National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) Restricted Data Available at the NCHS Research Data Center

For researchers who want to use NAMCS and NHAMCS data but need data items that are not available on the downloadable public use micro-data files, the Research Data Center (RDC) at the National Center for Health Statistics is an alternative. Researchers must submit a proposal which is reviewed by NCHS staff. Fees are charged for accessing the data. More information is available at http://www.cdc.gov/rdc.

What types of NAMCS and NHAMCS data can researchers get at the RDC? Any of the data items collected on the NAMCS and NHAMCS Patient Record forms and the Physician and Hospital Induction Interview forms may be requested, subject to approval and certain disclosure limitations. Various items on the public use file, such as sample design variables, are masked each year; access to restricted files can allow the researcher to obtain non-masked data. Other variables that are not released on the public use files at all, may also be requested.

NCHS staff are currently developing detailed data dictionaries (codebooks) for RDC versions of NAMCS and NHAMCS files. To date, a complete set of NHAMCS Emergency Department codebooks for restricted use files covering the lifecycle of the survey from1992-2022 is available for researcher use. These codebooks can be requested from RDC staff. Codebooks are also available for the restricted 2012 and 2013 NHAMCS Outpatient Department visit files, and additional Outpatient Department codebooks are in progress.

NAMCS and NHAMCS survey instruments can be found here and provide further information about what is available. Some of the most frequently requested items are listed below, but please do not hesitate to contact the Data Analytics and Production Branch in the Division of Health Care Statistics at ambcare@cdc.gov or 301-458-4600 for assistance.

National Ambulatory Medical Care Survey

NAMCS ended visit-level data collection in 2019. In 2020 and 2021, only provider-level information was collected. The survey was not conducted in 2022 and was redesigned in 2023 to include a sample of office-based physicians and another sample of physician associates (also known as physician assistants). The survey was conducted again in 2024 and in 2025, but in 2025 only physician associates were sampled. Restricted use files are available for the provider-level data collections (see 2020 and 2021 here), but data for 2023, 2024, and 2025 are not weighted and national estimates cannot be made. The 2025 NAMCS data are expected to be released through the RDC in Summer 2026. More information is available for 2023 here and for 2024 here.

For survey years through 2019, when NAMCS data were released as public use files at the visit level, non-masked versions of the public use file variables are available. These files may be requested to also include these variables:

Non-masked design variables

CSTRAT, CPSU, POPCPSU, POPCPROV, SUBFILE, PROSTRAT, PROVIDER, DEPT, SUSTRAT, SU, CLINIC, POPSU, POPVIS

Note: Only CSTRAT AND CPSU are needed for variance estimation in most analyses, for example, with SUDAAN WR option, or SAS, SPSS, or Stata variance estimation based on an ultimate cluster model. For analyses with SUDAAN WOR option, or other full multi-stage models, the additional design variables are provided. If you are unsure which you need, please contact Data Analytics and Production Branch staff at ambcare@cdc.gov or 301-458-4600 for assistance.

Physician practice variables

MULTI - Single or multi-specialty practice (2001-2024)

NUMPHYR – Number of physicians in this practice (2001-2024)

FGRAD – Did physician graduate from foreign medical school? (2001-2021)

MDAGE – Physician age

PHYSEX – Physician sex

PHYRACE – Physician race (added to the restricted file starting in 2001, but not available 2008-2009 except for community health center physicians; collected for all physicians 2010-2024)

SPEC – Physician's 3-digit alphanumeric specialty code (only available on the restricted file starting with the 2008 survey year; in previous years this variable was available on the public use file)

The following 12 variables were added to the restricted file starting with 2006 data but were not collected after 2008:

CTSCAN - Does practice have ability to perform CT scans on site?

CHEMO - Does practice have ability to perform chemotherapy on site?

COLONSC - Does practice have ability to perform colonoscopy on site?

EKGECG- Does practice have ability to perform EKG/ECG on site?

MAMMOPII - Does practice have ability to perform mammography on site?

MRIPII - Does practice have ability to perform MRI on site?

PETSCAN - Does practice have ability to perform PET scans on site?

RADITHR - Does practice have ability to perform radiation therapy on site?

SIGMOID - Does practice have ability to perform sigmoidoscopy on site?

SPIROM - Does practice have ability to perform spirometry on site?

ULTRSND - Does practice have ability to perform ultrasound on site?

XRAYPII - Does practice have ability to perform x-rays on site?

Visit variables

PATIENT DATE OF BIRTH – Exact patient date of birth is not made directly available to researchers but can be used by RDC staff to construct files where exact patient ages are needed to create other variables needed for analysis.

PATIENT DATE OF VISIT – Exact patient date of visit is not made directly available to researchers but can be used by RDC staff to construct files where exact dates of visit are needed to create other variables needed for analysis.

VCAUSE – Verbatim cause of injury (This variable was available on the public use file through 2009. Starting in 2010, NCHS policy changed and no longer allowed verbatim text on public files.)

PATIENT DIAGNOSIS – Starting in 2016, NAMCS switched to ICD-10-CM (International Classification of Disease, 10th Revision, Clinical Modification) for coding diagnoses. Because of the much greater detail contained in the new codes, the decision was made to truncate them from 7 possible digits to 4 and in some cases 3.

PASTVIS2 – Number of past visits in last 12 months (not capped) (2007-current)

Geographic variables

FIPSST - FIPS State Code (based on physician’s practice ZIP code)

FIPSCNY - FIPS County Code (based on physician’s practice ZIP code)

URBANRU – Non-masked urban-rural classification of patient’s ZIP code of residence, using the NCHS Urban-Rural Classification (2005-current)

Census variables – Not Available for 2011 and Beyond

The following five variables were added to the restricted file in 2002. Starting with survey year 2006, two of them, PBAMORE and HINCOME, were added to the public

use file using percent groupings based on quartiles in the population rather than actual percentages.

PHSMORE - Percent of population 25 years and over in patient’s ZIP code of residence

PBAMORE - Percent of population 25 years and over in patient’s ZIP code of residence

PFOREIGN - Percent of population in patient’s ZIP code that are foreign born

PNOTENGL - Percent of population in patient’s ZIP code that do not speak English at all or very well.

HINCOME - Median household income in patient’s ZIP code of residence

The following variable, first added to the restricted file in 2005, was added to the public use file as a grouped percent variable starting in 2006.

PCTPOV - Percent of population in patient's ZIP code below the poverty level (2005-2010)

IMPORTANT NOTE: None of the Census variables are available on NAMCS files starting with survey year 2011 because the data used to construct them are no longer collected through the Decennial Census. They are now asked on the American Community Survey (ACS) but are not released annually at the ZIP code level. The ACS replaces the “long form” that previously was sent to a percentage of households once every 10 years. The ACS is a mandatory data collection which is sent to a small percentage of the U.S. population on a rotating basis. The relevant Census estimates for 2011 and 2012 NAMCS were published as part of a pooled 5- year estimate file. These estimates cover 2008-2012, but because of their sampling variances at the small area level, they are more difficult to use and interpret in conjunction with NAMCS data. For this reason, the decision was made to no longer include them on NAMCS files. Researchers may opt to bring their own Census files with them for merging if desired.

Note that the variables listed above are not a complete list of what is available; for more information consult the survey instruments or contact the Data Analytics and Production Branch at ambcare@cdc.gov or 301-458-4600.

National Hospital Ambulatory Medical Care Survey

Emergency department (ED) file

We are pleased to announce that new NHAMCS Emergency Department Codebooks for Restricted Use Data Files are now available covering the lifecycle of the survey, from 1992-2022. These can be requested from RDC staff and can be used to request variables in research proposals.

When preparing an RDC proposal, one should consider the NHAMCS sampling design when conducting analysis on emergency and/or outpatient department data. Hospitals were sampled prior to the selection of emergency service areas and outpatient clinics within hospitals. There are some hospitals in the panel with only an emergency department or only an outpatient department. If records from one file are used alone, one could potentially miss the sampling clusters for hospitals that only appear in the other file, and they would not be considered for variance estimation.

To avoid this, when doing analysis on either the emergency or outpatient department files, both files should be used for variance estimation purposes. In SUDAAN, this is accomplished by reading in the dataset of interest (for example, the emergency department file) along the corresponding design variables for the other dataset (the outpatient department file). The SUBPOPN or SUBPOPX statement can be used within the SUDAAN procedure to subset only the records of interest and obtain the most correct variance estimation. Records should never be dropped from the file prior to analysis, for the same reason.

In SAS, the same thing can be accomplished in PROC SURVEYMEANS or PROC SURVEYFREQ through the use of domain analysis, being sure to include the NOMCAR option to avoid dropping records with missing values for variance estimation. For more information, contact the Data Analytics and Production Branch at ambcare@cdc.gov or 301-458-4600.

Between 2011 and 2017, NCHS did not release public use data from the outpatient (or ambulatory surgery) component of NHAMCS and, starting in 2018, these two components were discontinued. However, it should be noted that as of April 2026, the 2012 and 2013 NHAMCS Outpatient Department restricted data files are available in the RDC without visit or facility weights, and work is continuing to make years 2014-2017 available as well.

Research has been conducted by NCHS staff regarding the effect of only using data from the NHAMCS Emergency Department component since 2012 and its effect on variance estimation. This is discussed in each year of the NHAMCS Emergency Department Public Use Data File Documentation beginning with 2012.

National Hospital Ambulatory Medical Care Survey

Outpatient department (OPD) files (1992-2011)

Non-masked design variables

CSTRAT, CPSU, POPCPSU, POPCPROV, SUBFILE, PROSTRAT, PROVIDER, DEPT, SUSTRAT, SU, CLINIC, POPSU, POPVIS

Note: Only CSTRAT AND CPSU are needed for variance estimation in most analyses, for example, with SUDAAN WR option, or SAS, SPSS, or Stata variance estimation based on an ultimate cluster model. For analyses with SUDAAN WOR option, or other full multi-stage models, the additional design variables are provided. If you are unsure which you need, please contact the Data Analytics and Production Branch at ambcare@cdc.gov or 301-458-4600 for assistance.

Hospital characteristics

Medical school affiliation (yes/no) (2001-2011)

Visit characteristics

Same as NAMCS.

Geographic variables

FIPSST - FIPS State Code (based on hospital ZIP code)

FIPSCNY - FIPS County Code (based on hospital ZIP code)

URBANRU – Non-masked urban-rural classification of patient's ZIP code of residence, using the NCHS Urban-Rural Classification (2005-current)

Census variables – Not Available for 2011 and Beyond

The following five variables were added to the restricted file in 2002. Starting with survey year 2006, two of them, PBAMORE and HINCOME, were added to the public use file using percent groupings based on quartiles in the population rather than actual percentages.

PHSMORE - Percent of population 25 years and over in patient's ZIP code of residence

PBAMORE - Percent of population 25 years and over in patient's ZIP code of residence

PFOREIGN - Percent of population in patient's ZIP code that are foreign born

PNOTENGL - Percent of population in patient's ZIP code that do not speak English at all or very well.

HINCOME - Median household income in patient's ZIP code of residence The following variable, first added to the restricted file in 2005, was added to the public use file as a grouped percent variable starting in 2006.

PCTPOV - Percent of population in patient's ZIP code below the poverty level (2005-2011)

IMPORTANT NOTE: None of these variables are available on NHAMCS files starting with survey year 2011 because the data used to construct them are no longer collected through the Decennial Census. They are now asked on the American Community Survey (ACS) but are not released annually at the ZIP code level. The ACS replaces the "long form" that previously was sent to a percentage of households once every 10 years. The ACS is a mandatory data collection which is sent to a small percentage of the U.S. population on a rotating basis. The relevant Census estimates for 2011 and 2012 NHAMCS were published as part of a pooled 5-year estimate file. These estimates cover 2008-2012, but because of their sampling variances at the small area level, they are more difficult to use and interpret in conjunction with NHAMCS data. For this reason, the decision was made to no longer include them on NHAMCS files. Researchers may opt to bring their own Census files with them for merging if desired. Note that the variables listed above are not a complete list of what is available; for more information consult the survey instruments or contact the Data Analytics and Production Branch at ambcare@cdc.gov or at 301-458-4600.

National Hospital Ambulatory Medical Care Survey

Outpatient department (OPD) files (2012-2013)

NHAMCS OPD public use files were not initially released after 2011 because of issues with data collection. This OPD survey component was discontinued after 2017. Restricted files are now being made available in the RDC without visit or facility weights and with limited editing. As of April 2026, the 2012 and 2013 OPD files are available in the RDC along with detailed technical documentation and codebooks. These can be requested from RDC staff.

NHAMCS 2010 Ambulatory Surgery (AS) file

Ambulatory surgery data covers surgical and nonsurgical procedures, which are non-emergency, are scheduled in advance, and are delivered in hospitals and in ambulatory surgery centers (ASCs). Patients generally return home the same day without an inpatient admission.

First, here is an important reminder when preparing an RDC proposal. One should consider the NHAMCS sampling design when conducting analysis on ambulatory surgery, emergency department and/or outpatient department data. Hospitals were sampled prior to the selection of ambulatory surgery locations, emergency service areas and outpatient clinics within hospitals. There are some hospitals in the panel which did not provide data from all three of these settings. If records from one file are used alone, one could potentially miss the sampling clusters for hospitals that only appear in the other files, and they would not be considered for variance estimation. To avoid this, when doing analysis on the ambulatory surgery, emergency department or outpatient files, files from all three settings should be used for variance estimation purposes.

In SUDAAN, this is accomplished by reading in the dataset of interest (for example, the ambulatory surgery file) along with the corresponding design variables for the other datasets (that is, the emergency department and outpatient department files). The SUBPOPN or SUBPOPX statement can be used within the SUDAAN procedure to subset only the records of interest and obtain the most correct variance estimation. Records should never be dropped from the file prior to analysis, for the same reason.

In SAS, the same thing can be accomplished in PROC SURVEYMEANS or PROC SURVEYFREQ through the use of domain analysis, being sure to include the NOMCAR option to avoid dropping records with missing values for variance estimation. For more information, contact the Data Analytics and Production Branch staff at ambcare@cdc.gov or 301-458-4600.

Non-masked design variables

CSTRAT, CPSU, POPCPSU, POPCPROV, SUBFILE, PROSTRAT, PROVIDE, DEPT, SUSTRAT, SU, CLINIC, POPSU, POPVIS

Note: Only CSTRAT and CPSU are needed for variance estimation in most analyses, for example, with SUDAAN WR option, or SAS, SPSS, or Stata variance estimation based on an ultimate cluster model. For analyses with SUDAAN WOR 11 option, or other full multi-stage models, the additional design variables are provided. If you are unsure which you need, please contact the Data Analytics and Production Branch staff at ambcare@cdc.gov or 301-458-4600 for assistance.

Hospital/ASC characteristics

Whether ambulatory surgery data are from a hospital or from an ASC

Type of AS location within a hospital, or type of ASC:

General, multispecialty, gastrointestinal (GI), ophthalmological, orthopedic, pain block, plastic surgery, or other

Ownership – Non-profit, state or local government, proprietary, blank

Geographic variables

FIPSST – FIPS State Code (based on hospital/ASC ZIP code)

FIPSCNY – FIPS County Code (based on hospital/ASC ZIP code)

URBANRU – Non-masked Urban-Rural Classification of patient's ZIP code of residence, using the NCHS Urban-Rural Classification

Census variables

PHSMORE - Percent of population 25 years and over in patient's ZIP code of residence

PBAMORE - Percent of population 25 years and over in patient's ZIP code of residence

PFOREIGN - Percent of population in patient's ZIP code that are foreign born

PNOTENGL - Percent of population in patient's ZIP code that do not speak English at all or very well.

HINCOME - Median household income in patient's ZIP code of residence

PCTPOV - Percent of population in patient's ZIP code below the poverty level

Additional items

See link below for data items gathered in the NHAMCS AS component.
https://archive.cdc.gov/www_cdc_gov/nchs/ahcd/survey-instruments-archived.htm

For information on additional data items gathered as part of the NHAMCS AS component which might be available see the IMPORTANT NOTES section below.

Ambulatory Surgery Data Comparisons Across Years

There are a number of reasons to use caution when comparing NHAMCS AS data with the 2006 data from the National Survey of Ambulatory Surgery (NSAS). Included among these are: (1) these surveys had different data collection methods and different data items in their survey instruments, (2) it is possible that there was undercounting of ambulatory surgery procedures in hospitals in NHAMCS, (3) there were numerous major changes in the financing, organization, and delivery of AS services in hospitals, ASCs, and in physicians' offices during the time period from 2006 to 2010 which would make interpretation of changes in the data very difficult. Details about these issues can be found in a presentation titled, "Sampling design for the 2010-12 National Hospital Ambulatory Medical Care Survey," now part of the Proceedings from the 2011 JSM Annual Meeting, Survey Research Section, available at:
http://www.asasrms.org/Proceedings/y2011/Files/300754_65586.pdf

Important details can also be found in a separate presentation titled, “The challenges of gathering and interpreting national data on ambulatory surgery over time”, presented at the 2013 JSM Annual Meeting, available at: https://ww2.amstat.org/meetings/proceedings/2013/data/assets/handouts/308282_80578.pdf

Important Notes for NAMCS and NHAMCS

For some hospitals in NHAMCS, masking is sometimes used for a relatively small number of records on the public use file for confidentiality purposes involving the variables of race, ethnicity, hospital ownership, metropolitan statistical area status, and selected electronic medical records items. The restricted files can be requested to include non-masked versions of these variables. Typically, NAMCS data do not require as much masking as NHAMCS data, but should they be masked, restricted files would include non-masked versions of these items as well.

Although some of the variables listed above were only added to the file in a specified year, they may have been collected prior to that time and could be added to a research file by special request.

In addition to the variables listed above, it may be possible to prepare a customized file that includes additional items collected as part of the physician or hospital induction interview. Such work would be subject to data availability and staff resources and might entail additional fees. Data users who wish to get a better idea of the questions that might be available can see the survey instruments here.

Additional Files

In addition to the standard RDC data files based on data collected on the Patient Record forms (the main survey questionnaire) and the induction interviews, special supplements conducted in various years may also be accessed, including the NHAMCS Bioterrorism and Mass Casualty Preparedness Supplement, the Emergency Pediatric Equipment and Surveillance Supplement, and the Staffing and Capacity and Ambulance Diversion Supplement.

Other supplement data include the NAMCS Electronic Medical Records (EMR) Supplement (2008-2011), renamed as the National Electronic Health Records Survey (NEHRS; currently available for 2012-2024), the 2008 NHAMCS Pandemic and Emergency Response Preparedness Supplement, and the NAMCS Physician Workflow Supplement.

The NAMCS EMR supplement, which began in 2008, is a mail survey designed to collect information on the use of EMR systems and the availability of specific computerized functionalities in physician offices. In 2008 and 2009, the mail survey

shared the same sampling files as the in-person NAMCS. Starting in 2010, the EMR mail survey sample was selected from the 50 states and the District of Columbia to provide state-level estimates. Data from the mail survey are available on one file, and a second file is available that combines data from both the mail survey and the in-person NAMCS. The EMR supplement became a separate survey in 2012 and was named the National Electronic Health Records Survey (NEHRS).

The 2008 NHAMCS Pandemic and Emergency Response Preparedness Supplement was added to the 2008 NHAMCS. Information was obtained on the content of the hospital's emergency response plan, staff training, participation in mass casualty drills, and the hospital's resources and capabilities.

Data from the 2011, 2012, and 2013 NAMCS Physician Workflow Supplement are also available in the RDC. This survey was a follow-up data collection initiative sponsored by the Office of the National Coordinator for Health Information Technology (ONC) to provide a better understanding of physician experiences with adoption and use of electronic health records.

For more information about NAMCS and NHAMCS restricted or public use data files, NEHRS restricted or public use files, or the NAMCS Physician Workflow Supplement, please contact the Data Analytics and Production Branch in the Division of Health Care Statistics at ambcare@cdc.gov or 301-458-4600.

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