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CENTERS FOR DISEASE CONTROL AND PREVENTION
NHSN E-Newsletter



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New Publications Available Now!

Impact of COVID-19 on Hospitals and HAIs:

The following papers focused on the impact of COVID-19 on central line-associated bloodstream infections (Patel P, et al) and hospital ICU capacity (Weiner-Lastinger L, et al):

1. Patel P, Weiner-Lastinger L, Dudeck MA, Fike L, Kuhar D, Edwards J, . . . Benin A. **Impact of COVID-19 pandemic on central-line–associated bloodstream infections during the early months of 2020, National Healthcare Safety Network.** *Infect Control Hosp Epidemiol* 2021:1-4. doi:10.1017/ice.2021.108
A descriptive analysis of central-line–associated bloodstream infections (CLABSIs) in acute-care hospitals to determine potential impact of COVID-19 on the standardized infection ratio (SIR). Data reported to NHSN in Q2 2020 was compared to Q2 2019.
2. Weiner-Lastinger L, Dudeck MA, Allen-Bridson K, Dantes R, Gross C, Nkwata A, . . . Benin A. **Changes in the Number of Intensive Care Unit Beds in U.S. Hospitals During the Early Months of the COVID-19 Pandemic, as reported to the National Healthcare Safety Network’s COVID-19 Module.** *Infect Control Hosp Epidemiol* 2021:1-12. doi:10.1017/ice.2021.266
Summarizes the impact of COVID-19 on ICU capacities in the US by comparing the number of ICU beds reported to NHSN daily, between April – July 2020, to the ICU bed sizes reported on the 2019 NHSN annual surveys.

Laboratory-identified VRE Bacteremia:

Tanwar S, Weiner-Lastinger L, Bell J, Allen-Bridson K, Bagchi S, Dudeck MA, Edwards J. **Laboratory-identified vancomycin-resistant enterococci bacteremia incidence: A standardized infection ratio prediction model.** *Infect Control Hosp Epidemiol* 2021:1-5. doi:10.1017/ice.2021.215

An analysis of 2017 national vancomycin-resistant enterococci (VRE) bacteremia data reported from acute care hospitals to NHSN’s MDRO/CDI Module. A risk adjustment model is presented, and national and state-level VRE bacteremia SIRs are calculated for 2018.

PATIENT SAFETY COMPONENT

AUR Module Updates

We are excited to announce the release of updated training resources for NHSN users who are analyzing data in the Patient Safety Component. Please see below for a list of new/updated module updates.

UPDATE! [AUR Module](#)

Updated AR Option Data Validation Protocol Now Available

The updated AR Option Data Validation Protocol is now available. The protocol contains questions aimed at discovering common data quality issues and provides a guide for discussing these issues with your software vendor. While gaining a better understanding of the AR Option data being submitted for your facility, you'll also get to use many types of AR Option analysis reports within NHSN to broaden your understanding of the analysis reports available to you. The AR Option Data Validation Protocol is located on the NHSN Antimicrobial Use and Resistance (AUR) Options page in the Data Validation section: <https://www.cdc.gov/nhsn/psc/aur/index.html>.

UPDATE! [Upcoming Changes for AR Option Reporting](#)

The NHSN 10.0 release (tentatively scheduled for August 2021) brings some useful changes for AR Option users.

Important note: Both changes require your vendor to update their software to use a new CDA Implementation Guide (IG). Some vendors may choose to wait to update until the new IG becomes required with 2022 AR Summary data.

- **Report no AR Events via CDA:** Currently, NHSN only allows facilities to report no AR Option Events via the UI. The NHSN 10.0 release will update the AR Summary CDA to allow facilities to report no AR Option Events for Facility-Wide Inpatient (FacWideIn) and select outpatient location types (Emergency Department, Pediatric Emergency Department, and 24-hour observation area) via CDA.
- **Report AR Summary data for outpatient locations:** NHSN currently only accepts AR Option Summary data for the FacWideIn location. The NHSN 10.0 release will allow users to import AR Summary data from select outpatient locations (Emergency Department, Pediatric Emergency Department, and 24-hour observation area) as well. Collecting denominator data from outpatient locations is the first step toward developing additional outpatient AR metrics.

[AU Option Synthetic Data Set Initiative](#)

As a reminder, we have a webpage for Antimicrobial Use Synthetic Data Set (AU SDS) Validation here:

<https://www.cdc.gov/nhsn/cdaportal/au-sds/index.html>. It's important for AU reporting facilities to be aware of this requirement and the validation status of their vendor. However, for facilities using an AU CDA vendor, there is no direct action needed from the facility. You can review vendors that have passed AU SDS Validation here:

<https://www.cdc.gov/nhsn/cdaportal/au-sds/vendor-list.html>. Facilities that create their own AU CDA files in-house using their own "homegrown" IT or informatics resources need to go through the AU SDS Validation process. Please refer to the General NHSN Information CDA Corner section of the NHSN Newsletter below for additional information related to AU SDS Validation.

AUR Module Updates (continued)

NEW! [AR Option Synthetic Data Set Initiative](#)

We will begin piloting the Antimicrobial Resistance Synthetic Data Set (AR SDS) soon. We plan to have an AR SDS validation requirement phase-in period in 2022 and require validation in 2023. We wanted to make facilities aware of this new requirement for the vendors that are creating your AR CDA files. There is no direct action needed from the facility. Like for AU SDS Validation, facilities that create their own AR CDA files in-house using their own “homegrown” IT or informatics resources need to go through the AR SDS Validation process. Please refer to the General NHSN Information CDA Corner section of the NHSN Newsletter below for additional information related to AR SDS Validation.

Analysis Updates

[New Training Available! Analysis of Pathogens and Antibiotic Resistance Data from HAIs](#)

NEW! The NHSN team has posted an updated PowerPoint presentation that highlights several reports in NHSN that can be used to determine common pathogens and antibiotic resistance profiles from HAIs in a facility. The training slide deck is available here: <https://www.cdc.gov/nhsn/pdfs/training/2021/2021-hai-ar-508.pdf>
CDC’s Antibiotic Resistance & Patient Safety Portal is a free, open-access web portal that allows users to interact with national and state-level data from NHSN. The Portal was recently updated with national & state-level antibiotic resistance data from 2019 and includes other types of data such as HAI SIRs and antibiotic stewardship. The Patient Safety Portal is available here: <https://arpsp.cdc.gov/>

[New Guidance Document Available! A Guide to Using NHSN Macros](#)

NEW! The NHSN team has posted a new guidance document that highlights how to use NHSN macros to perform statistical tests that determine whether there is a statistically significant difference between two measures, such rates, ratios, SIRs, SURs, SAARS and others from HAI data. For each macro, SAS output, as well as corresponding output from the Statistics calculator (where applicable), and how to interpret the results are provided. The guidance document is available here: <https://www.cdc.gov/nhsn/sas/macros-guide-508.pdf>

[NHSN Macros Updated!](#)

UPDATE! Additionally, all of the NHSN macros on the website have been updated with examples added on how to run each, to make them user-friendly. The updated macros are available here: <https://www.cdc.gov/nhsn/ps-analysis-resources/index.html>

Reminder! Data for CMS Quality Reporting Programs Due Soon!

Reminder! Data for CMS Quality Reporting Programs due Soon!

The following data must be entered into NHSN by **August 16, 2021**, for facilities that participate in certain CMS quality reporting programs.

Acute Care Hospitals that participate in the Hospital Value-Based Purchasing (VBP) and Hospital-Acquired Conditions (HAC) Reduction Programs:

2021 Quarter 1 (January 1 - March 31) CLABSI and CAUTI data

- All ICU locations
- Adult and pediatric medical, surgical, and medical/surgical wards
- Includes Veterans Affairs and Department of Defense (DoD) acute care hospitals

2021 Quarter 1 (January 1 - March 31) Inpatient COLO and HYST SSI data

2021 Quarter 1 (January 1 - March 31) MRSA Bacteremia and *C. difficile* LabID Events (all healthcare-onset and community-onset)

- FacWideIN
- ED and 24-hour observation locations
- Includes DoD acute care hospitals

Cancer Hospitals that participate in the PPS-Exempt Cancer Hospital Quality Reporting Program:

2021 Quarter 1 (January 1 - March 31) CLABSI and CAUTI data (all bedded inpatient care locations)

2021 Quarter 1 (January 1 - March 31) Inpatient COLO and HYST SSI data

2021 Quarter 1 (January 1 - March 31) MRSA Bacteremia and *C. difficile* LabID Events (all healthcare-onset and community-onset)

Inpatient Rehabilitation Facilities (IRFs) that participate in the Inpatient Rehabilitation Facility Quality Reporting Program:

2021 Quarter 1 (January 1 - March 31) CAUTI data (all bedded inpatient locations)

2021 Quarter 1 (January 1 - March 31) *C. difficile* LabID Events (all healthcare-onset and community-onset)

- Freestanding IRFs: Reporting by FacWideIN
- IRF units within acute care or critical access hospitals: Reporting by each CMS IRF unit

Long-Term Acute Care Facilities (LTACs/LTCHs) that participate in the Long-Term Care Hospital Quality Reporting Program:

2021 Quarter 1 (January 1 - March 31) CLABSI and CAUTI data (all bedded inpatient locations)

2021 Quarter 1 (January 1 - March 31) *C. difficile* LabID Events (FacWideIN, all healthcare-onset, and community-onset)

Please ensure that at least one individual at your facility can access NHSN via their Secure Access Management Services (SAMS) account and has been assigned appropriate user rights in NHSN to enter and view your facility's data. To guarantee that your data is accurately entered into NHSN, verify that; 1) your monthly reporting plans are complete; 2) you've entered appropriate summary and event data or checked the appropriate no events boxes; and

Reminder Data for CMS Quality Reporting Programs continued on page 6

Reminder! Data for CMS Quality Reporting Programs Due Soon! (continued)

3) you've cleared all alerts from your NHSN facility homepage. For additional guidance on ensuring your data are accurately sent to CMS for Quality Reporting purposes, please visit our website and navigate to the appropriate section(s) for your facility type: <https://www.cdc.gov/nhsn/cms/index.html>

If you have any questions, please contact the NHSN Helpdesk: NHSN@cdc.gov. The NHSN Helpdesk is staffed Mondays thru Fridays, 7 am ET – 5 pm ET, excluding Federal Holidays.

LONG-TERM CARE FACILITY COMPONENT

LTCF Updates

Updates can be found in the LTCF newsletters, available here:

<https://www.cdc.gov/nhsn/ltc/newsletters/index.html>

The screenshot displays the NHSN website interface. At the top, the header reads 'National Healthcare Safety Network (NHSN)'. Below the header, the breadcrumb trail is 'CDC > NHSN Home > Long-term Care Facility Component'. On the right side of the header, there are social media icons for Facebook, Twitter, LinkedIn, and YouTube. A left-hand navigation menu includes links for 'NHSN Home', 'NHSN Login', 'About NHSN', 'Enroll Facility Here', 'CMS Requirements', 'Change NHSN Facility Admin', and 'Resources by Facility'. The main content area is titled 'Newsletters and Archived Communications' and features a year selector with '2020' highlighted. Under the 'December' heading, there is a link for 'December 2020 LTCF Newsletter' followed by a summary: 'Inside this Issue – We Appreciate You!, Long-term Care Facility Component 2020 Annual Facility Survey, 2021 NHSN LTCF Component Updates, NHSN Releases a New Long-term Care Option for Reporting Point of Care Testing Results for COVID-19, COVID-19 Data Reporting to NHSN What You Should Know, and more..'

HEALTHCARE PERSONNEL SAFETY COMPONENT

Updates to Weekly COVID-19 Vaccination Modules

CDC's National Healthcare Safety Network (NHSN) released weekly COVID-19 vaccination data reporting modules in December 2020. Based on the evolution of the pandemic, increased availability of vaccines, and feedback from NHSN users, CDC has simplified the modules (by removing question 3.4 on history of laboratory-confirmed SARS-CoV-2 infection and question 5 on vaccine adverse events) and updating training materials on weekly reporting of COVID-19 vaccination data.

New materials include the following:

Long-term care facilities reporting data on residents and healthcare personnel

[Weekly HCP & Resident COVID-19 Vaccination | LTCF | NHSN | CDC](#)

- Updated table of instructions
- Revised training slides and recording of webinars held in May 2021
- Updated data tracking worksheets and a quick reference guide on using the worksheets

- Quick Learn video on cumulative data reporting
- Updated .CSV file upload instructions

Non-long-term care facilities reporting data on healthcare personnel

[Weekly HCP COVID-19 Vaccination | HPS | NHSN | CDC](#)

- Updated data collection form and table of instructions
- Updated .CSV file upload instructions
- Updated .CSV file
- Example .CSV file

Dialysis facilities reporting data on patients

[Weekly Patient COVID-19 Vaccination | Dialysis | NHSN | CDC](#)

- Updated data collection form and table of instructions
- Updated .CSV file upload instructions Updated .CSV file
- Example .CSV file

Facilities can also contact CDC with questions at: NHSN@cdc.gov using 'COVID-19 vaccination' in the subject line of the message.

DIALYSIS COMPONENT

NHSN COVID-19 Module Update

Dialysis facilities can also track weekly COVID-19 vaccination data for healthcare personnel (HCP). These data are reported through the NHSN Healthcare Personnel Safety (HPS) Component. Training materials can be accessed using this link: <https://www.cdc.gov/nhsn/hps/weekly-covid-vac/index.html>.

Please send all questions and concerns to user support at: nhsn@cdc.gov and include 'Weekly COVID-19 Vaccination' in the subject line of the e-mail.

The screenshot shows the NHSN COVID-19 reporting interface. At the top, it says 'COVID-19' and 'Click a cell to begin entering data for the week which counts are reported. Data entered should be inclusive for the entire current reporting week, which is Wednesday through Tuesday.' Below this, there are navigation arrows and a date range '28 April 2021 - 08 June 2021'. There are two status indicators: 'Record Complete' (green) and 'Record Incomplete' (yellow). The main area shows a list of reporting weeks. The week of 05/12/2021 (Wednesday) to 05/18/2021 (Tuesday) is highlighted with a red box, indicating it is locked. The week of 05/19/2021 (Wednesday) to 05/25/2021 (Tuesday) is highlighted with a yellow box, indicating it is the current reporting week and is open for data entry.

For example, reporting week 5/12– 5/18 would remain locked until 5/18 at which time data can be entered.

Mark Your Calendars – Q1 2021 QIP Deadline

The 2021 Quarter 1 deadline (payment year 2023) for the Centers for Medicare and Medicaid (CMS) End Stage Renal Disease (ESRD) Quality Incentive Program (QIP) is right around the corner! The deadline for reporting is Wednesday, June 30, 2021. Facilities reporting to NHSN should report all three months (January, February, and March 2021) of data no later than June 30, 2021 in order to receive full credit for Quarter 1 reporting and meet requirements for the CMS ESRD QIP.

GENERAL NHSN INFORMATION

CDA Corner

Notes on the NHSN Release Schedule

- Release 9.5.4 was deployed on 5/27/2021
 - Defect 9637 – CLIP Event import for contraindication to chlorhexidine question was resolved
 - Defect 9676 – Decrease the minimum number of drugs required for 2020 AU file to 85 was resolved
- Release 10.0 is scheduled for August 2021
 - Will include new Neonatal Component with Late Onset Sepsis and Meningitis event types
 - AR Option Summary records using the R3-D4 IG will be accepted for summary dates = 2021
- Release 10.1 is scheduled for December 2021
 - Defects will be effective post deployment
 - CRs will be effective January 1, 2022
- The NPPT site is currently on v9.5.3.3
 - Please send any issues found to NHSNCDA@CDC.GOV

COVID-19 Data Uploads

- Please visit the NHSN COVID-19 Information webpage for more details:
<https://www.cdc.gov/nhsn/covid19/index.html>
- Direct CSV Submission is acceptable for Point of Care (POC) reporting in the acceptable file formats: CSV & HL7 2.5.1
- Instructions on how to sign up for Direct and use this method is available on the NHSN website:
<https://www.cdc.gov/nhsn/cdaportal/importingdata.html#DIRECTProtocol>
- COVID-19 Module is available for LTC and Dialysis facilities

COVID-19 Addition to HAI CDAs for January 2022

The following CDAs will have a new COVID-19 question added: BSI, SSI, VAE, and UTI.

- Currently optional for manual entry on the NHSN User Interface.
- Required beginning with events January 1, 2022 and after.
- **The R4-D1 IG is being finalized and will be shared soon.**
- This question was updated: NHSN removed 'confirmed or suspected' if 'Yes' was selected

CDA Corner (continued)

CDA and CSV Import Metrics Update

Percentage of data per specific event or summary that is imported via CDA and CSV for the following date ranges:						
Query Date Range	July, 2018 - June, 2019	October, 2018 - September, 2019	January, 2019 - December, 2019	April, 2019 - March, 2020	July, 2019 - June, 2020	October, 2019 - September, 2020
Blood Stream Infection	43%	43%	44%	47%	49%	51%
Urinary Tract Infection	45%	46%	46%	47%	47%	48%
Surgical Site Infection	43%	44%	45%	47%	49%	51%
Laboratory Identified Event	65%	66%	67%	68%	69%	70%
Dialysis Event	75%	75%	77%	77%	77%	76%
Central Line Insertion Practices (CLIP)	24%	25%	25%	26%	28%	30%
Dialysis Central Line Insertion Practices (CLIP)	0%	0%	0%	0%	0%	0%
Ventilator-Associated Events (VAE)	1.4%	4.0%	8%	12%	16%	22%
Antimicrobial Resistance Event	100%	100%	100%	100%	100%	100%
Antimicrobial Use	100%	100%	100%	100%	100%	100%
Antimicrobial Resistance Summary	100%	100%	100%	100%	100%	100%
ICU /Other Summary	28%	29%	30%	30%	30%	30%
SCA/ONC Summary	34%	36%	37%	38%	38%	39%
NICU Summary	29%	30%	32%	32%	32%	32%
Surgical Procedure - via CDA	36%	39%	42%	45%	47%	50%
MDRO Summary	8%	9%	9%	10%	10%	11%
Dialysis Summary	56%	59%	62%	62%	63%	66%
Hemovigilance Summary	0%	0%	0%	0%	0%	0%
Surgical Procedure - via CSV	55%	52%	50%	47%	46%	43%

Data Quality Corner

Data Quality in NHSN: Addressing Duplicate Procedures Entered in NHSN

Data quality assessment is an integral part of data analysis in NHSN. To assist facilities with regular data quality assessments of their HAI data, NHSN created several analysis reports found in the **Data Quality** folder of the **Advanced** folder on the NHSN Analysis Reports page. In addition to performing in-facility assessment of their data prior to entering into NHSN, facilities are encouraged to access, generate, and review the data quality reports in the NHSN application routinely. Where applicable, these reports will output a list of records that have data quality issues requiring review and/or edits.

The **Line Listing -Duplicate Procedures** report is a data quality assessment report that is used to track a list of reported duplicate procedures. Duplicate procedures are identified as multiple procedures reported for the same patient with the same procedure category, and same procedure date, for those procedure categories for which there are more than the maximum allowed for the body site. These duplicate procedures are assigned distinct procedure IDs in NHSN.

DQ Corner continued on page 11

Data Quality Corner (continued)

Duplicate procedures have an impact on the SSI SIRs; therefore, it's important to remove any extraneous procedures. To ensure that your facility's data is accurate, the NHSN team is encouraging hospitals review and remove any identified duplicate procedure(s).

If you determine a duplicate procedure needs to be removed, you must confirm that the procedure being removed is not linked to an SSI event.

If the procedure selected for deletion is linked to an SSI event, then unlink the SSI event from the duplicate procedure and re-link the SSI event to the correct procedure record. For instructions on how to unlink and link SSI events, please see [Appendix B of the Data Quality Manual](#), starting on page 30. Once you have unlinked the SSI event from the duplicate procedure, you can proceed with removing the duplicate.

To Identify Duplicate Procedures:

Facilities can generate a list of Duplicate Procedures using the **Line Listing -Duplicate Procedures** analysis report found in the Data Quality sub folder of the Advanced folder located on the NHSN Analysis Reports page. Here is a quick reference guide (QRG) on how to generate and interpret this report: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/duplicate-procedure-linelist-508.pdf>

Once you have identified the duplicate procedure(s) to remove, please follow the steps below to manually remove the duplicate procedure(s) only.

To Remove Duplicate Procedure(s) Only

- 1) Select **Procedure** on the left-hand navigation bar
- 2) Click **Find**
- 3) On the Find Procedure page, enter the procid in the **Procedure #** field
- 4) Then click **Find**
- 5) On the **View Procedure** page, scroll down to the bottom of the page (after you have confirmed the procedure is the true duplicate) and select **Delete**. Note: It is best to remove each duplicate procedure individually.

Once you have completed removal of the duplicate procedure(s), [generate a new analysis dataset](#) to incorporate the updates in your analysis reports.

NHSN recommends that facilities perform this assessment monthly, using newly generated analysis datasets. If the Line Listing -Duplicate Procedures yields no output, then there are no impacted records to review or edit. Any questions or concerns should be directed to NHSN@cdc.gov.

NEW! Data Quality(DQ) Website: As part of NHSNs dedication to data quality, we added a new webpage to provide updates regarding DQ items inclusive of, but not limited to, DQ outreach, DQ resources for respective healthcare-associated infections (HAIs), among other items. This webpage will be periodically updated with DQ items. Please visit the new Patient Safety Component (PSC) DQ webpage <https://www.cdc.gov/nhsn/ps-analysis-resources/data-quality/index.html>.

UPDATE! Standardized Device Utilization Ratio (SUR) Update: Earlier this year, the SUR was incorrectly calculated within the NHSN application. The number of predicted device days and the observed device days were correct, however the SUR itself was calculated incorrectly. Our Development team rectified this

miscalculation and the SUR tables have been updated. To see the correct SURs for your facility, please generate your datasets and then run your SUR tables.

DQ Corner continued on page 12

Data Quality Corner (continued)

NEW! Length of Stay (LOS) and Time To Infection (TTI) DQ Outreach: The Device Associated (DA) team has recently started DQ outreach to NHSN facilities for presumed outliers to length of stay (LOS) and time to infection (TTI) calculations for CLABSI, CAUTI and VAE (LOS only), data that are likely to impact the accuracy of data in NHSN. The NHSN application does not produce soft alerts for LOS and TTI outliers. Please respond to the respective outreach emails if you have any questions or concerns for data resolution.

If you have any additional questions or concerns about the above Patient Safety (PS) Component DQ items, please email us at NHSN@cdc.gov with the subject line 'PS Data Quality'.

NHSN Help Desk Activity Update

Quarter 2, 2021

(Averages)

1,442 Email Inquiries per Week

124 Facilities Enrolled

NHSN Enrollment Update

NHSN Enrollment Update (as of June 16, 2021):

5,095 Hospitals (this includes 618 Long-term Acute Care Hospitals and 463 Free-standing Inpatient Rehabilitation Facilities)

8,463 Outpatient Hemodialysis Facilities

5,613 Ambulatory Surgery Centers (ASCs)

18,584 Long-term Care Facilities

37,755 Total Healthcare Facilities Enrolled

The National Healthcare Safety Network (NHSN) is a voluntary, secure, Internet-based surveillance system that integrates patient and healthcare personnel safety surveillance systems managed by the Division of Healthcare Quality Promotion (DHQP) at CDC.

During 2008, enrollment in NHSN was opened to all types of healthcare facilities in the United States, including acute care hospitals, long-term acute care hospitals, psychiatric hospitals, rehabilitation hospitals, outpatient dialysis centers, ambulatory surgery centers, and long-term care facilities.



NHSN

NATIONAL HEALTHCARE
SAFETY NETWORK

The Centers for Disease Control and Prevention (CDC)

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mail: NHSN@cdc.gov; CDC's NHSN Website: www.cdc.gov/nhsn