



National Health &
Aging Trends Study

how daily life changes as we age

Obtaining National Health and Aging Trends Study Restricted Data from the NHATS Restricted Data Repository

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I. Introduction

This document describes procedures for researchers to access Restricted Data files from the National Health and Aging Trends Study (NHATS) and the National Study of Caregiving (NSOC) via the NHATS Restricted Data Repository. NHATS and NSOC Restricted Data Files require additional protections to minimize risks of identifying participants. Access to these files is available to qualified researchers through a partnership with the Michigan Center on the Demography of Aging (MiCDA) at the University of Michigan's Institute for Social Research (ISR).

The procedures in this document may be used for all files in the repository except the NHATS Restricted Genetics files. Researchers interested in using NHATS Restricted Genetics files (except for NHATS Restricted APOE files) should apply using "Obtaining Restricted Genetics Data from the NHATS Restricted Data Repository" available at www.nhats.org.

Centers for Medicare and Medicaid Services (CMS) files are not available through the NHATS Restricted Data Repository. Researchers interested in using CMS data (with or without Hospital Referral Region files or the Restricted Tracker Files) should apply using "Obtaining Restricted CMS Data for the National Health and Aging Trends Study" available at www.nhats.org.

Each application for access to the Restricted Data Repository 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. The NHATS Restricted Data Repository does not accept umbrella applications for networks, centers, or other coordinating efforts. Questions regarding the application process may be sent to: nhats-restricted-data@umich.edu. Please use the subject heading: Application query (Investigator Name).

II. The MiCDA Virtual Data Enclave

The MiCDA Virtual Data Enclave (VDE) provides remote access to the NHATS Restricted Data Repository through a virtual desktop infrastructure. Data remain on MiCDA enclave servers and are accessed and analyzed by approved users virtually via an encrypted connection. **Please note that all results requested for export outside of the enclave must be reviewed for disclosure risks by NHATS staff.**

Security measures. Login to the enclave requires two-factor authentication. Data files cannot enter or be removed from the NHATS repository by the researcher. Output and programs will be reviewed for disclosure risk by the repository director or their designee prior to removal. Users agree to access data only from locations specified in the MiCDA Data Security plan form. Users agree not to transcribe results as specified in MiCDA's Secure Data Enclave Acceptable Use Policy and not to attempt to identify subjects as specified in the ISR Pledge of Confidentiality.

Software. Each workstation is equipped with a suite of statistical software (including SAS, Stata, SPSS, MatLab, R, and Stat/Transfer) and Microsoft Office.

III. NHATS Restricted Data Repository Data Availability

Files available to approved users via the NHATS Restricted Data Repository include:

- NHATS Geographic Files
- NSOC Geographic Files
- NHATS SP-NHATS OP Distance Files
- NHATS SP-NSOC CG Distance Files
- NHATS Restricted Tracker Files
- NHATS 1940 Census Files
- NHATS 1940 Census Geographic Files
- NHATS COVID-19 Geographic File
- NHATS SP-NHATS COVID FF Distance File
- NHATS COVID-19 Restricted File
- NHATS Restricted APOE Files

Detail on files that may be requested is provided in Table 1. The NHATS Data Repository also includes a complete set of NSOC and NHATS sensitive files that may be requested. In addition, the repository includes all NHATS public use files.

NHATS Restricted APOE Files may not be linked to any other NHATS Restricted Files at this time.

Table 1. File Folders Available in the NHATS Restricted Data Repository

File Folder	Description	Years available
NHATS Geographic Files (versions using 2010 and 2020 Census boundaries available)	Sample person's city, state, county, zip code and census tract	Annual SP Geographic Files
	Sample person's metro/non-metro status ¹	Annual Metro files
	Sample person's Hospital Referral Region ²	Annual HRR file
	Sample person's city, state living at age 15, country of birth if born outside of US	Baseline SP files (e.g. 2011, 2015, 2022/2023)
	Spouse/partner, child, and household member city, state	Annual OP Geographic Files
NSOC Geographic Files (versions using 2010 and 2020 Census boundaries available)	Caregiver's city, state, county, zip code and census tract	2011, 2015, 2017, 2021, 2022, 2023
NHATS SP-NHATS OP Distance Files	Distance from NHATS SP to child	Annual files

	Contains all records where op#relatnshp = 3 or 4 or 7 or 8 (children or step-children). Distance is rounded to the nearest mile and top-coded to 2500. Distance is calculated based on latitude/longitude values for the SP's address and the centroid of the child's city/state.	
NHATS SP-NSOC CG Distance Files	Distance from NHATS SP to NSOC caregiver Distance is rounded to the nearest mile and top-coded to 200. Distance is calculated based on latitude/longitude values for the SP's address and the NSOC caregiver's address.	2011, 2015, 2017, 2021, 2022, 2023
NHATS Restricted Tracker Files	Day NHATS interview conducted	Annual cumulative file
NHATS 1940 Census Files ³	Sample Person File with SP and Household Characteristics Other Person File	2015
NHATS 1940 Census Geographic Files	Geographic information below state (additional justification required)	2015
NHATS Long-Term Care Market Measures Files	County-level market measures reflecting the availability of long-term care services and supports in the United States	2010-2020
NHATS COVID-19 Geographic File	City, state, county, zip code and census tract of family members or friends who helped the NHATS Sample Person most during the COVID-19 outbreak.	2020
NHATS SP-NHATS COVID FF Distance File	Distance from NHATS SP to COVID FF Distance is rounded to the nearest mile and top-coded to 200. Distance is calculated based on latitude/longitude values for the SP's address and the COVID FF respondent's address.	2020
NHATS Restricted COVID-19 File	Answers to open-ended question about how COVID has affected SP's life	2020
NHATS Restricted APOE Files	An APOE haplotype and associated data constructed from imputed genetic data for NHATS SPs who provided dried blood spot-based DNA in Round 7 (2017).	2017

¹ The metro/non-metro indicators use the 2013 Rural-Urban Continuum Codes (RUCC). See <https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/> for details.

² Developed by the Dartmouth Atlas of Health Care. See <https://www.dartmouthatlas.org/data/> for details. This file lags other geographic files by about a year or two.

³ See <https://usa.ipums.org/usa/voliii/items1940.shtml> for details.

IV. MiCDA Geographic Linkages Repository

Users may request to bring non-identifiable contextual files into the enclave via an approved research plan and NHATS Data Use Agreement (DUA). Users also may request access to folders in the MiCDA Geographic Linkages Repository (GLR) to link to NHATS/NSOC. See Table 2 for a current list of the file folders available in the MiCDA GLR. **By requesting to use data deposited with GLR, users agree to cite any GLR data sources used in their publications and presentations.** For more details, including citations, see micda.isr.umich.edu/enclave/linkages/.

Table 2. File Folders Available in the MiCDA Geographic Linkages Repository (GLR)

File Folder	Description
Contextual Data Resource (CDR)	The Contextual Data Resource (CDR) is a collection of datasets designed to facilitate research on the role of place in shaping health and well-being. CDR includes measures of health care resources, demographic and socioeconomic data, air quality, crime, and the food environment. Measures are available at various levels of geography (e.g., census tract, county, metro area, state). More detailed information can be found on the CDR webpage .
Dartmouth Atlas of Health Care	These data document variations in how medical resources are distributed and used in the United States. The project uses Centers for Medicare and Medicaid Services (CMS) data to provide information and analysis about national, regional and local markets. Measures are available at various levels (e.g., Hospital Referral Region (HRR), Hospital Service Area (HSA), State and County) and for time periods starting in the 1990s. Each set of files includes a data dictionary. Data files focus on Medicare beneficiaries ages 65 and older. Visit https://www.dartmouthatlas.org/ or https://dataverse.dartmouth.edu/dataverse/atlas for further information.
Historic Redlining	These data are the Historic Redlining Indicator (HRI) created by the Mapping Inequality project as the summed proportion of the federal Home Owners' Loan Corporation's residential security grades multiplied by a weighting factor based on area within census tracts. A higher score means greater redlining of the census tract. The 1930s HOLC maps were calculated for 2000, 2010 and 2020 census tracts for 142 cities across the U.S. The data contain continuous HRIs and categorical variables as follows: 1 for "A" grade, 2 for "B" grade, 3 for "C" grade, and 4 for "D" grade. More information is available at the Mapping Inequality project website .
IPUMS Contextual Determinants of Health	The IPUMS Contextual Determinants of Health (CDOH) data files provide access to measures of disparities, policies, and counts, by state or county, for historically marginalized populations in the United States including Black, Asian, Hispanic/Latina/o/e/x, LGBTQ+ persons and women.

LTC focus database (LTCFocus)	The Long-Term Care Focus (LTCFocus) datasets include data regarding the health and functional status of nursing home residents, characteristics of care facilities, and data characterizing the markets in which facilities exist. Compiled data are gathered from a variety of primary and secondary sources, including MDS, OSCAR, and other sources that characterize the policy environment and local market forces affecting nursing home providers at the state and county level. Most measures are available annually from 2000 to 2020. Visit https://ltcfocus.org/ for additional information.
National Neighborhood Data Archive (NaNDA)	NaNDA is a nationwide collection of data with measures of the demographic, economic, social, and physical environments, generally at the level of Zip Code Tabulation Areas (ZCTA) and Census Tract. Measures cover socioeconomic and demographic data, urbanicity, broadband and internet access, establishments or organizations by type, health care services, crime, schools, parks, public transit stops, polluting sites, roadways, street connectivity, traffic volume, voter patterns. A Zip Code to ZCTA crosswalk is included. More detailed information can be found on the NaNDA webpage and at OpenICPSR .
State Education Context Data Resource (S-ECDR)	The S-ECDR captures 43 key analytic indicators of state-level education context and quality spanning 1919/20-1973/74. There are 4 linking variables (e.g., state FIPS code) that can be used to merge the S-ECDR to other datasets, 2 geographic variables (i.e., census region and division), 13 variables that adjust the dollar amounts in each year to 2022 prices using the Consumer Price Index (CPI), and 36 flag variables that indicate the state-years when missing values were imputed.
State Policy and Politics Database (SPPD)	The State Policy & Politics Database (SPPD) is a compilation of annual data on state policies and politics that are particularly relevant for population health. The SPPD includes several categories of policies, including labor and economic policies (e.g., minimum wage levels, right to work laws), social safety net policies (e.g., earned income tax credits, SNAP), behavior-related policies (e.g., tobacco taxes, opioid prescribing), as well as the political ideology of the states' government and citizens. Most measures are available annually from 1980 to 2021. More detailed information can be found on the SPPD website .
U.S. COVID-19 County Policy (UCCP) Database	The U.S. COVID-19 County Policy (UCCP) Database presents and assesses geographic and longitudinal variation in U.S. COVID-19-related policies at the county and state levels for 309 counties in 50 states and Washington D.C. Although these counties are not nationally representative, they included over half of the U.S. population and are diverse with respect to geography, the race/ethnicity of residents, and political climate. Weekly data were collected between January 2020 and December 2021 on a wide range of COVID-19-related policies that were in effect, providing a longitudinal picture of county policies during that period.

V. NHATS Restricted Data Repository Applicants and Team Member Roles

Investigator (Applicant) Requirements

To be eligible to apply for NHATS Restricted Data, an Investigator must:

- 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, and
- 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 MICDA enclave.

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

Roles for NHATS Restricted Data Repository 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
- **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.
- **User** – This individual is requesting an account in the MiCDA Virtual Data Enclave to access the NHATS Restricted Data Repository and may be the Investigator, Co-Investigator or Research Staff listed on the application.

All Investigators, Co-Investigators and Research Staff who will work with the NHATS Restricted data must be on an NHATS DUA, must be registered NHATS users (see <https://www.nhats.org/user/register>), and must have a formal affiliation with the Requesting Investigator’s institution.

Processes for Collaborating Investigators at Another Institution

A collaborating Investigator at another institution who wishes to access the NHATS Restricted Data Repository must submit a separate application (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 Restricted data 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 Restricted Data Repository 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-restricted-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) File 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) 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.

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

8) 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.

9) List of Users Requesting Enclave Access

All PIs must request access to the enclave.

10) For each user:

(a) A Data Security Plan

Elements of the Data Protection 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 Enclave from a shared office, a cubicle, or other shared workspace
- The address from which connections to the Enclave will be made
- Telephone number at which DUO (dual factor authentication system) can call the researcher

(b) Signed MiCDA Acceptable Use Policy Agreement

(c) Signed NHATS Acceptable Use Policy Agreement

(d) Signed ISR Pledge of Confidentiality

VII. Application Process

The application process requires the following steps:

Step 1: Complete and sign the required forms and documents. Be sure all individuals listed on the NHATS DUA are registered NHATS users (see <https://www.nhats.org/user/register>).

Step 2: Submit the application materials electronically to NHATS-restricted-data@umich.edu using the subject heading: Restricted Data Application (Investigator Name).

Step 3: NHATS will review the documents submitted. Any questions, or needed revisions, will be communicated to the Requesting Investigator.

Step 4: Once NHATS approves the application, the DUA will be countersigned by NHATS and Johns Hopkins University. MiCDA accounts will then be set up and users will be given access to files in the DUA. A fully executed DUA will be sent to the applicant along with instructions on how to log into the MiCDA Virtual Data Enclave.

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. Each application must state specific research aims and work scope to be performed. The NHATS Restricted Data Repository does not accept umbrella applications for networks, centers, or other coordinating efforts.

Approved Users and Usage Only

Only approved individuals may be given an account in the Michigan Center for the

Demography of Aging (MiCDA) Virtual Data Enclave (VDE), which houses the NHATS Restricted Data Repository. As specified in **MiCDA's Acceptable Use Policy**:

- 1) Users **may only access the enclave from approved locations and equipment** specified in the MiCDA Data Security plan form
- 2) Users **must position the screen to prevent unauthorized user from viewing the NHATS restricted data and lock the computer when they step away**
- 3) Users may not print, take screenshots, pictures, screen-share, transcribe or otherwise duplicate data or results of data analysis
- 4) Users may not share login information (account name, password or token values) or permit viewing of their VDE account including output
- 5) Users may not attempt to identify NHATS subjects, as is specified in the ISR Pledge of Confidentiality

Vetted Exports Only

Prior to removal, all information will be reviewed for disclosure risk by the NHATS restricted data repository director or their designee. Tabulations with cells/strata < 11, including minimum and maximum values for individual cases, may not be removed from the NHATS restricted data repository. Additional cells may be suppressed if they may lead to uncovering cells/strata size <11 through subtraction. Tabulations and/or visual representations or coefficients based on geographic areas below the Census Division may not be removed from the enclave. For more information on minimizing disclosure risks and vetting requirements, see the NHATS Restricted Data Vetting Handbook, located on the nhats.org website.

IX. Modifications to the Data Use Agreement

Complete the Restricted Data Repository 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.

NHATS allows a 60-day grace period between the original DUA expiring and an extension being signed. Beyond those 60 days, a new DUA is required.

A 3-year extension may be requested by submitting a signed Restricted Data Use Agreement Extension Request to nhats-restricted-data@umich.edu.

Adding a File Linkage to an Existing Project After Approval

If the external file linkage 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 Restricted 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.