CENTERS FOR DISEASE CONTROL AND PREVENTION

NHSN Healthcare Claims Data Protocol

July 2026

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Revision History

Version	Date	Revision Summary
V1	July 2026	Initial release of the Healthcare Claims Data Protocol

This protocol is provisional and subject to revision as implementation and evaluation activities continue. Updates and additional guidance will be incorporated into future protocol versions and posted on the NHSN website.

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Introduction

In the evolving landscape of healthcare, the integration of various data sources is paramount to enhance patient-level surveillance, improve adverse event identification, and improve health outcomes. This protocol outlines the systematic use of claims data as foundational variables within algorithms for the NHSN digital quality measures (dQMs) [1],[2]. The NHSN dQMs are patient safety events that are based on structured electronic patient-level information gathered from the patient's medical record and other healthcare sources. The NHSN dQMs are developed using well-established and widely-adopted healthcare industry standards that can be captured and exchanged across interoperable systems.

Healthcare claims data are generated when healthcare providers submit reimbursement requests to insurance companies or government payers. These data encompass a wide array of information, including patient demographics, diagnosis codes, procedure codes for procedures performed, and the costs associated with these services.

Purpose

Healthcare claims data provide important administrative and billing information that complement clinical data available in electronic health records (EHRs). When integrated with EHR data, claims data support the calculation of NHSN dQMs by providing additional information necessary for patient safety event determination, event exclusions, and patient-level risk adjustment. Claims data include standardized information on diagnoses, procedures, services provided, and payer information that may not be consistently available from clinical data sources alone [2],[3],[4].

These data enhance NHSN's ability to accurately identify qualifying events, apply appropriate exclusions, and account for differences in patient characteristics and clinical complexity when calculating measure results. The use of claims data alongside clinical data offers several benefits, including:

- Provide additional data elements that can refine patient safety event identification
- Improve the accuracy of event exclusions through the incorporation of claims-based information
- Strengthen patient-level risk adjustment through more complete information on comorbidities and healthcare utilization
- Increase confidence in measure results by leveraging both clinical and administrative data sources

Settings

Facilities located in the U.S. enrolled in the NHSN Patient Safety Component may voluntarily report claims data.

Summary of Data Elements

The data elements are organized into six comma separated values (CSV) files: FILE_DATE, Patient, Encounter, Condition, Procedure, and Revenue. Each file must include **NHSN_ORGID** (NHSN Organization Identification) to enable cross-file linkage. In addition, most files will also include

ENCOUNTER_ID (Encounter Identification), **PT_MRN** (Patient's Medical Record Number), and **PT_CONTROL_NUM** (Patient's Control Number). The full list of data elements can be found in the NHSN Healthcare Claims Data Dictionary. Below is a high-level summary of the file contents and key data elements [4],[5]:

File Name	Description	Total # of fields	Key Data Elements
FILE_DATE	Reporting month and year.	3	- Reporting month (REPORTING_MONTH) - Reporting year (REPORTING_YEAR)
Patient	Patient demographic information.	17	- Patient date of birth (PT_DOB) - Patient sex (PT_SEX) - Patient race (PT_RACE) - Patient ethnicity (PT_ETHNICITY)
Encounter	Details related to the encounter episode.	20	- Type of bill (TYPE_BILL) - Statement period (STMT_FROM_DATE and STMT_THRU_DATE) - Admission date (ADM_DATE) - Discharge date (DIS_STATUS) - Payer names - primary, secondary, and tertiary (PAYER_NAME_PRIM)
Condition	Information related to the patient's diagnoses.	8	- Diagnosis code (DIAG_CODE) - Diagnosis type (DIAG_TYPE) – Principal, Admitting, Patient reason, External cause of injury, and other diagnoses - Present on admission code (POA)
Procedure	Information related to procedures performed.	7	- Procedure code (PROC_CODE) - Procedure start date (PROC_START_DATE)
Revenue	Information related to the services provided.	13	- Revenue code (REV_CODE) - Type of service code (SERVICE_CODE_TYPE*) - Number of units provided (REV_SERVICE_UNIT)

*Accommodation Rate Code, Current Procedural Terminology Code, Health Insurance Prospective Payment System Code, and Healthcare Common Procedure Coding System Code (HCPCS)

Required, Optional, and Situational Data Elements

Most data elements are required, with a few being optional or situational. These fields are not mandatory for all encounters but should be included when available, as they can enhance completeness, support patient matching, and improve measure accuracy [1],[4].

- **PT_SSN** (Patient Social Security Number) – *Optional but strongly encouraged for patient matching.*
- **DIS_DATE** (Discharge Date) – *Optional; not included on the Uniform Billing-04 (UB-04) form and must be acquired from other medical record sources.*
- Fields like **SOP_SEC** (Source of Payment Topology Secondary and **PAYER_NAME_SEC** (Payer Name Secondary) are situational and should be included if applicable.

For a complete list of data elements, field definitions, and formatting rules, refer to the NHSN Healthcare Claims Data Dictionary.

Data Reporting Requirements

Data Format and Requirements

All inpatient facilities and emergency departments submitting claims data must adhere to the standardized CSV layout of the NHSN Healthcare Claims Data Reporting Template. Claims data may be extracted from the facility's Uniform Billing-04 (UB-04) form or the 837 Institutional (837I) electronic format. Manual data entry of individual data elements is not available [1],[4].

Facilities must ensure that all submitted data conforms to the formatting and data specifications outlined in the NHSN Healthcare Claims Data Dictionary. This includes adherence to field-level formatting (e.g., remove leading zeroes from Type of Bill codes) and the inclusion of all required data elements.

Files for the reporting month are expected to be uploaded no later than 60 days following the end of the reporting month.

Minimum Data Requirements for Reporting Healthcare Claims Data

A valid monthly submission must meet all of the following criteria:

Data Submission Requirements

- One full calendar month of claims data must be submitted, which should include any bill generated during the **REPORTING_MONTH** AND **REPORTING_YEAR** that captures [1],[4]:
    - Claims for patients discharged during the reporting month
    - Claims for interim bills
    - Claims for final bills
    - Claims with updates/edits
- All inpatient Type of Bill codes 11x and 12x are included [1],[4].
- Emergency department claims are submitted for Type of Bill codes [1],[4]:
    - 13x, 14x, 83x, and 85x
    - Must include Revenue Codes in the ranges: '0450'-'0452', '0456', '0459', '0680'-'0689', '0981'
    - Must include HCPCS Codes in the ranges: '99281'-'99285', '99288', 'G0380'-'G0384'
- All leading zeroes must be removed from Type of Bill codes.
- Six CSV files must be submitted and named as follows:
    - Condition
    - Encounter
    - Patient
    - Procedure
    - Revenue
    - FILE_DATE

  With the exception of FILE_DATE, which should be in all capital letters, all files should be named with only the first letter capitalized. These files must be zipped together into a single compressed file and uploaded to the Claims Data section of the Import/Export option in NHSN.

Data Format and Mapping Requirements

- Data must be submitted in the format specified in the NHSN Healthcare Claims Data Dictionary.
- All required data elements must be present, including:
    - Patient identifiers (e.g., Medical Record Number, Encounter Number, Date of Birth, Administrative Sex)
    - Admission and discharge dates
    - Diagnosis and procedure codes (International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) and International Classification of Diseases, 10th Revision, Procedure Coding System ICD-10-PCS)
    - Revenue and HCPCS codes
    - Type of Bill, Payer, and Service Dates
- Any local or non-standard codes used must be mapped to nationally recognized code sets (e.g., ICD-10, HCPCS, Revenue Codes) [4].

Reporting Instructions

Add Claims Data to the Claims Data Reporting Plan (CDRP)

Facilities must submit a Claims Data Reporting Plan (CDRP) to indicate the month for which they intend to begin reporting claims data. Submitting this plan helps NHSN track participation and prepare for incoming data.

Step 1: Access the Reporting Plan Module

- Log into the NHSN application and access the Patient Safety Component
- Navigate to **Reporting Plan**, then select **Add**.
- From the **Reporting Plan Type** dropdown menu, select **Claims Data Reporting Plan**, then select **Continue**.

Step 2: Complete the Claims Data Section

- After selecting **Continue**, select a **Start Month** and **Start Year** (both required), and optionally add additional rows for more months.
- Select **Save** to submit the plan.

NOTE: If any required fields are missing or if a duplicate entry is attempted, the system will display an alert message. Required fields are denoted with a red asterisk (*). Selecting the **Back** button without submitting will discard any entered data. Once submitted, an alert message will display "Claims Data Reporting Plan was successfully saved".

Share Claims Data with the National Hospital Care Survey (Optional)

Hospitals may also opt in to share their submitted claims data for use in the National Hospital Care Survey (NHCS). The NHCS collects data on hospital resources and patient visits to produce high-quality, nationally representative insights into healthcare delivery. These data help answer key questions about

healthcare quality and resource utilization across the U.S. Participating hospitals that meet inclusion criteria will receive access to an Annual Hospital Report summarizing their data in the context of national trends.

To participate in NHCS, a facility's administrative team must complete within the NHSN Application:

1. Complete the Claims Data Reporting

   Complete a Claims Data Reporting Plan in the NHSN application as outlined in the "Add Claims Data to the Claims Data Reporting Plan (CDRP)" section

2. Review the NHCS Consent Language

   Before proceeding, the facility's appropriate leadership team (e.g., legal, compliance, or executive teams) should review the NHCS consent language.

3. Consent to Data Sharing

   - To consent, select the NHCS 'consent document' within the Claims Data Reporting Plan.
   - After the facility's leadership team has read and agrees to the consent document; then **Select** the box to '*Share with the National Hospital Care Survey*'

Important:
Consent must be granted before NHSN can share healthcare claims data with NCHS. By selecting the box under "Share with the National Hospital Care Survey", you are indicating that the leadership at your facility have read the consent document, and agree to provide your hospital inpatient and emergency department administrative claims encounter data (including patient identifiers) to the Centers for Disease Control and Prevention (CDC)'s National Center for Health Statistics (NCHS) National Hospital Care Survey (NHCS).

NHSN Healthcare Claims Data Reporting Template

For reporting claims data in the NHSN application, facilities must use the NHSN Healthcare Claims Data Template. The template includes six CSV files. When submitting this file, the six CSVs must be zipped together and uploaded into the NHSN application as a single compressed file. This structure supports scalable data capture, allowing for the inclusion of multiple diagnoses, procedures, and encounters per patient without limiting the number of records per category.

Each file must include all required fields as defined in the NHSN Healthcare Claims Data Dictionary. All files must include **NHSN_ORGID** to enable cross-file linkage. In addition, most files will also include **ENCOUNTER_ID**, **PT_MRN**, and **PT_CONTROL_NUM**. All dates must follow the MMDDYY or MMDDYYYY format as specified.

Reporting Cadence

Submitting Claims Data

Facilities are responsible for generating and submitting monthly claims data using the provided standardized CSV templates. This process will likely involve coordination across multiple roles within the

facility, including information technology (IT) staff, electronic health record (EHR) reporting analysts, and NHSN users.

- **IT or EHR Reporting Staff**: Responsible for creating and maintaining the data extraction script.
- **Data Coordinator or Analyst**: May assist in validating the data and preparing the ZIP file.
- **NHSN User or Authorized Submitter**: Responsible for logging into the NHSN application and uploading the ZIP file.

1. Data Extraction and Script Development

Facilities should work with their internal IT or EHR reporting teams to develop a script that extracts the required data and formats it in accordance with the CSV template specifications. Data can be sourced **directly from the EHR system or from existing forms such as the UB-04 or 837 institutional claims files.**

The script should:

- Map relevant fields from the source system to the CSV template.
- Include all required data elements, including **Protected Health Information (PHI)**, as this is permitted and required for this project.
- Format the data to match the CSV structure (e.g., date formats, code values, field lengths).

Once developed, the script can be reused monthly to generate updated reports with minimal manual effort. If facilities encounter issues with data mapping, script development, or uploading, they should contact the designated support team.

2. File Packaging

Before submission, ensure that all six CSV files have been generated and validated. Then combine all CSV files into a **single ZIP file**.

3. Uploading the ZIP File

To submit the data,

- Log into the NHSN application
- Navigate to the **Import/Export** option on the NHSN Home menu.
- Select **Claims Data** from the "Select import/export type" menu
- Upload your selected ZIP file containing the six CSVs, then select **Submit**.
- If the file was successfully uploaded the following message will display: *"The file was successfully enqueued and will be processed*".

The application will generate an email notification if there are errors found during the data validation process. If facilities encounter issues with data mapping, script development, or uploading, they should contact the designated support team. Sample scripts, field mapping guides, and technical assistance may be available upon request.

References

1. **National Uniform Billing Committee.** *Official UB-04 Data Specifications Manual.* Copyright © American Hospital Association. Used with permission under license granted to CDC for NHSN reporting. https://www.nubc.org/subscription-information

2. **Centers for Disease Control and Prevention.** *National Healthcare Safety Network (NHSN) Patient Safety Component Manual.* Updated 2025. https://www.cdc.gov/nhsn/pdfs/pscmanual/pscmanual_current.pdf

3. **Centers for Disease Control and Prevention.** *CDC Locations and Descriptions and Instructions for Mapping Patient Care Locations.* Updated 2025. https://www.cdc.gov/nhsn/pdfs/pscmanual/15locationsdescriptions_current.pdf

4. **Centers for Medicare & Medicaid Services.** *ICD-10.* CMS.gov. Accessed June 29, 2026. https://www.cms.gov/medicare/coding-billing/icd-10-codes

5. **Executive Office of the President, Office of Management and Budget.** *Revisions to OMB's Statistical Policy Directive No. 15: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity.* Federal Register. Published March 29, 2024. Accessed June 29, 2026. https://www.federalregister.gov/documents/2024/03/29/2024-06469/revisions-to-ombs-statistical-policy-directive-no-15-standards-for-maintaining-collecting-and

Appendices

Appendix 1.

Data Elements	Description	File Location
NHSN_ORGID	NHSN-assigned facility ID.	Patient, Encounter, Condition, Procedure, Revenue, File Date
ENCOUNTER_ID	Unique ID for the patient encounter.	Patient, Encounter, Condition, Procedure, Revenue
PT_MRN	Patient's medical record number assigned by the facility.	
PT_CONTROL_NUM	Unique control number for each patient encounter.	
REPORTING_MONTH	Two-digit month of the reporting period.	File Date
REPORTING_YEAR	Four-digit year of the reporting period.	
PT_LAST_FIRST_NAME	Patient's full name (last, first, middle initial).	Patient
PT_SSN	Patient's Social Security Number (optional).	
PT_ETHNICITY	Patient's ethnicity coded using OMB/CDC standards (e.g., 2135-2 = Hispanic or Latino)	
PT_RACE	Patient's race coded using OMB/CDC standards (e.g., 2106-3 = White)	
PT_DOB	Patient's date of birth (MMDDYYYY).	
PT_SEX	Patient's sex	
MARITAL_STATUS	Patient's marital status at time of encounter.	
PT_STREET_ADDRESS	Patient's mailing address.	
PT_ADDRESS_CITY	Patient's city of residence.	
PT_ADDRESS_STATE	Patient's state of residence.	
PT_ZIP_CODE	Patient's ZIP code.	
PT_COUNTRY	Patient's country (alpha-2 code).	
PT_COUNTRY_CODE	Patient's country code (ISO 3166-1 alpha-2).	
TYPE_BILL	Three-character code indicating the type of bill submitted	Encounter
STMT_FROM_DATE	Start date of the billing period (MMDDYY).	
STMT_THRU_DATE	End date of the billing period (MMDDYY).	
ADM_DATE	Date of patient admission (MMDDYY).	
ADM_HOUR	Hour of admission (00–23).	
ADM_TYPE	Single-digit code indicating the priority of the admission	
POINT_ORIGIN_CODE	Code indicating the source of the patient's admission or referral	
DIS_DATE	Patient's discharge date (optional).	
DIS_HOUR	Hour of discharge (00–23).	

DIS_STATUS	Two-digit discharge disposition indicating where the patient went after discharge (e.g., home, SNF, expired)	
PAYER_NAME_PRIM	Name of the primary payer.	
SOP_PRIM	Primary source of payment typology.	
PAYER_NAME_SEC	Name of the secondary payer (if applicable).	
SOP_SEC	Secondary source of payment typology.	
PAYER_NAME_TER	Name of the tertiary payer (if applicable).	
SOP_TER	Tertiary source of payment typology.	
DIAG_CODE_QUAL	Code version indicator—0 for ICD-10-CM or 9 for ICD-9-CM—specifying which ICD-CM revision is used.	Condition
DIAG_TYPE	Specifies the diagnosis type using standardized labels like PRINDIAG, ADMDIAG, ECIDIAG, OTHDIAG, and PTREASON.	
POA	Present on Admission indicator for each diagnosis (Y, N, U, W, or 1) as defined by CMS.	
DIAG_CODE	Diagnosis code(s) using valid ICD-CM codes for conditions identified or treated during the encounter.	
PROC_START_DATE	Date the procedure was performed (MMDDYY).	Procedure
PROC_CODE_QUAL	ICD version used for procedure codes.	
PROC_CODE	Procedure code(s) using valid ICD-CM codes for procedures performed during the encounter.	
REV_SER_DATE	Date of service for revenue line item (MMDDYY).	Revenue
REV_CODE	Four-digit revenue code identifying the department or type of service provided (e.g., 0450 = Emergency Room).	

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