Fall 2022 NHSN CDA Vendor Meeting

November 8, 2022

Agenda

- Future Initiatives
- General NHSN Release Updates
- Patient Safety COVID-19 Hospital Data
- Patient Safety Component – Release 11.1
- Long Term Care Facility Updates – Release 11.0
- Medication Safety Component

- Vendor IDM Updates
- CDA HAI Vocabulary
- Gender Variable Update
- AUR Module Updates
- 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

Pamela Crayon

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

- Minor releases
  - Occurring on an eight-week basis as needed
  - May include:
    - New Component/Module
    - Minor change requests
    - Defect resolutions
    - Infrastructure maintenance and support
  - Users notified via message alert when logging into NHSN

Upcoming NHSN Releases

- Release 11.1
  - Scheduled for December 10, 2022
  - Defect fixes will be effective post deployment
  - CRs will be effective January 1, 2023
- Release 11.2
  - Scheduled for February 2, 2023
  - Defect fixes will be effective post deployment
  - CRs will be effective February 3, 2023

New Year AHEAD

Transition of COVID-19 Hospital Data to NHSN

- On December 31, 2022, the TeleTracking contract will expire, and reporting will transition to NHSN

- Reporting of COVID-19 Hospital Data will take place in the Patient Safety Component of NHSN

Important Dates

- Wednesday, November 2, 2022
  - Module available in NHSN for data submission testing

- Thursday, December 15, 2022
  - Reporting transition
  - First day reporting into NHSN

Important Information

- There will be **no impact or changes** to reporting for the LTCF, Dialysis, and Healthcare Personnel Vaccination COVID-19 modules in NHSN

- Reporting processes for COVID-19 hospital data will remain the same

- COVID-19 Hospital Data Reporting Guidance: https://www.hhs.gov/sites/default/files/covid-19-faqs-hospitals-hospital-laboratory-acute-care-facility-data-reporting.pdf

Hospital COVID-19 Data Submission

- Individual facilities
  - Facilities/hospitals reporting COVID-19 hospital data for their hospital/facility individually to HHS
  - Report using Webform, CSV Upload

- Bulk Upload
  - Jurisdictions, hospital associations, healthcare systems, and third-party vendors submit data on behalf of multiple hospitals
  - Report using CSV Upload, API

Resources

- Transition Webpage https://www.cdc.gov/nhsn/covid19/transition.html

Questions

- NHSN@cdc.gov
  - Subject line: "**COVID-19 Hospital**"

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 2725** - Gender Identity and Sex at Birth (PS, OP, NEO, DIAL, BV)

Long Term Care Facility Component – Release 11.0
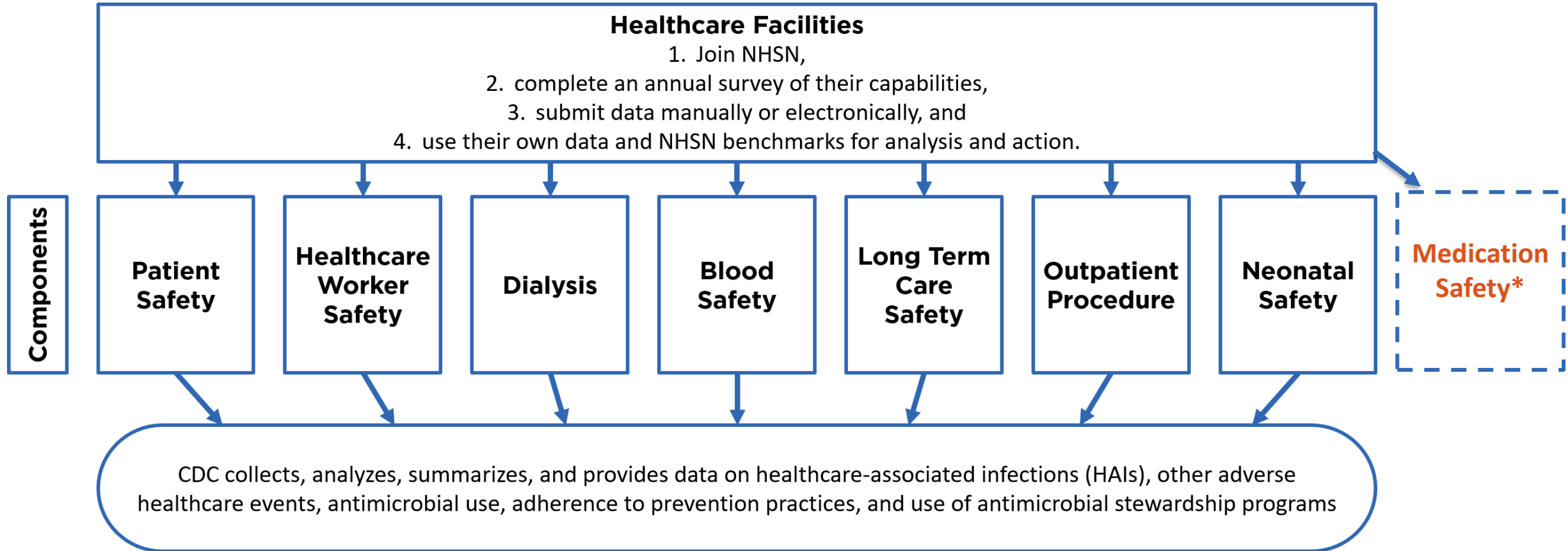
Sylvia Shuler

CR3548: LTC – CDA for LTCF Component LabID Events

- **CR3548 was implemented Release 11.0.0 (October 2022)**
  - LabID Events (CDI and MDROs) can now be imported via CDA for events with specimen collection date (i.e., eventDate) >= 2022

  - The LTCF LabID Event CDA uses R1-D1 IG version
    - Refer to the R1-D1 Implementation Guide for LTCF LabID Event CDA creation
    - The documentation for LTCF LabID Event will be posted to the Implementation Toolkits & Resources Webpage under Release 11.1 - January 2023

Medication Safety Component

Nadine Shehab

NHSN: Expansion into Medication-related Harm

Healthcare Facilities
1. Join NHSN,
2. complete an annual survey of their capabilities,
3. submit data manually or electronically, and
4. use their own data and NHSN benchmarks for analysis and action.

Components

Patient Safety	Healthcare Worker Safety	Dialysis	Blood Safety	Long Term Care Safety	Outpatient Procedure	Neonatal Safety	Medication Safety*

CDC collects, analyzes, summarizes, and provides data on healthcare-associated infections (HAIs), other adverse healthcare events, antimicrobial use, adherence to prevention practices, and use of antimicrobial stewardship programs

*December release of "beta version" to selected U.S. hospitals

NHSN Glycemic Control, Hypoglycemia: Goals & Objectives

- **Goal:** To establish an EHR-neutral standard for submitting inpatient medication-related hypoglycemia data electronically to CDC's NHSN

- **Objectives:**

  – Support U.S. hospitals in measuring medication-related hypoglycemia to improve glycemic management

  – Facilitate benchmarking of medication-related hypoglycemia rates for U.S. hospitals

Hypoglycemia: One of the Top Medication-related Harms Among Hospitalized Medicare Beneficiaries, 2018

Medications:

Most common type of harm in hospitalized Medicare patients (**43%** of all harm events)

Top causes:

1. Opioids
2. Antithrombotics
   Radiocontrast
3. **Antidiabetic drugs**

Exhibit 6: Top Five Types of Harm Events Related to Medication Within the Sample

Medication-Related Harm Event Types	All Events (n=299)	Adverse Events (n=115)	Temporary Harm Events (n=184)
Delirium or other change in mental status	28	8	20
Hypotension	19	5	14
Acute kidney injury or insufficiency	18	8	10
Excessive bleeding	18	12	6
Hypoglycemia	13	1	12

Source: OIG analysis of hospital stays for 770 Medicare patients in October 2018.

http://oig.hhs.gov/oei/reports/OEI-06-18-00400.pdf

NHSN Glycemic Control, Hypoglycemia: Eligible Facilities & Data Submission

- **Eligible facilities:**
  - All **inpatient facilities** enrolled in the NHSN Medication Safety Component
  - Long-term facilities, outpatient dialysis facilities not yet eligible

- **Data submission:**
  - Requires **HL7 FHIR® R4 API** (FHIR vR4.0.1 or higher) **for participation**
  - Manual and CDA data transmission will not be available for this module
  - **Facilities must work with their EHR vendors to enable data transmission** via the NHSN FHIR endpoint

HL7: Heath Leve Seven; FHIR: Fast Healthcare Interoperability Resources

NHSN Glycemic Control, Hypoglycemia: Queried FHIR Resources & Data Elements (Planned)

- Data will be collected for inpatients* receiving antidiabetic medications

- The facility's FHIR endpoint can expose only selected, pre-specified FHIR resources that are invoked upon permission from the facility's server

- Data access can be controlled on a FHIR resource-by-resource basis

FHIR Resource	Data Elements
Condition (US Core)	All
Coverage (US Core)	All
Encounter (US Core)	All
Location (US Core)	All
MedicationAdministration	All
MedicationRequest (US Core)	All
Observation (US Core)	All
Patient (US Core)	Selected
Specimen (US Core)	All

*Includes emergency department or in observation status stays that end within one hour of the inpatient admission.

NHSN Glycemic Control, Hypoglycemia: December Release (Anticipated Functionality)*

- NHSN Glycemic Control, Hypoglycemia **protocol** published

- Facility* activation of NHSN **Medication Safety Component**

- Facility* completion of the NHSN Glycemic Control **Annual Survey**

- Facility* completion of the NHSN Glycemic Control, Hypoglycemia **Monthly Reporting Plan**

- Enabled NHSN **user and group** rights

- NHSN FHIR endpoint integration with facility FHIR v4.0.1 (or higher) API to pull selected FHIR resources necessary for calculating the NHSN Glycemic Control, Hypoglycemia module metrics

*Selected U.S. hospitals

NHSN Glycemic Control, Hypoglycemia Module: Surveillance Metrics

Measure	Numerator	Denominator
Primary Metric: Aligned with Centers fore Medicare & Medicaid Services (CMS) Reporting Requirements		
Metric 1, Hospital Harm, Severe Hypoglycemia (NQF 3503e)	No. of (adult) **inpatient encounters** with **BG <40 mg/dL** preceded by ADD (24 hours prior)*	No. of (adult) **inpatient encounters** with ≥1 ADD administered**
Complementary Metrics: For Quality Improvement Dashboards		
Metric 2, Severe Hypoglycemia Days	No. of **inpatient days** with **BG <40 mg/dL** preceded by ADD (24 hours prior)	No. of **inpatient days** with ≥1 ADD administered
Metric 3, Percent Hypoglycemia Days	**Percent of ADD days** with BG <40 mg/dL, 40-53 mg/dL, and 54-70 mg/dL	
Metric 4, Recurrent Hypoglycemia	**Percent of patients on ADDs with recurrent hypoglycemic day**. A "recurrent hypoglycemic day" is an inpatient day with a documented hypoglycemia event that is preceded by another inpatient day within a 24-hour period where a hypoglycemia event is also documented; this will be reported at <40 mg/dL and 54-70 mg/dL	
Metric 5, Severe Hypoglycemia Resolution	**Median time between BG <40 mg/dL and first BG ≥70 mg/dL** thereafter (hypoglycemia resolution) per ADD days	

*And no subsequent repeat test for BG with a result >80 mg/dL within five minutes of the start of the initial low BG test.
**Includes instances of administration of ADDs in the emergency department or in observation status that end within one hour of the inpatient admission.

Projected Phases of NHSN Glycemic Control Module Development

Phase 1

Facility report:
- **Primary hypo**glycemia metric (metric 1)
  - Selected stratification variables (e.g., age, sex, location)
  - Line-listing by "patient" and "event"
- **Complementary hypo**glycemia metrics (2, 3, 4, 5)

Phase 2

Additions:
- Inter-facility benchmarking
  - Selected stratification variables (facility type, DM/ESRD/ESLD population)

Phase 3

Additions:
- **Primary hyper**glycemia metric
- **Quality Improvement hyper**glycemia metrics
  - Selected stratification variables (e.g., age, sex, location)
  - Line-listing by "patient" and "event"
- Additional stratification variables for inter-facility benchmarking

NHSN Glycemic Control Module: Projected Timeline

- Q4 2022:
  - Beta version of NHSN Glycemic Control, Hypoglycemia pre-Production module launches for selected early adopter/pilot sites
  - Review and revise as per Beta testing results
- Q1 to Q2 2023 (anticipated):
  - NHSN Glycemic Control Module, Hypoglycemia opens to all sites with FHIR R4 API
- Q2 2023 (anticipated):
  - NHSN Glycemic Control Module, Hyperglycemia module opens to selected early adopter/pilot sites

NHSN Glycemic Control Module & Future NHSN Modules

- **Opportunity to join current pilot/innovator sites** to participate in the NHSN Glycemic control and future modules via the *NHSNCoLab*:
  - A **formal, collaborative program** between NHSN, healthcare facilities, health information exchanges, and other healthcare entities to test, pilot, and validate new NHSN modules & measures, with focus on automation
  - **Funding available** to support information systems & clinician/informaticist champion
  - Opportunity for **national leadership** in public health surveillance approaches and integrates **user perspectives** into future NHSN modules

  For additional information on participation, contact:
  NHSN@cdc.gov
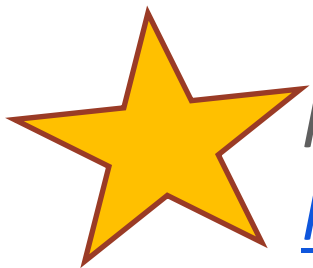
Vendor IDM Updates

Hamna Baig

Vendor IDM

- The vendor IDM for Release 11.1 will be posted to the Toolkits Webpage as **version 1**

- Remove Specific Event-Criteria BRST '3'(CR3702) for SSI-BRST- Release 11.1

	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

Vendor IDM

- Pathogens are now being reported into two different tabs

    - Previously there was one tab that included Preferred Pathogens and Synonyms but going forward in 2023 there will be two tabs.

Pathogen Codes 2023-Preferred	Pathogen Codes 2023-Synonym

    - Pathogen Codes 2023-Preferred
    - Pathogen Codes 2023-Synonym

CDA HAI Vocabulary

Pamela Crayon

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

New variable fields added

- Sex at Birth - Birth Sex is a synonym in the CDA IG

- Gender Identity

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

Sex at Birth/Birth Sex – Captures sex assigned at birth

- Current selections:
  - Male
  - Female
  - **Other**

- New selections:
  - Male
  - Female
  - **Unknown**

Sex at Birth/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 <u>ONC Administrative Sex</u> 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

Provided courtesy of Sarah Gaunt, Lantana Consulting Group

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)
446131000124102	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as non-conforming gender (finding)
446141000124107	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as female gender (finding)
446151000124109	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Identifies as male gender (finding)

Provided courtesy of Sarah Gaunt, Lantana Consulting Group

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 NHSN

Jan 1, 2023

- Optional reporting
- Reporting only via manual entry and .csv import
- For PSC, MS, DIAL, BV, OPC, NEO

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

Virgie Fields

Fix for AR Event SA PBP2a & PCR mec issue

- From 12/1/21 – 9/9/22 when facilities reported "Unknown" for the PBP2a-agglutination and PCR mec-gene variables, "Positive" was saved in NHSN

- Issue corrected on 9/9/22

- All facilities with Staph aureus AR Events uploaded into NHSN from 12/1/21 – 9/9/22 were potentially affected
  - Notified facilities and asked them to re-upload the SA events if they plan to use the data from those two variables

Fix for RNE for outpatient location issue

- The "Report No Events" box for outpatient locations (specifically, locations mapped as emergency department [ED], pediatric ED and 24hr observation) was automatically checked if the user clicked the box to report no AR Events for the facility-wide inpatient (FacWideIN) record

- Issue corrected on 9/9/22

- Notified facilities and asked them to review the Missing Event alerts and either upload the missing AR Events for those locations/months or click the "Report No Events" box to report a true zero for those locations/months

AUR Module Updates: December Release – 11.1

Laura Blum

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

- No updates to pathogen codes accepted by AR Option ("Pathogen Codes 2023- Preferred" tab in IDM)

- Updates to AR Option Pathogen Roll-up workbook mappings

  - Removed inactive SNOMED codes for *Acinetobacter* genospecies 10, 11, and 17

  - Added SNOMED codes for additional *Acinetobacter* species, *E. coli* serogroups and serotypes, Shiga toxin-producing *E. coli*, *Enterobacter bugandensis*, *Strep. pneumoniae* Danish serotype 35D, beta-lactamase- and carbapenemase-producing organisms, and resistant and borderline resistant organisms

CR 3626 – AU Option drug validation updates

- No drug additions or removals
- Updates to NHSN AU Option validation of drugs included in CDA files
  - No longer accept a range of drugs (e.g., 89-95 drugs)
  - <u>All</u> 95 drugs in Antimicrobial Ingredients tab in IDM must be included as specific number of antimicrobial days, zero antimicrobial days, or nullFlavor="NA" for calendar year 2023 and forward

AUR items delayed until 2023

- CR 3550 – Update language to PI Program

- CR 3604 – Update message displayed after manual CDA upload

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

- AR Option SDS requirement

AUR Module Updates: Winter/Spring Releases 11.2 & 11.3

Malissa Mojica

CR 3550 – Update language to PI Program

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

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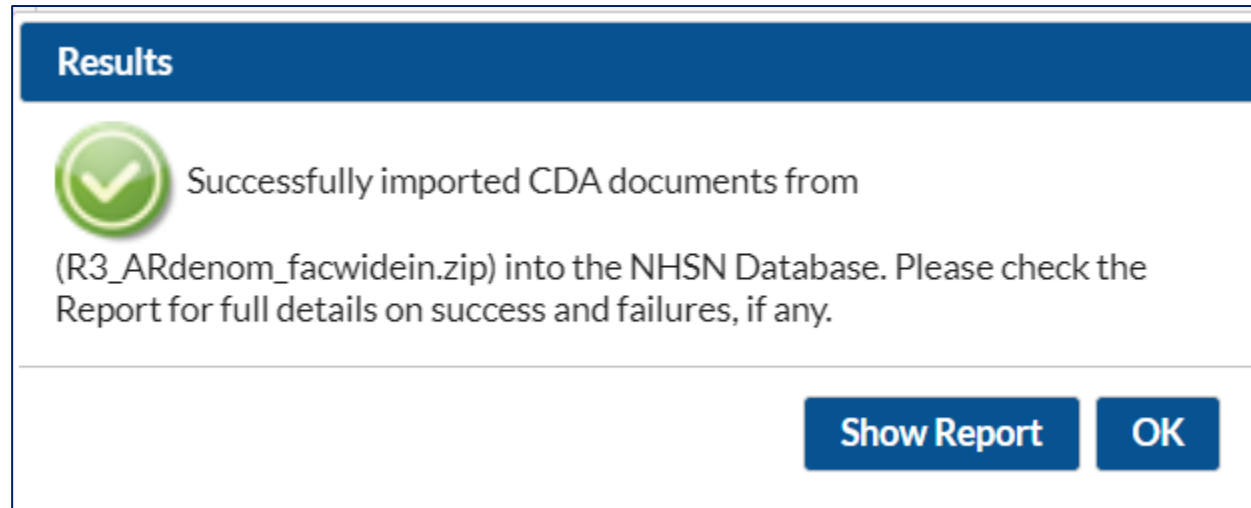
- Plan to update the message to make it clearer when not all files passed

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

Defect 10328 – Ineligible locations

- Defect allows facilities to report AU Option data from certain locations not eligible for AUR reporting:
  - Endoscopy Suite (CDC Location Code OUT:NONACUTE:DIAG:GI, HL7 Code 1007-4)
  - Sleep Study Unit (CDC Location Code IN:NONACUTE:CLINIC: SLEEP, HL7 Code 1020-7)
- AUR-eligible locations indicated with a "Y" in the AUR column in Location Codes tab in IDM
- Scheduled for 11.2 release

AUR Module Updates: AR Synthetic Data Set

Amy Webb

AR SDS Requirement Postponed to May 2023

■ Previously stated that AR SDS must be completed prior to submission of 2023 AR Data

■ **Postponing the requirement to begin with May 2023 AR data**

– AR summary records for May 2023 must include vendorID and SDS validation ID

– AR event records with specimen collection dates May 1, 2023 and after must include vendorID and SDS validation ID

New AR SDS Package: 1.2

- AR SDS release 1.2
  - Updated wardID to NULL for discharge rows in the ADT tables
  - Updated a few susceptibility results
  - Updated the validation webservice to accept .csv files instead of .xlsx
- To be posted very soon
  - https://www.cdc.gov/nhsn/cdaportal/sds/index.html
- An email will be sent to vendors when release 1.2 is posted

AUR Module Updates: Miscellaneous Updates

Amy Webb & Laura Blum

AUR Module Submission Required in CY 2024 for CMS PI Program

- Aug 2022 – CMS issued final rule for FY 2023 Medicare Hospital Inpatient Prospective Payment System for Acute Care Hospitals and Long-term Care Hospital Prospective Payment System

- Beginning with CY 2024, facilities in the CMS Promoting Interoperability (PI) Program will be required to submit AUR Module data
  - Includes both AU and AR

- Guidance document: https://www.cdc.gov/nhsn/pdfs/cda/PHDI-Facility-Guidance-508.pdf

Rule link: https://www.federalregister.gov/documents/2022/08/10/2022-16472/medicare-program-hospital-inpatient-prospective-payment-systems-for-acute-care-hospitals-and-the

CDA Toolkits

- AU & AR Toolkits to be updated soon
    - Updated 11.1 IDM
        - AR: Specimen Source
    - 2023 AR Pathogen Roll-up Workbook
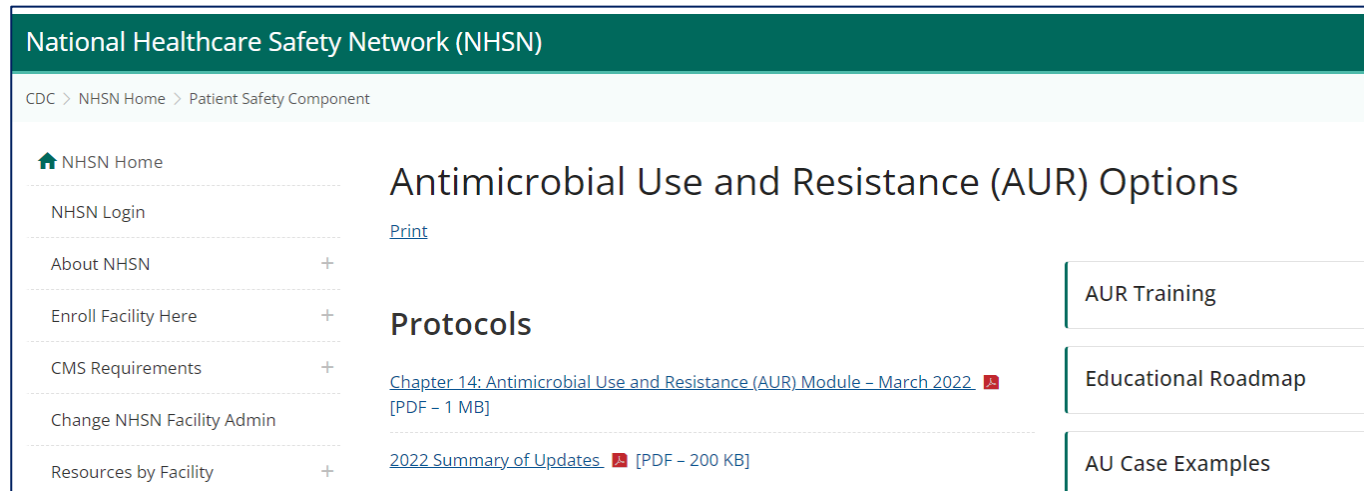   - Updated helpful hints
- CDA Toolkit page: https://www.cdc.gov/nhsn/cdaportal/toolkits.html

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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)

2023 AUR Module Protocol to be posted next month

- Plan to post the 2023 AUR Module protocol in early December

- No major changes

- Updates based on AR SDS vendor questions

- Added sections for AU Targeted Assessment for Stewardship (TAS) & new AR analysis reports

- Will send out an email to vendors when posted

Data Quality Outreach: Incompatible routes of administration

- While preparing for 2021 AU Option Data Report, we noted antimicrobial days reported for certain antimicrobials via routes for which they are not commercially available

  – May represent off-label use or a potential mapping error between facilities' internal systems and vendor systems that package AU data

- Plan to notify facilities with AU data reported via incompatible routes during 2021 and 2022 and ask them to review the affected data and re-upload if incorrect

- Monitor for requests from facilities to update AU Option mappings

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.

- V11.0.0.4 is current environment
  - Reminder: Read "Important Message" at login
- Blast email will be sent out when NPPT is upgraded to new version
  - V11.1 will be available mid-November
- 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	July, 2021 - June 2022	October 2021 - September 2022
Blood Stream Infection	44%	47%	49%	51%	56%	53%	55%	60%	61%	60%
Urinary Tract Infection	46%	47%	47%	48%	45%	49%	50%	51%	50%	50%
Surgical Site Infection	45%	47%	49%	51%	42%	53%	54%	57%	58%	58%
Laboratory Identified Event	67%	68%	69%	70%	64%	72%	73%	75%	75%	75%
Dialysis Event	77%	77%	77%	76%	74%	74%	74%	73%	72%	73%
Central Line Insertion Practices (CLIP)	25%	26%	28%	30%	23%	32%	34%	38%	37%	33%
Dialysis Central Line Insertion Practices (CLIP)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Ventilator-Associated Events (VAE)	8%	12%	16%	22%	0%	37%	44%	56%	57%	58%
Antimicrobial Resistance Event	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Antimicrobial Use	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Antimicrobial Resistance Summary	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
ICU /Other Summary	30%	30%	30%	30%	27%	32%	34%	39%	40%	41%
SCA/ONC Summary	37%	38%	38%	39%	33%	41%	41%	47%	48%	48%
NICU Summary	32%	32%	32%	32%	28%	35%	36%	43%	45%	45%
Surgical Procedure - via CDA	42%	45%	47%	50%	34%	54%	55%	60%	61%	61%
MDRO Summary	9%	10%	10%	11%	8%	12%	13%	18%	20%	20%
Dialysis Summary	62%	62%	63%	66%	56%	66%	68%	67%	67%	66%
Hemovigilance Summary	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Surgical Procedure - via CSV	50%	47%	46%	43%	56%	40%	39%	35%	34%	33%

DIRECT CDA Automation Updates

- ~77 direct addresses and > 9,500 facilities sending via DIRECT

- DIRECT
  - Batch submission process
  - No immediate reply
  - Turnaround 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

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.