Below this is another paragraph: "Refer to the certification criterion (§ 170.315(f)(6)) in the [Medicare and Medicaid Programs; Electronic Health Record Incentive Program-Stage 3 and Modifications to Meaningful Use in 2015 Through 2017](#) for rule. Refer to the [CMS Promoting Interoperability Program webpages](#) for calendar year-specific submission requirements." At the bottom of the middle column is a light blue information box with an 'i' icon: "Beginning January 2017, a facility enrolled in the National Healthcare Safety Network (NHSN) has the option to register their intent to satisfy the AUR reporting objective." The right column is titled "On This Page" and lists: "AUR Promoting Interoperability Program Guidance", "AUR-MU3 Validation Tool", and "ONC Certification". The footer of the page includes "Top of Page" on the right.

CR 3163 – Verify Vendor has Passed AR SDS

- Like AU, NHSN will require vendors validate the software used for submitting AR Option data
- Beginning with January 2023, files will fail if they don't include the vendor OID and SDS Validation ID

```
<!-- The author of a population summary report is the software forming the message. -->
<author>
  <time value="20080701"/>
  <assignedAuthor>
    <!--root=vendor OID; extension is assigned SDS Validation ID -->
    <id root="2.16.840.1.114222.4.3.99.99" extension="AR_2019"/>
    <assignedAuthoringDevice>
      <!--Optional Vendor Software Name -->
      <manufacturerModelName>DataProvider</manufacturerModelName>
      <!--optional version and release of the software-->
      <softwareName>1.5.432.55v1</softwareName>
    </assignedAuthoringDevice>
    <!--optional vendor name-->
    <representedOrganization>
      <name>SS_CDA Facility</name>
    </representedOrganization>
  </assignedAuthor>
</author>
```


AUR Module Updates: AR Synthetic Data Set

Amy Webb

AR Synthetic Data Set

- R1 now available: <https://www.cdc.gov/nhsn/cdaportal/sds/index.html>
 - Zip file
 - FAQs
 - Passing vendor list

Synthetic Data Set

To use either AU or AR data set, the SDS should be loaded into the implementer's database, processed just as they would their own real data, and uploaded to a CDC hosted web application for validation. The web application will return the validation results, which will consist of descriptive error feedback on incorrect rows and values.

The test data are provided in both CSV and MySQL formats.


Detailed instructions, the SDS, database schema, and other helpful documents are available in the applicable zip files below.



AU Synthetic Data Set

Version 4.4

April 2021


 [ZIP - 4 MB]



AR Synthetic Data Set

Version 1.0

May 2022

 [ZIP - 7 MB]



[Vendors that have Passed the AU SDS Validation](#)

[Vendors that have Passed the AR SDS Validation](#)

AR Synthetic Data Set (2)

- R1 now available
 - Zip file
 - Pass...

<https://...>

[/index.html](https://.../index.html)

Late breaking update!

We'll be updating the numerator and denominator answer keys to include three new 2022-specific variables:

Encounters, Admission Date, and Admission Status

[that have Passed the AU Validation](#)
[Vendors that have Passed the AR SDS Validation](#)

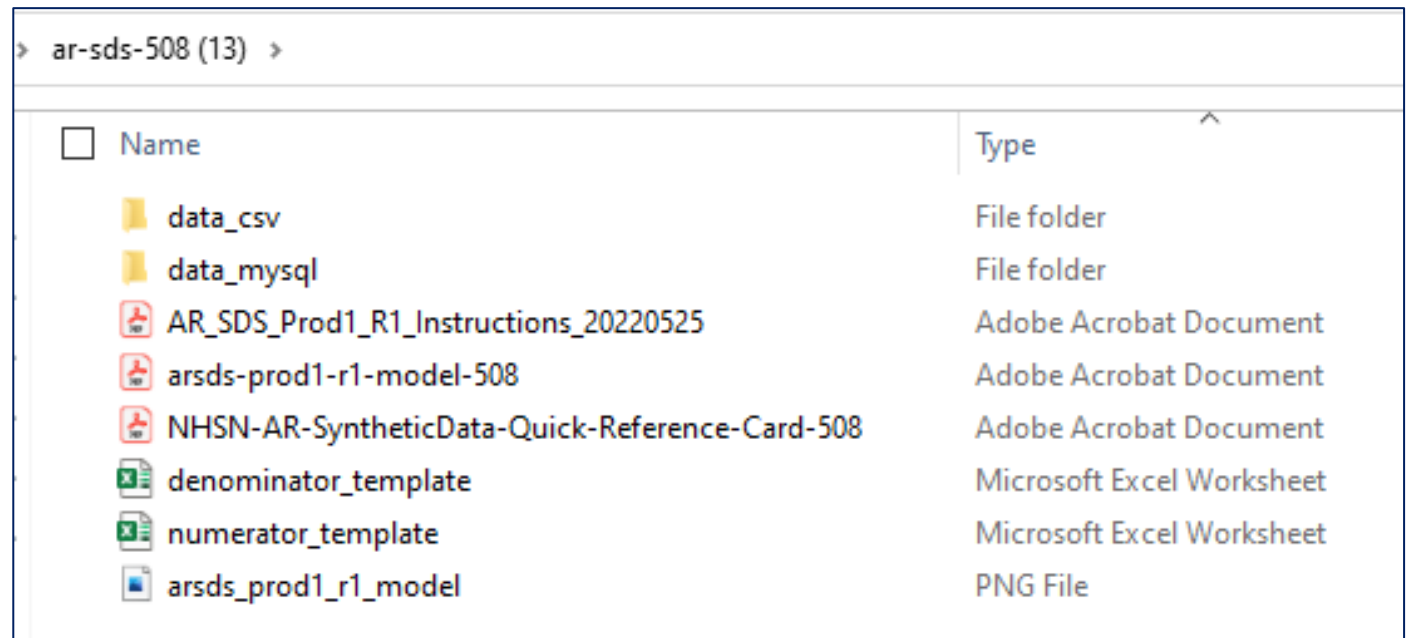
The screenshot shows a file download interface with two items:

- AR Synthetic Data Set Version 4.4, April 2021, [ZIP - 4 MB]
- AR Synthetic Data Set Version 1.0, May 2022, [ZIP - 7 MB]

A mouse cursor is hovering over the download icon for the Version 1.0 file.

AR Synthetic Data Set continued

- Zip file contents:
 - Instructions & Quick Reference Card
 - Data model diagram
 - Data files in csv and mysql formats
 - Answer key templates



Name	Type
data_csv	File folder
data_mysql	File folder
AR_SDS_Prod1_R1_Instructions_20220525	Adobe Acrobat Document
arsds-prod1-r1-model-508	Adobe Acrobat Document
NHSN-AR-SyntheticData-Quick-Reference-Card-508	Adobe Acrobat Document
denominator_template	Microsoft Excel Worksheet
numerator_template	Microsoft Excel Worksheet
arsds_prod1_r1_model	PNG File

AR SDS Validation Process

- Download the AR SDS and Instructions:
<https://www.cdc.gov/nhsn/cdaportal/sds/index.html>
 - Review AR SDS FAQs: <https://www.cdc.gov/nhsn/cdaportal/sds/ar-sds-faq.html>
- Process AR SDS through vendor software system
- Compile & aggregate the data following the AR Option Protocol
- Output the data to AR Numerator and AR Denominator Excel files
- Upload AR Excel files to the NHSN SDS Validation Web Service:
 - <https://nhsnpilot.ng.philab.cdc.gov/ARValidation-Denominator/home.html>
 - <https://nhsnpilot.ng.philab.cdc.gov/ARValidation-Numerator/home.html>

AR SDS Validation Process (continued)

- Once files pass webservice validation with no errors, email NHSNCDA@cdc.gov the AR Numerator & Denominator Excel files containing the AR data and include the below required vendor info:
 - Vendor (Application) OID
 - Vendor Name
 - Vendor Software Name
 - Vendor Software Version/Release
 - Technical Point of Contact (one primary person but you may cc others on file submission emails)
 - Vendor Website (optional)

NHSN Testing of AR Numerator & Denominator Excel Files

- Files Pass
 - NHSN Team emails vendor SDS Validation ID
 - Vendor includes SDS Validation ID on production AR CDAs
 - Vendor information published on NHSN website
- Files Fail
 - NHSN Team emails vendor that file(s) failed and list of errors
 - Vendor to resume internal testing
 - Resubmit file once ready

AR SDS Validation Frequency

- Completed once per vendor per software version
- Initial Validation – Starting in 2023 for all AR CDA Vendors (no “grandfathering”)
- Thereafter:
 - Major AR Option Protocol changes
 - Major Vendor Software changes affecting AR data compilation & aggregation

AUR Module Updates: Miscellaneous Updates

Amy Webb, Virgie Fields, & Malissa Mojica

NHSN Report Available for ONC Real World Testing

- New report available for vendors detailing the number of successful & failed AU submissions by month
 - Uses required vendor information in AU files
- Includes AU submissions from March 2022 forward
- Generated for vendors upon request (NHSNCDA@cdc.gov)
 - Available formats: .csv, .xlsx, .pdf

Facility Name	OrgID	Record Type	Year	Total # of records successfully imported	Total # of records failed to import	Total # successful and failed records
DHQP MEMORIAL HOSPITAL	10000	PSSummaryAU	2022	8	4	12

Plans for Reviewing 2021 AU Data

- The NHSN AUR Team is in the process of reviewing 2021 AU data
 - Determine discrepancies in submitted AU data
 - Repeating counts for multiple drugs
 - Incompatible drug with route (e.g., reporting a drug that can only be administered via an IV as being administered via another route)
 - Reporting of drugs that have been removed from NHSN
 - Plan to perform outreach to specific facilities and vendors

CMS Proposed Rule Requiring Reporting of AUR Data

- CMS proposed the following change to the Medicare Promoting Interoperability Program for eligible hospitals:
 - Add a new AUR Surveillance measure and require its reporting through NHSN under the Public Health and Clinical Data Exchange Objective, beginning with the CY 2023 EHR reporting period
 - Eligible hospitals must use certified technology
- Comment Period ended on June 17, 2022

<https://www.cms.gov/newsroom/fact-sheets/fy-2023-hospital-inpatient-prospective-payment-system-ipps-and-long-term-care-hospitals-ltch-pps>


AUR Module Updates: Updated AUR Documents

Malissa Mojica

List of Antimicrobial Agents Eligible for AUR Module


- The List of Antimicrobial Agents Eligible for AUR Module has been updated and posted in the NHSN AUR page, in the Supporting Materials section
- <https://www.cdc.gov/nhsn/xls/aur/aur-eligible-antimicrobial-agents.xlsx>

Supporting Materials


[How to Report Zero AR Events](#)  [PDF - 400 KB]

[User Rights in NHSN - AUR Module - January 2021](#)  [PDF - 450 KB]

[Phenotype Definitions for AR Option Data - January 2022](#)  [PDF - 200 KB]

[Promoting Interoperability - Guidance for NHSN Facilities- January 2022](#)  [PDF - 500 KB]

[2014 Baseline SAAR Details - December 2018](#)  [PDF - 100 KB]

[List of Antimicrobial Agents Eligible for AUR Module - April 2022](#)  [XLSX - 500 KB]

Eligible Agents for AUR Module: AU Option

- Includes all drugs ever reported to AU
 - Dates First reported & Last reported (if applicable)
 - Color coded
- RxNorm codes
- New COVID antivirals

	A	B	C	D	E	F	G	H	I	J	K
1	Antimicrobial Agent	Value ^a	NHSN Drug Code	Antimicrobial Category	Antimicrobial Class ^b	Antimicrobial Subclass ^b	First Reported ^c	Last Reported	Notes:		Color Key
2	AMANTADINE	620	AMAN	Anti-influenza	M2 ion channel inhibitors		Jan-10				Newly FDA approved drug
3	AMIKACIN	641	AMK	Antibacterial	Aminoglycosides		Jan-10				Drug not new but added due to change in RxNorm coding
4	AMIKACIN LIPOSOMAL	2059180	AMIKLIP	Antibacterial	Aminoglycosides		Oct-18		First reported date is the date of FDA Approval		Drug removed
5	AMOXICILLIN	723	AMOX	Antibacterial	Penicillins	Aminopenicillin	Jan-10				
6	AMOXICILLIN/CLAVULANATE	19711	AMOXWC	Antibacterial	B-lactam/ B-lactamase inhibitor combination		Jan-10				
7	AMPHOTERICIN B	732	AMPH	Antifungal	Polyenes		Jan-10				
8	AMPHOTERICIN B LIPID COMPLEX	2001759	AMPBLIC	Antifungal	Polyenes		Jan-20		Not a new drug but added due to change in RxNorm coding		
9	AMPHOTERICIN B LIPOSOMAL	236594	AMPHOT	Antifungal	Polyenes		Jan-10				

Eligible Agents for AUR Module: AR Option

- Includes all panels from the beginning of AR Option reporting
 - Includes effective and removed as of dates
 - Color coded
- Lists LOINC codes

	A	B	C	D	E	F	G	H	I	J
	Organism	Antimicrobial Agents	Value (LOINC Code)	NHSN Drug Code	Effective Beginning:	Removed as of:	Returned to reporting:	Notes		Color Key
1										
2	<i>Acinetobacter</i> ^o	Amikacin	18860-7	AMK	1/1/2014					Removed
3		Ampicillin-sulbactam	18865-6	AMPIWS	1/1/2014					Added as of 1/1/2019
4		Cefepime	18879-7	CEFEP	1/1/2014					Added as of 1/1/2022
5		Cefiderocol	99280-0	CEFID	1/1/2022					
6		Cefotaxime	18886-2	CEFOT	1/1/2014					
7		Ceftazidime	18893-8	CEFTAZ	1/1/2014					
8		Ceftriaxone	18895-3	CEFTRX	1/1/2014					
9		Ciprofloxacin	18906-8	CIPRO	1/1/2014					
10		Colistin	18912-6	COL	1/1/2019					
11		Doripenem	60535-2	DORI	1/1/2019					
12		Doxycycline	18917-5	DOXY	1/1/2014					
13		Gentamicin	18928-2	GENTA	1/1/2014					
14		Imipenem with Cilastatin	18932-4	IMIPWC	1/1/2014					
15		Levofloxacin	20629-2	LEVO	1/1/2014					
16		Meropenem	18943-1	MERO	1/1/2014					
17		Minocycline	18948-0	MINO	1/1/2014					
18		Piperacillin	8339	PIPER	1/1/2014	12/31/2018				
19		Piperacillin-tazobactam	18970-4	PIPERWT	1/1/2014					
20		Polymyxin B	18972-0	PB	1/1/2019					
21		Ticarcillin-clavulanate	113931	TICARWC	1/1/2014	12/31/2018				
22	Tobramycin	18996-9	TOBRA	1/1/2014						
23	Trimethoprim-sulfamethoxazole	18998-5	SULFAET	1/1/2014						
24	<i>Acinetobacter</i> ^o - Additional Agents for Urine	Tetracycline	18993-6	TETRA	1/1/2014			Tetracycline was reported for all specimen sources from January 2014 - December 2018. Beginning January 2019, Tetracycline is reported only for urine specimens.		

CDA Toolkits

- The team updated the AU and AR Sample Files:
 - AU includes the new AU COVID drugs and RxNorm Codes
 - AR Option Events for specimens collected January 1, 2022, and forward must use the R3 (aka R3-N1) IG.
 - The old R1 IG will continue to be accepted for specimens collected December 31, 2021.
- CDA Toolkit page: <https://www.cdc.gov/nhsn/cdaportal/toolkits.html>

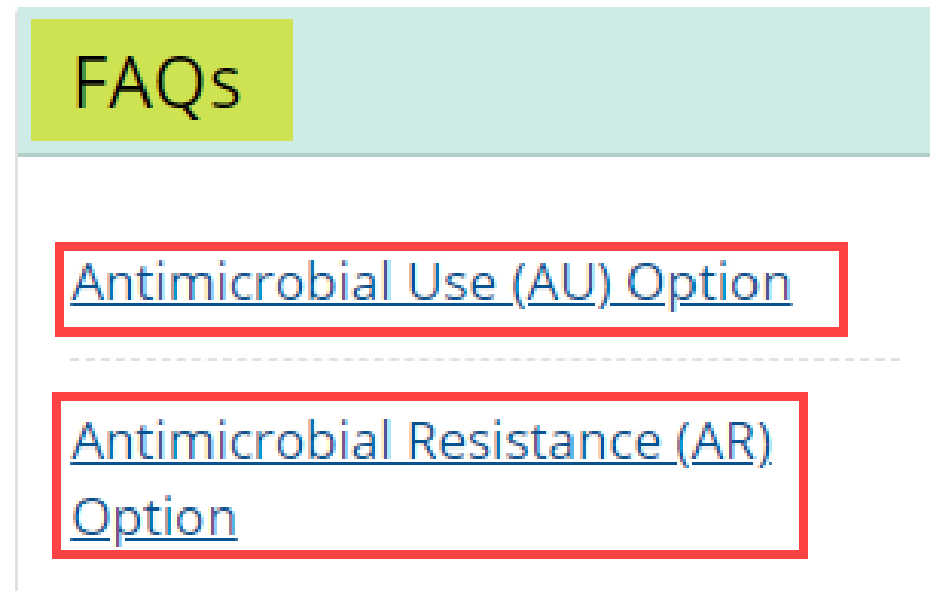
CDA Toolkits

Antimicrobial Use & Resistance (AUR)

- [Antimicrobial Resistance \(AR\) Toolkit](#) [ZIP – 6 MB] (Print only content)
- [Antimicrobial Use \(AU\) Toolkit](#) [ZIP – 3 MB] (Print only content)

AU and AR FAQ Pages

- The team has updated the AU and AR FAQ pages to include more items based on questions received in the iSupport AUR inbox
 - AU FAQ page: <https://www.cdc.gov/nhsn/faqs/faq-au.html>
 - AR FAQ Page: <https://www.cdc.gov/nhsn/faqs/faq-ar.html>



Late Onset Sepsis & Meningitis Module (LOS/MEN)

LaTasha Boswell & Shuai Zheng

About the LOS/MEN Module

- Target Population: 401 – 1500 grams; Day of Life 4 – 120
- Eligible Locations: Level II/III, III, and IV nurseries
- Created in partnership with the Vermont Oxford Network (VON) and other stakeholders
- Events and denominator eligible infants determined by the LOS/MEN calculator created by Dr. Shuai Zheng
- All events and denominator data uploaded via CDA. No manual entry of data.

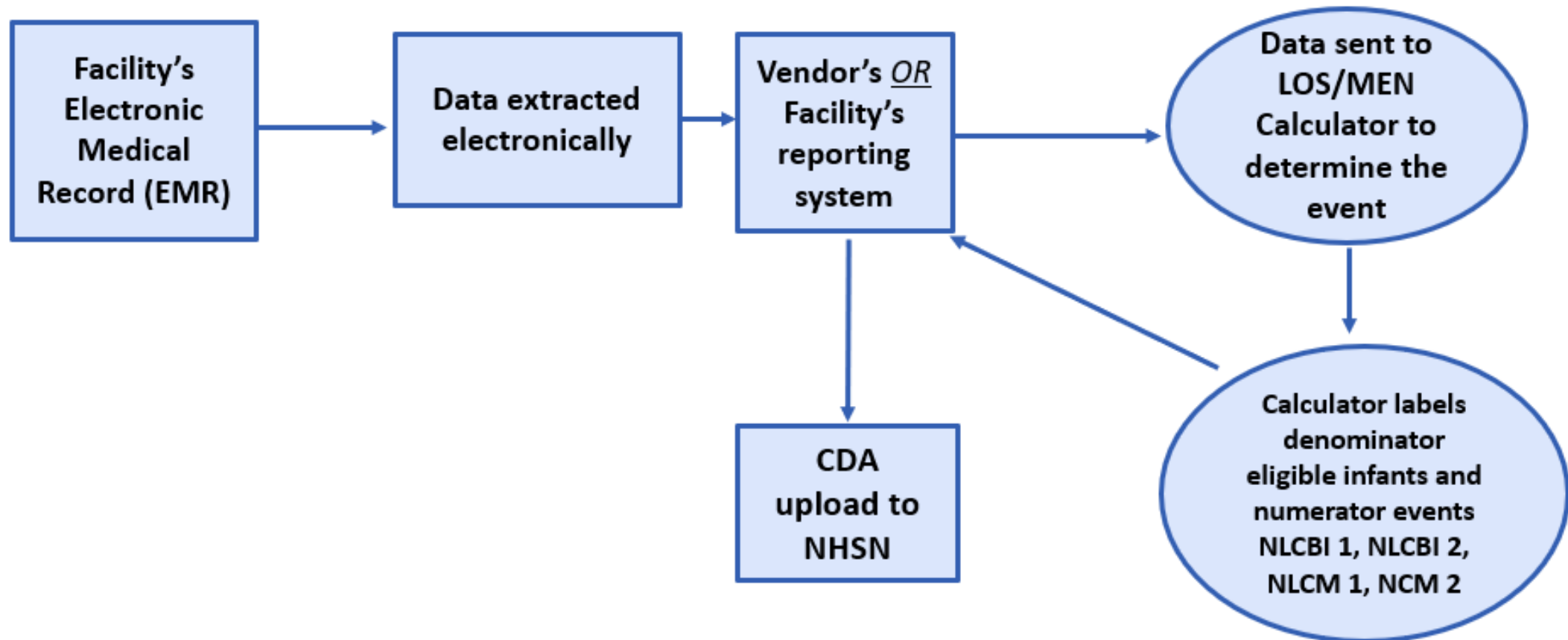
Late Onset Sepsis Events

- Neonatal laboratory confirmed bloodstream infection (NLCBI) Event: In an eligible infant, a recognized pathogen or common commensal is identified from one or more blood specimens by a culture or nonculture-based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment. Under this major type of infection, there are two specific types of infection (see below).
 - **NLCBI 1**: One or more positive blood specimens with a recognized pathogen (specifically a bacterial or fungal organism which is NOT on the NHSN Common Commensal list).
 - **NLCBI 2**: One or more positive blood specimens with a common commensal (specifically, a bacterial organism which is on the NHSN Common Commensal list). In addition, a new intravenous antimicrobial agent from Table 6 must be initiated during the LOS/MEN window period on or after DOL 4 AND continued for at least 5 calendar days.

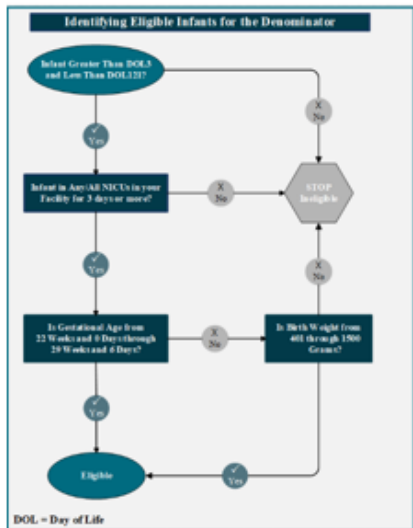
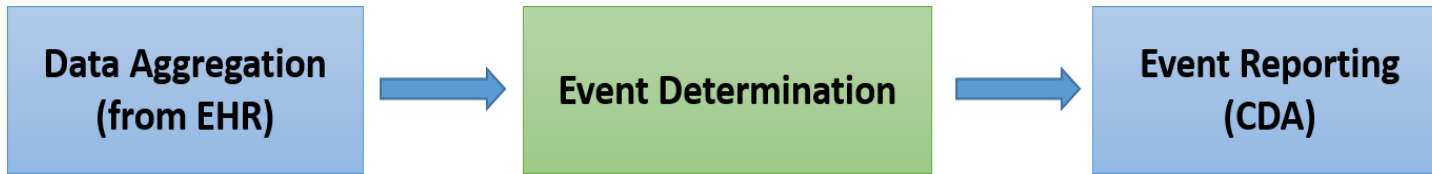
Meningitis Events

- Neonatal laboratory-confirmed meningitis (NLCM) Event: In an eligible infant, a recognized pathogen or common commensal identified from a CSF specimen by a culture or non-culture based microbiologic testing method which is performed for purposes of clinical diagnosis or treatment. Under this major type of infection, there are two specific types of infection.
 - **NLCM 1**: A positive CSF specimen with a recognized pathogen (specifically, a bacterial or fungal organism which is not on the NHSN Common Commensal list).
 - **NLCM 2**: A positive CSF specimen with a common commensal (specifically, a bacterial organism which is on the NHSN Common Commensal list). In addition, a new intravenous antimicrobial agent from Table 6 must be initiated during the LOS/MEN window period on or after DOL 4 AND continued for at least 5 calendar days.

Overview of the Electronic Data Flow



Event Calculator – Java Library (1)



Denominator Determination



Numerator Determination

```

    <patient id="1">
      <locationOfBirth>Inborn</locationOfBirth>
      <birthWeight>890</birthWeight>
      <gestationalAge>175</gestationalAge>
      <admission>1</admission>
      <discharge>40</discharge>
      - <dailyReports>
        - <day index="5">
          <organismFromBlood>Staphylococcus aureus</organismFromBlood>
          <antibiotic>Vancomycin</antibiotic>
        </day>
        - <day index="6">
          <antibiotic>Vancomycin</antibiotic>
        </day>
        - <day index="7">
          <antibiotic>Vancomycin</antibiotic>
        </day>
        - <day index="8">
          <antibiotic>Vancomycin</antibiotic>
        </day>
        - <day index="9">
          <antibiotic>Vancomycin</antibiotic>
        </day>
      </dailyReports>
    </patient>
  
```

XML/Java Object Input



ID	Denominator Days	NLCB1	NLCM1	NLCB2	NLCM2
1	[4, 40]	TRUE	FALSE	FALSE	FALSE
2	[21, 50]	FALSE	FALSE	TRUE	FALSE
3	[17, 59]	FALSE	FALSE	FALSE	FALSE

Labels

Event Calculator – Java Library (2)

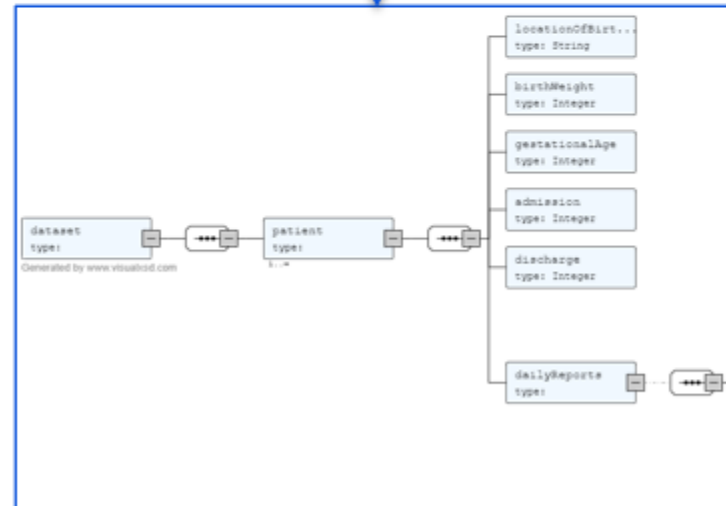


LOS Calculator-Beta 1.0

Java Library (Beta 1.0)

```
<?xml version="1.0" encoding="UTF-8"?>
<dataset>
  <patient id="1">
    <locationOfBirth>Inborn</locationOfBirth>
    <birthWeight>890</birthWeight>
    <gestationalAge>175</gestationalAge>
    <admission>1</admission>
    <discharge>40</discharge>
    <dailyReports>
      <day index="5">
        <organismFromBlood>Staphylococcus aureus</organismFromBlood>
        <antibiotic>Vancomycin</antibiotic>
      </day>
      <day index="6">
        <antibiotic>Vancomycin</antibiotic>
      </day>
      <day index="7">
        <antibiotic>Vancomycin</antibiotic>
      </day>
      <day index="8">
        <antibiotic>Vancomycin</antibiotic>
      </day>
      <day index="9">
        <antibiotic>Vancomycin</antibiotic>
      </day>
    </dailyReports>
  </patient>
</dataset>
```

Example XML Input



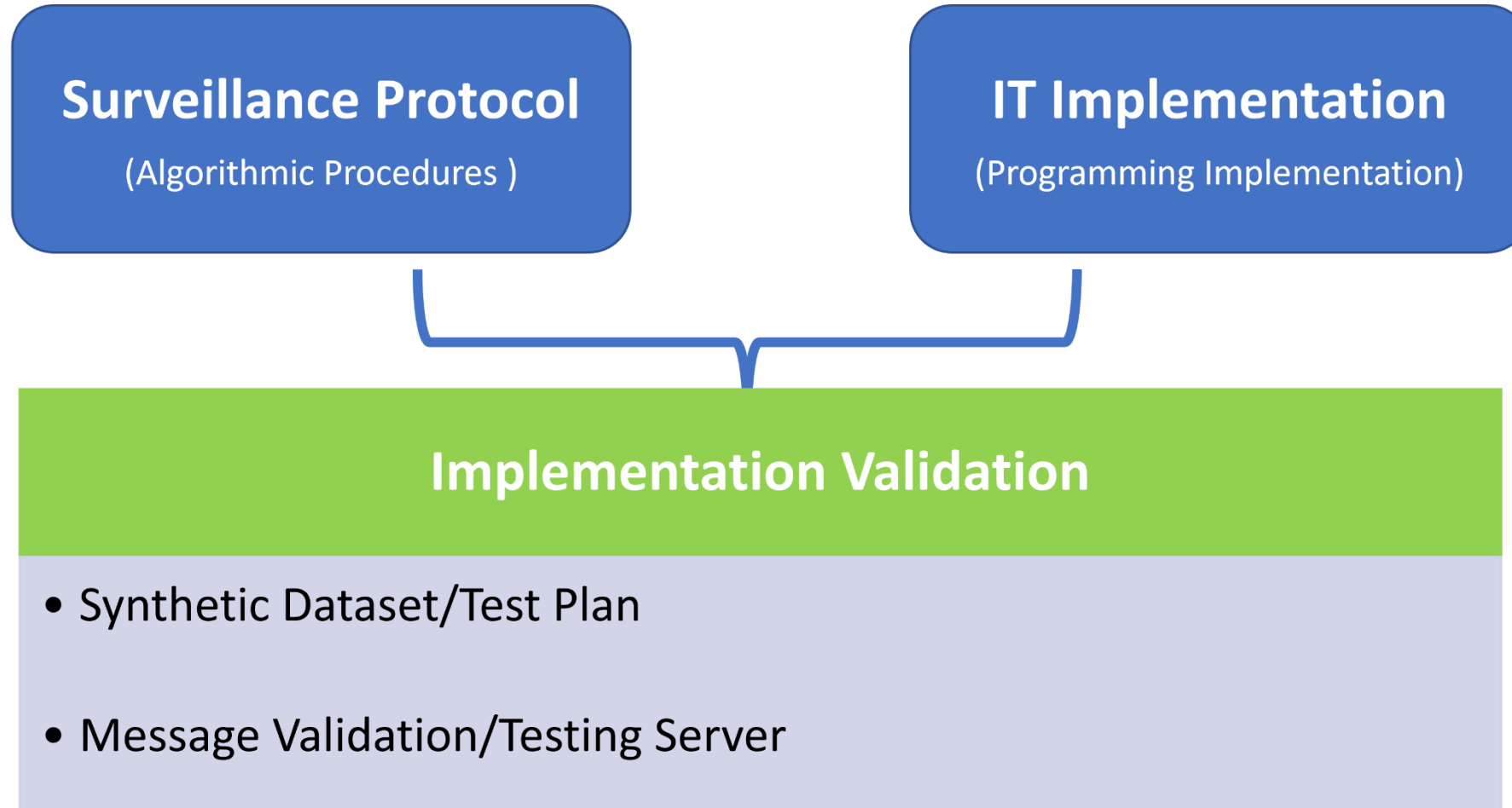
XSD Schema

Method Summary

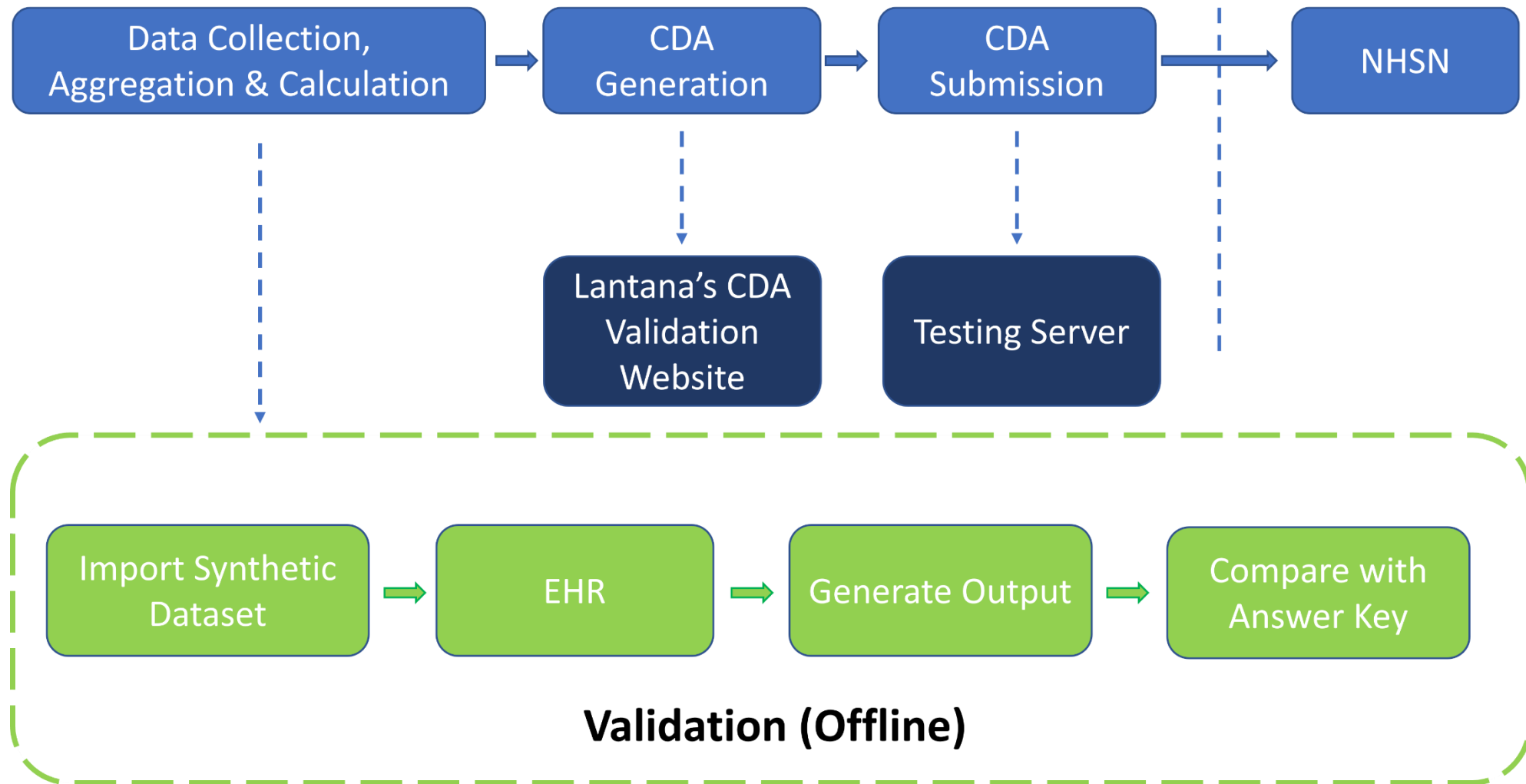
All Methods	Instance Methods	Concrete Methods
Modifier and Type	Method	Description
Boolean ^{if}	getDenominator()	Get the denominator determination results.
String ^{if}	getDenominatorRange()	Get the eligible range of the denominator determination for this patient.
ArrayList ^{if} <LOSEvent>	getEvents()	Get detailed numerator events information.
String ^{if}	getID()	Get the ID of this patient
Boolean ^{if}	getNLCBI1()	Get the numerator determination results for NLCBI1.
Boolean ^{if}	getNLCBI2()	Get the numerator determination results for NLCBI2.
Boolean ^{if}	getNLCH1()	Get the numerator determination results for NLCH1.
Boolean ^{if}	getNLCH2()	Get the numerator determination results for NLCH2.
String ^{if}	getReason()	Get the log of the detailed reasoning process.

Java Documentation

Validation and Synthetic Dataset (1)



Validation and Synthetic Dataset (2)



Validation and Synthetic Dataset (3)

```
<?xml version="1.0" encoding="UTF-8"?>
- <dataset>
  - <patient id="1">
    <locationOfBirth>Inborn</locationOfBirth>
    <birthWeight>890</birthWeight>
    <gestationalAge>175</gestationalAge>
    <admission>1</admission>
    <discharge>40</discharge>
  - <dailyReports>
    - <day index="5">
      <organismFromBlood>Staphylococcus aureus</organismFromBlood>
      <antibiotic>Vancomycin</antibiotic>
    </day>
    - <day index="6">
      <antibiotic>Vancomycin</antibiotic>
    </day>
    - <day index="7">
      <antibiotic>Vancomycin</antibiotic>
    </day>
    - <day index="8">
      <antibiotic>Vancomycin</antibiotic>
    </day>
    - <day index="9">
      <antibiotic>Vancomycin</antibiotic>
    </day>
  </dailyReports>
</patient>
```

Patient ID	Denominator	Denominator Eligible	Numerator	Event Type	Event Date	Event Date	Attributable Location
2	Y	[4, 18]	N	N/A	N/A		N/A
3	Y	[4, 20]	N	N/A	N/A		N/A
5	Y	[4, 20]	N	N/A	N/A		N/A
8	Y	[4, 12]	N	N/A	N/A		N/A
15	Y	[4, 48]	N	N/A	N/A		N/A
18	Y	[4, 16]	N	N/A	N/A		N/A
21	Y	[4, 17]	N	N/A	N/A		N/A
22	Y	[4, 19]	N	N/A	N/A		N/A
25	Y	[4, 21]	N	N/A	N/A		N/A
26	Y	[4, 41]	Y	NLCBI 2	HD 14	2020-01-27	NIMC
33	Y	[4, 6]	N	N/A	N/A		N/A
34	Y	[4, 5]	N	N/A	N/A		N/A
39	Y	[4, 27]	N	N/A	N/A		N/A
42	Y	[4, 47]	N	N/A	N/A		N/A
47	Y	[4, 78]	N	N/A	N/A		N/A
48	Y	[4, 75]	Y	NLCBI 1	HD 14	2020-02-04	NICU
54	Y	[4, 47]	N	N/A	N/A		N/A
55	Y	[4, 29]	N	N/A	N/A		N/A

Synthetic Dataset

Test Cases & Answer Key

Contact Us: LaTasha R. Boswell (nwl7@cdc.gov), Shuai Zheng (lgu3@cdc.gov)

NHSN Pre-Production Test Site (NPPT)

Hamna Baig

NHSN Pre-Production Test Site

- Copy of the NHSN development environment
- Includes Analysis and Reporting (A&R) functionality
- Does not include DIRECT CDA Automation or Groups
- No SAMS credentials required
- To enroll – complete form found at <https://www.cdc.gov/nhsn/cdaportal/datavalidation/toolsandtestsites.html>
- Send completed form to the nhsncda@cdc.gov mailbox



NHSN Pre-Production Test Site (NPPT) cont.

- v10.1.3.3 is current environment
 - Reminder: Read “Important Message” at login
- Blast email will be sent out when NPPT is upgraded to new version
- Report any issues you find to the nhsncda@cdc.gov mailbox

Miscellaneous

Sylvia Shuler

CDA Import Data Comparison:

Percentage of data per specific event or summary that is imported via CDA and CSV for the following date ranges:								
Query Date Range	January, 2019 - December, 2019	April, 2019 - March, 2020	July, 2019 - June, 2020	October, 2019 - September, 2020	January 2020- December 2020	April, 2020 - March, 2021	June, 2020 - July, 2021	May, 2021 - April, 2022
Blood Stream Infection	44%	47%	49%	51%	56%	53%	55%	60%
Urinary Tract Infection	46%	47%	47%	48%	45%	49%	50%	51%
Surgical Site Infection	45%	47%	49%	51%	42%	53%	54%	57%
Laboratory Identified Event	67%	68%	69%	70%	64%	72%	73%	75%
Dialysis Event	77%	77%	77%	76%	74%	74%	74%	73%
Central Line Insertion Practices (CLIP)	25%	26%	28%	30%	23%	32%	34%	38%
Dialysis Central Line Insertion Practices (CLIP)	0%	0%	0%	0%	0%	0%	0%	0%
Ventilator-Associated Events (VAE)	8%	12%	16%	22%	0%	37%	44%	56%
Antimicrobial Resistance Event	100%	100%	100%	100%	100%	100%	100%	100%
Antimicrobial Use	100%	100%	100%	100%	100%	100%	100%	100%
Antimicrobial Resistance Summary	100%	100%	100%	100%	100%	100%	100%	100%
ICU /Other Summary	30%	30%	30%	30%	27%	32%	34%	39%
SCA/ONC Summary	37%	38%	38%	39%	33%	41%	41%	47%
NICU Summary	32%	32%	32%	32%	28%	35%	36%	43%
Surgical Procedure - via CDA	42%	45%	47%	50%	34%	54%	55%	60%
MDRO Summary	9%	10%	10%	11%	8%	12%	13%	18%
Dialysis Summary	62%	62%	63%	66%	56%	66%	68%	67%
Hemovigilance Summary	0%	0%	0%	0%	0%	0%	0%	0%
Surgical Procedure - via CSV	50%	47%	46%	43%	56%	40%	39%	35%

DIRECT CDA Automation Updates

- ~59 direct addresses and > 8,600 facilities sending via DIRECT
- DIRECT
 - Batch submission process
 - No immediate reply
 - Turn around time based on volume of messages in the queue
- New to implement DIRECT?
 - DIRECT toolkit on the NHSN website
<http://www.cdc.gov/nhsn/cdaportal/importingdata.html#DIRECTProtocol>
 - Contact NHSNCDA@cdc.gov for any questions or to set up an onboarding discussion

CDA Version Support

- CDA support:
<https://www.cdc.gov/nhsn/cdaportal/index.html>
- Toolkits:
<https://www.cdc.gov/nhsn/cdaportal/toolkits.html>
- Guide to CDA versions:
<https://www.cdc.gov/nhsn/cdaportal/toolkits/guidetocdaversions.html>

Guide to CDA Versions

For creating CDA files, please see the specific Implementation Guide (IG) and its associated reference materials.

The table below describes the specific Implementation Guide (IG) to be used for each component based on the event/insertion/procedure/specimen collection dates (as applicable) for each year.

Download the corresponding CDA Toolkits for the corresponding year.

Events or Denominators	2022	2021	2020	2019
CDA Toolkit Release	10.1	9.5 & 10.0	9.4	9.2 & 9.3
DIALYSIS				
Dialysis Event	R3-D4	R3-D4	R3-D1.1	R3-D1.1
Dialysis Denominator	R3-D3	R3-D3	R3-D3	R3-D1 or R3-D3
EVENTS				
Primary Bloodstream Infection (BSI)	R4-D1	R3-D3	R3-D3	R3-D2

CDA Version Support (continued)

- Implementers can also use the HL7 GitHub website for latest IG Guides
- HL7 GitHub site (<https://github.com/HL7/cda-hai>) also includes:
 - XML
 - Related files
 - Schematron
 - CDA Schema
 - Samples
 - Stylesheet

Helpful NHSN Resources

- NHSN Newsletter:
<https://www.cdc.gov/nhsn/newsletters/index.html>
- Release Notes and Communication Updates:
<https://www.cdc.gov/nhsn/commup/index.html>
- CDA Webinars:
<https://www.cdc.gov/nhsn/cdaportal/webinars.html>



Troubleshooting CDA DIRECT

- I haven't received a DIRECT response for my DIRECT messages, what are my next steps?
 - Please provide the information listed in the table below, send an email to nhsncda@cdc.gov, and the DIRECT database administrator will research the issue.

Facility Name	NHSN Facility ID#	Submitted Date/Time	Zip file Name	Message ID
Best Hospital Ever	12345	11/27/2018 13:15	AU123_NOV_2018	1230589110.20827.1543342802378.JavaMail.tomcat@vendor-hisp02

NHSN Reminders

- Welcome feedback
- Offer individual vendor conference calls
- Make sure you are on the NHSNCDA email distribution list
- Visit the CDA Submission Support Portal (CSSP): <https://www.cdc.gov/nhsn/cdaportal/index.html>



CDA Submission Support Portal (CSSP)

Toolkits, FAQs, webinars and resources for testing and validation for CDA implementers.

Thank you!
Questions?

NHSNCDA@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 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.

