

# **MEPS HC-196: 2018 P22R3/P23R1 Population Characteristics**

**April 2019**

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The MEPS instrument design changed beginning in Spring of 2018, affecting Panel 23 Round 1, Panel 22 Round 3, and Panel 21 Round 5. For the Full-Year 2017 PUFs, the Panel 22 Round 3 and Panel 21 Round 5 data were transformed to the degree possible to conform to the previous design. For the Full-Year 2018 PUFs, Panel 22 Rounds 1 and 2, collected under the old design, were transformed to the degree possible to conform to the new design. **Data users should be aware of possible impacts on the data and especially trend analysis for these data years due to the design transition.**

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**Agency for Healthcare Research and Quality  
Center for Financing, Access, and Cost Trends  
5600 Fishers Lane  
Rockville, MD 20857  
(301) 427-1406**

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## **A. Data Use Agreement**

Individual identifiers have been removed from the micro-data contained in these files. Nevertheless, under sections 308 (d) and 903 (c) of the Public Health Service Act (42 U.S.C. 242m and 42 U.S.C. 299 a-1), data collected by the Agency for Healthcare Research and Quality (AHRQ) and/or the National Center for Health Statistics (NCHS) may not be used for any purpose other than for the purpose for which they were supplied; any effort to determine the identity of any reported cases is prohibited by law.

Therefore in accordance with the above referenced Federal Statute, it is understood that:

1. No one is to use the data in this data set in any way except for statistical reporting and analysis; and
2. If the identity of any person or establishment should be discovered inadvertently, then (a) no use will be made of this knowledge, (b) the Director Office of Management AHRQ will be advised of this incident, (c) the information that would identify any individual or establishment will be safeguarded or destroyed, as requested by AHRQ, and (d) no one else will be informed of the discovered identity; and
3. No one will attempt to link this data set with individually identifiable records from any data sets other than the Medical Expenditure Panel Survey or the National Health Interview Survey. Furthermore, linkage of the Medical Expenditure Panel Survey and the National Health Interview Survey may not occur outside the AHRQ Data Center, NCHS Research Data Center (RDC) or the U.S. Census RDC network.

By using these data you signify your agreement to comply with the above stated statutorily based requirements with the knowledge that deliberately making a false statement in any matter within the jurisdiction of any department or agency of the Federal Government violates Title 18 part 1 Chapter 47 Section 1001 and is punishable by a fine of up to \$10,000 or up to 5 years in prison.

The Agency for Healthcare Research and Quality requests that users cite AHRQ and the Medical Expenditure Panel Survey as the data source in any publications or research based upon these data.

## **B. Background**

### **1.0 Household Component**

The Medical Expenditure Panel Survey (MEPS) provides nationally representative estimates of health care use, expenditures, sources of payment, and health insurance coverage for the U.S. civilian noninstitutionalized population. The MEPS Household Component (HC) also provides estimates of RU members' health status, demographic and socio-economic characteristics, employment, access to care, and satisfaction with health care. Estimates can be produced for individuals, families, and selected population subgroups. The panel design of the survey, which includes 5 Rounds of interviews covering 2 full calendar years, provides data for examining person level changes in selected variables such as expenditures, health insurance coverage, and health status. Using computer assisted personal interviewing (CAPI) technology, information about each household member is collected, and the survey builds on this information from interview to interview. All data for a sampled household are reported by a single household respondent.

The MEPS-HC was initiated in 1996. Each year a new panel of sample households is selected. Because the data collected are comparable to those from earlier medical expenditure surveys conducted in 1977 and 1987, it is possible to analyze long-term trends. Each annual MEPS-HC sample size is about 15,000 households. Data can be analyzed at either the person or event level. Data must be weighted to produce national estimates.

The set of households selected for each panel of the MEPS HC is a subsample of households participating in the previous year's National Health Interview Survey (NHIS) conducted by the National Center for Health Statistics. The NHIS sampling frame provides a nationally representative sample of the U.S. civilian noninstitutionalized population and reflects an oversample of Blacks and Hispanics. In 2006, the NHIS implemented a new sample design, which included Asian persons in addition to households with Black and Hispanic persons in the oversampling of minority populations. NHIS introduced a new sample design in 2016 that discontinued oversampling of these minority groups. The linkage of the MEPS to the previous year's NHIS provides additional data for longitudinal analytic purposes.

### **2.0 Medical Provider Component**

Upon completion of the household CAPI interview and obtaining permission from the household survey RU members, a sample of medical providers are contacted by telephone to obtain information that household respondents cannot accurately provide. This part of the MEPS is called the Medical Provider Component (MPC) and information is collected on dates of visits, diagnosis and procedure codes, charges and payments. The Pharmacy Component (PC), a subcomponent of the MPC, does not collect charges or diagnosis and procedure codes but does collect drug detail information, including National Drug Code (NDC) and medicine name, as well as date filled and sources and amounts of payment. The MPC is not designed to yield national estimates. It is primarily used as an imputation source to supplement/replace household reported expenditure information.

### **3.0 Survey Management and Data Collection**

MEPS HC and MPC data are collected under the authority of the Public Health Service Act. Data are collected under contract with Westat, Inc. (MEPS HC) and Research Triangle Institute (MEPS MPC). Data sets and summary statistics are edited and published in accordance with the confidentiality provisions of the Public Health Service Act and the Privacy Act. The National Center for Health Statistics (NCHS) provides consultation and technical assistance.

As soon as data collection and editing are completed, the MEPS survey data are released to the public in staged releases of summary reports, micro data files, and tables via the [MEPS website](#). Selected data can be analyzed through MEPSnet, an on-line interactive tool designed to give data users the capability to statistically analyze MEPS data in a menu-driven environment.

Additional information on MEPS is available from the MEPS project manager or the MEPS public use data manager at the Center for Financing Access and Cost Trends, Agency for Healthcare Research and Quality, 5600 Fishers Lane, Rockville, MD 20857 (301-427-1406).

## C. Technical and Programming Information

### 1.0 General Information

This documentation describes the 2018 Point-in-Time data file to be released from the Medical Expenditure Panel Survey Household Component (MEPS HC). Released as an ASCII file (with related SAS, SPSS, and Stata programming statements and data user information), and a SAS transport data set, this public use file provides information on data collected on a nationally representative sample of the civilian, non-institutionalized population of the United States during the early part of 2018. The file contains 112 variables and has a logical record length of 233 with an additional 2-byte carriage return/line feed at the end of each record. The data consist of 2018 data obtained in Round 3 of Panel 22 and Round 1 of Panel 23 of the MEPS Household Component and contain variables pertaining to Survey Administration, Demographics, Health Status and Priority Conditions, Employment, and Health Insurance.

This documentation offers a brief overview of the types and levels of data provided, the content and structure of the files, and programming information. It contains the following sections:

- Data File Information
- Survey Sample Information
- Variable-Source Crosswalk

Both weighted and unweighted frequencies of most variables included on the 2018 Point-in-Time data file are provided in the accompanying codebook file. The exceptions to this are weight variables and variance estimation variables. Only unweighted frequencies of these variables are included in the accompanying codebook file. See the Weights Variables list in Section D, Variable-Source Crosswalk.

MEPS survey questionnaires, the Household Survey Variable Locator indicating the major MEPS data items on public use files that have been released to date, and a catalog of MEPS products are available on the [MEPS website](#).

### 2.0 Data File Information

This public use data file contains variable and frequency distributions for a total of 33,439 persons (15,686 from Panel 22 Round 3 and 17,753 from Panel 23 Round 1). This count includes all household survey persons who resided in eligible responding households. Of these persons, 32,549 were assigned a positive person-level weight (15,157 from Panel 22 Round 3 and 17,392 from Panel 23 Round 1). In conjunction with the weight variable (WGTSP13) provided on this file, data for these persons can be used to make estimates for the civilian, non-institutionalized U.S. population as of the first half of 2018.

The MEPS CAPI design has changed significantly beginning with the specifications for Panel 21 Round 5/Panel 22 Round 3/Panel 23 Round 1.

### 2.1 Codebook Structure

The codebook and data file sequence list variables in the following order:

- Unique person identifiers
- Demographic variables
- Health Status variables
- Employment variables
- Health Insurance variables
- Weight and Variance Estimation variables

## 2.2 Reserved Codes

The following reserved code values are used:

Value	Definition
-1 INAPPLICABLE	Question was not asked due to skip pattern
-7 REFUSED	Question was asked and respondent refused to answer question
-8 DK	Question was asked and respondent did not know answer
-9 NOT ASCERTAINED	Interviewer did not record the data
-10 HOURLY WAGE >= \$86.06	Variable was top-coded for confidentiality

## 2.3 Codebook Format

This codebook describes an ASCII data set and provides the following programming identifiers for each variable:

Identifier	Description
Name	Variable name (maximum of 8 characters)
Description	Variable descriptor (maximum 40 characters)
Format	Number of bytes
Type	Type of data: numeric (indicated by NUM) or character (indicated by CHAR)
Start	Beginning column position of variable in record
End	Ending column position of variable in record

## 2.4 Variable Naming

In general, variable names reflect the content of the variable, with an 8 character limitation. All of the variables on this file (except some demographic variables and DUID, DUPERSID, PID, PANEL, and KEYNESS) end in “13” to denote they are combination Panel 23 Round 1/Panel 22 Round 3 variables. For edited variables, the “13” is followed by an “X,” and they are so noted in the variable label. Variables contained in this delivery were derived either from the questionnaire itself or from the CAPI. The source of each variable is identified in the section of the

documentation entitled “D. Variable-Source Crosswalk.” Sources for each variable are indicated in one of four ways: (1) variables derived from the CAPI or assigned in sampling are so indicated; (2) variables derived from complex algorithms associated with reenumeration are labeled “RE Section”; (3) variables that come from one or more specific questions have those numbers listed in the “Source” column; and (4) variables constructed from multiple questions using complex algorithms are labeled “Constructed” in the “Source” column.

## **2.5 File Contents**

### **2.5.1 Survey Administration Variables**

The Survey Administration variables contain information related to conducting the interview, household and family composition, and person-level and RU-level status codes. Data for the Survey Administration variables were derived from the sampling process, the CAPI programs, or were computed based on information provided by the respondent in the reenumeration section of the questionnaire. Most Survey Administration variables on this file are asked during every round of the MEPS interview. Variables in this delivery describe data for Panel 22 Round 3 and Panel 23 Round 1 in 2018.

The variable PANEL indicates the panel from which the data are derived. A value of 22 indicates Panel 22 Round 3 data and a value of 23 indicates Panel 23 Round 1 data.

Note that Round 3 of Panel 22 covers both the end of 2017 and the beginning of 2018. (When possible, the variables were constructed to represent data from the 2018 portion of Round 3.)

### **Dwelling Units, Reporting Units, and Families**

The definition of Dwelling Units (DUs) in the MEPS Household Survey is generally consistent with the definition employed for the National Health Interview Survey (NHIS). The dwelling unit ID (DUID) is a seven-digit random ID number assigned after the case was sampled for MEPS. The person number (PID) uniquely identifies all persons within the dwelling unit. The variable DUPERSID is a combination of the variables DUID and PID; thus it uniquely identifies each sampled person in the file.

A Reporting Unit (RU) is a person or group of persons in the sampled dwelling unit who are related by blood, marriage, adoption, or other family association. Each RU is to be interviewed as a single entity for MEPS. Thus, the RU serves chiefly as a family-based “survey operations” unit rather than an analytic unit. Members of each RU within the DU are identified by the variable RULETR13. Regardless of the legal status of their association, two persons living together as a “family” unit were treated as a single reporting unit if they chose to be so identified. Examples of different types of reporting units are:

1. A married daughter and her husband living with her parents in the same dwelling unit constitute a single reporting unit.
2. A husband and wife and their unmarried daughter, age 18, who is living away from home while at college, constitute two reporting units.

3. Three unrelated persons living in the same dwelling unit would each constitute a distinct reporting unit, three reporting units in all.

Unmarried college students less than 24 years of age who usually live in the sampled household, but were living away from home and going to school at the time of the MEPS interview, were treated as a reporting unit separate from that of their parents for the purpose of data collection. The variable RUSIZE13 indicates the number of persons in each RU, treating each student as a single RU separate from their parents. Thus, students are not included in the RUSIZE13 count of their parents' RU. However, for many analytic objectives, the student reporting units would be combined with their parents' reporting unit, treating the combined entity as a single family. Family identifier and size variables are described below and include students with their parents' reporting unit.

The variable FAMID13 identifies a family (i.e., persons living together related to one another by blood, marriage, adoption, or self-identified as a single unit plus related students who are living away at post-secondary school) for each round. These family identifier variables use a letter and a DU identifier to indicate a person's family affiliation. In order to identify a person's family affiliation, users must create a unique family identification variable by concatenating the DU identifier (DUID) and the FAMID13 variable, as described in Section 3.2.2.3 Instructions to Create Family Estimates.

The variable FAMSIZ13 indicates the number of persons associated with a single family unit after students are linked to their associated parent RUs for analytical purposes. Family-level analyses should use the FAMSIZ13 variable. In a few cases, students were deleted from the file because attempts to contact them were unsuccessful, and no data were collected for them. However, these persons are accounted for in the FAMSIZ13 variable.

The family size (FAMSIZ13) and the reporting unit (RU) size (RUSIZE13) counts may not be consistent with the count of records on the file. There are some reporting units where the RU size variable (RUSIZE13) is not equal to the number of people in that RU actually included on the file. This occurs because people who did not respond for their entire period of eligibility were not included on the file. In addition, for a number of these reporting units, the reference person is not included on the file for this same reason.

The variable RURSLT13 indicates the RU response status for Round 3 for the Panel 22 sample and Round 1 for the Panel 23 sample. The values include the following:

<b>Value</b>	<b>Definition</b>
60	Complete with RU member
61	Complete with proxy--all RU members deceased on or after 1/1/2018
62	Complete with proxy--all RU members institutionalized or deceased on or after 1/1/2018
63	Complete with proxy, other

There are several other variables that characterize the reporting unit. The variable RUCLAS13 indicates the RU classification. RUs are classified for fielding purposes as 1 "Standard," 2 "New

RU,” or 3 “Student RU.” Standard RUs are the original RUs from the NHIS. A new RU is one which has been created when members of the household leave the standard RU and are followed according to the rules of the survey. A student RU is one in which an unmarried college student under 24 years of age is considered a usual member of the household but was living away from home while going to school and was treated as a Reporting Unit (RU) separate from that of their parents for the purpose of data collection.

### **Reference Period Dates**

The reference period is the period of time for which data were collected in each round for each person. The reference period dates were determined during the interview for each person by the CAPI program.

The round-specific beginning reference period dates are included for each person. These variables include BEGRFM13 and BEGRFY13. Previous Point-in-Time file deliveries included the beginning reference period day variable BEGRFD13, but this variable is no longer included for confidentiality reasons. The reference period for Panel 23 Round 1 for most persons identified at NHIS began on January 1, 2018 and ended on the date of the Round 1 interview. Persons who joined the RU after January 1, 2018 have their beginning reference date for the round as the date they joined the RU.

For Panel 22 Round 3, the reference period for most persons began on the date of the previous round’s interview and ended on the date of the current round’s interview. Persons who joined after the previous round’s interview had their beginning reference date for the round set as the date they joined the RU.

The round-specific ending reference period dates as well as the dates of the interview are included for each person. These variables include ENDRFM13, ENDRFY13, RUENDM13, and RUENDY13. In general, the date of the interview is the reference period end date for most persons. Previous Point-in-Time file deliveries included the ending reference period day variable, ENDRFD13, and the interview day variable, RUENDD13, but these variables are no longer included for confidentiality reasons. Note that the end date of the reference period may be prior to the date of the interview if the person was deceased during the round, left the country, was institutionalized prior to that round’s interview, or joined the military during the round and was not living with someone else who was eligible. Because of this, it is possible for a person whose reference period for Round 3 ended in 2017 to be included in this delivery. While these few persons do not have a positive person-level weight for 2018, they are included in this file because they do have a positive family-level weight for 2018. If a person left the RU and that person was key and in-scope, the person was followed in the new RU to which he or she moved and his or her reference period dates pertain to the new RU.

### **Reference Person Identifiers**

The variable RNDREF13 identifies the reference person for the RU. In general, the reference person is defined as the household member 16 years of age or older who owns or rents the home. If the person identified as the reference person in a previous round (at NHIS if Round 1) still lives in the RU at the date of the current interview, then this person automatically continues to be

the reference person for the current round. The household respondent is asked to identify another person from the RU fitting this definition only when the previously identified reference person is no longer living in the RU. If the respondent is unable to identify a new reference person then the questionnaire asks for the head of household among the DU members fitting this definition and the person selected or added is then considered the reference person for that RU. This information was collected in the reenumeration section of the CAPI questionnaire.

## **Respondent Identifiers**

The respondent is the person who answered the interview questions for the reporting unit (RU). The round-specific variable RDRESP13 identifies the respondent. Only one respondent is identified for each RU. In instances where the interview was completed in more than one session, only the first respondent is indicated.

There are two types of respondents. The respondent can be either an RU member or a non-RU member proxy. The variable PROXY13 identifies the type of respondent.

## **Person Status**

A number of variables describe the various components reflecting each person's status for each round of data collection. These variables provide information about a person's in-scope status, keyness status, eligibility status, and disposition status. These variables include: KEYNESS, INSCOP13, and PSTAT13. These variables are set based on sampling information and responses provided in the reenumeration section of the CAPI questionnaire.

Through the reenumeration section of the CAPI questionnaire, each member of a reporting unit was classified as "key" or "non-key," "in-scope" or "out-of-scope," and "eligible" or "ineligible" for MEPS data collection. To be included in the set of persons used in the derivation of MEPS person-level estimates, a person had to be a member of the U.S. civilian, non-institutionalized population for at least one day during 2018. Because a person's eligibility for the survey might have changed since the NHIS interview, a reenumeration of household membership was conducted at the start of each round's interview. Only persons who were "in-scope" sometime during 2018, "key," and responded for the full period in which they were in-scope were assigned person-level weights and thus are to be used in the derivation of person-level national estimates from the MEPS.

### **In-Scope**

A person is considered as in-scope during a round if he or she is a member of the U.S. civilian, non-institutionalized population at some time during that round. The variable INSCOP13 indicates a person's in-scope status, specifically indicating whether a person was ever in-scope during the 2018 portion of the round.

### **Keyness**

The term "keyness" is related to an individual's chance of being included in MEPS for purposes of making estimates about the U.S. civilian, non-institutionalized population. A person is key if that person is linked for sampling purposes to the set of NHIS sampled households designated

for inclusion in MEPS. Specifically, a key person either was a member of an NHIS household at the time of the NHIS interview, or was a family member who began living with a member of such a household after being out-of-scope prior to joining that household. (Examples of the latter situation include newborns and persons returning from military service, an institution, or living outside the United States.)

A non-key person is one whose chance of selection for the NHIS (and MEPS) was associated with a household eligible but not sampled for the NHIS, and who later became a member of a MEPS reporting unit. MEPS data (e.g., utilization and expenditures) were collected for the period of time a non-key person was part of the sampled unit to provide information for family-level analyses. However, non-key persons who leave a sample household unaccompanied by a key, in-scope member were not followed for subsequent interviews. Non-key individuals do not receive person-level sample weights and thus do not contribute to person-level national estimates. They may receive family-level weights if they are a member of a responding family.

The variable KEYNESS indicates a person's keyness status. This variable is not round-specific. Instead, it is set at the time the person enters MEPS, and the person's keyness status never changes. Once a person is determined to be key, that person will always be key.

It should be pointed out that a person may be key even though not part of the civilian, non-institutionalized portion of the U.S. population. For example, a person in the military may have been living with his or her civilian spouse and children in a household sampled for the NHIS. The person in the military would be considered a key person for MEPS. However, such a person would not be eligible to receive a person-level sample weight if he or she was never in-scope during 2018. He or she may receive a family weight if a member of a responding family.

## **Eligibility**

The issue of a person's eligibility for MEPS is a data collection issue. Data are to be collected only for persons considered eligible for MEPS.

All key, in-scope persons of a sampled RU are eligible for data collection. The only non-key persons eligible for data collection are those who happen to be living in an RU with at least one key, in-scope person. Their eligibility continues only for the time that they are living with at least one such person. The only out-of-scope persons eligible for data collection are those persons serving full-time on active duty in the military who were living with key in-scope persons, and again only for the time they are living with such a person.

A person may be classified as eligible for an entire round or for some part of a round. For persons who are eligible for only part of a round, data are collected for that person only for the period of time for which that person was classified as eligible.

## **Person Disposition Status**

The variable PSTAT13 indicates a person's response and eligibility status. The PSTAT13 variable indicates the reasons for either continuing data collection for a person or terminating data collection for each person in the MEPS. Using this variable, one could identify persons who moved during the reference period, died, were born, were institutionalized, or were in the

military. Note that some categories may be collapsed for confidentiality purposes. Person status of 23 (Left Institution and Died) and 24 (Died in Institution) were recoded to 31 (Deceased).

The following codes specify the value labels for the PSTAT13 variable. Note that some values for PSTAT13 are round-specific, as indicated in the labels.

Value	Definition
-1	The person was not fielded during the round or the RU was non-response
0	Incorrectly listed in RU at NHIS – applies to MEPS Round 1 only
11	Person in original RU, not full-time active military duty
12	Person in original RU, full-time active military duty, out-of-scope for whole reference period
13	Full-time student living away from home, but associated with sampled RU
14	The person is full-time active military duty during round, is in-scope for part of the reference period and is in the RU at the end of the reference period
21	The person remains in a health care institution for the whole round – Round 3 only
22	The person leaves an institution (health care or non-health care) and rejoins the community – Round 3 only
23	The person leaves an institution (health care or non-health care), rejoins the community and then dies – Round 3 only
24	The person dies in a health care institution during the round (former RU member) – Round 3 only
31	Person from original RU, dies during reference period
32	Went to health care institution during reference period
33	Went to non-healthcare institution during reference period
34	Moved from original RU, outside U.S. (not as student)
35	Moved from original RU, to a military facility while on full-time active military duty
36	Went to institution (type unknown) during reference period
41	Moved from the original RU, to new RU within U.S. (new RUs include RUs originally classified as “Student RU” but which converted to “New RU”)

<b>Value</b>	<b>Definition</b>
42	The person joins RU and is not full-time military during round
43	The person's disposition as to why the person is not in the RU is unknown or the person moves and it is unknown whether the person moved inside or outside the U.S.
44	The person leaves an RU and joins an existing RU and is not both in the military and coded as in-scope during the round
51	Newborn in reference period
61	Died prior to reference period (not eligible)-Round 3/1 only
62	Institutionalized prior to reference period (not eligible)-Round 3/1 only
63	Moved outside U.S., prior to reference period (not eligible)-Round 3/1 only
64	Full-time military, living on a military facility, moved prior to reference period (not eligible)-Round 3/1 only
71	Student under 24 living away at school in grades 1-12 (Non-Key)
72	Person is dropped from the RU roster as ineligible: the person is a non-key student living away or the person is not related to reference person or the RU is the person's residence only during the school year
73	Not Key and not full-time military, moved without someone key and in-scope (not eligible)
74	Moved as full-time military but not to a military facility and without someone key and in-scope (not eligible this round)
81	Person moved from original RU, full-time student living away from home, did not respond

## Geographic Information

The variable REGION13 indicates, broadly, the geographic location of the reporting unit. Specifically, REGION13 indicates the Census region the RU resides in at the time of the Round 1/Round 3 interview. The Census regions are defined by the U.S. Department of Commerce, Bureau of the Census. An indicator of MSA status had been provided in the past but is no longer being provided in order to help ensure even greater protection of the confidentiality of MEPS respondents.

The values and states for each region include the following:

Value	Label	States
1	Northeast	Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont
2	Midwest	Indiana, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin
3	South	Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia
4	West	Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming

## 2.5.2 Demographic Variables

These variables provide information about the demographic characteristics of each person. As noted below, some variables have edited and imputed values. Values of most demographic variables on this file are obtained during each round of the MEPS interview. These variables describe data for Panel 22 Round 3 and Panel 23 Round 1, as well as a number of characteristics that are not round-specific.

### Age

Date of birth and age for each RU member were asked or verified during each MEPS interview (AGE13X, DOBMM, DOBYY). If date of birth was available, age was calculated based on the difference between date of birth and date of interview. Inconsistencies between the calculated age and the age reported during the CAPI interview were reviewed and resolved. For purposes of confidentiality, the variable AGE13X was top-coded at 85 years, and DOBYY bottom coded at 1933. When date of birth was not provided but age was (from either the MEPS or the NHIS data), the month and year of birth were assigned randomly from among the possible valid options. For any cases still not accounted for, age was imputed using (1) the mean age difference between MEPS participants with certain family relationships (where available) or (2) the mean age value for MEPS participants. For example, a mother's age is imputed as her child's age plus the mean age difference between MEPS mothers and their children, or a wife's age is imputed as the husband's age plus the mean age difference between MEPS wives and husbands. For confidentiality, a few records have date of birth variables recoded to a value of -9 (Not Ascertained), and age modified according to disclosure risk guidelines.

### Sex

The variable SEX contains data on the sex of each RU member (SEX), as determined during the NHIS interview; it was verified and, if necessary, corrected during each MEPS interview. The data for new RU members (persons who were not members of the RU at the time of the NHIS interview) were also obtained during each MEPS round. When sex of the RU member was not available from the NHIS interview and was not ascertained during one of the subsequent MEPS interviews, it was assigned in the following way. The person's first name was used to assign sex, if obvious. If the person's first name provided no indication of sex, then family relationships

were reviewed. If neither of these approaches made it possible to determine the individual's sex, sex was randomly assigned.

## Race and Ethnicity Group

The race and the ethnic background questions were asked for each RU member during the MEPS interview. If the information was not obtained in Round 1, the questions were asked in subsequent rounds. It should be noted that race/ethnicity questions in the MEPS were revised starting in 2013 for Panel 16 Round 5, Panel 17 Round 3, and Panel 18 Round 1. The main change for race is that there was only one race question starting in 2013; previously there were two questions. All Asian categories listed in the second question, RE101B, were moved to one question, RE101A (which became RE1170 starting with Panel 23 Round 1, Panel 22 Round 3, and Panel 21 Round 5). In addition, the new race question had additional detail for the Native Hawaiian and Other Pacific Islander categories. The main change for ethnicity is that the new questions allow respondents to report more than one Hispanic ethnicity. Race/ethnicity data from earlier years may not be directly comparable. The following table shows the variables used for the 2002-2012, and the 2013-2018 Point-in-Time files, with these exceptions:

- 1) In 2013 Point-in-Time, RACEV2X categories 7, 8, 9 and 10 were not combined but were combined in 2014 through 2018 Point-in-Time,
- 2) in 2013 Point-in-Time, HISPCAT categories 6 and 7 were not combined but were combined in 2014 through 2018 Point-in-Time, and
- 3) RACEVER and HISPCAT were removed starting in 2014 Point-in-Time.

See a detailed description below.

### MEPS Race and Ethnicity Variables, by Years, 2002 to Present

2002-2012 Point-in-Time Files	2013-2018 Point-in-Time Files
<b>RACE</b>	<b>RACE</b>
—	RACEVER (removed starting in 2014 Point-in-Time) 1 Old race questions 2 New race questions
RACEX	RACEV1X (for both old and new questions in 2013 and 2014)
1 White – No other race reported	1 White - No other race reported
2 Black – No other race reported	2 Black - No other race reported
3 American Indian/Alaska Native – No other race reported	3 Amer Indian/Alaska Native - No other race reported

2002-2012 Point-in-Time Files	2013-2018 Point-in-Time Files
4 Asian – No other race reported	4 Asian/Natv Hawaiian/Pacfc Isl - No oth
5 Native Hawaiian/Pacific Islander – No other race reported	6 Multiple races reported
6 Multiple races reported	—
—	RACEV2X (for only new questions) <ul style="list-style-type: none"> <li>1 White - No other race reported</li> <li>2 Black - No other race reported</li> <li>3 Amer Indian/Alaska Native-No other race reported</li> <li>4 Asian Indian – No other race reported</li> <li>5 Chinese - No other race reported</li> <li>6 Filipino - No other race reported</li> <li>7 Japanese - No other race reported (only in 2013)</li> <li>8 Korean - No other race reported (only in 2013)</li> <li>9 Vietnamese – No other race reported (only in 2013)</li> <li>10 Oth Asian/Natv Hawaiian/Pacfc Isl- No oth</li> <li>12 Multiple races reported</li> <li>-1 Inapplicable (new question was not asked) (only in 2013)</li> </ul>
RACEAX	RACEAX (for both old and new questions)
1 Asian - No other race reported	1 Asian - No other race reported
2 Asian - Other race(s) reported	2 Asian - Other race(s) reported
3 All other race assignments	3 All other race assignments
RACEBX	RACEBX (for both old and new questions)
1 Black - No other race reported	1 Black - No other race reported
2 Black - Other race(s) reported	2 Black - Other race(s) reported
3 All other race assignments	3 All other race assignments
RACEWX	RACEWX (for both old and new questions)
1 White - No other race reported	1 White - No other race reported

<b>2002-2012 Point-in-Time Files</b>	<b>2013-2018 Point-in-Time Files</b>
2 White - Other race(s) reported	2 White - Other race(s) reported
3 All other race assignments	3 All other race assignments
RACETHNX	RACETHX (for both old and new questions)
1 Person is Hispanic	1 Hispanic
2 Person is Black – No other race reported/Not Hispanic	2 Non-Hispanic White only
3 Person is Asian – No other race reported/Not Hispanic	3 Non-Hispanic Black only
4 Other race/Not Hispanic	4 Non-Hispanic Asian only
—	5 Non-Hispanic Other race or multi - race
<b>ETHNICITY</b>	<b>ETHNICITY</b>
HISPANX	HISPANX (for both old and new questions)
1 Hispanic	1 Hispanic
2 Not Hispanic	2 Not Hispanic
HISPCAT	HISPCAT (for only old questions) (removed starting in 2014 Point-in-Time)
1 Puerto Rican	1 Puerto Rican
2 Cuban/Cuban American	2 Cuban/Cuban American
3 Dominican	3 Dominican
4 Mexican/Mexican American	4 Mexican/Mexican American
5 Central or South American	5 Central or South American
6 Non-Hispanic	6 Non-Hispanic
91 Other Latin American	91 Other Latin American
92 Other Hispanic/ Latino	92 Other Hispanic/ Latino
—	-1 Inapplicable (old question was not asked)
	HISPCNCAT (for only new question)
	1 Mexican/Mexican American/Chicano - No other Hispanic Reported
	2 Puerto Rican - No other Hispanic Reported
	3 Cuban/Cuban American - No other Hispanic Reported

2002-2012 Point-in-Time Files	2013-2018 Point-in-Time Files
	4 Dominican - No other Hispanic Reported 5 Central or South American - No other Hispanic Reported 6 Other Latin American - No other Hispanic Reported 7 Other Hispanic/Latino/Spanish origin - No other Hispanic Reported (only in 2013) 8 Multiple Hispanic groups reported 9 Non-Hispanic -1 Inapplicable (new question was not asked) (only in 2013)

Race and ethnicity variables and their values for years prior to 2002 are available in the documentation for the Point-in-Time PUF for each data year.

Values for these variables were obtained based on the following priority order. If available, data collected were used to determine race and ethnicity. If race and/or ethnicity were not reported in the interview, then data obtained from the originally collected NHIS data were used. If still not ascertained, the race, and/or ethnicity were assigned based on relationship to other members of the DU using a priority ordering that gave precedence to blood relatives in the immediate family (this approach was used on 67 persons to set race and 22 persons to set ethnicity).

For confidentiality, RACEV2X categories 7, 8, 9, 10 and 11 were collapsed into category 10 as “Oth Asian/Natv Hawaiian/Pacfc Isl – No Oth.” The variable RACEV1X had its categories 4 and 5 collapsed into category 4 as “Asian/Natv Hawaiian/Pacfc Isl – No Oth.” HISPNCAT categories 6 and 7 were collapsed into category 6 as “Oth Lat Am/Hisp/Latino/Spnsh Orgn–No Oth.”

### **Language and English Proficiency**

For the 2018 PIT PUF, there are two sets of language variables because of changes in how language was collected in the new CAPI questionnaire (person level) versus the old questionnaire (household level).

For Panel 22 persons in a household at Round 1 and persons added in Round 2, three variables were used to collect language information at the household level: OTHLANG, LANGSPK, and HWELLSPE.

For Panel 22 Round 3 and Panel 23 Round 1, three new variables were used to collect language information at the person level: OTHLGSPK, WHTLGSPK, and HWELLSPK.

Persons in Panel 22 Round 1 and new persons in Round 2 will have values for OTHLANG, LANGSPK, and HWELLSPE, but variables OTHLGSPK, WHTLGSPK, and HWELLSPK will be set to -1 “Inapplicable”.

For Panel 22 Round 3 new persons and Panel 23 Round 1 persons, OTHLGSPK, WHTLGSPK, and HWELLSPK will have values, but OTHLANG, LANGSPK, and HWELLSPE will be set to -1 “Inapplicable”.

For all households in Panel 22, Round 1 and for households in Panel 22 Round 2 in which a new family member entered the household in Round 2, the household was first asked whether anyone age 5 and above in their family spoke a language other than English at home (RE102, OTHLANG). If the response to OTHLANG was 1 “yes,” LANGSPK (RE102A) was asked to indicate what language is spoken by family members in the home (Spanish or some other language). HWELLSPE (RE102B) indicates how well each individual person in the family speaks English and is only asked of individuals living in a family reporting that someone speaks some other language at home (OTHLANG = 1).

These questions were asked about each person in the first round of the interview only. They were not asked for persons who were deceased or institutionalized. OTHLANG was also asked about new persons entering in later rounds of the survey, and, if it was reported that someone in the household spoke a language other than English at home, it was asked what language was spoken in the household (Spanish or some other language) and, finally, it was asked how well the individual could speak English.

For all new persons in a household in Panel 22 Round 3, and for Panel 23 Round 1 persons, the survey questions transition to be at the person level, not at the family level. RE1170\_07 asks whether each person speaks a language other than English at home, and is recorded in the variable OTHLGSPK. RE1170\_07 is asked in the first round only, or in the first round an individual is in the survey if they enter in a later round. It is only asked for persons whose age is  $\geq 5$  who are not deceased or institutionalized. Any minors less than 5 years old were assigned a value of 5 “Under 5 years old, inapplicable” for OTHLGSPK.

If the response to OTHLGSPK = 1 “YES,” then questions related to the non-English language spoken at home (RE1170\_08) and how well the person speaks English (RE1170\_09) are asked.

RE1170\_08 (WHTLGSPK) indicates the non-English language each individual speaks at home (Spanish or some other language). Any minors less than 5 years old were assigned a value of 5 “Under 5 years old, inapplicable” for WHTLGSPK.

RE1170\_09 (HWELLSPK) indicates how well each individual speaks English if it was reported he or she spoke a non-English language at home. Any minors less than 5 years old were assigned a value of 5 “Under 5 years old, inapplicable” for HWELLSPK.

### **Foreign Born Status**

Three foreign born questions were asked in the Demographic section to ascertain whether a person was born in the U.S. (RE1170\_10), what year they came to the U.S. (RE1170\_11) if not

born in the U.S., and years lived in the U.S. (RE1170\_12) if the response to RE1170\_11 was “Don’t Know.”

The three foreign born questions were asked only once for each eligible person, that is, the first round the person was included in the interview. These new questions were asked about everyone except deceased and institutionalized persons. The data from RE1170\_10 are reported as the constructed variable BORNUSA. The data from RE1170\_11 and RE1170\_12 were used to calculate the number of years a person has lived in the U.S. for the constructed variable, YRSINUS. Please note that YRSINUS is a discrete variable and has collapsed categories: 1 “Less than 1 year”, 2 “1 yr., less than 5 years”; 3 “5 yrs., less than 10 years”; 4 “10 yrs., less than 15 years”; 5 “15 years or more”.

### **Marital Status and Spouse ID**

Current marital status was collected and/or updated during each round of the MEPS interview. This information was obtained in RE100 and RE1170\_01 and is reported as MARRY13X. Persons under the age of 16 were coded as 6 “Under 16 - Inapplicable.” In instances where there were discrepancies between the marital statuses of two individuals within a family, other person-level variables were reviewed to determine the edited marital status for each individual. For example, in Panel 22 Round 3, when one spouse was reported as married and the other spouse reported as widowed, the data were reviewed to determine if one partner should be coded as 8 “Widowed in Round.”

Four edits were performed to ensure some consistency across rounds for the Panel 22 Round 3 data. First, a person could not be coded as “Never Married” after previously being coded as any other marital status (e.g., “Widowed”). Second, a person could not be coded as “Under 16 - Inapplicable” after being previously coded as any other marital status. Third, a person could not be coded as “Married in Round” after being coded as “Married” in the round immediately preceding. Fourth, a person could not be coded as an “in Round” code (e.g., “Widowed in Round”) in two subsequent rounds.

The person identifier for each individual’s spouse is reported in SPOUID13. The variable is set to the PID (within each family) of the person identified as the spouse during the round. If no spouse was identified in the household, the variable was coded as 995 “no spouse in house.” Those with unknown marital status are coded as 996 “marital status unknown.” Persons under the age of 16 are coded as 997 “Less than 16 years old.”

The SPOUIN13 variable indicates whether a person’s spouse was present in the RU during the round. If the person had no spouse in the household, the value was coded as 2 “Not Married/No Spouse.” For persons under the age of 16 the value was coded as 3 “Under 16 – Inapplicable.” The SPOUID13 and SPOUIN13 variables were obtained from RE900, where the respondent was asked to identify how each pair of persons in the household was related. Analysts should note that this information was collected in a question separate from the questions that asked about marital status. While editing was performed to ensure that SPOUID13 and SPOUIN13 are consistent within each round, there was no consistency check between these variables and marital status in a given round. Apparent discrepancies between marital status and spouse information may be due to any of the following causes:

- Ambiguity as to when during a round a change in marital status occurred. This is a result of relationship information being asked for all persons living in the household at any time during the round, while marital status is asked as of the interview date (e.g., If one spouse died during the reference period, the surviving spouse's marital status would be "widowed in round," but SPOUIN13 and SPOUID13 for the same round would indicate that a spouse was present);
- Valid discrepancies in the case of persons who are married but not living with their spouse, or separating but still living together; or
- Discrepancies which cannot be explained by either of the previous reasons.

## **Student Status and Educational Attainment**

The variable FTSTD13X indicates whether the person was a full-time student at the interview date. This variable has valid values for all persons between the ages of 17 - 23 inclusive.

Education questions were asked only when persons first entered MEPS, typically Round 1 for most people. The collection of education questions in MEPS changed between 2011 and 2012 and then changed back to the original questions in 2015.

EDUCYR and HIDEGL were obtained for all Panel 23 Round 1 and Panel 22 Round 3 individuals.

EDUCYR contains the number of completed years of education for individuals 5 years or older when they first entered MEPS. Children under the age of 5 years when they entered MEPS were coded as -1 "Inapplicable," regardless of whether or not they attended school. Individuals who were 5 years of age or older and had never attended school when they first entered MEPS were coded as 0.

HIDEGL contains information on the highest educational degree attained when individuals first entered MEPS. It was obtained from three questions: highest grade completed, high school diploma, and highest degree. Persons under 16 years of age when they first entered MEPS were coded as 8 "Under 16 -Inapplicable." In cases where the response to the highest degree question was "no degree" and highest grade was 13 through 17, the variable was coded as 3 "high school diploma." If highest grade completed for those with a "no degree" response was "refused" or "don't know," the variable was coded as 1 "no degree." The user should note that the EDUCYR and HIDEGL variables are unedited variables and minimal data cleaning was performed on these variables. Therefore, discrepancies in data may remain for these two sets of variables. Decisions as to how to handle these discrepancies are left to the analyst.

## **Military Service and Service Era**

Information on active duty military status was collected during each round of the MEPS interview. Persons currently on full-time active duty status are identified in the variable ACTDTY13. Those under 16 years of age were coded as 3 "Under 16-Inapplicable" and those over the age of 59 were coded as 4 "Over 59-Inapplicable."

HONRDC13 indicates whether a person has ever been honorably discharged from active duty in the United States Armed Forces. Those 16 years of age and under are coded as 3 “16 or Younger - Inapplicable,” and those who are currently serving on full-time active duty are coded as 4 “Now Active Duty.”

### **Relationship to the Reference Person within Reporting Units**

For each reporting unit (RU), the person who owns or rents the dwelling unit is usually defined as the reference person. For student RUs, the student is defined as the reference person. (For additional information on reference persons, see the documentation on Reference Person Identifiers in the Survey Administration section.) The relationship variable indicates the relationship of each individual to the reference person of the reporting unit (RU) in a given round. For confidentiality, the detailed relationships were combined into more general categories in the variable REFRL13X. For the reference person, this variable has the value “Household Reference Person”; for all other persons in the RU, relationship to the reference person is indicated by collapsed codes representing “Spouse,” “Unmarried Partner,” “Child,” etc. A code of 91 was used to indicate rarely observed relationship descriptions such as “Mother of Partner,” “Partner of Sister,” etc. If the relationship of an individual to the reference person was not ascertained during the round-specific interview, relationships between other RU members were used, where possible, to assign a relationship to the reference person. If MEPS data were not sufficient to identify the relationship of an individual to the reference person, relationship variables from the NHIS data were used to assign a relationship. In the event that a meaningful value could not be determined or data were missing, the relationship variable was assigned a missing value code.

### **2.5.3 Health Status and Priority Condition Variables**

Health Status variables involved the construction of person-level variables based on information collected in the Condition Enumeration, Priority Condition Enumeration, and Health Status sections of the questionnaire. The majority of Health Status questions were initially asked at the family level to ascertain if anyone in the household had a particular problem or limitation. These were followed up with questions to determine which household member had each problem or limitation. Logical edits were performed in constructing the person-level variables to ensure that family-level and person-level values were consistent. Particular attention was given to cases where missing values were reported at the family level to ensure that appropriate information was carried to the person level. Inapplicable cases occurred when a question was never asked because of skip patterns in the survey (e.g., individuals who were 13 years of age or older were not asked some follow-up verification questions). Inapplicable cases are coded as -1. In addition, for all variables, deceased persons were coded as inapplicable and received a code of -1.

### **Perceived Health Status and Mental Health Status**

Perceived health status (RTHLTH13) and perceived mental health status (MNHLTH13) were collected in the Priority Condition Enumeration section. These questions (PE10 and PE20) asked the respondent to rate the physical and mental health of each person in the family according to the following categories: excellent, very good, good, fair, and poor. No editing was done to these variables.

## **IADL and ADL Help/Supervision**

The Instrumental Activities of Daily Living (IADL) Help or Supervision variable (IADLHP13) was constructed from a series of three questions. The initial question (HE10) determined if anyone in the family received help or supervision with IADLs such as using the telephone, paying bills, taking medications, preparing light meals, doing laundry, or going shopping. If the response was “yes,” a follow-up question (HE20) was asked to determine which household member received this help or supervision. For persons under age 13, a final verification question (HE30) was asked to confirm that the IADL help or supervision was the result of an impairment or physical or mental health problem. If the response to the final verification question was “no,” IADLHP13 was coded as “no” for persons under the age of 13.

If no one in the family was identified as receiving help or supervision with IADLs, all members of the family were coded as receiving no IADL help or supervision. In cases where the response to the family-level question was “don’t know,” “refused,” or otherwise missing, all persons were coded according to the family-level response. In cases where the response to the family-level question (HE10) was “yes” but no specific individuals were identified in the follow-up question as having IADL difficulties, all persons were coded as “don’t know” (-8).

The Activities of Daily Living (ADL) Help or Supervision variable (ADLHP13) was constructed in the same manner as IADLHP13, but using questions HE40-HE60. Coding conventions for missing data were the same as for IADLHP13.

## **Functional Limitations**

A series of questions pertained to functional limitations, defined as difficulty in performing certain specific physical actions. WLKLIM13 was the filter question. It was derived from a question (HE90) that was asked at the family level: Does anyone in the family have difficulties walking, climbing stairs, grasping objects, reaching overhead, lifting, bending or stooping, or standing for long periods of time? If the answer was “no,” then all family members were coded as “no” (2) on WLKLIM13. If the answer was “yes,” then the specific persons who had any of these difficulties were identified and coded as “yes” (1) on WLKLIM13, and remaining family members were coded as “no.” If the response to the family-level question was “don’t know” (-8), “refused” (-7), “missing” (-9), or “Inapplicable” (-1), then the corresponding missing value code was applied to each family member’s value for WLKLIM13. If the answer to HE90 was “yes,” but no specific individual was named as experiencing such difficulties, then each family member was assigned -8 for WLKLIM13. Deceased persons were assigned a code of “Inapplicable” (-1) for WLKLIM13.

If any family member was coded “yes” to WLKLIM13, a subsequent series of questions was administered. The series of questions for which WLKLIM13 served as a filter was as follows:

- LFTDIF13 – difficulty lifting 10 pounds
- STPDIF13 – difficulty walking up 10 steps
- WLKDIF13 – difficulty walking 3 blocks
- MILDIF13 – difficulty walking a mile
- STNDIF13 – difficulty standing 20 minutes

BENDIF13 – difficulty bending or stooping  
RCHDIF13 – difficulty reaching over head  
FNGRDF13 – difficulty using fingers to grasp

This series of questions was asked separately for each person who was coded “yes” to WLKLIM13. This series of questions was not asked for other individual family members for whom WLKLIM13 was “no.” In addition, this series was not asked about family members who were less than 13 years of age, regardless of their status on WLKLIM13. These questions were not asked about deceased family members. In such cases (i.e., WLKLIM13 = 2, or age < 13, or PSTAT13 = (23,24,31)), each question in the series was coded as “Inapplicable” (-1). Finally, if responses to WLKLIM13 were “refused” (-7), “don’t know” (-8), “not ascertained” (-9), or otherwise Inapplicable (-1), then each question in this series was coded as “Inapplicable” (-1).

Analysts should note that, for WLKLIM13, there was no minimum age criterion that was used to determine a skip pattern, whereas, for the subsequent series of questions, persons less than 13 years old were skipped and coded as inapplicable. Therefore, it is possible for someone aged 12 or less to have a code of 1 (“yes”) on WLKLIM13, and also to have codes of inapplicable on the subsequent series of questions.

### **Use of Assistive Technology and Social/Recreational Limitations**

The variables indicating use of assistive technology (AIDHLP13, from question HE70) and social/recreational limitations (SOCLIM13, from question HE230) were collected initially at the family level. If there was a “yes” response to the family-level question, a second question identified the specific individual(s) to whom the “yes” response pertained. Each individual identified as having the difficulty was coded “yes” on the appropriate variable; all remaining family members were coded “no.” If the family-level response was “don’t know,” “refused,” or otherwise missing, all persons were coded with the family-level response. In cases where the family-level response was “yes” but no specific individual was identified as having difficulty, all family members were coded as “don’t know” (-8).

### **Work, Housework, and School Limitations**

The variable indicating any limitation in work, housework, or school (ACTLIM13) was constructed using questions HE190-HE200. Specifically, information was collected initially at the family level. If there was a “yes” response to the family-level question (HE190), a second question (HE200) identified the specific individual(s) to whom the “yes” response pertained. Each individual identified as having a limitation was coded “yes” on ACTLIM13; all remaining family members were coded “no.” If the family-level response was “don’t know,” “refused,” or otherwise missing, all persons were coded with the family-level response. In cases where the family-level response was “yes” but no specific individual was identified as having difficulty, all family members were coded as “don’t know” (-8). Persons less than five years old were coded as “Inapplicable” (-1) on ACTLIM13.

If ACTLIM13 was “yes” and the person was 5 years of age or older, a follow-up question (HE210) was asked to identify the specific limitation or limitations for each person. These included working at a job (WRKLIM13), doing housework (HSELIM13), or going to school

(SCHLIM13). Respondents could answer “yes” to each activity; one person could thus report limitation in multiple activities. WRKLIM13, HSELIM13, and SCHLIM13 have values of “yes” or “no” only if ACTLIM13 was “yes”; each variable was coded as “Inapplicable” (-1) if ACTLIM13 was “No” (2). When ACTLIM13 was “Refused” (-7), these variables were all coded as “Refused” (-7); when ACTLIM13 was “Don’t Know” (-8), these variables were all coded as “Don’t Know” (-8); and when ACTLIM13 was “Not Ascertained” (-9), these variables were all coded as “Not Ascertained” (-9). If a person was under 5 years old or was deceased, WRKLIM13, HSELIM13, and SCHLIM13 were each coded as “Inapplicable” (-1).

A second question (HE220) asked if the person was completely unable to work at a job, do housework, or go to school. Those persons who were coded “no,” “Refused,” “Don’t Know,” or “Not Ascertained” on ACTLIM13, or were under 5 years of age, or were deceased, were coded as “Inapplicable” (-1) on UNABLE13. UNABLE13 was asked once for whichever set of WRKLIM13, HSELIM13, and SCHLIM13 the person had limitations; if a person was limited in more than one of these three activities, UNABLE13 did **not** specify if the person was completely unable to perform all of them, or only some of them.

### **Cognitive Limitations**

The variable COGLIM13 was collected at the family level as a three-part question (HE250A to HE250C) indicating if any of the adults in the family (1) experience confusion or memory loss, (2) have problems making decisions, or (3) require supervision for their own safety. If a “yes” response was obtained to any item, the persons affected were identified in HE260 and COGLIM13 was coded as “yes.” Remaining family members not identified were coded as “no” for COGLIM13.

If responses to HE250A through HE250C were all “no,” or if two of three were “no” and the remaining was “don’t know,” “refused,” or otherwise missing, all family members were coded as “no.” If responses to the three questions were combinations of “don’t know,” “refused,” and missing, all persons were coded as “don’t know.” If the response to any of the three questions was “yes” but no individual was identified in HE260, all persons were coded as “don’t know.”

COGLIM13 reflects whether any of the three component questions is “yes.” Persons with one, two, or three specific cognitive limitations cannot be distinguished. In addition, because the question asked specifically about “adult” family members, all persons less than 18 years of age are coded as “Inapplicable” (-1) on this question.

### **2.5.4 Employment Variables**

Employment questions were asked of all persons 16 years and older at the time of the interview. Employment variables consist of person-level indicators such as employment status and job-related variables such as hourly wage. All job-specific variables refer to a person’s current main job. The current main job, defined by the respondent, indicates the main source of employment.

Employment variables included on the Panel 22 Round 3/Panel 23 Round 1 2018 release are: EMPST13, HRWAG13X, HRWGRD13, HRWAY13, HOUR13, HELD13X, OFFER13X, NUMEMP13 and SELFCM13. Most employment variables pertain to status as of the date of the interview.

Logical edits were performed on variables that indicate whether health insurance is held or offered at a current main job. In addition, some wage information was logically edited for consistency. Edits were performed under these circumstances:

- in some cases where wages reported as less than \$1.00 per hour are updated in a subsequent round to greater than \$1.00, and the wage increased by a factor of 10 or 100 (for example, if a Round 4 wage is updated to \$20.00, the Round 3 wage of \$0.20 could logically be updated to \$20.00); in some of these cases, additional comments may have also indicated an error; and
- in some cases where wages changed substantially from round to round and a keying error was evident (for example, ‘the number of hours on which the salary is based’ is updated from ‘40’ to ‘4’; the ‘4’ could logically be updated to ‘40’).

In all cases that result in an edit, a complete review of wage and employment history is performed; in some cases, comparisons are made to employment at similar establishments within the MEPS as well as to data reported and summarized by the Bureau of Labor Statistics.

When missing, wage values were imputed for certain persons’ hourly wage; however, there was no editing performed on any values reported by the respondent (except as noted above). Hourly wages greater than or equal to \$86.06 were top-coded to -10. The number of employees variable was top-coded at 500.

### **Employment Status (EMPST13)**

Employment status was asked for all persons aged 16 or older. Responses to the employment status question were: “currently employed” if the person had a job at the interview date, “has a job to return to” if the person did not work during the reference period but had a job to return to as of the interview date, “employed during the reference period” if the person had no job at the interview date but did work during 2018, and “not employed with no job to return to” if the person did not have a job at the interview date, did not work during the reference period, and did not have a job to return to. These responses are mutually exclusive. A current main job was defined for persons reporting that they were currently employed and who identified a current main job, and for persons who reported and identified a job to return to. Therefore, job-specific information, such as hourly wage, exists for persons not presently working at the interview date but who have a job to return to.

### **Hourly Wage (HRWAG13X, HRWGRD13, and HRWAY13)**

Hourly wage was constructed for persons who reported a current main job that was not self-employment (SELFCM13). Beginning in Panel 20 Round 3 and Panel 19 Round 5, CAPI prompts the respondent to confirm wages reported in the Employment Wage section if a wage amount falls outside a specified wage range. Ranges vary depending on the unit of pay as follows:

<b>Unit of Pay</b>	<b>Wage Range</b>
PER YEAR	\$5,000.00 - \$200,000.00
PER MONTH	\$375.00 - \$20,000.00
PER 2-WEEK PERIOD	\$150.00 - \$10,000.00
PER WEEK	\$75.00 - \$5,000.00
PER DAY	\$10.00 - \$750.00
PER HOUR	\$1.00 - \$125.00

Beginning Panel 23 Round 1/Panel 22 Round 3/Panel 21 Round 5, for persons reporting to be paid “piecework” or “by the job/mile,” the response categories “PER HOUR” and “PER TWO WEEK PERIOD” were removed from CAPI. As such, values associated with categories that were retained shifted in CAPI. For delivery purposes, these categories’ values were adjusted to reflect 2017 categories. This is one of several variables used in the construction of HRWAG13X. These changes are transparent to the user. No logical changes were required on these variables; however, the changes could possibly result in small variations in the HRWAG13X variable compared to previous years.

For reasons of confidentiality, the hourly wage variable (HRWAG13X) was top-coded. A value of -10 indicates that the hourly wage was greater than or equal to \$86.06. The hourly wage on this file (HRWAG13X) should be considered along with its accompanying variables HRWGRD13 and HRWAY13.

HRWGRD13 is a flag that indicates the round in which the reported hourly wage was collected. This flag is always set to “1” for people who are a part of Panel 23 because the reported hourly wage is always from Round 1 as only Round 1 information is reported on this file. People who are a part of Panel 22 can have a current main job from a previous round and HRWGRD13 indicates the round in which the wage information was collected. For Round 3 current main jobs that continue as the current main job from Round 1, HRWGRD13 is “1.” For Round 3 current main jobs that continue as the current main job from Round 2 (but not Round 1), HRWGRD13 is “2.” For Round 3 current main jobs that are identified as current main for the first time in Round 3, HRWGRD13 is “3.”

For persons who did not indicate a wage amount but who did indicate a range into which the hourly wage falls, the reported hourly wage (HRWAG13X) is the median within that range. The medians were calculated using actual wages reported from the same round by persons of the same sex reporting hourly wages within each age range category. In some cases, particularly in the low wage range, sex was not used in the calculation of the median wage in order to provide a large enough base.

HRWAY13 indicates how the corresponding HRWAG13X was constructed. Hourly wage was derived, as applicable, from a large number of source variables. In the simplest case, hourly wage was reported directly by the respondent. For other persons, construction of the hourly wage was based upon their salary, the time period on which the salary was based, and the number of hours worked per time period. If the number of hours worked per time period was not available, a value of 40 hours per week was assumed, as identified in the HRWAY13 variable.

## **Health Insurance (HELD13X and OFFER13X)**

There are two employment-related health insurance measures included in this release: health insurance held from a current main job (HELD13X) and health insurance offered from a current main job (OFFER13X). The held and offer variables were logically edited using health insurance information from the health insurance section not available for public release.

Persons under age 16 as well as persons aged 16 and older who do not hold a current main job, who are self-employed with no employees, or who are otherwise ineligible are coded as “Inapplicable” for both the health insurance-related employment variables.

HELD13X is “yes” if the person reported having insurance coverage from the employer or union at the current main job, if coverage provides hospital/physician or Medigap benefits (as long as the person is not self-employed with no employees), and if the person is a policyholder. HELD13X is also “yes” if the person’s current main job is with the armed forces.

HELD13X is “no” if the person either reported that insurance is not obtained through the current main job or reported insurance and then disavowed it. To disavow insurance is to initially report it but then to deny that it is provided later in the interview, or to confirm it but indicate that it does not include hospital/physician or Medigap benefits or the person is not a policyholder. As noted above, this does not apply to self-employed persons with no employees (where HELD13X is always “Inapplicable”) and those with a current main job in the armed forces (where HELD13X is always “yes”).

OFFER13X is always coded as “yes” if HELD13X is “yes.” In addition, except for certain self-employed persons with OFFER13X set to “Inapplicable” (see above), OFFER13X is coded as “yes” if insurance was offered through the employer or union at the job. OFFER13X is “no” when HELD13X equals “no” and insurance was not offered by the employer or union at the job.

As indicated above, information collected in the health insurance section of the interview was considered in the construction of HELD13X and OFFER13X. For example, several persons indicated in the employment section of the interview that they held health insurance through a current main job and then denied this coverage later in the health insurance section. Such people were coded as “no” for HELD13X. Due to questionnaire skip patterns, the value for HELD13X was considered in constructing the OFFER13X variable. For example, before Panel 23 Round 1, Panel 22 Round 3, and Panel 21 Round 5, if a person responded that health insurance was held from a current main job, they were skipped past the question relating to whether health insurance was offered at that job. If the person later disavowed this insurance in the health insurance section of the questionnaire, we would not be able to ascertain whether they were offered a policy in the past. These individuals were coded as -9 for OFFER13X.

Beginning Panel 23 Round 1/Panel 22 Round 3/Panel 21 Round 5, where newly reported employment insurance is disavowed in the Health Insurance section, follow-up questions are asked regarding whether insurance is offered (to person or to other employees) and whether more than one plan is available. This information is used in a new edit process whereby responses in the Health Insurance section are transferred into the Employment or Review of Jobs sections. Consequently, more information is now available on OFFER13X.

It should also be noted that, due to a processing error on reviewed jobs in Panel 22 Round 3, data users may see an increase in values of -9 “Not Ascertained” in this round on several insurance-related variables including HELD13X and OFFER13X.

### **Hours (HOUR13)**

HOUR13 is the number of hours worked per week at the current main job.

### **Number of Employees (NUMEMP13)**

Due to confidentiality concerns, the variable indicating the number of employees at the establishment (NUMEMP13) has been top-coded at 500 or more employees. NUMEMP13 indicates the number of employees at the location of the person’s current main job. For persons who do not know the specific number of employees at an establishment, respondents may estimate the size by selecting a categorical range. In these cases, a numerical value for NUMEMP13 is constructed using a median estimated size from within the reported categorical range.

It should also be noted that, due to a processing error on reviewed jobs in Panel 22 Round 3, data users may see an increase in values of -9 “Not Ascertained” in this round on NUMEMP13.

Beginning Panel 23 Round 1/Panel 22 Round 3/Panel 21 Round 5, there were slight changes in the categorical estimates of establishment size. This information is used when calculating medians for constructed values of NUMEMP13 for persons who report a categorical range instead of a numerical value for number of employees. For continuity purposes, ranges used in calculating medians were not revised from previous years; they continue to conform to prior categories. Users can find more details on the new categories in the 2017 Jobs PUF.

## **2.5.5      Health Insurance Variables**

Users should be aware that substantial changes made to the MEPS health insurance section in 2018, described below, may affect the continuity of coverage estimates over time.

Constructed and edited variables are provided that indicate any coverage during the MEPS Panel 23 Round 1 and Panel 22 Round 3 interviews for sources of health insurance coverage. With the exception of private insurance (PRIV13), the insurance variables for the Panel 23 Round 1 observations have been edited. For both the Panel 23 Round 1 sample and the Panel 22 Round 3 sample, minimal editing was performed on the Medicare and Medicaid or State Children’s Health Insurance Program (SCHIP) variables to assign persons to coverage from these sources. As mentioned above, private insurance coverage was unedited and unimputed for Panel 23 Round 1. For Panel 22 Round 3, most of the insurance variables have been logically edited to address issues that arose during Rounds 2 and 3 when reviewing insurance reported in earlier rounds. One edit corrects for possible respondent confusion with respect to a question about covered benefits asked of respondents who reported a change in their private health insurance plan name. Additional edits were performed to address issues of missing data on the time period of coverage. The Medicare variable indicates coverage at the time of the Panel 23 Round 1 or Panel 22 Round 3 interview dates. The private coverage and other public insurance variables indicate coverage at any time during Panel 23 Round 1 or Panel 22 Round 3. Prior to 2018, the

TRICARE variable (TRINW13X) indicated coverage at the interview date. Beginning with the 2018 Point-in-Time file, TRINW13X is no longer on the file and is replaced with the variable TRIAT13 indicating TRICARE/CHAMPVA coverage at any time in the round.

Beginning with the 2018 Point-in-Time file, health insurance coverage variables reflect responses to both the primary set of questions about coverage as well as a new verification module. Starting at HX210, this module asks respondents who at that point in the instrument had not yet reported any sources of health insurance coverage or only a source of health insurance without hospital and physician benefits, whether they had coverage that included hospital and physician benefits. If the respondent answered affirmatively at HX210, subsequent questions identified the specific type of coverage. The addition of the verification module beginning in 2018 may affect the continuity of estimates of insurance coverage over time. In addition to the addition of a new verification module, other changes were made to the health insurance questions that may affect the continuity of estimates. These changes include modifications to the Medicaid/SCHIP, and TRICARE/CHAMPVA questions to ask if each person in the household is covered using the person's name in the question text (e.g. "Was Person 1 covered?" "What about Person 2?" etc.). In addition, in Rounds 2 and 3, respondents are now required to answer "Yes" or "No" for each person individually when reviewing coverage from a previous round for these insurance sources. Changes to the Medicare Round 1 series were also made to probe separately for persons in the RU who were 65 years of age or older versus RU members who were under 65 years of age. Similar to the Medicaid and TRICARE series, RU members 65+ are asked about Medicare coverage per person.

Beginning with 2018 Point-in-Time, persons who report coverage under Indian Health Service (IHS13) and Veteran's Administration (VAPROG13) are identified in this file.

Public sources include Medicare, TRICARE/CHAMPVA, Veteran's Administration, Medicaid, SCHIP, and other public hospital and physician coverage. The addition of Veteran's Administration coverage in the public coverage variable PUB13X beginning in 2018 is a change from previous Point-in-Time files that may affect trends in the percentage of individuals with public health insurance coverage. Indian Health Service participation in non-comprehensive coverage (IHS13) was also identified, but is not considered health insurance for the purposes of this survey. Beginning Panel 23 Round 1/Panel 22 Round 3, questions related to state-specific program participation are no longer asked. The variable STPRG13 will no longer be included in this file.

## **Medicare**

Medicare (MCARE13) coverage was edited (MCARE13X) for persons age 65 or over. Within this age group, individuals were assigned Medicare coverage if:

- They answered "yes" to a follow-up question on whether or not they received Social Security benefits; or
- They were covered by Medicaid/SCHIP, other public hospital/physician coverage, or Medigap coverage; or
- Their spouse was age 65 or older and covered by Medicare; or
- They reported TRICARE coverage.

## **Medicaid and Other Public Hospital/Physician Coverage**

Questions about other public hospital/physician coverage were asked in an attempt to identify Medicaid or SCHIP recipients who may not have recognized their coverage as such. Beginning in Panel 23 Round 1/Panel 22 Round 3, these questions were asked of all respondents, not just respondents who had not reported any Medicaid coverage in the household, as in previous MEPS questionnaires. Respondents reporting other public hospital/physician coverage were asked follow-up questions to determine if their coverage was through an HMO or if it included some other managed care characteristics. Respondents who identified managed care from either path were asked if they paid anything for the coverage and/or if a government source paid for the coverage.

The Medicaid variables (MCAID13) have been edited (MCAID13X) to include persons who paid nothing for their other public hospital/physician insurance when such coverage was through an HMO or reported to include some other managed care characteristics. The Medicaid variables also include those identified as covered by SCHIP. Note that because of the change in the questionnaire allowing all individuals to be asked about Medicaid/SCHIP or other public hospital/physician coverage there may be an overlap in coverage with people who have Medicaid and other public hospital/physician insurance coverage. In addition, the variables OTPUBA13 and OTPUBB13 will no longer be included in this file. Instead, beginning with the 2018 Point-in-Time PUF, new variables GOVTA13, GOVTB13, and GOVTC13 have been added to identify any report of other public coverage; other public coverage that is an HMO; and other public coverage where a premium is paid. These variables are not mutually exclusive.

To assist users in further editing sources of insurance, this file contains variables constructed from the other public hospital/physician series that identify:

- Respondents who reported coverage through other public hospital/physician insurance (GOVTA13);
- Respondents who reported coverage through other public hospital/physician insurance and the source was identified as an HMO or the source of coverage required the covered person to sign up with a doctor or clinic (GOVTB13)
- Respondents who reported coverage through other public hospital/physician insurance and the person pays a monthly premium for this coverage (GOVTC13)

The variables GOVTA13, GOVTB13, and GOVTC13 are provided only to assist in editing and should not be used to make separate insurance estimates for these types of insurance categories.

## **Any Public Insurance in Round 3/Round 1**

The file also includes a summary measure that indicates whether or not a sample person has any public insurance during the early part of 2018 (PUB13X). Persons identified as covered by public insurance are those reporting coverage under TRICARE, Veteran's Administration coverage, Medicare, Medicaid or SCHIP, or other public hospital/physician coverage.

Note that the addition of Veteran's Administration coverage in the public coverage variable (PUB13X) is new this year. This may affect comparisons of the percentage of individuals with public coverage over time. Users can construct a measure of public coverage that is consistent with the variable on previous Point-in-Time files by using the variables for Medicare (MCARE13X), Medicaid/SCHIP (MCAID13X), TRICARE (TRIAT13) and other public hospital/physician coverage (GOVTA13). Although definitions of coverage that are similar to previous Point-in-Time files can be constructed, users should note that the substantial changes made to the MEPS health insurance section in 2018, described above, may also affect the continuity of coverage estimates over time. Also note that the TRICARE/CHAMPVA variable is slightly different beginning in 2018 because it measures coverage at any time during the round rather than at the interview date, but this change affects a minimal number of observations.

Persons whose only source of coverage was Indian Health Service programs that did not provide comprehensive coverage (IHS13) were not considered to have public coverage when constructing PUB13X.

### **Private Insurance**

Variables identifying private insurance in general (PRIV13) and specific private insurance sources such as employer/union group insurance (PRIEU13); non-group insurance (PRING13); other group insurance (PRIOG13); and private insurance through a federally-facilitated, state-based or state partnership exchange/marketplace (PRSTX13) were constructed. Private insurance sources identify coverage in effect at any time during the early part of 2018. Separate variables identify covered persons and policyholders (policyholder variables begin with the letter "H," e.g., HPRIEU13). These variables indicate coverage or policyholder status within a source and do not distinguish between persons who are covered or policyholders on one or more policy within a given source. In some cases, the respondent was unable to characterize the source of insurance (PRIDK13).

Prior to 2018, the variable PRIOUT13 was used to indicate covered persons (but not policyholders) who reported that the policyholder lived outside the RU. Beginning with the 2018 Point-in-Time file, PRIOUT13 will no longer be included. Instead, two variables, PRIEUO13 and PRINEO13 are included. PRIEUO13 indicates coverage from a policyholder living outside the RU where the source is through an employer and PRINEO13 indicates coverage from a policyholder living outside the RU where the source is not through an employer. These variables are based on responses to a follow-up question for respondents who indicate coverage from a policyholder outside the household. The question HP130 (HIThroughEmp) asks "Is the {INSURANCE SOURCE NAME} health coverage {POLICYHOLDER} has through an employer or previous employer?" If the respondent's answer to HP130 was unknown, the person's coverage is now included in the variable PRIDK13.

An individual was considered to have private health coverage if that coverage provided benefits for hospital and physician services or Medigap coverage. However, persons covered by private insurance through an exchange/marketplace (PRSTX13 and HPRSTX13) were considered to have private health coverage if the plan covered hospital and physician services, but excluded coverage that was explicitly identified as Medigap coverage (EPRS.MSUPINS=1). If a person reported Medigap coverage through the exchange/marketplace, then the source of the insurance

purchased was edited to reflect coverage “from a professional association” (EPRS.PURCHTYP\_M18=1) or “from a group or association” coverage (EPRS.PRIVINS\_M18=1). Further descriptions of the exchange variables are detailed below. Sources of insurance with missing information regarding the type of coverage were assumed to contain hospital and physician coverage. Persons who reported private insurance that did not provide hospital and physician coverage were not counted as privately insured.

Health insurance through a job or union (PRIEU13) was initially asked about in the Employment Section of the interview and later confirmed in the Health Insurance Section. Respondents also had an opportunity to report employer and union group insurance (PRIEU13) for the first time in the Health Insurance Section, but this insurance was not linked to a specific job.

Beginning with Panel 22 Round 3/Panel 23 Round 1, the variables PRIS13 and HPRIS13 that identified coverage through a job classified as self-employed with firm size of 1 will no longer be included in this file. Instead, all insurance that was reported in the employment section to be through a job classified as self-employed with firm size of 1 is now included in the variables PRIEU13, PRING13, PRIOG13, PRSTX13, and PRIDK13 based on responses at HP40 (HIPurchCat).

Private insurance that was not employment-related (PRING13, PRIOG13, PRIDK13, PRINEO13, and PRSTX13) was reported in the Health Insurance Section only.

Beginning in Panel 12 Round 2, the response category “Health Insurance Purchasing Alliance” was removed from HX03 (EPRS.PURCHTYP=4) and HX23 (EPRS.PRIVINS=2) because it was infrequently reported and it was not clear how respondents were using this category.

Beginning in Panel 22 Round 3/Panel 23 Round 1, the response category “High Risk Pool” was removed from HP40 (HIPurchCat), HX200 (CodeAllOthHI), and HX300 (DirectPurchTp).

Beginning in Panel 18 Round 3/Panel 19 Round 1, “Federal/State Exchange” was added to the list of private insurance categories at HP40 (EPRS.PURCHTYP\_M18=8) and HX200/HX300 (EPRS.PRIVINS\_M18=11). Additionally, beginning in Panel 18 Round 3/Panel 19 Round 1, the variable EPRS.StExCovg was collected at question HP50 (“Is this coverage through {state exchange name}?”) for respondents reporting insurance from a group, directly from an insurance company or HMO, from an insurance agent or from an “other” unspecified source. Beginning in Panel 20 Round 3, the variable EPRS.OESTEXCH was collected at OE40 (“Is this coverage through {state exchange name}?”) for respondents who previously reported private insurance coverage from an insurance company or HMO, or from an insurance agent that was not through an exchange/marketplace. Note that the state-specific name for the exchange/marketplace was used when asking this question and was also used on the list of private insurance categories at HP40 HX200, and HX300. The variable PRSTX13 has been constructed to include persons less than 65 years old who report private insurance through a federally-facilitated, state-based or state partnership exchange/marketplace at HP40, HX200, or HX300, or persons 65 years old or older who report private insurance through a federally-facilitated, state-based or state partnership exchange/marketplace at HP40 HX200, or HX300 and not covered by Medicare. In addition, persons who reported a source of insurance at HX200 or HX300 that was not through an exchange/marketplace (e.g. through a group or directly from an insurance company) but who

answered yes to HP50 or OE40 were also classified as having exchange/marketplace coverage instead of being assigned to the category they originally reported. In addition to reporting coverage through an exchange/marketplace, coverage needed to have been identified as hospital/physician coverage (either as a Yes (1) or missing (-7, -8, -9)), but not identified as having Medicare supplemental coverage. Currently, these variables contain information on private coverage that was reported as obtained through a federally-facilitated, state-based or state partnership marketplace. However, MEPS respondents reporting public coverage were also asked whether the public coverage was obtained through a federal or state marketplace in case respondents were confused about whether the source of coverage was public or private. This approach is consistent with the health insurance questions in the Current Population Survey and the National Health Interview Survey. Responses to these questions were not used to edit the variable PRSTX13.

Users should note that the substantial changes made to the 2018 MEPS health insurance section of the questionnaire, described above, may affect the continuity of estimates of private coverage over time.

### **Any Insurance in Round 3 / Round 1**

The file also includes a summary measure that indicates whether a sample person has any insurance during the early part of 2018 (INSRD13X). Persons identified as insured are those reporting coverage under TRICARE/CHAMPVA, Veteran's Administration, Medicare, Medicaid, SCHIP, or other public hospital/physician coverage or private hospital/physician coverage (including Medigap plans). A person is considered uninsured if not covered by one of these insurance sources.

The inclusion of Veteran's Administration coverage is new beginning in the 2018 Point-in-Time file. This may affect the continuity of estimates for the percentage of individuals who are insured or uninsured. Users can construct a measure of insured or uninsured that is consistent with the variable on previous Point-in-Time files by using the variables for Medicare (MCARE13X), Medicaid/SCHIP (MCAID13X), TRICARE (TRIAT13), other public hospital/physician coverage (GOVTA13) and private insurance (PRIV13). Note that the TRICARE/CHAMPVA variable is slightly different beginning in 2018 because it measures coverage at any time during the round rather than at the interview date but this change affects a minimal number of observations. Although definitions of insured and uninsured that are similar to previous Point-in-Time files can be constructed, users should note that the substantial changes to the MEPS health insurance section in 2018, described above, may also affect the continuity of coverage estimates over time.

Persons covered only by Indian Health Service (IHS13) and those without hospital/physician benefits (for example, private insurance for dental or vision care only, accidents or specific diseases) were not considered to have public coverage when constructing the variable INSRD13X.

## **2.6 Linking to Other Files**

### **2.6.1 National Health Interview Survey (NHIS)**

Each MEPS panel can also be linked back to the previous year's National Health Interview Survey public use data files. For information on obtaining MEPS/NHIS link files please see the [AHRQ website](#).

### **2.6.2 Longitudinal Analysis**

Panel-specific longitudinal files are available for downloading in the data section of the MEPS website. For each panel, the longitudinal file comprises MEPS survey data obtained in Rounds 1 through 5 of the panel and can be used to analyze changes over a two-year period. Variables in the file pertaining to survey administration, demographics, employment, health status, disability days, quality of care, patient satisfaction, health insurance, and medical care use and expenditures were obtained from the MEPS full-year Consolidated files from the two years covered by that panel.

For more details or to download the data files, please see Longitudinal Weight Files at the [AHRQ website](#).

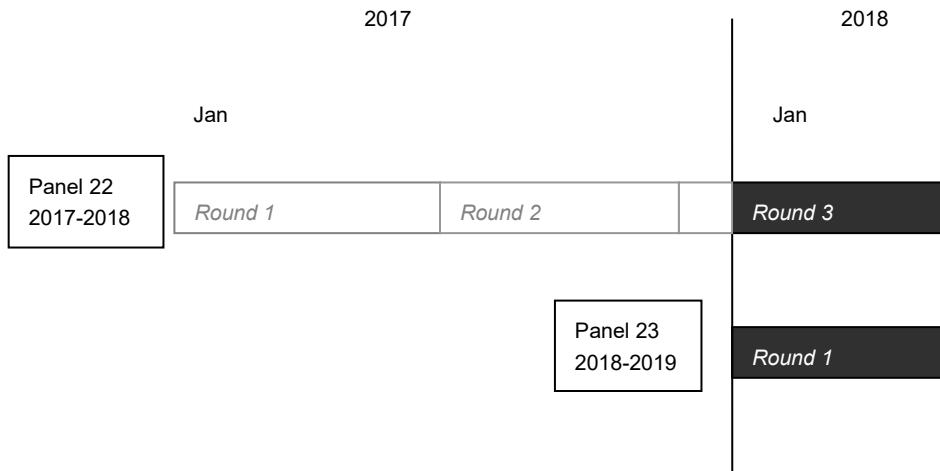
## **3.0 Survey Sample Information**

### **3.1 Sample Design and Response Rates**

The MEPS HC is designed to produce estimates at the national and regional levels over time for the civilian, non-institutionalized population of the United States and some subpopulations of interest. The MEPS HC uses an overlapping panel design in which data for two calendar years are obtained through five rounds of data collection.

Each year a new MEPS panel is formed. Each new panel consists of a randomly selected subsample of responding households to the previous year's National Health Interview Survey (NHIS) conducted by the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention. (The NHIS is an ongoing general health survey of the U.S. civilian non-institutionalized population.)

MEPS Panel 22 spans the two calendar years 2017 and 2018 while MEPS Panel 23 spans 2018 and 2019. This year's point-in-time file contains the data from respondents to MEPS Panel 22 and Panel 23 covering the time period from January 1, 2018 through, roughly, the spring of calendar year 2018. To achieve this, data representing the 2018 portion of the third round of data collection for the MEPS Panel 22 sample have been pooled with data from the first round of data collection for the MEPS Panel 23 sample (see illustration below).



### ***Background on the NHIS Sample Design***

As mentioned above, a new MEPS sample of households for each calendar year is selected from a subsample of NHIS responding households from the prior year. The sample for the NHIS is redesigned roughly every 10 years. From 1995 to 2005 the NHIS used the same sample design, an area probability sample of PSUs (one or more counties) and Secondary Sampling Units (SSUs, to be referred to as segments here and generally consisting of one or more census blocks). Segments with blacks or Hispanics were oversampled to increase the sample yields of these two minority groups for the NHIS. These segments were designed to be large enough to support the sample selection of housing units within each segment for up to 12 years. The initial MEPS sample design, which began in 1996, was based on that NHIS design through MEPS Panel 11, thus clustering the MEPS sample in the same general geographic areas from 1996-2006.

A new NHIS sample design was implemented in 2006, very similar in structure to the previous NHIS sample design. The PSUs and segments were sampled independently from the prior design. The major difference was that a third minority group, Asians, was also oversampled under the 2006 NHIS sample design. Thus, the sample selection of segments was designed to oversample all three minority groups. All three of these minority groups were further oversampled for MEPS.

Beginning in 2016 NCHS implemented another new sample design for the NHIS, differing substantially from the prior design in a number of ways. Each of the 50 states as well as the District of Columbia serve as explicit strata for sample selection purposes with the intent of providing the capability of state-level NHIS estimates by pooling across years, if not for a given year. Moreover, minority areas are no longer oversampled (though an effort to do so may be undertaken in a later year). PSUs are still in effect formed at the county level. However, within sampled PSUs, the clusters of addresses that have been sampled for each year are not in the form of segments as in the previous design. For the 2016 NHIS each such cluster consisted of roughly 25 subclusters selected using random systematic sampling across the full geography of the PSU. Each subcluster is made up of, generally, four nearby addresses. Thus, for 2016 each cluster contained approximately 100 addresses. The number of subclusters per cluster can vary from year to year.

The assignment of addresses to clusters also represents a departure from the designs prior to 2016. Addresses for most PSUs were obtained from the Computerized Delivery Sequence File (CDSF) of the U.S. Post Office, providing very high coverage of most areas of the country. Coverage of rural areas by the CDSF may be less complete. For rural areas where this was a concern, addresses were obtained through the listing process, a standard procedure for area probability samples.

A [description of the NHIS Sample Design](#) is provided by NCHS at the NHIS website.

### ***Reduction in Minority Sample Sizes***

The MEPS Point-in-Time file for calendar year 2018 is the first PUF where the samples of households for both MEPS panels were based on the new NHIS sample design. With the discontinuation of the oversampling of minorities for the NHIS, the number of households with Asian, Black, and Hispanic members available for sampling for MEPS is lower than in the past. However, all households with one or more Asians, Blacks, or Hispanics were continued to be sampled with certainty in MEPS to maximize the sample size of minorities available for analysis. Also consistent with prior years, households defined as “complete” for NHIS were sampled at a higher rate than those defined as “partial” to increase response rates and reduce survey costs.

### ***Veteran Oversample***

For the Panel 23 portion of the MEPS 2018 sample, households with at least one veteran were sampled with certainty to increase the sample size available for a supplemental veteran questionnaire. All veterans identified in MEPS in both Panels 22 and 23 were administered this supplemental survey.

#### **3.1.1 The MEPS Sampling Process and Response Rates: An Overview**

Generally, a sample representing about three-eighths of the NHIS responding households is made available for use in MEPS. This was the case for Panels 22 and 23. A household consists of one or more MEPS reporting units (RUs). A member of an RU is asked to provide MEPS data for all RU members. A multi-person RU consists of people who are related (based on the MEPS definition of a family—see the discussion of family weights below for more details). A single person RU is a person living in a household with no relatives present.

A subsample of the responding NHIS households is drawn for MEPS interviewing. Because the MEPS subsampling has to be done soon after NHIS responding households are identified, a small percentage of the NHIS households initially characterized as NHIS respondents are later classified as nonrespondents for the purposes of NHIS data analysis. This actually serves to increase the overall MEPS response rate slightly since the percentage of NHIS households eligible for MEPS is slightly larger than the NHIS household-level response rate and some NHIS nonresponding households do participate in MEPS. However, as a result, these NHIS nonrespondents who are MEPS participants have no NHIS data available to link to MEPS data.

Once the MEPS sample is selected from among the NHIS households characterized as NHIS respondents, RUs representing students living in student housing or consisting entirely of military personnel are dropped from the sample. For the NHIS, college students living in student

housing are sampled independently of their families. For MEPS, such students are identified through the sample selection of their parents' RU. Removing from MEPS those college students found in college housing sampled for the NHIS eliminates the opportunity of multiple chances of selection for MEPS for these students. Military personnel not living in the same RU as civilians are ineligible for MEPS. After such exclusions, all RUs associated with households selected from among those identified as NHIS responding households are then fielded in the first round of MEPS.

Table 3-1 shows the three informational components just discussed in Rows A, B, and C. Row A indicates the percentage of NHIS households eligible for MEPS. Row B indicates the number of NHIS households sampled for MEPS. Row C indicates the number of sampled households actually fielded for MEPS (after dropping the students and military members discussed above). From these numbers unweighted response rates have been computed, allowing an assessment of the propensity to participate among those RUs actually sampled for MEPS. It should be noted that the sample distribution of RUs has a disproportionately high percentage of several minorities and MEPS response rates vary by race/ethnicity.

Table 3-1. Unweighted response rates for Point-in-Time file (Panel 23 Round 1/Panel 22 Round 3)

	Panel 22	Panel 23	2018 Combined
A. Percentage of NHIS sample eligible for MEPS*	69.2%	67.1%	--
B. Number of households sampled from the NHIS	9,700	9,700	--
C. Number of Households sampled from the NHIS and fielded for MEPS	9,693	9,694	--
D. Round 1 – Number of RUs eligible for interviewing	10,142	10,089	--
E. Round 1 – Number of RUs with completed interviews	7,358	7,351	--
F. Round 2 – Number of RUs eligible for interviewing	7,528	--	--
G. Round 2 – Number of RUs with completed interviews	7,023	--	--
H. Round 3 – Number of RUs eligible for interviewing	7,164	--	--
I. Round 3 – Number of RUs with completed interviews	6,808	--	--
Overall response rates through the Spring of 2018 P22: A x (E/D) x (G/F) x (I/H) P23: A x (E/D) Combined: .47 x P22 +.53 x P23	44.5% (Panel 22) through Round 3)	48.9% (Panel 23) through Round 1)	46.8%
*among the panels and quarters of the NHIS allocated to MEPS, the percentage of households that were considered to be NHIS respondents at the time the MEPS sample was selected			

When an RU is visited for a round of data collection, changes in RU membership are identified. Such changes include RU members who have moved to another location in the U.S., thus creating a new RU to be interviewed for MEPS, as well as student RUs. Thus, the number of RUs known to be eligible for MEPS interviewing in a given round can be determined only after data collection is fully completed. The ratio of the number of RUs completing the MEPS

interview in a given round to the number of RUs characterized as eligible to complete the interview for that round represents the “conditional” response rate for that round expressed as a proportion. It is “conditional” in that it pertains to the set of RUs characterized as eligible for MEPS specifically for that round, and thus is “conditioned” on prior participation rather than representing the overall response rate through that round. For example, in Table 3-1, for Panel 23, Round 1 the ratio of 7,351 (Row E) to 10,089 (Row D) multiplied by 100 is 72.9 and represents the unweighted response rate for the round conditioned on the set of RUs characterized as eligible for MEPS for Round 1. Multiplying the percentage of the NHIS sample eligible for MEPS (Row A) by the product of the ratios for a consecutive set of MEPS rounds beginning with round one produces the overall response rate through the last MEPS round specified. (It should be noted that the number of RUs with completed interviews is slightly higher than the number of RUs receiving family weights. RUs receiving family weights must satisfy additional criteria such as participation throughout the entire period of eligibility by all key, in-scope RU members and the requirement that the RU reference person must be key.)

The overall response rate for the combined sample of Panel 23, Round 1 and Panel 22, Round 3 is obtained by taking the sum of the products of the relative sample sizes and the corresponding overall panel response rates. The details of the process of computing the overall response rate is described below in Section 3.1.4.

### **3.1.2      Panel 22 Response Rates**

For MEPS Panel 22 Round 3, 9,693 households were fielded in 2017 (row C of Table 3-1), a randomly selected subsample of the households responding to the 2016 National Health Interview Survey (NHIS).

Table 3-1 shows the number of RUs eligible for interviewing in each Round of Panel 22 as well as the number of RUs completing the MEPS interview. Computing the individual Round “conditional” Response Rates as described in section 3.1.1 and then taking the product of the resulting three “conditional” round response rates and the factor 69.2 (the percentage of the NHIS sampled households eligible for MEPS) yields an overall unweighted response rate of 44.5 percent for Panel 22 through Round 3.

### **3.1.3      Panel 23 Response Rates**

For MEPS Round 1 of Panel 23, 9,694 households were fielded in 2018 (again, found in Row C of Table 3-1), a randomly selected subsample of the households responding to the 2017 National Health Interview Survey (NHIS).

Table 3-1 shows the number of RUs eligible for interviewing (10,089) and the number completing the interview for Round 1 of Panel 23 (7,351). The overall unweighted response rate for Panel 23 through Round 1 of MEPS is thus computed as 67.1 percent times (7,351/10,089), or 48.9 percent.

### **3.1.4      Combined Panel Response Rate**

A combined response rate for the survey respondents in this data set is obtained by taking a weighted average of the panel specific response rates. Here the contribution from each panel to

the average reflects the relative number of Round 1 (Panel 23) and Round 3 (Panel 22) weighted individuals in the two panels. The Panel 22 response rate was weighted by a factor of .47 while that of Panel 23 by a factor of .53. The resulting unweighted response rate for the combined panels is thus computed as (.47 x 44.5) plus (.53 x 48.9) or 46.8 percent (as shown in Table 3-1).

### 3.1.5      **Oversampling**

Oversampling was employed for selected subgroups of policy-level interest to help increase the precision of estimates associated with members of those subgroups. Before going into details, the concept of oversampling is discussed.

In a sample where all persons in a population are selected with the same probability and survey coverage of the population is high, the sample distribution is expected to be proportionate to the population distribution. For example, if Hispanics represent 15 percent of the general population, one would expect roughly 15 percent of the persons sampled to be Hispanic. However, in order to improve the precision of estimates for subgroups of a population, one might decide to select samples from those subgroups at higher rates than the remainder of the population. Thus, one might select Hispanics at twice the rate (i.e., at double the probability) of persons not oversampled. As a result, subgroups that are “oversampled” are represented at disproportionately high rates in the sample. Sample weights help ensure that population estimates account for this disproportionate contribution from oversampled subgroups, as the base sample weights for oversampled groups will be smaller than for the portion of the population not oversampled. For example, if a subgroup is sampled at roughly twice the rate of sample selection for the remainder of the population not oversampled, members of the oversampled subgroup will receive base or initial sample weights (prior to nonresponse or poststratification adjustments) that are roughly half the size of the group “not oversampled.”

As mentioned above, oversampling a subgroup is done to improve the precision of survey estimates for that particular subgroup. The “cost” of oversampling is that the precision of estimates for the overall population and subgroups not oversampled will be reduced to some extent compared to the precision that could have been achieved if the same overall sample size were selected without any oversampling.

For MEPS Panel 21 and earlier panels, some of the oversampling was achieved through its linkage to the NHIS, where areas with relatively high concentrations of Hispanics, Blacks, and Asians were oversampled. For Panels 22 and 23 the oversampling of minorities was achieved strictly through the oversampling of NHIS household level respondents with minority members. The sample for these panels will also reflect to some degree the oversampling of smaller states and some localized areas for the 2016 and 2017 NHIS.

The oversampling approach for MEPS differed somewhat between panels. For the MEPS sampling component for Panel 22, five domains were established in a hierarchical sequence for sampling NHIS respondent household: the first domain contained households with Asians; the second domain contained households with Hispanics not assigned to the first domain; the third domain contained households with Black members not assigned to domains one and two; the fourth domain contained those remaining households (“Other” households) characterized as “complete” for the NHIS; and the fifth domain contained all remaining “Other” households,

those characterized as “partial complete” for the NHIS. For MEPS Panel 23 the Veterans domain was inserted between the “Black” domain and the “Other, complete” domain in the hierarchical sampling sequence, resulting in six sample domains for Panel 23.

In terms of sampling rates, for Panel 22 all households in the Asian, Hispanic, and Black domains were sampled with certainty. The sampling rate was about 77 percent for the “Other complete” domain, and about 49 percent for the “Other partial complete” domain. For Panel 23 the corresponding sampling rates for all the domains except those characterized as “Other” were 1 (i.e., all households assigned to those domains were included in MEPS). The “Other, complete” domain was sampled at a rate of about 69 percent while the “Other, partial complete” domain was sampled at a rate of about 43 percent.

Within strata (domains) for both panels, responding NHIS households were selected for MEPS using a systematic sample selection procedure from among those eligible. For all but those strata involving “Others,” the selection was with certainty. Within the two strata involving “Others” (for both Panel 22 and Panel 23) the sample was selected with probability proportionate to size (pps) where the size measure was the inverse of the NHIS initial probability of selection. The pps sampling was undertaken to help reduce the variability in the MEPS weights incurred due to the variability of the NHIS sampling rates.

To summarize, with the subsampling, households that were oversampled for MEPS from Panel 22 in calendar year 2018 were those responding households in the NHIS identified as having members whose race/ethnicity was Hispanic, Black, or Asian. For Panel 23, NHIS responding households with veterans were also oversampled.

## **3.2        Sample Weights**

The sample weights provided in this file can be used to produce cross-sectional estimates for the U.S. civilian, non-institutionalized population for roughly the first half of 2018 and subgroups of this population based on the sample data. Two weights are provided: a person-level weight and a family-level weight.

### **3.2.1      Person-Level Weight**

The person-level weight variable (WGTSP13) was constructed as a composite of separate panel-specific weights. A positive composite person-level weight was assigned to all key members of the U.S. civilian, non-institutionalized population for whom MEPS data were collected, representing the corresponding U.S. population in early 2018.

For the Panel 23 Round 1 participants, the panel-specific weight reflects a number of components: the original household probability of selection for the NHIS and for the NHIS sample reserved for MEPS and an adjustment for NHIS nonresponse; the oversampling in MEPS of the subgroups described earlier; adjustments for non-participation in MEPS at the household (occupied dwelling unit) level; and poststratification to U.S. civilian non-institutionalized population estimates obtained from March 2018 CPS data at the family and person levels.

For Panel 22 Round 3 participants, the panel-specific weight reflects the Round 1 weighting process for Panel 22 (the same approach as for Panel 23); nonresponse in Rounds 2 and 3; and person-level poststratification.

Compositing factors (the same factors used to obtain an overall response rate across panels; .47 for Panel 22 and .53 for Panel 23) were applied to the panel weights described above. These composited weights were then poststratified to control totals based on March 2018 CPS data across the same variables as for the panel-specific weights: census region, MSA status, race/ethnicity, sex, and age.

Table 3-2 shows the number of persons with person weights for each of the two panels separately as well as the combined total and the total population estimate represented by the weighted total for all persons with person-level weights. In terms of numbers of persons, there are 15,157 for Panel 22, Round 3 and 17,392 for Panel 23, Round 1. Thus, in total, there are 32,549 sample persons in the file with positive person-level weights (WGTSP13>0). The corresponding estimate for the civilian, non-institutionalized population based on summing the weights found in the variable WGTSP13 for these 32,549 persons is 321,836,125.

Table 3-2. Persons with a person weight for the 2018 Point-in-Time file

	Panel 22	Panel 23	Combined	Population estimate (weighted total of combined sample)
Number	15,157	17,392	32,549	321,836,125

### A Note on Population Estimates

The 2012 Point-in-Time (PIT) PUF was the first PIT PUF to incorporate 2010 census-based population estimates from the CPS into the poststratification component of PIT weighting. CPS estimates began reflecting 2010 census based data in 2012, and the March 2018 CPS data serves as the basis for the 2018 MEPS weight calibration efforts discussed here. An article discussing [the impact of this transition on CPS estimates](#) can be found at the Bureau of Labor Statistics website.

Use of the updated population controls will have a noticeable effect on estimated totals for some population subgroups. The article compares some 2011 CPS estimates for those aged 16 and older “as published” with those that would have been generated had the updated population controls been used. Among the more notable increases were for the following subgroups: those aged 55 or older (about 1.3 million more, a 1.7 percent increase); those aged 16-24 (about a half million more, a 1.4 percent increase); Blacks (400 thousand more, a 1.4 percent increase); Hispanics (1.3 million more, a 3.8 percent increase); and Asians (1.2 million more, a 10 percent increase). Corresponding changes can be anticipated for MEPS estimates as a result.

## **3.2.2 Family-Level Weight**

### **3.2.2.1 Definition of MEPS Families**

A family unit is defined in MEPS as two or more persons living together in the same household during the reference period (in this data set, from January 1, 2018 to the date of interview) who are related by blood, marriage, or adoption. In addition, unrelated persons who identify themselves as a family (e.g., domestic partners) are also defined as a MEPS family unit. Persons who died during the Round 1 reference period and those who left the civilian, non-institutionalized population part way through the reference period due to institutionalization, emigration, or enrollment in the military were considered to be family members. Relatives identified as usual residents of the household but who were not present at the time of the interview, such as college students living away from their parents' home during the school year, were considered as members of the family that identified them.

### **3.2.2.2 Assignment of Weights**

If all key, in-scope members of a family responded to MEPS for their entire period of eligibility for Panel 22, Round 3 or for Panel 23, Round 1 and if the family had a key reference person, then that family received a family-level weight (WGTRU13>0). Reporting units consisting of an individual respondent who was both key and in-scope also received a family-level weight. These single person "family" units can be included or excluded from family-level analyses at the analyst's discretion.

Family-level weights were poststratified to figures obtained from the March 2018 CPS. The family-level poststratification reflects population distributions across family type (reference person married, spouse present; male reference person, no spouse present; female reference person, no spouse present), size of family, age of reference person, location of family (census region and MSA status), and race/ethnicity of the family's reference person.

Table 3-3 shows the number of families with family-level weights for each of the two panels separately, as well as the combined total and the total population estimate represented by the weighted total for all families with family-level weights. Included as families in these counts are individuals living in one person RUs. There are 6,412 such families for Panel 22, Round 3 and 7,124 for Panel 23, Round 1. Thus, in total, there are 13,536 sample families in the file with positive family-level weights (WGTRU13>0). The population estimate of the number of these "family" units (families plus single person "family" units) with family-level weights containing at least one member of the U.S. civilian, non-institutionalized population is 144,519,785 based on summing the family level weights across all 13,536 MEPS families where WGTRU13 is positive.

Table 3-3. Families with a family weight for the 2018 Point-in-Time file

	Panel 22	Panel 23	Combined	Population estimate (weighted total of combined sample)
Number	6,412	7,124	13,536	144,519,785

It should be noted that CPS and MEPS definitions of family units are slightly different. In particular, CPS does not consider unmarried persons who live together as family units. Adjustments were made in the poststratification process to help compensate for some of these differences. Again, note that MEPS population estimates have undergone some “discontinuities” as discussed earlier, as they now reflect 2010 Census data on population distributions.

### 3.2.2.3 Instructions to Create Family Estimates

To make estimates at the family level, it is necessary to prepare a family-level file containing one record per family. Each MEPS family unit is uniquely identified by the combination of the variables DUID and FAMID13. Only persons with positive, nonzero family weight values (WGTRU13>0) are candidates for inclusion in family estimates. Following is a summary of steps that can be used for family-level estimation:

1. Concatenate the variables DUID and FAMID13 into a new variable (e.g., DUFAM13).
2. To create a family-level file, sort by DUFAM13 and then subset to one record per DUFAM13 value by retaining only the reference person record (RNDREF13=1) for each value of DUFAM13. If the analyst chooses to eliminate single person units from family analyses, it is also necessary to exclude records where FAMSIZ13=1. If aggregate measures for families are needed for analytic purposes (e.g., means or totals), then those measures need to be computed using person-level information within families and attached to the family record. For other types of variables, analysts frequently use characteristics of the reference person to represent family characteristics.
3. Apply the weight WGTRU13 to the analytic variable(s) of interest to obtain national family estimates.

### 3.2.3 Relationship between Person- and Family-Level Weights

Some persons with positive person-level weights do not have family-level weights because at least one member of their family was a non-participant in MEPS. Others with positive person weights did not receive a family weight because the family reference person was not key. In addition, some persons with positive family-level weights do not have person-level weights because they were either non-key or a member of the military or otherwise out-of-scope during the 2018 portion of the MEPS data collection round. Analysts should include only persons with positive person-level weights for analyses focused on the civilian, non-institutionalized population or subgroups of this population. Analyses focused on members of families should

include persons with positive family-level weights. Family level analyses can be undertaken as described in Section 3.2.2.3.

### **3.3 Variance Estimation**

MEPS has a complex sample design. To obtain estimates of variability (such as the standard error of sample estimates or corresponding confidence intervals) for MEPS estimates, analysts need to take into account the complex sample design of MEPS for both person-level and family-level analyses. Several methodologies have been developed for estimating standard errors for surveys with a complex sample design, including the Taylor-series linearization method, balanced repeated replication, and jackknife replication. Various software packages provide analysts with the capability of implementing these methodologies. Replicate weights have not been developed for the MEPS data. Instead, the variables needed to calculate appropriate standard errors based on the Taylor-series linearization method are included on this point-in-time file as well as all other MEPS public use files. Software packages that permit the use of the Taylor-series linearization method include SUDAAN, Stata, SAS (version 8.2 and higher), and SPSS (version 12.0 and higher). For complete information on the capabilities of each package, analysts should refer to the corresponding software user documentation.

Using the Taylor-series linearization method, variance estimation strata and the variance estimation PSUs within these strata must be specified. The variables VARSTR and VARPSU on this MEPS data file serve to identify the sampling strata and primary sampling units required by the variance estimation programs. Specifying a “with replacement” design in one of the previously mentioned computer software packages will provide estimated standard errors appropriate for assessing the variability of MEPS survey estimates. It should be noted that the number of degrees of freedom associated with estimates of variability indicated by such a package may not appropriately reflect the number available. For variables of interest distributed throughout the country (and thus the MEPS sample PSUs), one can generally expect to have at least 100 degrees of freedom associated with the estimated standard errors for national estimates based on this MEPS database.

Prior to 2002, MEPS variance strata and PSUs were developed independently from year to year, and the last two characters of the strata and PSU variable names denoted the year. However, beginning with the 2002 Point-in-Time PUF, the variance strata and PSUs were developed to be compatible with all future PUFs until the NHIS design changed. As discussed, the most recent change took place in 2016, effectively changing the MEPS design beginning with calendar year 2017, where Panel 22 was based on the new NHIS design while Panel 21 was based on the old one. In order to make the pooling of data across multiple years of MEPS more straightforward, the numbering system for the variance strata has changed. Those strata associated with the new design will have four digit values with a “2” as the first digit. Those associated with the previous design will have “1” as the first of four digits.

Thus, under the previous NHIS design (with which Panel 21 is associated) the 165 variance estimation strata created were numbered 1001-1165 for the 2017 PIT file. Panels associated with the new design have 117 variance strata. For Panels 22 and 23 of the 2018 PIT file variance strata were numbered 2001-2117. Each variance stratum had either two or three variance estimation PSUs.

Beginning with the 2002 PIT database, 203 variance strata were formed for use in developing variance estimates for all subsequent years and databases under the old design. These were numbered 1-203. For data analyses where data pooling across calendar years is limited to 2002 and later, the numbering of the variance strata and variance PSUs now permits this with no further actions needed.

If pooled analyses involve data in calendar years earlier than 2002, a pooled linkage file has been created to permit assignment of variance strata and PSU values for any person sampled under the old NHIS sample design (the one used for the NHIS from 1995-2005, and thus associated with MEPS samples for MEPS Panels 1-11). This person-level file contains variance stratum and PSU variables for all respondents participating in MEPS, along with the standard MEPS person ID variables for linking to other MEPS files. This one file contains records for each person who is on any of the MEPS full-year consolidated files. It is found on PUF Number HC-036. (A Balanced Repeated Replicate or BRR version of this file is also available. See PUF Number HC-036BRR.)

**D. Variable-Source Crosswalk**

## SURVEY ADMINISTRATION VARIABLES

VARIABLE	LABEL	SOURCE
DUID	Dwelling Unit ID	Assigned in Sampling
PID	Person Number	Assigned in Sampling or by CAPI
DUPERSID	Person ID (DUID + PID)	Assigned in Sampling
PANEL	Panel Number	Assigned by CAPI
FAMID13	Family Identifier (Student Merged In)	CAPI Derived
RULETR13	RU Letter	CAPI Derived
RUSIZE13	RU Size	CAPI Derived
RUCLAS13	RU Fielded As: Standard, New, Student	CAPI Derived
FAMSIZ13	RU Size Including Students	CAPI Derived
REGION13	Census Region	Assigned in Sampling
RNDREF13	Reference Person	RE 480-500
RDRESP13	1st Respondent Indicator	ST 30
PROXY13	Was Respondent A Proxy	ST 30
BEGRFM13	Reference Period Begin Date: Month	CAPI Derived
BEGRFY13	Reference Period Begin Date: Year	CAPI Derived
ENDRFM13	Reference Period End Date: Month	CAPI Derived
ENDRFY13	Reference Period End Date: Year	CAPI Derived
KEYNESS	Person Key Status	RE Section
INSCOP13	Inscope	RE Section
PSTAT13	Person Disposition Status	RE Section
RURSLT13	RU Result	Assigned by CAPI
RUENDM13	Date of Intv (Date Started: Month)	Assigned by CAPI
RUENDY13	Date of Intv (Date Started: Year)	Assigned by CAPI

## DEMOGRAPHIC VARIABLES

VARIABLE	LABEL	SOURCE
AGE13X	Age - (Edited/Imputed)	RE 80,650,680,750
DOBMM	Date of Birth: Month	RE 70,650,680,730
DOBYY	Date of Birth: Year	RE 70,650,680,730
SEX	Sex	RE 60,650,680,720
RACEV1X	Race (Edited/Imputed)	RE 1170
RACEV2X	Race (Edited/Imputed)	RE 1170
RACEAX	Asian Among Races Rptd (Edited/Imputed)	RE 1170
RACEBX	Black Among Races Rptd (Edited/Imputed)	RE 1170
RACEWX	White Among Races Rptd (Edited/Imputed)	RE 1170
RACETHX	Race/Ethnicity (Edited/Imputed)	RE 1170
HISPANX	Hispanic Ethnicity - (Edited/Imputed)	RE 1170
HISPNCAT	Hispanic Ethnicity (Edited/Imputed)	RE 1170
MARRY13X	Marital Status - (Edited/Imputed)	RE 100,1170
SPOUID13	Spouse ID	RE 900
SPOUIN13	Marital Status with Spouse Present	RE 900
EDUCYR	Years of Educ When First Entered MEPS	RE 1180-1200
HIDEGL	Highest Degree When First Entered MEPS	RE 1180-1200
FTSTD13X	Student Status Ages 17-23 (Edit/Imputed)	RE 50, 1210
ACTDTY13	Military Full-Time Active Duty	RE 110,1050, 1080,1100
HONRDC13	Honorably Discharged from Active Duty	RE 170,1130
REFRL13X	Relation To Ref Pers (Edited/Imputed)	RE 900
OTHLANG	In Family with Someone Spkng Other Lang	RE 102
LANGSPK	Language Spoken at Home Other Than Engl	RE 102A
HWELLSPE	How Well Person Speaks English	RE 102B
OTHLGSPK	Speak Other Language at Home	RE 1170
WHTLGSPK	What Language Spoken Other Than English	RE 1170
HWELLSPK	How Well Person Speaks English	RE 1170
BORNUSA	Person Born in the US	RE 1170
YRSINUS	Years Person Lived in the US	RE 1170

## HEALTH STATUS VARIABLES

VARIABLE	LABEL	SOURCE
RTHLTH13	Perceived Health Status	PE 10
MNHLTH13	Perceived Mental Health Status	PE 20
IADLHP13	IADL Screener	HE 10,20,30
ADLHP13	ADL Screener	HE 40,50,60
AIDHLP13	Uses Assistive Devices	HE 70,80
WLKLIM13	Limitation in Physical Functioning	HE 90,100
LFTDIF13	Difficulty Lifting 10 Pounds	HE 110
STPDIF13	Difficulty Walking Up 10 Steps	HE 120
WLKDIF13	Difficulty Walking 3 Blocks	HE 130
MILDIF13	Difficulty Walking a Mile	HE 140
STNDIF13	Difficulty Standing 20 Minutes	HE 150
BENDIF13	Difficulty Bending/Stooping	HE 160
RCHDIF13	Difficulty Reaching Over Head	HE 170
FNGRDF13	Difficulty Using Fingers to Grasp	HE 180
ACTLIM13	Limitation Work/Housework/School	HE 190,200, 210
WRKLIM13	Work Limitation	HE 190,200,210
HSELIM13	Housework Limitation	HE 190,200,210
SCHLIM13	School Limitation	HE 190,200,210
UNABLE13	Completely Unable To Do Activity	HE 220
SOCLIM13	Social Limitation	HE 230,240
COGLIM13	Cognitive Limitation	HE 250,260

## EMPLOYMENT VARIABLES

VARIABLE	LABEL	SOURCE
EMPST13	Employment Status	EM 10-30, RJ10,60
HRWAG13X	Hourly Wage at Current Main Job (Edited)	EW section; EM 540-550,620
HRWGRD13	Hourly Wage Round Flag	Constructed
HRWAY13	Calculation Methods for Hourly Wage	EM 540-550,620; EW section
HOUR13	Hours Worked Per Week at CMJ	EM 540-550, 620
HELD13X	Health Insurance Held From CMJ (Ed)	EM, HX, RJ, HP and OE sections
OFFER13X	Health Insurance Offered at CMJ (Ed)	EM, HX, RJ, HP and OE sections
NUMEMP13	Number of Employees at Location of CMJ	EM 430-440, 740, RJ 110
SELFCM13	Self-Employed at Current Main Job	EM 420

## HEALTH INSURANCE VARIABLES

VARIABLE	LABEL	SOURCE
IHS13	PID Cov by Indian Health Service	HX130-140; PR290-300; HQ section
TRIAT13	PID Cov By TRICARE/CHAMPVA	HX 110, 120, 230; PR 260 - 270; HQ section;
VAPROG13	PID Cov by VA	HX110-125, 230, 260; PR260- PR280; HQ section
MCARE13	PID Cov By Medicare	HX 30-60
MCARE13X	PID Cov By Medicare - Edited	HX 30-60, 90 – 120, 230; PRIV13 and (HX 620 or (OE 130)); PR 150-160, 260- 270, 310-320
GOVTA13	PID Cov by Other Government Program	HX150-170, 230; PR310-320; HQ section
GOVTB13	PID Cov by Oth Pub HMO	HX150-170, 230, 530, 540; PR310- 320, 340, 350; HQ section
GOVTC13	PID Cov by Oth Pub Pays Prem	HX150-170, 230, 560, 575; PR310- 320, 370-380; HQ section
MCAID13	PID Cov By Medicaid or SCHIP	HX 90, 100, 230; HQ section; PR 150-160
MCAID13X	PID Cov by Medicaid or SCHIP - Edited	MCAID13, HX 150, 170, 230, 530, 540, 560; HQ section; PR 310-320, 340- 350, 370-380

VARIABLE	LABEL	SOURCE
PUB13X	PID Cov By Public Ins - Edited	TRIAT13, MCARE13X, MCAID13X, VAPROG13, GOVTA13
PRIEU13	PID Cov By Priv Empl/Union Plan	HX200, HX300, HX620; HP, OE, HQ, EM, and RJ sections
PRIEUO13	PID Cov by ESI, Holder Outside RU	HX200, 300; HP130, OE and HQ sections
PRINEO13	PID Cov by Priv Non-ESI, Holder Out RU	HX200, 300; HP130, OE and HQ sections
PRIDK13	PID Cov By Priv DK Plan	HX200, HX300, HX620; HP, OE, and HQ sections
PRING13	PID Cov By NonGroup Plan	HX200, HX300, HX620; HP, OE, and HQ sections
PRIOG13	PID Cov By Oth Group Plan	HX200, HX300, HX620; HP, OE, and HQ sections
PRSTX13	PID Cov By Priv Ins Through Exchange	HX200, HX300, HX620, HP40, HP50, OE40
PRIV13	PID Cov By Private Ins	PRIEU13, PRIEUO13, PRINEO13, PRIDK13, PRING13, PRIOG13, PRSTX13
HPRIEU13	PID is Holder of Priv Empl/Union Plan	HX200, HX300, HX620; HP, OE, HQ, EM, and RJ sections
HPRIDK13	PID is Holder of Priv DK Plan	HX200, HX300, HX620; HP, OE, and HQ sections

VARIABLE	LABEL	SOURCE
HPRING13	PID is Holder of NonGroup Plan	HX200, HX300, HX620; HP, OE, and HQ sections
HPRIOG13	PID is Holder of Oth Group Plan	HX200, HX300, HX620; HP, OE, and HQ sections
HPRSTX13	PID is Holder of Priv Ins Exchange	HX200, HX300, HX620, HP40, HP50, OE40
HPRIV13	PID is Holder of Priv Ins Plan	HPRIEU13, HPRIDK13, HPRING13, HPRIOG13, HPRSTX13
INSRD13X	PID is Insured – Edited	PUB13X, PRIV13

### WEIGHTS VARIABLES

VARIABLE	LABEL	SOURCE
WGTSP13	Person Weight	Constructed
WGTRU13	Family Weight	Constructed
VARSTR	Variance Estimation Stratum	Constructed
VARPSU	Variance Estimation PSU	Constructed