



National Health &
Aging Trends Study

how daily life changes as we age

Obtaining Restricted CMS Data for the National Aging Trends Study (NHATS)

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I. Introduction

This document describes procedures for researchers to access Centers for Medicare and Medicaid Services (CMS) data files linked to the National Health and Aging Trends Study (NHATS). These linked files are NHATS Restricted Data that require additional protections to minimize risks of identifying participants. Access to these files is available to qualified researchers via the National Institute on Aging (NIA) Data LINKAGE Program (LINKAGE).

At this time, NHATS does not allow any geographic information to be linked to or exported from projects approved to access the NHATS-CMS linked files. Researchers interested in accessing other NHATS Restricted Data, including Geographic Data for NHATS and NSOC, should apply following procedures provided in "Obtaining National Health and Aging Trends Study Restricted Data from the NHATS Restricted Data Repository" (see <https://www.nhats.org/researcher/data-access>). With the exception of HRR and restricted tracker files, other NHATS restricted data files are not permitted to be linked to NHATS-CMS Linked Files.

Each NHATS-CMS Linked Files application will be reviewed by NHATS for conformance with the requirements outlined in these materials. Each application must state specific research aims and work scope to be performed. NHATS does not accept umbrella applications for networks, centers, or other coordinating efforts. Questions regarding the application process may be sent to: nhats-cms-data@umich.edu using the subject heading: **NHATS-CMS linked data question**.

II. The NIA Data LINKAGE Enclave

NHATS-CMS Linked Files are accessed through the NIA Data LINKAGE (LINKAGE) Enclave. The LINKAGE Enclave is a secure virtual desktop for accessing CMS data linked to NIA-funded studies. Data remain on the LINKAGE enclave servers and are accessed and analyzed by approved users virtually via a secure connection and an approved device.

The NIA Data LINKAGE program requires approved NHATS projects to apply for and maintain a separate DUA with NIA. Projects are also held to rules and regulations of the LINKAGE enclave.

For more information on the LINKAGE Enclave, please visit the NIA Data LINKAGE Program website: <https://www.nia.nih.gov/research/dbsr/nia-data-linkage-program-linkage>.

Please note that all results requested for export outside of the enclave must be reviewed for disclosure risks by both LINKAGE and NHATS staff.

III. Available NHATS Files

NHATS Files that are available to be linked with CMS files include: NHATS Public Files, NHATS Sensitive Files, and NSOC. Other NHATS files, such as the restricted geographic files, are not available to be

linked with CMS files.

IV. Available CMS Files

Available CMS files are organized by calendar year and are available as shown in Table 1.

NHATS has four cohorts: 2011, 2015, 2022, and 2023. All NHATS participants in the 2011 and 2015 cohorts are included in all linked CMS files, although years of data vary due to factors such as length of enrollment in the Medicare program or death. **Linkage of new NHATS participants added in 2022/2023 to their CMS records is forthcoming.**

Requests may be made for specific years or for all years as indicated on the NHATS-CMS Linked Data Request Form.

In addition to specifying files and years of data, requestors select a file format:

- 1) Standard format, which omits geographic and provider identifiers (meets the needs of most researchers), or
- 2) Provider format, which omits geographic identifiers but includes provider identifiers (**additional justification required**).

Table 1. CMS Files Available for NHATS in the LINKAGE Enclave

File	Years Available	
	Start year	End year
Medicare and Medicaid Summary Files		
Medicare and Medicaid Summary Files	2006	2024
Medicare enrollment data		
Master Beneficiary Summary File (MBSF): Base - Segment (A/B/C/D) file	2006	2024
Medicare-only summary files		
Master Beneficiary Summary File (MBSF): Chronic Conditions file	2006	2023
Master Beneficiary Summary File (MBSF): Other Chronic or Potentially Disabling Conditions file	2006	2023
Master Beneficiary Summary File (MBSF): Cost & Utilization file	2006	2023
Healthcare Effectiveness Data and Information Set (HEDIS) file	2015	2020
LINKAGE-built Medicare Provider Analysis & Review (MedPAR) file	2006	2023
Medicare Parts A, B, and C claims and assessments		
Medicare Parts A & B Carrier (PB) file	2006	2024
Medicare Part C (Encounter) Carrier (PB) file	2015	2023
Medicare Part C (Encounter) Carrier (PB) data - Chart Review Records (CRR) file	2015	2023
Medicare Parts A & B Durable Medical Equipment (DM) file	2006	2024
Medicare Part C (Encounter) Durable Medical Equipment (DME) file	2015	2023
Medicare Part C (Encounter) Durable Medical Equipment (DME) data - Chart Review Records (CRR) file	2015	2023
Medicare Parts A & B Home Health (HH) file	2006	2024
Medicare Part C (Encounter) Home Health Agency (HH) file	2015	2023
Medicare Part C (Encounter) Home Health Agency (HH) data - Chart Review Records (CRR)	2015	2023
Medicare Assessments - Home Health Agency Outcome and Assessment Information Set (OASIS) file	2006	2023
Medicare Parts A & B Hospice (HS) file	2006	2024
Medicare Parts A & B Inpatient (IP) file	2006	2024
Medicare Part C (Encounter) Inpatient (IP) file	2015	2023
Medicare Part C (Encounter) Inpatient (IP) data - Chart Review Records (CRR) file	2015	2023
Medicare Assessments - Inpatient Rehabilitation Facility (IRF)-Patient Assessment Instrument (PAI) file	2006	2023

Medicare Parts A & B Outpatient (OP) file	2006	2024
Medicare Part C (Encounter) Outpatient (OP) file	2015	2023
Medicare Part C (Encounter) Outpatient (OP) data - Chart Review Records (CRR) file	2015	2023
Medicare Parts A & B Skilled Nursing Facility (SN) file	2006	2024
Medicare Part C (Encounter) Skilled Nursing Facility (SNF) file	2015	2023
Medicare Part C (Encounter) Skilled Nursing Facility (SNF) data - Chart Review Records (CRR) file	2015	2023
Medicare Assessments - Long-Term Care Minimum Data Set (MDS) file	2006	2023
Medicare Part D drug information		
Medicare Part D Medication Therapy Management (MTM) file	2013	2021
Medicare Part D Prescription Drug Event (PDE) file	2006	2024
Medicaid enrollment data		
Medicaid Analytic eXtract (MAX) Personal Summary (PS) file	2006	2015
TMSIS Analytic Files (TAF) Demographic and Eligibility (DE) file	2014	2023
Medicaid-only summary		
TMSIS Analytic Files (TAF) Annual Provider (APR) file	2014	2023
TMSIS Analytic Files (TAF) Annual Managed Care Plan (APL) file	2014	2023
Medicaid claims		
Medicaid Analytic eXtract (MAX) Inpatient (IP) file	2006	2015
TMSIS Analytic Files (TAF) Inpatient (IP) file	2014	2023
Medicaid Analytic eXtract (MAX) Long Term Care (LT) file	2006	2015
TMSIS Analytic Files (TAF) Long Term Care (LT) file	2014	2023
Medicaid Analytic eXtract (MAX) Other Services (OT) file	2006	2015
TMSIS Analytic Files (TAF) Other Services (OT) file	2014	2023
Medicaid Analytic eXtract (MAX) Prescription Drug (RX) file	2006	2015
TMSIS Analytic Files (TAF) Pharmacy (RX) file	2014	2023

Linking to HRR & Restricted Tracker Files

External files available for linkage with NHATS-CMS linked data files include a file containing Hospital Referral Regions (HRR) linked to NHATS Sample Persons (SPs) and restricted tracker files that contain the date of the NHATS interview. These files will be made available to approved researchers in the LINKAGE enclave. For more information on how the HRRs were developed go to <https://www.dartmouthatlas.org/data/>. Note that HRR files can only be requested with Standard format CMS files only. At this time, contextual data (e.g., the area deprivation index) may **not** be linked to HRR.

Plans to link to the HRR or restricted tracker files should be specified in the applicant's research plan and indicated in the HRR & Restricted Tracker Files Request Form.

External File Linkages

Users may request to bring other non-identifiable external files into the LINKAGE Enclave via an approved research plan, External File Request Form, and NHATS DUA.

External file linkage – or imports – outside of code and documentation, need to be outlined in an approved research plan and documented in an External File Request Form.

V. NHATS-CMS Linked Files Applicants and Team Member Roles

Investigator (Applicant) Requirements

To be eligible to apply for NHATS-CMS linked files, an Investigator must:

- 1) have a PhD or other terminal degree (e.g. MD-MPH) and hold a full-time faculty-level (or equivalent research) appointment at a U.S.-based university or research institution,
- 2) be a U.S. citizen (this is an NIA requirement), and
- 3) be affiliated with an Institution that holds a Federal Wide Assurance (FWA) from the Office for Human Research Protection of the Department of Health and Human Services (see <https://www.hhs.gov/ohrp/register-irbs-and-obtain-fwafwas/fwa-protection-of-human-subject/index.html>)

Investigators collaborating at different institutions must have one Investigator at each institution who meets the qualifications to apply if both institutions are requesting access to the data through the LINKAGE enclave.

Pre-doctoral students, post-doctoral fellows, or clinical fellows interested in applying for access to NHATS-CMS Linked Files must have their mentor/advisor apply as the Investigator (applicant) and may be listed as Research Staff on the application.

Roles for NHATS-CMS Applications

- **Investigator** - This individual is considered the Principal Investigator of the project and must meet all applicant requirements
- **Co-Investigator** – This individual collaborates with the requesting Investigator and must hold a faculty-level (or equivalent research) appointment at the Investigator's institution
- **Research Staff** – This individual must have a formal affiliation with the Investigator's institution and be under the supervision of the Investigator. Students and fellows, along with research staff, have this role.
- **Receiving Agency Representative** – This individual has authority to sign the NHATS Data Use Agreement (DUA) on behalf of the Investigator's Institution. The representative must have the authority to bind the institution contractually and is typically found at the Investigator's institution's office of sponsored programs or projects.

All Investigators, Co-Investigators and Research Staff who will have access to the NHATS-CMS Linked Files on an NHATS DUA, must be registered NHATS users (see <https://www.nhats.org/user/register>), and must have a formal affiliation with the Investigator's (applicant's) institution.

Processes for Collaborating Investigators at Another Institution

A collaborating Investigator at another institution – or a collaborator who moves to a new institution – who wishes to gain or continue access to the NHATS-CMS Linked Files must submit a separate application to NHATS (see Application Process).

The individual will be designated the Investigator for their institution and must meet all Investigator requirements. They may include additional Co-Investigators and Research Staff from their institution on their application. All Investigators, Co-Investigators and Research Staff at collaborating institutions who will work with the NHATS-CMS Linked Files must be on the collaborating Investigator's DUA, must be registered NHATS users (see <https://www.nhats.org/user/register>), and must have a formal affiliation with the collaborating Investigator's institution.

Research team members who move institutions are required to notify NHATS prior to the move. A new DUA with the new institution is required to maintain access to NHATS restricted data. User accounts will be suspended until a new DUA is executed.

VI. Requirements for NHATS-CMS Linked Files Applications

Information on each required element of an application is discussed below.

1) Application Checklist

This form helps investigators keep track of the various elements required for the application. It also serves as an acknowledgement that the investigator (applicant) has ensured all research team members are registered NHATS users and that all research team members have read the rules regarding minimizing disclosure risk.

2) Investigator Form

This form is needed for our database. Please note that any changes in the contact information listed on this form should be communicated to nhats-cms-data@umich.edu. NHATS does not accept umbrella applications for networks, centers, or other coordinating efforts.

3) Project Forms and Documents

(a) Project title and abstract

The project title, abstract, and research plan should reflect the same theme/aims for the project.

(b) Research plan

Each application must state specific research aims and work scope to be performed. Detailed information on the study's analytic sample, expected sample sizes, variables/constructs, and need for restricted data is required.

Research plans are reviewed for feasibility with respect to expected sample size and appropriateness of requested data to answer the research aims.

Applicants are encouraged to seek out information on the NHATS.org website to gain a sense of feasibility with respect to sample size. Applicants are also encouraged to read the restricted data disclosure minimization rules prior to submission of the research plan.

(c) CV or Biosketch for Investigator and Co-Investigator(s)

(d) Copy of *full or expedited* IRB approval

IRB/Human Subjects approval at the Investigator's institution should use standards for live human subjects. IRB approval must be at either the Full or Expedited level; access to these data **does not** qualify as exempt secondary analysis. A memo explaining the type of human subjects review that is being requested by NHATS

and the reasons for it is provided for use as needed.

4) NHATS-CMS Linked Files Data Request Form

Data that are requested on any file request forms should be closely linked to the research plan.

5) External File Linkage Request Form (if applicable)

Any data files that will be imported into the enclave need to be documented on an external file request form. They should also be closely linked to the research plan.

6) HRR & Restricted Tracker Files Request Form (if applicable)

7) Signed copy of the NHATS Restricted Data Use Agreement (DUA)

Please read the DUA closely prior to signing. Principal investigators are not receiving agency representatives. Only research team members requesting enclave access need to be a party to the DUA. Research team members that do not need enclave access do not need to sign the DUA or other forms.

8) Signed NHATS Supplemental Restricted Data Use Agreement with Research Staff (if applicable)

9) Investigators Collaborating Across Institutions (if applicable)

(a) Project Forms and Documents for each Investigator listed

Investigators collaborating at different institutions must each complete a separate application with a common title, file request form, and research plan. A separate DUA and IRB approval (or proof that another institution serves as the IRB of record) is required for each institution. Only individuals at the applicant's own institution should be listed as Co-Investigators, Research Staff or users on a given application.

10) List of Users Requesting LINKAGE Access

As of 6/6/25, all Principal Investigators must request access to the enclave.

11) For each user:

(a) NHATS Acceptable Use Policy

(b) A Data Security Plan

Elements of the Data Security Plan:

- Currently supported Operating System
- Anti-virus software (even for Macs)
- Affirmation that the computer monitor position prevents eavesdropping (private office preferred)
- A privacy screen if accessing the LINKAGE enclave from a shared office, a cubicle, or other shared workspace
- The address from which connections to the Enclave will be made

VII. Application Process

For Investigators who are applying for funding to support use of the NHATS-CMS linked files, NHATS is willing to provide a written statement to accompany applications.

Investigators with existing projects under a prior CMS data use agreement who would like to request new files need to file new applications and obtain new DUAs from NHATS and NIA.

Obtaining access to the NHATS-CMS Linked Files through the LINKAGE enclave requires: (1) approval and a DUA from NHATS, and (2) a National Institute on Aging (NIA) DUA. The steps in the process are described below.

1. Application for a DUA with NHATS

Step 1: To initiate a new application, complete and sign the required forms and documents. Forms should be downloaded, completed, signed, and submitted as PDFs to nhats-cms-data@umich.edu. Please use the subject heading: ***NHATS-CMS Linked Restricted Data Application***.

Step 2: NHATS will review the documents submitted. The review of projects focuses on whether or not the data requested are required for the research plan submitted and whether or not the project is feasible given the limitations of the dataset. Initial review of documents takes 2-6 weeks. Any questions, or needed revisions, will be communicated to the Investigator.

Step 3: Once NHATS approves the application, the DUA will be countersigned by NHATS and Johns Hopkins University. The applicant will receive:

- A fully executed DUA
- A letter for submission to LINKAGE (<https://www.nia.nih.gov/research/dbsr/nia-data-linkage-program-linkage>) that indicates NHATS approval of the application.

2. Application Process to Obtain NIA DUA following NHATS DUA Approval

An NIA DUA is required to access the NHATS-CMS Linked Files in the LINKAGE Enclave. To obtain an NIA DUA, please follow the instructions at <https://www.nia.nih.gov/research/dbsr/access-or-share-linkage-data>. This process can take some time and applicants are encouraged to plan ahead.

VIII. Acceptable Uses of the Restricted Data

Scientific and Non-identifiable Use Only

As specified in the NHATS DUA, restricted data – both original files and variables or fields derived from them - can be used **only** for scientific and public policy statistical research purposes that are specified in the Research Plan and only for statistical (summary) reporting that does not permit identification of an individual, family or facility either directly or indirectly.

Approved Users and Usage Only

Only approved individuals may be given an account in the LINKAGE enclave, which houses the NHATS-CMS Linked Data Files.

Guidelines for acceptable use:

- 1) Users **may only access the enclave from approved locations and equipment** specified in the Data Security Plan form and in compliance with LINKAGE guidelines
- 2) Users **must position the screen to prevent unauthorized user from viewing the NHATS restricted data and lock the computer when they step away**. If this is not possible, a privacy screen is required.
- 3) Users may not print, take screenshots, pictures, screen-share, transcribe or otherwise duplicate data or results of data analysis, even with members of their own study team
- 4) Users may not share login information (account name, password or token values) or permit viewing of their LINKAGE account including output
- 5) Users may not attempt to identify NHATS participants

Vetted Exports Only

Prior to removal, all information will be reviewed for disclosure risk (i.e. “vetted”) by the NHATS compliance officer and LINKAGE staff. Tabulations with cells/strata < 11, including minimum and maximum values for individual cases, may not be removed from the enclave. Additional cells may be suppressed if they may lead to uncovering cells/strata size <11 through subtraction. For more information on minimizing disclosure risks and vetting requirements, see [The NHATS Restricted Data Vetting Handbook](#).

IX. Modifications to the Data Use Agreement

Complete the Modification Cover Sheet when requesting a modification. Details on required documentation when requesting a modification are provided on the cover sheet. Further information on some common modifications to the DUA is listed below.

Adding A Collaborator at a Different Institution or An Existing Collaborator at a New Institution

All changes to project team member institutional affiliations require an updated DUA and application materials. It is **not** permitted for a faculty member who changes institutions to continue accessing the enclave without approval. Before access to the data is to be granted to an additional collaborator at a new institution, or to an existing collaborator at a new institution, a modified DUA with the new collaborator/institution must be submitted and approved, and a modified research plan must be submitted and approved (if applicable). Once all paperwork is approved the individual will be given access the restricted data.

Adding New Research Staff to an Existing Project After Approval

Applicants who want to add new study staff members should complete: the modification cover sheet, the Restricted Data Supplemental Agreement with New Research Staff form, an updated list of users requesting access to the enclave, and DSPs for the new staff member. Before access to the data is to be granted to an additional collaborator, a modified DUA or New Research Staff form with the new collaborator must be submitted and approved. It is **not** permitted for a faculty member to obtain access to the data for his/her own research project and then "share" their account information with a graduate student or a colleague.

Extending the Original DUA

NHATS DUAs expire once the Investigator notifies NHATS that the project has ended or 3 years from the DUA effective date, whichever occurs first. Once the DUA expires, all enclave accounts will be closed, unless a 3-year DUA extension has been requested and approved. A 3-year extension may be requested by submitting a signed Restricted Data Use Agreement Extension Request to nhats-cms-data@umich.edu. NIA DUAs are maintained by NIA.

Adding New CMS Files to an Existing Project After Approval

The steps below should be followed for requests to add new CMS files to an existing LINKAGE enclave project consistent with the Research Plan in the DUA.

Step 1: To add new CMS files to an existing NHATS DUA, complete and sign the required forms and documents listed below and submit these as PDFs to nhats-cms-data@umich.edu. Please use the subject heading: ***NHATS-CMS Linked Restricted Data Application Update.***

- Investigator Form
- NHATS-CMS Linked Data Request Form
- HRR & Restricted Tracker Files Request Form (if applicable)
- External File Linkage Request Form (if applicable)

Step 2: NHATS will review the documents submitted and any questions, or needed revisions, will be communicated to the Investigator. Once NHATS approves the application, the applicant will receive a letter for submission to LINKAGE indicating NHATS approval of the application to update the existing DUA to add new CMS files. Follow the instructions at <https://www.nia.nih.gov/research/dbsr/access-or-share-linkage-data>.

Adding a File Linkage to an Existing Project After Approval

If the file linkage (HRR, tracker files, or external file) is referenced and closely aligned with the original research aims, only relevant file request forms are needed. New requested linkages that represent departures from the original research aims require the submission of an updated research plan and file request form for review.

X. Sanctions for Violation of the Agreement

The NHATS Data Use Agreement specifies four possible sanctions against researchers who violate the terms of the agreement:

- 1) denial of future access to NHATS Restricted Data;
- 2) report of the violation to the Receiving Institution's office responsible for scientific integrity and misconduct, with a request that sanctions be imposed under the institution's scientific integrity and misconduct policy;
- 3) report of the violation to research funding agencies, with a recommendation that all current research funds be terminated, and all future funds be denied, to the Investigator(s) and to all other persons implicated in the violation; and
- 4) such other remedies as may be available to NHATS under law.

If NHATS staff suspect that there may have been a violation of the Agreement, NHATS will communicate the allegations in writing to the Investigator and offer the Investigator an opportunity to respond in writing. NHATS may also, at the time the allegations are communicated, remove access to NHATS Restricted Data by Investigator(s), Co-Investigators and Research Staff.

If NHATS determines that the allegations of violations were incorrect, NHATS will restore access under the conditions of the original Agreement. If NHATS determines that the allegations of violations of the Agreement were in any part correct, it will determine the appropriate sanction. If the sanction includes notification of funding agencies with a recommendation to terminate current and deny future research funding, NHATS will communicate its notification of violations and recommendations to the NHATS Program Officer at the National Institute on Aging, who will in turn convey it to appropriate officials at the NIH Office of Scientific Integrity, and other federal agencies.