

**MEPS HC 251  
2023 Full Year  
Consolidated Data File**

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**Agency for Healthcare Research and Quality  
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## A. Data Use Agreement

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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:

No one is to use the data in this dataset in any way except for statistical reporting and analysis; and

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

No one will attempt to link this dataset with individually identifiable records from any datasets 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**

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### **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 respondents' health status, demographic and socioeconomic characteristics, employment, access to care, and satisfaction with care. Estimates can be produced for individuals, families, and selected population subgroups. The panel design of the survey includes 5 rounds of interviews covering 2 full calendar years. Information about each household member is collected through computer-assisted personal interviewing (CAPI) technology, 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. Historically, each annual MEPS HC sample consists of up to 15,000 households. Data can be analyzed at the person, the family, or the 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 (NCHS). The NHIS sampling frame provides a nationally representative sample of the U.S. civilian noninstitutionalized population. In 2006, the NCHS implemented a new sample design for the NHIS to include households with Asian persons in addition to households with Black and Hispanic persons in the oversampling of minority populations. In 2016, NCHS introduced another sample design that discontinued the oversampling of these minority groups.

### **2.0 Medical Provider Component**

When the household CAPI interview is completed, and permission is obtained from the sample members to contact their medical provider(s), a sample of these providers is 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 it collects information on dates of visits, diagnosis and procedure codes, and charges and payments. The Pharmacy Component (PC), a subcomponent of the MPC, does not collect data on charges or on diagnosis and procedure codes, but it does collect detailed information on drugs, including the National Drug Code (NDC) and medicine name, as well as 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. The MEPS HC data are collected under contract with Westat, Inc. and the MEPS MPC data are collected under contract with Research Triangle Institute. Datasets and summary statistics are edited and published in accordance with the confidentiality provisions of the Public Health Service Act and the Privacy Act. The NCHS provides consultation and technical assistance.

As soon as the MEPS data are collected and edited, they are released to the public in stages of microdata files and tables via the [MEPS website](#) and [datatools.ahrq.gov](https://datatools.ahrq.gov).

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

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### 1.0 General Information

This documentation describes the 2023 Full-Year Consolidated Public Use File (hereafter referred to as the Consolidated PUF) from the MEPS HC. It was released as an ASCII file (with related SAS, Stata, SPSS, and R programming statements and data user information) and as a SAS dataset, a SAS transport dataset, a Stata dataset, and an Excel file. The Consolidated PUF provides information collected from a nationally representative sample of the U.S. civilian noninstitutionalized population for calendar year 2023. It contains 1,374 variables and has a logical record length of 3,894 with an additional 2-byte carriage return/line feed at the end of each record.

The data in this PUF were obtained in the 2023 portion of Round 3, and all of Rounds 4 and 5 of Panel 27; and Rounds 1, 2, and the 2023 portion of Round 3 of Panel 28 (i.e., the rounds for the MEPS panels covering calendar year 2023).

The variables in the Consolidated PUF pertain to survey administration, demographics, income, person-level conditions, health status, disability days, quality of care, employment, health insurance, and person-level medical care, use, and expenditures.

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

- Data File Information (Section 2.0)
- Survey Sample Information (Section 3.0)
- Variable-Source Crosswalk (Section D)

Both weighted and unweighted frequencies of most variables included in this PUF are provided in the accompanying codebook file. The exceptions to this are weight variables, variance estimation variables, and variables that have a separate weight. Variables with separate weights are in the Self-Administered Questionnaire (SAQ). Only unweighted frequencies of these variables are included in the codebook file. Section D: Variable-Source Crosswalk lists the weights and variables.

A database of all MEPS products released to date can be found on the [MEPS website](#).

### 2.0 Data File Information

This PUF contains variables and frequency distributions associated with 18,919 persons who participated in the MEPS HC in 2023. These persons received a positive person-level weight, a positive family-level weight, or both (some participating persons belonged to families

characterized as family-level nonrespondents while some members of participating families were not eligible for a person-level weight).

These 18,919 persons were part of one of the two MEPS panels for whom data were collected in 2023: Rounds 3, 4, and 5 of Panel 27, or Rounds 1, 2, and 3 of Panel 28. Of these persons, 18,463 were assigned a positive person-level weight. There were 8,133 families receiving a positive family-level weight. The codebook provides both weighted and unweighted frequencies for most variables on the dataset. In conjunction with the person-level weight variable (PERWT23F) provided on this PUF, data for persons with a positive person-level weight can be used to make estimates for the U.S. civilian noninstitutionalized population for 2023.

#### MEPS Panel Design: Data Reference Periods

|  | 2021       |    |    |    | 2022       |    |    |    | 2023       |    |    |    |
|--|------------|----|----|----|------------|----|----|----|------------|----|----|----|
|  | Q1         | Q2 | Q3 | Q4 | Q1         | Q2 | Q3 | Q4 | Q1         | Q2 | Q3 | Q4 |
| <b>Panel 23</b><br>Round 7<br>Round 8<br>Round 9                       |            |    |    |    |            |    |    |    |            |    |    |    |
| <b>Panel 24</b><br>Round 5<br>Round 6<br>Round 7<br>Round 8<br>Round 9 |            |    |    |    |            |    |    |    |            |    |    |    |
| <b>Panel 25</b><br>Round 3<br>Round 4<br>Round 5                       |            |    |    |    |            |    |    |    |            |    |    |    |
| <b>Panel 26</b><br>Round 1<br>Round 2<br>Round 3<br>Round 4<br>Round 5 |            |    |    |    |            |    |    |    |            |    |    |    |
| <b>Panel 27</b><br>Round 1<br>Round 2<br>Round 3<br>Round 4<br>Round 5 |            |    |    |    |            |    |    |    |            |    |    |    |
| <b>Panel 28</b><br>Round 1<br>Round 2<br>Round 3                       |            |    |    |    |            |    |    |    |            |    |    |    |
| <b>Sample Size</b>   | N = 27,332 |    |    |    | N = 21,747 |    |    |    | N = 18,463 |    |    |    |

N is equal to the number of people with a positive person weight on the file.

## 2.1 Codebook Structure

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

- Unique person identifiers and survey administration variables
- Geographic variables
- Demographic variables
- Income and tax filing variables
- Person-level priority condition variables
- Health status variables
- Disability days variables
- Access to care variables
- Employment variables
- Health insurance variables
- Utilization, expenditure, and source of payment variables
- Weight and variance estimation variables

## 2.2 Reserved Codes

This Consolidated PUF includes several reserved code values:

**Table 1**

*Reserved Code Values, Labels, and Definitions*

| Value | Label                        | Definition   |
|-------|------------------------------|--|
| -1    | Inapplicable                 | Question was not asked due to skip pattern   |
| -2    | Determined in previous round | Question was not asked in round because there was no change in current main job since previous round |
| -7    | Refused                      | Question was asked and respondent refused to answer question   |
| -8    | Don't know                   | Question was asked and respondent did not know answer or the information could not be ascertained    |

| Value | Label              | Definition  |
|-------|--------------------|---|
| -10   | Top coded          | Hourly wage or establishment size was top-coded for confidentiality |
| -15   | Cannot be computed | Value cannot be derived from data                                   |

The value Cannot be Computed (-15) was assigned to the MEPS constructed variables when there was not enough information from the instrument to calculate the constructed variables. Not having enough information is often the result of skip patterns in the data or of missing information stemming from the responses Refused (-7) or Don't Know (-8). Note that, in addition to Don't Know, reserved code -8 also includes cases for which the information from the question was not ascertained.

## 2.3 Codebook Format

This codebook describes an ASCII dataset (although the data are also being provided in a SAS dataset, SAS transport file, Stata dataset, and Excel file) and provides programming identifiers for each variable:

**Table 2**

*Programming Identifiers for Each Variable in the Consolidated PUF*

| Identifier  | Description   |
|-------------|---|
| Name        | Variable name   |
| Description | Variable descriptor   |
| 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, the variable names reflect the content of the variable. Names of edited variables end in an X and are described as such in the variable label. The last two characters in round-specific variables denote the rounds of data collection, Round 3, 4, or 5 of Panel 27, and Round 1, 2, or 3 of Panel 28. Unless otherwise noted, variables that end in "23" represent the status as of December 31, 2023. As the collection, universe, or categories of variables were altered, the variable names have been appended with "\_Myy" to indicate the collection year in which the alterations took place. These alterations are described in detail throughout this document. Analysts are cautioned not to confuse variables ending in "\_M23" (indicating that an alteration took place in collection year 2023) with those ending in "23" (which represent the status as of December 31 of the collection year).

Variables in this PUF were derived either from the questionnaire itself or from the CAPI. The source of each variable is identified in Section D: Variable-Source Crosswalk. Sources for each variable are indicated in one of four ways:

1. Variables derived from CAPI or assigned in sampling are so indicated,
2. Variables derived from complex algorithms associated with reenumeration are labeled “RE Section,”
3. Variables that are collected by one or more specific questions in the instrument are indicated by the question number(s) in the Source column of the crosswalk, and
4. Variables constructed from multiple questions by using complex algorithms are labeled “Constructed.”

## 2.5 File Contents

Analysts of the MEPS data should be aware that contents of the file include data collected for all sample persons who were in the survey target population (U.S. civilian noninstitutionalized population) at any time during the survey period. In other words, a small proportion of individuals in the MEPS analytic files were not members of the target population for the entire survey period. These persons include those who, at some point, lived in an institution (e.g., nursing home or prison), were in the military, lived out of the country, were born (or adopted) into MEPS sample households, or died during the year. They are considered sample persons for analytic purposes and are included in MEPS annual files with positive person-level weights, but no data were collected for the periods in which they were not in scope, and their annual data for variables such as health care utilization, expenditures, and insurance coverage reflect only the part of the year in which they were in scope for the survey. These persons should not be confused with nonrespondents. The latter, sample members who did not respond to one or more rounds of data collection (i.e., initial nonrespondents and dropouts over time), are not included in the MEPS annual PUFs, and survey weights for full-year respondents are inflated through statistical adjustment procedures to compensate for both full- and part-year nonresponse (see Section 3.0: Survey Sample Information for more information). The AHRQ website provides more details about the [identification and analytic considerations regarding sample persons who are in scope only part of the year](#).

### 2.5.1 Survey Administration Variables (DUID - RURLT53)

The survey administration variables contain information related to conducting the interview, household and family composition, and person-level and reporting unit (RU)-level status codes. Data for the survey administration variables were derived from the sampling process or the CAPI programs, or they were computed on the basis of information provided by the respondent in the Reenumeration (RE) section of the questionnaire. Questions pertaining to most survey administration variables on this Consolidated PUF were asked during every round of the MEPS interview. The variables describe data for Rounds 3/1, 4/2, and 5/3 status, and for the status as of December 31, 2023.

The December 31, 2023 variables were developed in two ways. Those used to construct eligibility, in scope, and the end reference date were based on an exact date. The remaining variables were constructed by using data from specific rounds, if available. If data were missing from the target round but were available in another round, data from that other round were used to construct the variable. If no valid data were available during any round of data collection, an appropriate reserved code was assigned.

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

The definitions of dwelling units (DUs) in the MEPS HC are generally consistent with the definitions in the NHIS. The Dwelling Unit ID (DUID) is a 7-digit ID number consisting of a 2-digit panel number followed by a 5-digit random number assigned after the case was sampled for MEPS. A 3-digit person number (PID) uniquely identifies each person within the DU. The variable DUPERSID is the combination of DUID and PID. As part of the new CAPI design, the lengths of the ID variables on the Consolidated PUF have changed. An additional 2 bytes in the IDs resulted from adding a 2-digit panel number to the beginning of all the IDs. Analysts should be mindful of the different ID structures/lengths when combining MEPS PUFs from 1996-2017 with MEPS PUFs from 2018-2023.

PANEL is a constructed variable used to specify the panel number (27 or 28) for each person on the Consolidated PUF. Panel 27 started in 2022, and Panel 28 started in 2023. The panel number is included as the first two digits of the DUID and DUPERSID.

The variable DATAYEAR is set to the reference year for the data and is included in this Consolidated PUF to aid in the differentiation of datasets when merging multiple years of data.

An RU is a person or group of persons in the sampled DU who are related by blood, marriage, adoption, or other family association. Each RU was interviewed as a single entity for MEPS. Thus, the RU serves chiefly as a family-based “survey” operations unit rather than an analytic unit.

Standard or primary RUs are the original RUs from the NHIS. A new RU is one created when members of the household leave the primary RU and are followed according to the rules of the survey. A student RU is an unmarried college student (younger than 24) who is considered a usual member of the household but was living away from home while going to school and was treated as an RU separate from their parents’ RU for the purpose of data collection.

RUCLAS23 indicates the type of RU (standard, new, or student) when fielded for MEPS and was set on the basis of the RUCLAS values from Rounds 3/1, 4/2, and 5/3. If the person was present in the responding RU in Round 5/3, then RUCLAS23 was set to RUCLAS53. If the person was not present in the responding RU in Round 5/3 but was present in Round 4/2, then RUCLAS23 was set to RUCLAS42. If the person was not present in either Rounds 5/3 or 4/2 but was present in Round 3/1, then RUCLAS23 was set to RUCLAS31. If the person was not linked to a responding RU during any round, then RUCLAS23 was set to -15.

Members of each RU within the DU are identified in the pertinent three rounds by the round-specific variables RULETR31, RULETR42, and RULETR53. End-of-year status (as of

December 31, 2023 or the last round in which RU members were in the survey) is indicated by the RULETR23 variable. Regardless of the legal status of their association, two persons living together as a “family” unit were treated as a single RU if they chose to be so identified.

Examples of different types of RUs include the following:

1. A married daughter and her husband living with her parents in the same DU constitute a single RU;
2. A husband and wife and their unmarried daughter, aged 18, who is living away from home while at college constitute two RUs; and
3. Three unrelated persons living in the same DU would each constitute a distinct RU (a total of three RUs).

The round-specific variables RUSIZE31, RUSIZE42, and RUSIZE53, and the end-of-year status variable RUSIZE23 indicate the number of persons in each RU, treating students as single RUs separate from their parents. Thus, students are not included in the RUSIZE count of their parents’ RU. However, for many analytic objectives, the student RUs would be combined with their parents’ RU, treating the combined entity as a single family. The family identifier and size variables are described below and include students with their parents’ RU.

The round-specific variables FAMID31, FAMID42, and FAMID53, and the end-of-year status variable FAMID23 identify a family (i.e., persons related to one another by blood, marriage, adoption, or self-identified as a single unit) for each round and as of December 31, 2023. The FAMID variables differ from the RULETR variables only in that student RUs are combined with their parents’ RU.

Two other family identifiers, FAMIDYR and CPSFAMID, are provided on this PUF. The annualized family ID letter, FAMIDYR, identifies eligible members of the eligible annualized families within a DU. The CPSFAMID represents a redefinition of MEPS families into families defined by the Current Population Survey (CPS). Some of the distinctions between CPS- and MEPS-defined families are that MEPS families include and CPS families do not include: non-married partners, and in-laws. These persons are considered as members of separate families for CPS-like families. CPS-like families are defined so a poverty status classification variable consistent with established definitions of poverty can be assigned to the CPS-like families and used for weight poststratification purposes. To identify a person’s family affiliation, users must create a unique set of FAMID variables by concatenating the DU identifier and the FAMID variable. Instructions for creating family estimates are described in Section 3.5.

Foster care relationships and fostered members of households are no longer included in the MEPS data. This change was implemented as of the 2017 Consolidated PUF, so analysts combining many years of data may encounter foster relationships/members in earlier MEPS PUFs.

The round-specific variables FAMSZE31, FAMSZE42, and FAMSZE53, and the end-of-year status variable FAMSZE23 indicate 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 FAMSZE variables.

Note that the variables RUSIZE31, RUSIZE42, RUSIZE53, RUSIZE23, FAMSZE31, FAMSZE42, FAMSZE53, and FAMSZE23 exclude persons who are ineligible for data collection (i.e., identified by the following variables: ELGRND31 NE 1, ELGRND42 NE 1, ELGRND53 NE 1, or ELGRND23 NE 1); analysts should exclude ineligible persons in a given round from all family-level analyses for that round.

The round-specific variables RURSLT31, RURSLT42, and RURSLT53 indicate the RU response status for each round. Analysts should note that the values for RURSLT31 differ from those for RURSLT42 and RURSLT53.

**Table 3**

***Values and Definitions for RURSLT31***

| Value | Definition   |
|-------|--|
| -1    | Inapplicable   |
| 60    | Complete with RU member  |
| 61    | Complete with proxy - all RU members deceased                          |
| 62    | Complete with proxy - all RU members institutionalized or deceased     |
| 63    | Complete with proxy - other  |
| 72    | RU institutionalized in prior round; Still institutionalized - R3 only |
| 80    | Entire RU merged with other RU   |
| 81    | Entire RU deceased before 1/1/23                                       |
| 82    | Entire RU was military before 1/1/23                                   |
| 83    | Entire RU institutionalized before 1/1/23                              |
| 84    | Entire RU left United States before 1/1/23                             |
| 85    | Entire RU was ineligible before 1/1/23; Multi-reason                   |
| 86    | Entire RU was ineligible; Non-Key NHIS study                           |
| 87    | Reenumeration complete; No eligible RU member; Ineligible RU           |
| 88    | Unavailable during field period  |
| 89    | Too ill; No proxy  |
| 90    | Physically/Mentally incompetent; No proxy                              |
| 91    | Final refusal  |
| 92    | Final breakoff   |
| 93    | Unable to locate   |
| 94    | Entire RU is military or left U.S. after 1/1/23                        |



| Value | Definition   |
|-------|--|
| 95    | Entire RU institutionalized after 1/1/23; No proxy |
| 96    | Entire RU deceased after 1/1/23; No proxy          |
| 97    | Reenumeration complete; No RU member; Nonresponse  |
| 98    | RU moved too far to interview                      |
| 99    | Final other nonresponse                            |

**Table 4**

***Values and Definitions for RURSLT42 and RURSLT53***

| Value | Definition   |
|-------|--|
| -1    | Inapplicable   |
| 60    | Complete with RU member  |
| 61    | Complete with proxy - all RU members deceased                      |
| 62    | Complete with proxy - all RU members institutionalized or deceased |
| 63    | Complete with proxy - other  |
| 70    | Entire RU merged with other RU                                     |
| 71    | Reenumeration complete; No eligible RU member; Ineligible RU       |
| 72    | RU institutionalized in prior round; Still institutionalized       |
| 88    | Unavailable during field period                                    |
| 89    | Too ill; No proxy  |
| 90    | Physically/Mentally incompetent; No proxy                          |
| 91    | Final refusal  |
| 92    | Final breakoff   |
| 93    | Unable to locate   |
| 94    | Entire RU is military or left U.S. after 1/1/23                    |
| 95    | Entire RU institutionalized after 1/1/23; No proxy                 |
| 96    | Entire RU deceased after 1/1/23; No proxy                          |
| 97    | Reenumeration complete; No RU member; Nonresponse                  |
| 98    | RU moved too far to interview                                      |
| 99    | Final other nonresponse  |

## ***Geographic Variables***

The round-specific variables REGION31, REGION42, and REGION53, and the end-of-year status variable REGION23 indicate the Census region for the RU. REGION23 indicates the region for the 2023 portion of Round 5/3. For most analyses, REGION23 should be used.

**Table 5**

### ***Values, Labels, and States for Each Region***

| 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   |

## ***Reference Period Dates***

The reference period is the period in 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. The variables that identify these dates include BEGRFM31, BEGRFY31, BEGRFM42, BEGRFY42, BEGRFM53, and BEGRFY53. The reference period for Round 1 for most persons began on January 1, 2023 and ended on the date of the Round 1 interview. For RU members who joined later in Round 1, the beginning Round 1 reference date was the date on which the person entered the RU. For all subsequent rounds, 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. For persons who joined after the previous round's interview, beginning of the reference period was set to the day on which they joined the RU.

The round-specific ending reference period dates for Rounds 3/1, 4/2, and 5/3, as well as the end-of-year reference period end date variables, are also included for each person. These variables include ENDRFM31, ENDRFY31, ENDRFM42, ENDRFY42, ENDRFM53, ENDRFY53, ENDRFM23, and ENDRFY23. For most persons in the sample, the date of the round's interview is the reference period end date. Note that the end date of the reference period for a person precedes the date of the interview if the person was deceased during the round, left the RU, was institutionalized before that round's interview, or left the RU to join the military. For a small number of cases, the reference period dates may have been recoded for confidentiality.

### ***Reference Person Identifiers***

The round-specific variables REFPRS31, REFPRS42, and REFPRS53, and the end-of-year status variable REFPRS23 identify the reference person for Rounds 3/1, 4/2, and 5/3, and as of December 31, 2023 (or the last round in which they were in the survey). In general, the reference person is defined as the household member aged 16 or older who owns or rents the home. If more than one person meets this description, the household respondent identifies one from among them. If the respondent is unable to identify a person fitting this definition, the questionnaire asks for the head of household, and this person is then considered the reference person for that RU. This information is collected in the RE section of the CAPI questionnaire.

### ***Respondent Identifiers***

The respondent is the person who answered the interview questions for the RU. The round-specific variables RESP31, RESP42, and RESP53, and the end-of-year status variable RESP23 identify the respondent for Rounds 3/1, 4/2, and 5/3, and as of December 31, 2023 (or the last round in which they were in the survey). Only one respondent is identified for each RU. When the interview was completed in more than one session, only the first respondent is indicated.

There are two types of respondents: an RU member or a non-RU member proxy. The round-specific variables PROXY31, PROXY42, and PROXY53, and the end-of-year status variable PROXY23 identify the type of respondent for Rounds 3/1, 4/2, and 5/3, and as of December 31, 2023 (or the last round in which they were in the survey).

### ***Language of Interview***

The language of interview variable (INTVLANG) is a summary value of the round-specific, RU-level question (CL350) in the Closing section of the CAPI questionnaire. This question asks the interviewer to record the language in which the interview was completed: English, Spanish, Both English and Spanish, Other Language. Given the first round in which the person participated in the survey and the person's associated RU for that round, INTVLANG was assigned the interview language value reported for the person's RU for the round.

### ***Type of Interview***

Beginning in FY 2022, the interviewer records at CL340 the primary mode of conducting the MEPS interview. This information is used to construct the round-specific type of interview variables INTVTYPE31, INTVTYPE42, and INTVTYP53, with the following response categories: In Person (1), By Telephone (2), or By Video (CAVI) (3).

### ***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, INSCOP31, INSCOP42, INSCOP53, INSCOP23, INSC1231, INSCOPE, ELGRND31, ELGRND42, ELGRND53, ELGRND23, PSTATS31, PSTATS42, and PSTATS53. They were set on the basis of sampling information and responses provided in the RE section of the CAPI questionnaire.

Through the RE section of the CAPI questionnaire, each member of an RU was classified as Key or non-Key, in scope or out of scope, and eligible or ineligible for data collection. To be included in the set of persons used to derive the MEPS person-level estimates, a person also had to be a member of the U.S. civilian noninstitutionalized population for at least one day during 2023. Because a person’s eligibility for the survey might have changed since the NHIS interview, a sampling reenumeration of household membership was conducted at the start of each round’s interview. Only persons who were in scope at some time during the year, who were Key, and who also responded for the full period in which they were in scope were assigned positive person-level weights. Analysts should therefore use these persons to derive person-level national estimates from the MEPS.

If analysts want to subset their analysis to infants born during 2023, then newborns should be identified by using AGE23X = 0 rather than PSTATSxy = 51.

***In Scope***

The round-specific variables INSCOP31, INSCOP42, and INSCOP53 indicate a person’s in-scope status for Rounds 3/1, 4/2, and 5/3. INSCOP23, INSC1231, and INSCOPE indicate a person’s in-scope status for the portion of Round 5/3 that covers 2023, the person’s in-scope status as of December 31, 2023, and whether a person was ever in scope during calendar year 2023. A person was considered in scope during a round or a referenced period if they were a member of the U.S. civilian noninstitutionalized population at some time during that round or that time period. The values of these variables taken in conjunction allow analysts to determine in-scope status over time (for example, becoming in scope in the middle of a round, as would be the case for newborns). These variables contain the following values and definitions:

**Table 6**  
***Values and Definitions for INSCOPxy, INSCOP23, INSC1231, and INSCOPE***

| Value | Definition   |
|-------|--|
| 0     | Incorrectly listed or on NHIS roster but out of scope prior to January 1, 2023   |
| 1     | Person is in scope for the whole reference period  |
| 2     | Person is in scope at the start of the RU reference period, but not at the end of the RU reference period  |
| 3     | Person is not in scope at the start of RU reference period but is in scope at the end of the RU reference period. (For example, the person is in scope from the date they joined the RU or the person was in the military in the previous round, but is no longer in the military in the current round.) |

| Value | Definition   |
|-------|--|
| 4     | Person is in scope during the reference period but neither at the reference start date nor on the reference end date. (For example, the person leaves an institution, goes into community, and then dies.) |
| 5     | Person is out of scope for all of the reference period during which they are an RU member. (For example, the person is in the military.)   |
| 6     | Person is out of scope for the entire reference period, is not a member of the RU during this period, and was in scope and an RU member in an earlier round  |
| 7     | Person is not in an RU, joined in a later round (or joined the RU after December 31, 2023, for INSCOP23)   |
| 8     | RU nonresponse and Key persons who left an RU with no tracing information, so a new RU was not formed  |
| 9     | Person is not a member of an RU during this time period and was an RU member in an earlier round   |

### **Keyness**

The term “Keyness” is related to an individual’s chance of being included in the MEPS. A person is Key if they are linked for sampling purposes to the set of NHIS sampled households designated for inclusion in the MEPS. More specifically, a Key person was either a member of a responding NHIS household at the time of interview or joined a family associated with such a household after being out of scope at the time of the NHIS (examples of the latter include newborns and those returning from military service, an institution, or residence in a foreign country).

A non-Key person is one whose chance of being selected for the NHIS (and the MEPS) was associated with a household eligible but not sampled for the NHIS and who later became a member of a MEPS RU. MEPS data (e.g., utilization and expenditures) were collected for the period over which a non-Key person was part of a 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 were not given person-level weights and thus do not contribute to person-level national estimates.

The variable KEYNESS indicates a person’s Keyness status. This variable is not round specific. Instead, it is set when a person enters MEPS, and this person’s Keyness status never changes. Once a person is determined to be Key, they will always be Key.

It should be pointed out that a person might be Key even though they are not part of the civilian noninstitutionalized portion of the U.S. population. For example, a person in the military may have been living with their civilian spouse and children in a household sampled for the NHIS. The person in the military would be considered Key for purposes of the MEPS; however, such a

person would not be eligible to receive a person-level sample weight if they were never in scope during 2023.

### ***Eligibility***

The eligibility of a person for the MEPS pertains to whether data are to be collected for that person. 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 as long as they live with at least one such person. The only out-of-scope persons eligible for data collection are those who are living with a Key, in-scope person - again, only for as long as they live with such persons. Only military persons fit this description (for example, a person who is full-time, active duty military and living with a spouse who is Key).

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 (for example, persons who may have been institutionalized during a round), data are collected for the period during which that person is classified as eligible. The round-specific variables ELGRND31, ELGRND42, and ELGRND53, and the end-of-year status variable ELGRND23 indicate a person's eligibility status for Rounds 3/1, 4/2, and 5/3, and as of December 31, 2023.

### ***Person Disposition Status***

The round-specific variables PSTATS31, PSTATS42, and PSTATS53 indicate a person's disposition status - that is, their response and eligibility status for each round of interviewing. These variables indicate the reasons for either continuing or terminating data collection for each person in the MEPS. Using these variables, analysts can identify persons who moved during the reference period, died, were born, institutionalized, or were in the military. Analysts should note that PSTATS53 summarizes all of Round 5/3, including transitions that occurred after 2023. Note that some categories may have been collapsed for confidentiality purposes.

**Table 7**

#### ***Values and Definitions for PSTATSxy***

| Value | Definition   |
|-------|--|
| -1    | The person was not fielded during the round, or the RU was nonresponse   |
| 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 |

| Value | Definition   |
|-------|--|
| 21    | The person remains in a health care institution for the whole round - Rounds 4/2 and 5/3 only  |
| 22    | The person leaves an institution (health care or non-health care) and rejoins the community - Rounds 4/2 and 5/3 only  |
| 23    | The person leaves an institution and dies - Rounds 4/2 and 5/3 only  |
| 24    | The person dies in a health care institution during the round (former RU member) - Rounds 4/2 and 5/3 only   |
| 31    | Person from original RU, dies during reference period  |
| 32    | Went to health care institution during reference period  |
| 33    | Went to non-health care 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”)   |
| 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  |

## 2.5.2 Navigating the MEPS Data with Information on Person Disposition Status

Because the variables PSTATS31, PSTATS42, and PSTATS53 indicate the reasons for either continuing or terminating data collection for each person in the MEPS, these variables can be used to explain the beginning and ending dates for each individual's reference period of data collection as well as which sections in the instrument that each individual did not receive. By using this information, shown in the table at the end of this section, analysts will be able to determine which sections of the MEPS questionnaire collected data elements for each individual.

Some individuals have a reference period that spans an entire round, while for others, it spans only a portion of the round. When an individual's reference period does not coincide with the RU reference period, the individual's beginning date may be later than the RU's beginning date, the ending date may be earlier, or both may be true. In addition, for some individuals, the reference period information was coded as Inapplicable (-1) (e.g., for individuals who were not actually in the household). The information in the table at the end of this section indicates the beginning and ending dates of the reference periods for persons with various values of PSTATS31, PSTATS42, and PSTATS53. The actual dates for each individual are in the following variables in this PUF: BEGRFM31, BEGRFM42, BEGRFM53, BEGRFY31, BEGRFY42, BEGRFY53, ENDRFM31, ENDRFM42, ENDRFM53, ENDRFY31, ENDRFY42, ENDRFY53, ENDRFM23, and ENDRFY23.

The table at the end of this section also shows the section or sections of the questionnaire that were *not* asked for each value of PSTATS31, PSTATS42, and PSTATS53. For example, the Priority Condition Enumeration (PE) section has questions that are not asked for deceased persons. The Closing (CL) section also contains some questions or question rosters that exclude certain persons depending on whether they died, became institutionalized, or otherwise left the RU; however, no one was considered to have skipped the entire section. Some questions or sections (e.g., Health Status [HE], Employment [RJ, EM, EW]) were skipped if individuals were not within a certain age range. Since the PSTATS variables do not address skip patterns based on age, analysts will need to use the appropriate age variables.

The SAQ was designed to collect information during Panel 28 Round 2 and Panel 27 Round 4. In FY 2023, the SAQ was administered, for the first time, as a multimode survey, with web mode added to the regular paper-and-pencil administration. A person was considered eligible to receive an SAQ if that person was Key; their status was not deceased or institutionalized; they did not move out of the United States or to a military facility; they were not a nonresponse at the time of the Round 2 or Round 4 interview date; and they were aged 18 or older. No RU members added in Round 3 or Round 5 were asked to complete an SAQ questionnaire. Because PSTATS variables do not address skip patterns based on age, this questionnaire was not included in the table below. Once again, analysts will need to use the appropriate age variable, which in this case is AGE42X. The documentation for this questionnaire appears in the SAQ section of this document under Health Status Variables (Section 2.5.6).

Please note that the ending reference date shown in the following table for PSTATS53 reflects the Round 5/3 reference period rather than the portion of Round 5/3 that occurred during 2023.



**Table 8**

***PSTATS Values and Definitions, the Instrument Sections that Persons with that Value are Not Asked, and Reference Period Dates***

| PSTATS Value | PSTATS Definition   | Sections in the instrument that persons with this PSTATS value do NOT receive | Beginning reference date   | Ending reference date   |
|--------------|---|---|--|---|
| -1           | The person was not fielded during the round or the RU was nonresponse   | All sections  | Inapplicable   | Inapplicable  |
| 0            | Incorrectly listed in RU in NHIS - Round 1 only   | All sections after Reenumeration (RE)   | Inapplicable   | Inapplicable  |
| 11           | Person in original household, not FT (full-time) active military duty (person is in the same RU as the previous round)                              | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | Interview date  |
| 12           | Person in original household, FT active military duty, out-of-scope for whole reference period.   | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | Interview date  |
| 13           | FT student living away from home, but associated with sampled household   | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | Interview date  |
| 14           | Person is FT active military duty during round and is in-scope for part of the reference period and is in the RU at the end of the reference period | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | PSTATS31: Interview date<br>PSTATS42 and PSTATS53: If the person is living w/ someone Key and in-scope, then the interview date. If not living w/ someone who is Key and in scope, then the date the person joined the military |
| 21           | The person remains in a health care institution for the whole round - Rounds 4/2 and 5/3 only   | All sections after RE   | Inapplicable   | Inapplicable  |

| PSTATS Value | PSTATS Definition   | Sections in the instrument that persons with this PSTATS value do NOT receive     | Beginning reference date   | Ending reference date  |
|--------------|---|---|--|------------------------|
| 22           | The person leaves a health care institution and rejoins the community - Rounds 4/2 and 5/3 only                   | -   | Date rejoined the community  | Interview date         |
| 23           | The person leaves a health care institution, goes into community, and then dies - Rounds 4/2 and 5/3 only         | PE - Priority Conditions Enumeration<br>HE - Health Status<br>AC - Access to Care | Date rejoined the community  | Date of death          |
| 24           | The person dies in a health care institution during the round (former household member) - Rounds 4/2 and 5/3 only | All sections after RE   | Inapplicable   | Inapplicable           |
| 31           | Person from original household, dies during reference period  | PE<br>HE<br>AC  | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | Date of death          |
| 32           | Went to health care institution during reference period   | AC  | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | Date institutionalized |
| 33           | Went to non-health care institution during reference period   | AC  | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | Date institutionalized |
| 34           | Moved from original household, outside U.S.   | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | Date left the RU       |
| 35           | Moved from original household to a military facility while on FT active military duty                             | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date | Date left the RU       |

| PSTATS Value | PSTATS Definition   | Sections in the instrument that persons with this PSTATS value do NOT receive | Beginning reference date   | Ending reference date  |
|--------------|---|---|--|------------------------|
| 36           | Went to institution (type unknown) during reference period  | AC  | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date   | Date institutionalized |
| 41           | Moved from the original household to new household within U.S. (new households include RUs originally classified as a student RU but that converted to a new RU; these are individuals in an RU that has split from an RU since the previous round) | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date   | Interview date         |
| 42           | The person joins household and is not FT military during round  | -   | January 1, 2023, or the date the person joined the RU, whichever is later  | Interview date         |
| 43           | The person's disposition as to why they are not in the RU is unknown or the person moves, and it is unknown whether the person moved inside or outside the U.S.   | All sections after RE   | Inapplicable   | Inapplicable           |
| 44           | The person leaves an RU, joins an existing RU, and is not both in the military and coded as in scope during the round   | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date of the RU the person has joined. This may not be the interview date of the person's RU. | Interview date         |

| PSTATS Value | PSTATS Definition  | Sections in the instrument that persons with this PSTATS value do NOT receive | Beginning reference date   | Ending reference date |
|--------------|--|---|--|-----------------------|
| 51           | Newborn in reference period  | Questions in which age must be > 1 HE Employment (RJ/EM/EW)                   | PSTATS31: January 1, 2023, if born prior to 2023. The date of birth if born in 2023.<br>PSTATS42 and PSTATS53: The prior round interview date or date of birth, whichever is later | Interview date        |
| 61           | Died prior to reference period (not eligible) - Round 3/1 only   | All sections after RE   | Inapplicable   | Inapplicable          |
| 62           | Institutionalized prior to reference period (not eligible) - Round 3/1 only  | All sections after RE   | Inapplicable   | Inapplicable          |
| 63           | Moved outside U.S., prior to reference period (not eligible) - Round 3/1 only  | All sections after RE   | Inapplicable   | Inapplicable          |
| 64           | FT military, moved prior to reference period (not eligible) - Round 3/1 only   | All sections after RE   | Inapplicable   | Inapplicable          |
| 71           | Student younger than 24 living away at school in grades 1 - 12 (non-Key)   | -   | PSTATS31: January 1, 2023<br>PSTATS42 and PSTATS53: Prior round interview date   | Interview date        |
| 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 | All sections after RE   | Inapplicable   | Inapplicable          |
| 73           | Not Key and not FT military, moved without someone Key and in scope (not eligible)   | All sections after RE   | Inapplicable   | Inapplicable          |
| 74           | Moved as FT military but not to a military facility and without someone Key and in scope (not eligible)  | All sections after RE   | Inapplicable   | Inapplicable          |

| PSTATS<br>Value | PSTATS<br>Definition  | Sections in the<br>instrument that<br>persons with this<br>PSTATS value do<br>NOT receive | Beginning<br>reference date | Ending<br>reference date |
|-----------------|---|---|-----------------------------|--------------------------|
| 81              | Person moved from original household, FT student living away from home, did not respond | No data were collected  | Inapplicable                | Inapplicable             |

### 2.5.3 Demographic Variables (AGE31X-DAPID53X)

#### *General Information*

Demographic variables provide information about the demographic characteristics of each person in the MEPS HC. The characteristics include age, sex, race, ethnicity, marital status, educational attainment, and military service. As noted in this section, some variables have edited and imputed values. The questions pertaining to most demographic variables on this PUF were asked during every round of the MEPS interview. These variables contain data for Rounds 3, 4, and 5 of Panel 27 (the panel that started in 2022); Rounds 1, 2 and 3 of Panel 28 (the panel that started in 2023); and the status as of December 31, 2023.

Demographic variables whose names contain “31,” “42,” or “53” are round-specific variables. For example, AGE31X represents the age data relevant to Round 3 of Panel 27, or Round 1 of Panel 28. The variable PANEL indicates the panel from which the data were derived. A value of 27 indicates Panel 27 data and a value of 28 indicates Panel 28 data. The remaining demographic variables on this PUF are not round specific.

The variables describing the demographic status of the person as of December 31, 2023 were developed in two ways. First, the age variable (AGE23X), which represents the exact age, was calculated from the date of birth and indicates age status as of December 31, 2023. For the remaining December 31 variables (i.e., related to marital status [MARRY23X, SPOUID23, SPOUID23], student status [FTSTU23X], and the relationship to reference persons [REFRL23X]), the following algorithm was used: data were taken from the Round 5/3 counterpart if nonmissing; else, if missing, data were taken from the Round 4/2 counterpart; else from the Round 3/1 counterpart. If no valid data were available during any of these rounds of data collection, the algorithm assigned the missing value (other than Inapplicable [-1]) from the first round in which the person was part of the study. When all three rounds were set to -1, Cannot be Computed (-15) was assigned.

#### *Age*

Date of birth and age for each RU member were asked or verified during each MEPS interview (DOBMM, DOBY, AGE31X, AGE42X, AGE53X). If the date of birth was available, age was calculated on the basis of the difference between the date of birth and the date of the interview. Inconsistencies between the calculated age and the age reported during the CAPI interview were

reviewed and resolved. For purposes of confidentiality, the variables AGE31X, AGE42X, AGE53X, AGE23X, and AGELAST were top-coded at 85 years of age.

When date of birth was not provided but age was provided (either from the MEPS interviews or the 2021-2022 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 either of the following:

1. The mean age difference between MEPS participants with certain family relationships (when available) or
2. The mean age value for MEPS participants.

For example, a mother's age was imputed as her child's age plus 26, where 26 is the mean age difference between MEPS mothers and their children. A wife's age was imputed as the husband's age minus 3, where 3 is the mean age difference between MEPS wives and husbands. Age was imputed in this way for 5 persons on this PUF.

AGELAST indicates a person's age from the last time the person was eligible for data collection during a specific calendar year. The age range for this variable is 0-85.

## ***Sex***

Data on the sex of each RU member (SEX) were initially determined from the 2021 NHIS for Panel 27 and from the 2022 NHIS for Panel 28. The SEX variable 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 interviews) were also obtained during each MEPS round. When sex of the RU member was not available from the NHIS interviews and was not determined 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 it was obvious (no cases were resolved this way in 2023). If the person's first name provided no indication of sex, then family relationships were reviewed (no cases were resolved this way in 2023). If neither of these approaches made it possible to determine the individual's sex, sex was randomly assigned (no cases were resolved this way in 2023).

## ***Race and Ethnicity***

The race and the ethnicity 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 with data collection in 2013 for Panel 16 Round 5, Panel 17 Round 3, and Panel 18 Round 1; this change affected data starting with the 2012 Population Characteristics PUF. Before that time, there were two race questions, but starting with the data collection in 2013, there has been only one race question. All Asian categories listed in the second question were moved to the new single question. 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 allowed respondents to report more than one Hispanic ethnicity. As a result of these changes, race/ethnicity data before 2012 may not be directly comparable with data collected in 2012 and later. The following table shows the variables used for FY 2002-2011 and FY 2012-2023, with two exceptions: (1) in FY 2012, RACEV1X categories 4 and 5 were not combined but were combined starting with 2013, and (2) RACEV2X and HISPNCAT were first introduced in 2013.

**Table 9**

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

| FY PUFs 2002-2011   | FY PUFs 2012-2023  |
|---|--|
| Race  | Race   |
|   | RACEVER<br>Used only in FY12-FY13<br>1 Old race questions<br>2 New race questions  |
| RACEX<br>1 White - No other race reported<br>2 Black - No other race reported<br>3 American Indian/Alaska Native - No other race reported<br>4 Asian - No other race reported<br>5 Native Hawaiian/Pacific Islander - No other race reported<br>6 Multiple races reported | RACEV1X<br>1 White - No other race reported<br>2 Black - No other race reported<br>3 American Indian/Alaska Native - No other race reported<br>4 Asian - No other race reported (used only in FY12; starting in 2013, Category 5 collapses into Category 4)<br>5 Native Hawaiian/Pacific Islander - No other race reported (used only in FY12; starting in 2013, Category 5 collapses into Category 4.)<br>6 Multiple races reported |

| FY PUFs 2002-2011   | FY PUFs 2012-2023   |
|---|---|
|   | <p>RACEV2X (starting in 2013)</p> <p>Treatment of categories 10 and 12 differed between 2013-2015 and 2016-2019</p> <ul style="list-style-type: none"> <li>1 White - No other race reported</li> <li>2 Black - No other race reported</li> <li>3 American 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>10 Oth Asian/Natv Hawaiian/Pacfc Isl- No Oth</li> <li>12 Multiple races reported</li> <li>-1 Inapplicable (used only in FY13)</li> </ul> |
| <p>RACETHNX</p> <ul style="list-style-type: none"> <li>1 Person is Hispanic</li> <li>2 Person is Black - No other race reported/Not Hispanic</li> <li>3 Person is Asian - No other race reported/Not Hispanic</li> <li>4 Other race/Not Hispanic</li> </ul> | <p>RACETHX</p> <ul style="list-style-type: none"> <li>1 Hispanic</li> <li>2 Non-Hispanic White only</li> <li>3 Non-Hispanic Black only</li> <li>4 Non-Hispanic Asian only</li> <li>5 Non-Hispanic Other race or multi-race</li> </ul>   |
| <p>RACEAX</p> <ul style="list-style-type: none"> <li>1 Asian - No other race reported</li> <li>2 Asian - Other race(s) reported</li> <li>3 All other race assignments</li> </ul>  | <p>RACEAX</p> <ul style="list-style-type: none"> <li>1 Asian - No other race reported</li> <li>2 Asian - Other race(s) reported</li> <li>3 All other race assignments</li> </ul>  |
| <p>RACEBX</p> <ul style="list-style-type: none"> <li>1 Black - No other race reported</li> <li>2 Black - Other race(s) reported</li> <li>3 All other race assignments</li> </ul>  | <p>RACEBX</p> <ul style="list-style-type: none"> <li>1 Black - No other race reported</li> <li>2 Black - Other race(s) reported</li> <li>3 All other race assignments</li> </ul>  |
| <p>RACEWX</p> <ul style="list-style-type: none"> <li>1 White - No other race reported</li> <li>2 White - Other race(s) reported</li> <li>3 All other race assignments</li> </ul>  | <p>RACEWX</p> <ul style="list-style-type: none"> <li>1 White - No other race reported</li> <li>2 White - Other race(s) reported</li> <li>3 All other race assignments</li> </ul>  |
| Ethnicity   | Ethnicity   |



| FY PUFs 2002-2011  | FY PUFs 2012-2023   |
|--|---|
| <b>HISPANX</b><br>1 Hispanic<br>2 Not Hispanic   | <b>HISPANX</b><br>1 Hispanic<br>2 Not Hispanic  |
| <b>HISPCAT</b><br>1 Puerto Rican<br>2 Cuban/Cuban American<br>3 Dominican<br>4 Mexican/Mexican American<br>5 Central or South American<br>6 Non-Hispanic<br>91 Other Latin American<br>92 Other Hispanic/ Latino | <b>HISPCAT (used only in FY12-FY13)</b><br>1 Puerto Rican<br>2 Cuban/Cuban American<br>3 Dominican<br>4 Mexican/Mexican American<br>5 Central or South American<br>6 Non-Hispanic<br>91 Other Latin American<br>92 Other Hispanic/ Latino<br>-1 Inapplicable  |
|  | <b>HISPNCAT (starting in 2013)</b><br>1 Mexican/Mexican American/Chicano - No other Hispanic reported<br>2 Puerto Rican - No other Hispanic reported<br>3 Cuban/Cuban American - No other Hispanic reported<br>4 Dominican - No other Hispanic reported<br>5 Central or South American - No other Hispanic reported<br>6 Oth Lat Am/Hisp/Latino/Spnsh orgn - No other Hispanic reported<br>8 Multiple Hispanic groups reported<br>9 Non-Hispanic<br>-1 Inapplicable (used only in FY13) |

Race and ethnicity variables and their response categories before 2002 are available in the documentation for the Consolidated PUF for each data year.

Values for these variables were obtained according to 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 (7 cases were resolved this way for race, and 3 cases were resolved this way for ethnicity). If still not determined, race and/or ethnicity were assigned on the basis of the relationship to other

members of the DU by using a priority order that gave precedence to blood relatives in the immediate family (this approach was used for 14 persons to set race and for 8 persons to set ethnicity).

For the FY 2012 and FY 2013 PUFs, three new race variables were constructed for both the old and the new questions: RACEVER, RACEV1X, and RACETHX. The variable RACEVER was constructed to indicate which version of the race question(s) was asked and was included in only the 2012 and 2013 FY PUFs. RACEVER has been dropped starting with the 2014 PUF. The variables RACEV1X and RACETHX replace the variables RACEX and RACETHNX from 2002-2011. A new race variable, RACEV2X, was constructed only for the new race question and was added for the first time to the 2013 files. RACEV2X was set to Inapplicable (-1) for persons who were not asked the new race question in FY 2013 only. This variable includes the expanded-detail Asian categories and continues to be constructed for all PUFs.

The Multiple Races Reported categories for RACEV1X and RACEV2X differ in the 2013-2015 PUFs but are the same starting with the 2016 PUF. In the 2013-2015 PUFs, persons of multiple Asian races or multiple Hawaiian/Pacific Islander races were considered multiple races for RACEV2X but were not considered multiple races for RACEV1X. Starting with the 2016 PUFs, persons of multiple Asian races or multiple Hawaiian/Pacific Islander races were no longer considered multiple races for RACEV2X.

For the FY 2012 and FY 2013 PUFs, the two Hispanic ethnicity variables from previous years were included: HISPANX and HISPCAT. The HISPANX variable continues to be constructed. The HISPCAT variable was constructed for specific Hispanic categories based only on the old question in FY 2012 and FY 2013; HISPCAT was dropped starting with the 2014 PUF. A new ethnicity variable, HISPNCAT, based on the new question, was introduced in 2013. HISPNCAT includes categories that are similar to HISPCAT but in a different order; it also contains an additional category, Multiple Hispanic Groups Reported (8), to represent any multiple responses reported. HISPNCAT was set to Inapplicable (-1) for persons who were not asked the new ethnicity question in FY 2013. This variable continues to be constructed for all PUFs.

Categories have been collapsed in the variables RACEV1X, RACEV2X, and HISPNCAT. For RACEV1X, new with the 2012 PUF, Categories 4 and 5 were collapsed into Category 4 as ASIAN/NATV HAWAIIAN/PACFC ISL-NO OTH starting with the 2013 PUF. For RACEV2X, new with and starting with the 2013 PUF, Categories 7, 8, 9, 10, and 11 were collapsed into Category 10 as OTH ASIAN/NATV HAWAIIAN/PACFC ISL-NO OTH. For HISPNCAT, new with and starting with the 2013 PUF, Categories 6 and 7 were collapsed into Category 6 as OTH LAT AM/HISP/LATINO/SPNSH ORGN-NO OTH.

### ***Language Variables: OTHLGSPK, WHTLGSPK, and HWELLSPK***

Data on language variables (OTHLGSPK, WHTLGSPK, and HWELLSPK) were collected at the person level in the round in which the person entered the MEPS. The household respondent was asked, for each person aged 5 or older, a person-level question to determine whether that person speaks a language other than English at home (RE1170, OTHLGSPK). If the response to OTHLGSPK was “Yes,” then two other questions were asked. WHTLGSPK (RE1170) is a

person-level question that asks whether the non-English language spoken at home is Spanish or some other language, and HWELLSPK (RE1170) is a person-level question that asks how well that person can speak English. If the response to OTHLGSPK was “No,” then WHTLGSPK and HWELLSPK were set to Inapplicable (-1). Family members who were deceased or institutionalized in Round 1 were coded with a value of Inapplicable (-1). For minors younger than 5, all three variables were coded to Under 5 years old - Inapplicable (5).

Language variables have changed over time, so analysts doing multiyear analyses should carefully review the documentation from prior years to ensure that they are collecting all relevant language variables and correctly interpreting the various language variables over time.

### ***Foreign-Born Status***

Three questions regarding foreign-born status were asked in the Demographics section to ascertain whether a person was born in the United States (RE1170), what year they came to the U.S. (RE1170) if not born in the U.S., and years lived in the U.S. (RE1170) if the response to RE1170 was “Don’t Know.”.

These three questions were only asked once for each eligible person - that is, in the first round in which the person was included in the interview. The questions were asked of everyone except deceased and institutionalized persons. The data from RE1170 are reported as the constructed variable BORNUSA. The data from RE1170 (YRCAMEUS) and RE1170 (YRSINUSA) were used to calculate the number of years a person has lived in the United States for the constructed variable YRSINUS. Please note that YRSINUS is a discrete variable that has five collapsed categories:

- 1 - Less than 1 year
- 2 - 1 year, less than 5 years
- 3 - 5 years, less than 10 years
- 4 - 10 years, less than 15 years
- 5 - 15 years or more

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

Current marital status was collected and/or updated during every round of the MEPS interview. This information was obtained in RE100 and RE1170 and is reported as MARRY31X, MARRY42X, MARRY53X, and MARRY23X. Persons younger than 16 were coded as Under 16 - Inapplicable (6). If marital status in a specified round differed from that of the previous round, then the marital status of the specified round was edited to reflect a change during the round (e.g., married in round, divorced in round, separated in round, or widowed in round).

When there were discrepancies between the marital status of two individuals within a family, other person-level variables were reviewed to determine the edited marital status for each individual. Thus, when one spouse was reported as married and the other spouse was reported as widowed, the data were reviewed to determine whether one partner should be coded as Widowed in Round (8).

The data were edited to ensure some consistency across rounds. 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 previously being coded as any other marital status. Third, a person could not be coded as Married in Round after being coded as Married in the immediately preceding round. Fourth, a person could not be assigned an in-round code (e.g., Widowed in Round) in two consecutive rounds. Since marital status can change across rounds, and since it was not feasible to edit every combination of values across rounds, unlikely sequences for marital status across the round-specific variables do exist.

The person-level identifier for each individual's spouse is reported in SPOUID31, SPOUID42, SPOUID53, and SPOUID23. These are the PIDs (within each family) of the person identified as the spouse during Round 3/1, Round 4/2, and Round 5/3 and as of December 31, 2023, respectively. If no spouse was identified in the household, the variable was coded as No Spouse in House (995). Those with unknown marital status were coded as Marital Status Unknown (996). Persons younger than 16 were coded as Less than 16 Years Old (997).

The SPOUIN31, SPOUIN42, SPOUIN53, and SPOUIN23 variables indicate whether a person's spouse was present in the RU during Round 3/1, Round 4/2, and Round 5/3, and as of December 31, 2023, respectively. If the person had no spouse in the household, the response was coded as Not Married/No Spouse (2). For persons younger than 16, the response was coded as Under 16 - Inapplicable (3).

The SPOUID and SPOUIN variables were obtained from question RE900, in which 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 set of questions separate from the questions about marital status. While editing was performed to ensure that SPOUID and SPOUIN were 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 a result of any of the following three causes:

1. Ambiguity as to when, during a round, a change in marital status occurred. This uncertainty 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 SPOUIN and SPOUID for the same round would indicate that a spouse was present).
2. Valid discrepancies in the case of persons who are married but not living with their spouse or are separating but are still living together.
3. Discrepancies that cannot be explained for either of the previous reasons.

### ***Student Status and Educational Attainment***

The variables FTSTU31X, FTSTU42X, FTSTU53X, and FTSTU23X indicate whether the person was a full-time student at the interview date (or on December 31, 2023, for FTSTU23X). These variables have valid values for all persons aged 17-23. When this education question was asked during Round 1 of Panel 28, it was based on age as of the 2022 NHIS interview date.

Education questions were asked only when persons first entered MEPS, typically in Round 1 for most people. It should be noted that education questions were changed with data collection in 2012 and then changed back to the original questions with data collection in 2015. The variables associated with the original education questions (data collection in 2011 and prior years, and 2015 and subsequent years) are EDUCYR and HIDEG. The variable associated with the interim education question (data collection in 2012-2014) is EDUYRDEG (or EDUYRDEG with collapsed categories). The variable EDRECODE relates to variables for the original and interim education questions. As a result, different education variables are in the 2011-2015 PUFs based on the panel and round in which a person first entered the MEPS. The documentation for each of the 2011-2015 years explains which education variables are in the respective files. Starting in FY 2016, EDUCYR and HIDEG are the only education variables in the PUFs.

EDUCYR contains the number of years of education completed when entering MEPS for individuals aged 5 or older. Children younger than 5 were coded as Inapplicable (-1) regardless of whether they attended school. Individuals who were aged 5 or older and had never attended school were coded as 0. The user should note that EDUCYR is an unedited variable for which the data were only minimally cleaned.

HIDEG contains information on the highest degree of education attained when the individual entered MEPS. This information was obtained from three questions: highest grade completed, high school diploma, and highest degree. Persons younger than 16 when they first entered MEPS were coded as Under 16 - Inapplicable (8). When the response to the question about highest degree was No Degree, and the response to the question about highest grade was 13 -17, the variable HIDEG was coded as High School Diploma (3). If the response to the question about highest grade completed was Refused or Don't Know, and the response to the question about highest degree was No Degree, the variable HIDEG was coded as No Degree (1). The user should note that HIDEG is an unedited variable for which the data were only minimally cleaned.

### ***Military Service***

Information on active duty military status was collected during each round of the MEPS interview. Persons on full-time active duty status at the time of the interview are identified by the variables ACTDTY31, ACTDTY42, and ACTDTY53. Those younger than 16 were coded as Under 16 - Inapplicable (3), and those older than 59 were coded as Over 59 - Inapplicable (4).

The variable EVERSERVED, added in FY2023, indicates whether the person has ever served in the U.S. Armed Forces. If a person indicated that they ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard, including activation for the Reserves or National Guard (for example, for the Persian Gulf War), the variable EVERSERVED was coded as Yes - Served In Military (1).

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

For each RU, the person who owns or rents the DU 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 Dwelling Units, Reporting Units, and Families in Section 2.5.1: Survey Administration Variables.) The relationship variables indicate the relationship of each individual to the reference person of the RU in a given round.

Starting in 2013, detailed relationships were combined for confidentiality into more general categories in the variables REFRL31X, REFRL42X, REFRL53X, and REFRL23X. These variables replaced RFREL31X, RFREL42X, RFREL53X, and RFRELyX, which were used before 2013. The new and old variables are defined differently, so researchers using multiple years of MEPS data should refer to the documentation for prior years to ensure that their data are consistent.

Note that the categories for Child (4), Parent (7), and Sibling (8) for REFRL31X, REFRL42X, and REFRL53X, and REFRL23X changed in 2017. In 2013-2016, these categories included biological, adoptive, and step relationships, as well as in-law and foster relationships. Starting in 2017, in-law relationships have been included in Other Related, Specify (91). Foster children were no longer included in the MEPS starting in 2017, so this relationship no longer appears in any of the categories.

**Table 10**

#### ***Child, Parent, and Sibling Relationship Categories and Labels***

| Values | 2013-2016                                     | 2017-2023                     |
|--------|---|-------------------------------|
| 4      | CHILD (BIOLGCL/ADOPT/<br>IN-LAW/STEP/FOSTR)   | CHILD BIOLOGICAL/ADOPT/STEP   |
| 7      | PARENT (BIOLGCL/ADOPT/<br>IN-LAW/STEP/FOSTR)  | PARENT BIOLOGICAL/ADOPT/STEP  |
| 8      | SIBLING (BIOLGCL/ADOPT/<br>IN-LAW/STEP/FOSTR) | SIBLING BIOLOGICAL/ADOPT/STEP |

For the reference person, these variables have the value Household Reference Person; for all other persons in the RU, the relationship to the reference person is indicated by codes representing Spouse, Unmarried Partner, Child, and so forth. A code of 91, meaning Other Related, Specify indicates rarely observed relationships such as Mother of Partner, Partner of Sister, and so forth. If the relationship of an individual to the reference person was not determined during the round-specific interview, relationships between other RU members were used, when possible, to assign a relationship to the reference person. If MEPS data from calendar year 2023 were not sufficient to identify the relationship of an individual to the reference person, relationship variables from the 2022 MEPS or NHIS data were used to assign a relationship. In the event that a meaningful value could not be determined, or if data were missing, the relationship variable was assigned a missing value code.

If the relationship between two individuals indicated that they were spouses, but the marital status of both indicated that they were not married, their relationship was changed to nonmarital partners. In addition, the relationship variables were edited to ensure that they did not change across rounds for RUs in which the reference person did not change, with the exception of relationships identified as partner or spouse relationships.

### ***Parent Identifiers***

The variables MOPID31X, MOPID42X, MOPID53X and DAPID31X, DAPID42X, DAPID53X are round-specific and are used to identify the parents (biological, adopted, or step) of the person represented on that record. MOPID##X contains the person identifier (PID) for each individual's mother if she lived in the RU in that panel/round of the survey, or a value of Inapplicable (-1) if she did not. Similarly, DAPID##X contains the person identifier (PID) for each individual's father if he lived in the RU in that panel/round of the survey, or a value of Inapplicable (-1) if he did not. MOPID##X and DAPID##X were constructed based on information collected in the relationship grid of the instrument each round at question RE900, and include biological, adopted, and stepparents. Foster parents were not included. For persons who were not present in the household during a round, MOPID##X and DAPID##X have values of Inapplicable (-1).

Edits were performed to ensure that MOPID##X and DAPID##X were consistent with each individual's age, sex, and other relationships within the family. For instance, the sex of the parent must be consistent with the indicated relationship; mothers are at least 12 years older than the person and no more than 55 years older than the person; fathers are at least 12 years older than the person; each person has no more than one mother and no more than one father; and the PID for the person's mother and father are valid PIDs for that person's RU for the 2023 Full Year PUF.

## **2.5.4 Income and Tax Filing Variables (FILEDR23-HIEUIDX)**

The file provides income and tax-related variables that were constructed primarily from data collected in the Panel 27 Round 5 and Panel 28 Round 3 Income sections. Person-level income amounts have been edited and imputed for every record on the full-year PUF, with detailed imputation flags provided as a guide to the method of editing. The tax-filing variables and some program participation variables are unedited, as discussed below.

Beginning with the income data collected for Panel 21 Round 5 and Panel 22 Round 3, two skip patterns were introduced to reduce respondent burden. Prior to Panel 21 Round 5 and Panel 22 Round 3, unemployment compensation income (IN360) was asked of all respondents eligible for income collection. Beginning with Panel 21 Round 5 and Panel 22 Round 3, IN360 was not administered for respondents who reported employment at the same current main job in the current round and the previous two rounds. Similarly, prior to Panel 21 Round 5 and Panel 22 Round 3, alimony income (IN170) was collected for all respondents eligible for income collection. Beginning with Panel 21 Round 5 and Panel 22 Round 3, IN170 was not administered for respondents who were married in the current round and married in the previous two rounds. As detailed below, weighted, sequential hot-decks were used to estimate amounts for unemployment compensation (UNEMP23X) and alimony income (ALIMP23X) for these

respondents. Users should note that the introduction of these skip patterns may affect comparability of these income measures across survey years.

During imputation, logical editing and weighted, sequential hot-decks were used to estimate income amounts for missing values (both for item nonresponse and for persons in the full-year PUF who were not in the income rounds). Reported income components were generally left unedited (with the few exceptions noted below). Thus, analysts using these data may wish to apply additional checks for outlier values that would appear to stem from misreporting.

The editing process began with wage and salary income, WAGEP23X. Complete responses were left unedited, and this group of people was assigned WAGIMP23=1, where WAGIMP23 is the imputation flag for wage and salary data. The only exception was for a small number of persons who reported zero wage and salary income despite having been employed for pay during the year according to round-level data (see below). Data on tax filing and on taxable income sources were collected using an approach that encouraged respondents to provide information from their federal tax returns. Logical edits as well as a specific question on the wage income of the respondent (IN110) were used to assign separate income amounts to married persons whose responses were based on combined income amounts on their joint tax returns.

Persons assigned WAGIMP23=2 were those providing broad income ranges (brackets) rather than giving specific dollar amounts. Weighted sequential hot-decking was used to provide these individuals with specific dollar amounts. For this imputation, donors were persons who reported specific dollar amounts within the corresponding broad income ranges. In 2023 (as in all previous years) there were a small number of cases where WAGEP23X=0 and WAGIMP23=2. These are cases where a married couple filing jointly reported wages with a bracket, and reported that one spouse earned \$0 of that bracketed amount. All WAGEP23X hot-deck imputations used cells defined on the basis of a conventional list of person-level characteristics including age, education, employment status, race, sex, and region.

Persons assigned WAGIMP23=3 were those who did not report wage and salary income and who were assigned WAGEP23X=0 based on not having been employed during the year.

Persons assigned WAGIMP23=4 were those who did not provide valid dollar amounts or dollar ranges, but for whom we had related information from the Employment Wage section of the survey. In most cases this information included wages, hours, and weeks worked; for some persons, only hours and weeks worked data were reported in the Employment section. The available Employment section data were used to construct annualized wage amounts to be used in place of missing income section annual wage and salary data. Comparisons of reported and constructed wages and salaries using persons who provided both sorts of information yielded a high degree of confidence that employment data could be reliably used to derive values to serve in place of missing wage and salary information. To implement this approach, part-year responders were assumed to be fully employed during the remainder of the year if they were employed during the period in which they provided data. An exception was made for those who either died or were institutionalized. These persons were assigned zero wages and salaries for the time they were not in MEPS.



Hot-deck imputation was used for the remaining persons with missing WAGEP23X. Donor pools included persons whose WAGEP23X amounts were edited in the steps described above. Whenever possible, the hot-deck imputations used data on whether or not the person had been employed at any point during the year (and, if available, the number of weeks worked). Imputations for persons deemed to have been employed were conditional in nature, using only donors with positive WAGEP23X amounts (WAGIMP23=5). Imputations for WAGEP23X for the remaining persons were unconditional, using both workers and non-workers as donors (WAGIMP23=6).

After editing WAGEP23X for all persons in the full-year PUF, the remaining income sources were edited in the following sequence:

INTRP23X - Person's Interest Income,  
BUSNP23X - Person's Business Income,  
DIVDP23X - Person's Dividend Income,  
ALIMP23X - Person's Alimony Income,  
SALEP23X - Person's Sale Income,  
TRSTP23X - Person's Trust/Rent Income,  
PENSP23X - Person's Pension Income,  
IRASP23X - Person's IRA Income,  
SSECP23X - Person's Social Security Income,  
UNEMP23X - Person's Unemployment Comp Income,  
WCMPP23X - Person's Workers' Compensation,  
VETSP23X - Person's Veteran's Income,  
CASHP23X - Person's Other Regular Cash Contribution,  
OTHRP23X - Person's Other Income,  
CHLDP23X - Person's Child Support,  
SSIP23X - Person's SSI, and  
PUBP23X - Person's Public Assistance.

Income components were edited sequentially, in each case using information regarding income amounts that had already been edited (so as to maintain patterns of correlation across income sources whenever possible). In all cases, bracketed responses were edited first (using hot-deck

imputations from donors in corresponding brackets who gave specific dollar amounts), followed by imputations for remaining missing values. The hot-deck imputations used cells defined on the basis of income amounts already edited and a conventional list of person-level characteristics such as age, education, employment status, race, sex, and region. In addition, hot-deck imputations for CHLDP23X used family-level information concerning marital status and the number of children. Hot-deck imputations for SSIP23X and PUBP23X were also assigned using, in part, simulated program eligibility indicators that integrated state-level program eligibility criteria with data on family composition and income.

Since 2021, income indicators from the previous year's income data have been used to impute missing interest, social security, pension, and dividends data.

Reported income amounts of less than one dollar were treated as missing amounts (to be hot-decked from donors with positive amounts of the corresponding income source). Also, very few cases of outlier responses were edited (primarily public sources of income that exceeded possible amounts). Otherwise, reported amounts were left unchanged.

For each income component, the corresponding xxxIMP23 variable contains an indicator concerning the method for editing/imputation. All the flag variables have the following formatted values:

1 = Original response used;

2 = Bracket converted;

3 = Missing value set to 0;

4 = Weeks worked/earnings used (WAGIMP23 only);

5 = Conditional hot-deck;

6 = Unconditional hot-deck;

Missing values were set to zero when there were too few recipients to warrant hot-deck imputations of positive values (as in the case of ALIMP23X received by males). "Conditional hot-decks" indicate instances where the respondent indicated receipt but not a specific dollar amount. In these cases, the donor pool was restricted to persons with nonzero amounts of the income source in question. "Unconditional hot-decks" indicate instances where the donor pool included persons receiving both zero and nonzero amounts (implemented in cases where there was little or no information about a person's income source).

Total person-level income (TTLP23X) is the sum of all income components with the exception of SALEP23X (to match as closely as possible the CPS definition of income; see Section 2.5.4). Some researchers may wish to define their own income measure by adding in one or both of these excluded components.

The tax variables and food stamp variables are all completely unedited. Unedited tax variables are provided to assist researchers building tax simulation programs. No efforts have been made

to eliminate inconsistencies among these program participation and tax variables and other MEPS data. All of these unedited variables should be used with great care.

There are three income types that can have negative values: person's business income (BUSNP23X), person's trust/rent income (TRSTP23X), and person's sale income (SALEP23X). A negative amount indicates negative income. Negative business income and negative trust/rent income can cause family's total income (FAMINC23) and person's total income (TTLP23X) to have negative values.

### ***Income Top-Coding***

All person-level income amounts in this PUF, including both total income and the separate sources of income, were top-coded to preserve confidentiality. For each income source, top codes were applied to the top percentile of all cases (including negative amounts that exceeded income thresholds in absolute value). In cases where less than one percent of all persons received a particular income source, all recipients were top-coded.

Top-coded income amounts were masked using a regression-based approach. The regressions relied on many of the same variables used in the hot-deck imputations, with the dependent variable in each case being the natural logarithm of the amount that the income component was in excess of its top-code threshold. Predicted values from this regression were reconverted from logarithms to levels using a smearing correction, and these predicted amounts were then added back to the top-code thresholds. This approach preserves the component-by-component weighted means (both overall and among top-coded cases), while also preserving much of the income distribution conditional on the variables contained in the regressions. At the same time, this approach ensures that every reported amount in excess of its respective threshold is altered on the PUF. The process of top-coding income amounts in this way inevitably introduces measurement error in cases where income amounts were reported correctly by respondents. Note, however, that top-coding can also help to reduce the impact of outliers that occur due to reporting errors.

Total person-level income is constructed as the sum of the adjusted person-level income components. Having constructed total income in this manner, this total was then top-coded using the same regression-based procedure described above (again masking the top percentile of cases). Finally, the components of income were scaled up or down in order to make the sources of income consistent with the newly-adjusted totals.

### ***Poverty Status***

The definitions of income, family, and poverty categories used to construct the related variables in this PUF were taken from the 2023 poverty statistics developed by the Current Population Survey (CPS). The categorical variable for 2023 family income as a percentage of poverty (POVCAT23) was constructed using the same method as in earlier years' PUFs.

FAMINC23 contains total family income for each person's CPS family. Family income was derived by constructing person-level total income comprising annual earnings from wages, salaries, bonuses, tips, commissions; business and farm gains and losses; unemployment and

workers' compensation; interest and dividends; alimony, child support, and other private cash transfers; private pensions, IRA withdrawals, social security, and veterans payments; supplemental security income and cash welfare payments from public assistance, and related programs; gains or losses from estates, trusts, partnerships, S corporations, rent, and royalties; and a small amount of "other" income. Person-level income excluded tax refunds and capital gains. Person-level income totals were then summed over family members, as defined by CPSFAMID, to yield CPS family-level total income (FAMINC23).

POVLEV23 is the continuous version of the POVCAT23 variable. The POVLEV23 percentage was computed by dividing CPS family income by the applicable poverty line (based on family size and composition). POVCAT23 takes the POVLEV23 percentage for each person and classifies it into one of five poverty categories: negative or poor (less than 100%), near poor (100% to less than 125%), low income (125% to less than 200%), middle income (200% to less than 400%), and high income (greater than or equal to 400%). Persons missing CPSFAMID were treated as one-person families in constructing their poverty percentage and category.

Family income, as well as the components of person-level income, has been subjected to internal editing patterns and derivation methods that are in accordance to specific definitions, and are not being released at this time. Researchers working with a family definition other than CPSFAMID may wish to create their own versions of total family income.

Health Insurance Eligibility Units (HIEUs) are sub-family relationship units constructed to include adults plus those family members who would typically be eligible for coverage under the adults' private health insurance family plans. To construct the HIEUIDX variable, which links persons into a common HIEU, we begin with the family identification variable CPSFAMID. Working with this family ID, we define HIEUIDX using family relationships as of the end of 2023. Persons missing end-of-year relationship information are assigned to an HIEUIDX using relationship information from the last round in which they provided such information. HIEUs comprise adults, their spouses, and their unmarried natural/adoptive children age 18 and under. Legal spouses are eligible to be included in the same HIEU. We also include children under age 24 who are full-time students (living at home or away from home). Other children who do not live with their natural/adoptive adult parents are placed in an HIEUIDX as follows:

- Other unmarried children are placed in stepparent HIEUIDX, grandparent HIEUIDX, great-grandparent HIEUIDX, or aunt/uncle HIEUIDX.
- Children of unmarried minors are placed (along with their minor parents) in the HIEUIDX of their adult grandparents (if possible). Married minors are placed into separate HIEUs along with any spouses and children they might have.
- Some HIEUs are headed by unmarried minors, when there is no adult family member present in the CPSFAMID.

HIEUs do not, in general, comprise adult (nonmarital) partnerships, because unmarried adult partners are rarely eligible for dependent coverage under each other's insurance. The exception to this rule is that we include adult partners in the same HIEU if there is at least one (out-of-wedlock) child in the family that links to both adult partners. In cases of missing or contradictory

relationship codes, HIEUs are edited by hand, with the presumption being that the adults and children form a nuclear family.

### **2.5.5 Person-Level Priority Condition Variables (HIBPDX-COVYRDX53)**

The Priority Conditions Enumeration (PE) section was asked in its entirety in Round 1 for all current or institutionalized persons, and in Panel 28 Round 2 and Panel 27 Round 4 for only new RU members. In Panel 28 Round 3, the questions about specific conditions (except joint pain and chronic bronchitis) were asked only if the person had not reported the condition in a previous round.

Priority-condition variables that end in “DX” indicate whether the person was ever diagnosed with the condition. Follow-up questions on chronic bronchitis, joint pain, and asthma (ASSTIL31, ASATAK31, and ASTHEP31) reflect data obtained in Round 3 of Panel 27 and Round 1 of Panel 28. Diagnoses data (except for attention deficit hyperactivity disorder/attention deficit disorder [ADHD/ADD], diabetes, and asthma) were collected for persons older than 17. If the edited age is within range for the variable to be set, but the source data are missing because the person’s age in the CAPI instrument is not within range, the constructed variable was set to Cannot be Computed (-15). Following the same pattern, the question on ADHD/ADD was asked about persons aged 5-17, and the questions on diabetes and asthma were asked about persons of all ages. Exceptions to this pattern are the variables JTPAIN31\_M18 and CHBRON31, which are described in detail in the sections below on joint pain and chronic bronchitis.

Questions were asked about the following priority conditions:

- High blood pressure, including multiple diagnoses
- Heart disease (including coronary heart disease, angina, myocardial infarction, and other unspecified heart disease)
- Stroke
- Emphysema
- High cholesterol
- Cancer
- Arthritis
- Diabetes
- Asthma
- ADHD/ADD
- Joint pain

- Chronic bronchitis
- COVID-19 and long COVID

These conditions were selected because of their relatively high prevalence and because generally accepted standards for appropriate clinical care have been developed for them. This information thus supplements other information on medical conditions that is gathered in other parts of the interview.

The data were collected at the person-by-round level (indicating whether the person was ever diagnosed with the condition) and at the condition level. If the person reported having been diagnosed with a condition, the person-by-round variable was Yes (1), and a condition record for that medical condition was created.

The editing of the variables that represent these conditions focused on ensuring that skip patterns were consistent.

### ***High Blood Pressure***

Questions about high blood pressure, or hypertension, (HIBPDX) were asked only of persons aged 18 or older. Consequently, persons aged 17 or younger were coded as Inapplicable (-1) on these variables. These questions ascertained whether the person had ever been diagnosed as having high blood pressure (other than during pregnancy). Those who had received this diagnosis were also asked whether they had been told on two or more visits that they had high blood pressure (BPMLDX). The age of diagnosis for high blood pressure (HIBPAGED) is included in this PUF. This variable was top-coded at 85 years of age.

### ***Heart Disease***

Questions about heart disease were asked only of persons aged 18 or older. Consequently, persons aged 17 or younger were coded as Inapplicable (-1) on all the variables in this set. These variables include the following:

|          |  |
|----------|--|
| CHDDX -  | Asked if the person had ever been diagnosed as having coronary heart disease                   |
| ANGIDX - | Asked if the person had ever been diagnosed as having angina, or angina pectoris               |
| MIDX -   | Asked if the person had ever been diagnosed as having a heart attack, or myocardial infarction |
| OHRTDX - | Asked if the person had ever been diagnosed with any other kind of heart disease or condition  |

The age of diagnosis for coronary heart disease (CHDAGED), angina (ANGIAGED), heart attack or myocardial infarction (MIAGED), and other kinds of heart disease (OHRTAGED) is included in this PUF. These variables were top-coded at 85 years of age.

Respondents who answered “Yes” to a person being diagnosed with any other kind of heart disease or condition (OHRTDX) were asked a follow-up question (OHRTTYPE) to specify other heart diseases or conditions.

### ***Stroke***

Questions about stroke (STRKDX) asked if the person (aged 18 or older) had ever been diagnosed as having had a stroke or a transient ischemic attack (TIA, or ministroke). Persons aged 17 or younger were coded as Inapplicable (-1). The age of diagnosis for stroke or TIA (STRKAGED) is included in this PUF and was top-coded at 85 years of age.

### ***Emphysema***

EMPHDX indicates whether a person (aged 18 or older) had ever been diagnosed with emphysema. Persons aged 17 or younger were coded as Inapplicable (-1). The age of diagnosis for emphysema (EMPHAGED) is included in this PUF and was top-coded at 85 years of age.

### ***High Cholesterol***

Questions about high cholesterol were asked of persons aged 18 or older. Consequently, persons aged 17 or younger were coded as Inapplicable (-1) on these variables. These questions ascertained whether the person had ever been diagnosed as having high cholesterol (CHOLDX). The age of diagnosis for high cholesterol (CHOLAGED) is included in this PUF and was top-coded at 85 years of age.

### ***Cancer***

Questions about cancer were asked only of persons aged 18 or older. Consequently, persons aged 17 or younger were coded as Inapplicable (-1) on these variables. Questions about cancer ascertained whether the person had ever been diagnosed as having cancer or a malignancy of any kind (CANCERDX). If the respondent answered “Yes” they were asked at question PE140 what type of cancer was diagnosed. CABLADDR, CABREAST, CACERVIX, CACOLON, CALUNG, CALYMPH, CAMELANO, CAOTHER, CAPROSTA, CASKINNM, CASKINDK, and CAUTERUS indicate that the respondent selected cancer of the bladder, breast, cervix, colon, or lung; lymphoma or melanoma; other type of cancer; and cancer of the prostate, skin, or uterus. Cancer of the cervix or uterus could not be reported for males, and cancer of the prostate could not be reported for females.

### ***Recoding of Cancer Variables***

Cancer diagnosis variables with a frequency count of fewer than 20 in the file and diagnoses considered clinically rare (i.e., appear on the National Institutes of Health’s list of rare diseases) were removed from the file for confidentiality reasons. Then, the corresponding variable CAOTHER, indicating diagnosis of a cancer that is not counted individually, was recoded to Yes (1), as necessary.

In data year 2023, clinically rare cancers include the following:

- Bone
- Brain
- Esophagus
- Gallbladder
- Kidney
- Larynx
- Leukemia
- Liver
- Mouth
- Ovary
- Pancreas
- Rectum
- Stomach
- Testis
- Throat
- Thyroid

The variable CABREAST, which indicates a diagnosis of breast cancer, was recoded to Inapplicable (-1) for males for confidentiality reasons. The corresponding value of the general cancer diagnosis variable, CANCERDX, was recoded to Cannot be Computed (-15), and the corresponding values of the remaining cancer variables were recoded to Inapplicable (-1).

### ***Arthritis***

ARTHDX indicates whether a person (aged 18 or older) had ever been diagnosed with arthritis. Persons aged 17 or younger were coded as Inapplicable (-1). Respondents who answered “Yes” were asked a follow-up question to determine the type of arthritis. ARTHTYPE indicates whether the diagnosis was for rheumatoid arthritis (1), osteoarthritis (2), or nonspecific arthritis (3). The age of diagnosis for arthritis (ARTHAGED) is included in this PUF and may have been recoded in some cases to Cannot be Computed (-15) for confidentiality reasons. This variable was top-coded at 85 years of age.

### ***Diabetes***

Diabetes diagnosis (DIABDX\_M18) questions are asked for each person of any age. DIABDX\_M18 indicates whether each person has ever been diagnosed with diabetes (excluding gestational diabetes). The age of diagnosis of diabetes (DIABAGED) is included in this PUF and was top-coded at 85 years of age.



Through 2022, each person aged 18 or older said to have received a diagnosis of diabetes was asked to complete a special SAQ. Beginning in 2023, variables from the Diabetes Care Survey are no longer released for public use.

## ***Asthma***

ASTHDX indicates whether a person had ever been diagnosed with asthma. The age of diagnosis for asthma (ASTHAGED) is included in this PUF and was top-coded at 85 years.

Respondents who answered “Yes” to having an asthma diagnosis were asked additional questions. One question (ASSTIL31) asked if the person still has asthma. Another question (ASATAK31) asked whether the person had experienced an episode of asthma or an asthma attack in the past 12 months. If the person did not experience an asthma attack in the past 12 months, a follow-up question (ASTHEP31) asked when the last asthma episode or asthma attack occurred.

Additional follow-up questions regarding asthma medication used for quick relief (ASACUT31), preventive medicine (ASPREV31), and peak flow meters (ASPKFL31) were asked if the person reported having been diagnosed with asthma (ASTHDX = 1). ASACUT31 indicates whether, during the last three months, the person had used the kind of prescription inhaler “that you breathe in through your mouth” to get quick relief from asthma symptoms. ASPREV31 indicates whether the person had ever taken the preventive kind of asthma medicine used every day to protect the lungs and prevent attacks, including both oral medicine and inhalers. ASPKFL31 indicates whether the person with asthma has a peak flow meter at home.

Respondents who answered “Yes” to ASACUT31 were asked whether the person had used more than three canisters of the quick-relief inhaler in the past three months (ASMRCN31).

Respondents who answered “Yes” to ASPREV31 were asked whether the person now takes this kind of medication daily or almost daily (ASDALY31). Respondents who answered “Yes” to ASPKFL31 were asked if the person ever used a peak flow meter (ASEVFL31). Respondents who answered “Yes” to ASEVFL31 were asked when the person last used the peak flow meter (ASWNFL31).

The following asthma variables are included in this PUF:

|          |   |
|----------|---|
| ASSTIL31 | Does Person Still Have Asthma - Round 3/1     |
| ASATAK31 | Asthma Attack Last 12 Mos - Round 3/1         |
| ASTHEP31 | When Was Last Episode of Asthma - Round 3/1   |
| ASACUT31 | Used Acute Pres Inhaler Last 3 Mos- Round 3/1 |
| ASPREV31 | Ever Used Prev Daily Asthma Meds - Round 3/1  |
| ASPKFL31 | Have Peak Flow Meter at Home - Round 3/1      |

ASMRCN31 Used >3 Acute Cn Pres Inh Last 3 Mos - Round 3/1

ASDALY31 Now Take Prev Daily Asthma Meds - Round 3/1

ASEVFL31 Ever Used Peak Flow Meter - Round 3/1

ASWNFL31 When Last Used Peak Flow Meter - Round 3/1

It may appear that there are discrepancies between the diagnosis variable and the follow-up variables. If a person reported asthma in the PE section in Panel 28 Round 3, the asthma series variables were set to Inapplicable (-1) as the person had not reported asthma in Round 1.

### ***Attention Deficit Hyperactivity Disorder/Attention Deficit Disorder***

ADHDADDX indicates whether persons aged 5 through 17 had ever been diagnosed with ADHD/ADD. Persons younger than 5 or older than 17 were coded as Inapplicable (-1). The age of diagnosis for ADHD/ADD (ADHDAGED) is included in this PUF.

### ***Joint Pain***

JTPAIN31\_M18 indicates whether a person (aged 18 or older) had experienced pain, swelling, or stiffness around a joint in the last 12 months. This question is not intended to be used as an indicator of a diagnosis of arthritis. Persons aged 17 or younger were coded as Inapplicable (-1).

This question was skipped if the person already has an arthritis condition that is specified on the conditions roster in the PE section.

### ***Chronic Bronchitis***

CHBRON31 indicates whether a person (aged 18 or older) has had chronic bronchitis in the last 12 months. Persons aged 17 or younger were coded as Inapplicable (-1).

### ***Ever Had COVID-19 or Long COVID***

Questions administered in Panel 27 Rounds 3 and 5 and Panel 28 Rounds 1 and 3 determined whether a person had ever been diagnosed with COVID-19 (COVIDEVER31 and COVIDEVER53). When it was reported that a person had been diagnosed with COVID-19, a series of questions about long COVID was asked. LCEVER31 and LCEVER53 indicate whether a person experienced symptoms lasting three months or longer that they did not have prior to having COVID-19 (long COVID). “Yes” responses from previous rounds were preserved for both variables for respondents who remained eligible. Although “42” variables are not included because only new members are asked the PE section in those rounds, “Yes” values from COVIDEVER42 and LCEVER42 were retained if the person remained eligible in subsequent rounds.

If a person reported having long COVID in the current round or during any earlier round, two additional questions were asked: (1) whether each person currently shows symptoms of COVID-19 (COVSYMNOW31 and COVSYMNOW53) and (2) how much these symptoms reduced the person's ability to carry out day-to-day activities (COVREDABIL31 and COVREDABIL53). Likewise, all persons who answered Yes (1) to COVIDEVER31 or COVIDEVER53 at any point were asked whether their most recent COVID-19 diagnosis was within the past 12 months (COVID12MO31 and COVID12MO53). If "Yes," then the month (COVMNTHX31 and COVMNTHX53) and year (COVYRDX31 and COVYRDX53) that they last had COVID-19 were asked.

Although the series of questions about long COVID were asked for children under the age of 18, the responses were coded to Inapplicable (-1) for confidentiality reasons. Information on COVID vaccinations can be found in Section 2.5.6 below.

## **2.5.6 Health Status Variables (RTHLTH31- ADLANG42)**

Because the MEPS has an overlapping panel design (Round 3 for Panel 27 and Round 1 for Panel 28 overlapped; Round 4 for Panel 27 and Round 2 for Panel 28 overlapped; and Round 5 for Panel 27 and Round 3 for Panel 28 overlapped), data from the overlapping rounds have been combined across panels. For a description of variable naming for the overlapping panels, see Section 2.4. For persons in Panel 27, Round 3 extended from 2022 into 2023. Therefore, for these people, some information from late 2022 is included for variables that have names ending in "31."

Health status variables in this Consolidated PUF can be classified into the conceptually distinct sets listed below and described in this section:

- Perceived health status
- IADL (instrumental activities of daily living) and ADL (activities of daily living) limitations
- Functional and activity limitations
- Hearing and vision problems
- Disability status
- Any limitations
- Child health and preventive care
- Additional health
- COVID-19 vaccination status
- Self-administered questionnaires (SAQs)

In general, health status variables were constructed as person-level variables based on information collected in the Health Status section of the questionnaire. Many questions in this section were initially asked at the family level to ascertain whether anyone in the household had a particular problem or limitation. These questions were followed up with questions to determine which household member had each problem or limitation. All information ascertained at the family level has been brought to the person level for this PUF. 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 in which missing values were reported at the family level to ensure that the appropriate information was carried to the person level.

Cases were considered Inapplicable (-1) if a question was never asked due to a survey skip pattern (e.g., some questions were not asked about individuals younger than age 13, and questions pertaining to children's health status were not asked about individuals aged 18 or older). Deceased persons were also coded as Inapplicable (-1).

### ***Perceived Health Status***

Data on perceived health status (RTHLTH31, RTHLTH42, and RTHLTH53) and perceived mental health status (MNHLTH31, MNHLTH42, and MNHLTH53) were collected in the PE section. The target persons of the questions in this section were current or institutionalized persons regardless of age. These questions (PE10 and PE20) asked the respondent to rate the general health and mental health of each person in the family according to the following categories: excellent, very good, good, fair, and poor.

### ***IADL and ADL Help***

#### **IADL Help**

The IADL help or supervision variable IADLHP31 was constructed from a series of three questions administered in the Health Status section of the interview in Panel 27 Round 3 and Panel 28 Round 1.

The initial question (HE10) determined whether 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(s) 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 of a physical or mental health problem. If the response to the final verification question was "No," IADLHP31 was coded No (2) for persons younger than 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. When the response to the family-level question was Refused (-7) or Don't Know (-8), all persons were coded according to the family-level response.

## ADL Help

The ADL help or supervision variable ADLHLP31 was constructed in the same manner, and for the same persons, as the IADL help variable, but it is based on questions HE40-HE60 in Panel 27 Round 3 and Panel 28 Round 1. Coding conventions for missing data are the same as the conventions for the IADL variable.

## ***Functional and Activity Limitations***

A series of health status questions was asked about functional limitations; use of assistive technology and social/recreational limitations; work, housework, and school limitations; and cognitive limitations. The “31” versions of these variables incorporate data collected in Panel 27 Round 3 and Panel 28 Round 1.

## Functional Limitations

A series of questions addressed functional limitations, defined as difficulty in performing specific physical actions. WLKLIM31 served as the gate question. These variables were derived from a family-level question (HE90): “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 (because of an impairment or a physical or mental health problem)?” If the answer was “No,” all family members were coded as No (2) on WLKLIM31. If “Yes,” the specific persons with these difficulties were coded as Yes (1), while the remaining family members were coded as No (2). If the response to the family-level question was Don’t Know (-8), Refused (-7), or Inapplicable (-1), the corresponding missing value code was applied to each family member’s value for WLKLIM31. Deceased persons were coded as Inapplicable (-1) for WLKLIM31.

If WLKLIM31 was coded Yes (1) for any family member, a subsequent series of questions was administered for that family member. WLKLIM31 acted as a filter for this subsequent series, with the following variables corresponding to each question in this series:

|            |                                   |
|------------|-----------------------------------|
| LFTDIF31 - | Difficulty lifting 10 pounds      |
| STPDIF31 - | Difficulty walking up 10 steps    |
| WLKDIF31 - | Difficulty walking 3 blocks       |
| MILDIF31 - | Difficulty walking a mile         |
| STNDIF31 - | Difficulty standing 20 minutes    |
| BENDIF31 - | Difficulty bending or stooping    |
| RCHDIF31 - | Difficulty reaching over head     |
| FNGRDF31 - | Difficulty using fingers to grasp |

This series of questions was not administered for family members whose WLKLIM31 response was No (2). Additionally, family members younger than 13, regardless of their status on

WLKLIM31, and deceased individuals were also excluded from this series. In these cases - WLKLIM31 = 2, or age < 13, or PSTATS31 = 23, 24, 31, or 61 - each question in the series was coded as Inapplicable (-1). Similarly, if responses to WLKLIM31 were Refused (-7), Don't Know (-8), or otherwise Inapplicable (-1), then each question in this series was coded as Inapplicable (-1).

Analysts should note that questions about functional limitations (WLKLIM31) were asked of all household members regardless of age. However, in the subsequent series, persons younger than 13 were skipped and coded as Inapplicable (-1). As a result, a person younger than 13 could be coded Yes (1) on WLKLIM31 but Inapplicable (-1) on the subsequent series of questions.

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

The variables indicating use of assistive technology (AIDHLP31 from question HE70) and social/recreational limitations (SOCLIM31 from question HE230) were collected initially at the family level. If there was a Yes (1) response to the family-level question, a second question identified the specific individual(s) to whom this response pertained. Each individual identified as having the difficulty was coded Yes (1) for the appropriate variable; all remaining family members were coded No (2). If the family-level response was Refused (-7) or Don't Know (-8), all persons were coded with the family-level response.

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

The variable indicating any limitation in work, housework, or school (ACTLIM31) was constructed from questions HE190-HE200. Specifically, information was collected initially at the family level. If there was a Yes (1) response to the family-level question (HE190), a second question (HE200) identified the specific individual(s) to whom this response pertained. Each individual identified as having a limitation was coded Yes (1) for the appropriate variable; all remaining family members were coded No (2). If the family-level response was Refused (-7) or Don't Know (-8), all persons were coded with the family-level response. Persons younger than 5 were coded as Inapplicable (-1) on ACTLIM31.

If ACTLIM31 was coded Yes (1), and the person was aged 5 or older, a follow-up question (HE210) was asked to identify the specific limitation or limitations for each person. These limitations included working at a job (WRKLIM31), doing housework (HSELIM31), or going to school (SCHLIM31). Respondents could answer Yes (1) or No (2) to each activity; thus, a person could report limitations in multiple activities. WRKLIM31, HSELIM31, and SCHLIM31 have values of Yes (1) or No (2) only if the value of ACTLIM31 was Yes (1); each variable was coded as Inapplicable (-1) if ACTLIM31 was No (2). When ACTLIM31 was Refused (-7), these variables were all coded as Refused (-7); and when ACTLIM31 was Don't Know (-8), these variables were all coded as Don't Know (-8). If a person was younger than 5 or was deceased, WRKLIM31, HSELIM31, and SCHLIM31 were each coded as Inapplicable (-1).

An additional question, HE220 (corresponding to UNABLE31), asked whether the person was completely unable to work at a job, do housework, or go to school. Persons who were coded No (2), Refused (-7), or Don't Know (-8) on ACTLIM31, were under age 5, or were deceased were coded as Inapplicable (-1) on UNABLE31. The question related to UNABLE31 was asked once for whichever set of WRKLIM31, HSELIM31, and SCHLIM31 the person had limitations in; if

a person was limited in more than one of these three activities, UNABLE31 did *not* specify whether the person was completely unable to perform all of them or only some of them.

### **Cognitive Limitations**

The variable indicating any cognitive limitation (COGLIM31) was collected at the family level as a three-part question (HE250A through HE250C), asking whether any of the adults in the family (a) experience confusion or memory loss, (b) have problems making decisions, or (c) require supervision for their own safety. If a “Yes” response was obtained to any item, the persons affected were identified in HE260, and COGLIM31 was coded as Yes (1). Remaining family members not identified were coded as No (2) for COGLIM31.

If the responses to HE250A-HE250C were all No (2) or if two of the three were No (2), and the remaining one was Refused (-7) or Don’t Know (-8), all family members were coded as No (2). If responses to the three questions were combinations of Don’t Know (-8), Refused (-7), and missing, all persons were coded as Don’t Know (-8).

COGLIM31 reflects whether the answer to *any* of the three component questions was Yes (1). Family members with one, two, or three specific cognitive limitations cannot be distinguished from each other. In addition, because the question asked specifically about adult family members, all persons younger than 18 were coded as Inapplicable (-1) on this question.

### ***Hearing and Vision Problems***

A series of questions (HE270 through HE300) asked in Panel 27 Round 4 and Panel 28 Round 2 provides information on hearing and visual impairment. Household members younger than 1 and deceased RU members were coded as Inapplicable (-1).

The hearing impairment variable, DFHEAR42, indicates whether a person has serious difficulty hearing. This variable is based on two questions, HE270 and HE280. The initial question (HE270) determined whether anyone in the family has difficulty hearing. If the response was Yes (1), a follow-up question (HE280) was asked to determine which household member(s) had a hearing impairment. If the family-level response was Don’t Know (-8) or Refused (-7), all persons were coded with the family-level response.

The visual impairment variable, DFSEE42, indicates whether a person has serious difficulty seeing. This variable is based on two questions, HE290C and HE300. The initial question (HE290C) determined whether anyone in the family has difficulty seeing. If the response was Yes (1), a follow-up question (HE300) was asked to determine which household member(s) have a visual impairment. If the family-level response was Don’t Know (-8) or Refused (-7), all persons were coded with the family-level response.

### ***Disability Status***

A series of questions (HE310 through HE360) in Panel 27 Round 4 and Panel 28 Round 2 provides information on cognitive difficulty, difficulty walking or climbing stairs, and difficulty dressing or bathing. This series of questions was asked for household members aged 5 or older. A question regarding difficulty doing errands (HE370) was asked of household members aged 15 or older. Deceased RU members were coded as Inapplicable (-1).

DFCOG42 indicates whether a person has serious cognitive difficulty. This variable is based on two questions, HE310 and HE320. The initial question (HE310) determined whether anyone in the family has difficulty concentrating, remembering, or making decisions. If the response was Yes (1), a follow-up question (HE320) was asked to determine which household member(s) have difficulty concentrating, remembering, or making decisions. If the family-level response was Don't Know (-8) or Refused (-7), all persons were coded with the family-level response.

DFWLKC42 indicates whether a person has serious difficulty walking or climbing stairs. This variable is based on two questions, HE330 and HE340. The initial question (HE330) determined whether anyone in the family has serious difficulty walking or climbing stairs. If the response was Yes (1), a follow-up question (HE340) was asked to determine which household member(s) have difficulty walking or climbing stairs. If the family-level response was Don't Know (-8) or Refused (-7), all persons were coded with the family-level response.

DFDRSB42 indicates whether a person has difficulty dressing or bathing. This variable is based on two questions, HE350 and HE360. The initial question (HE350) determined whether anyone in the family has difficulty dressing or bathing. If the response was Yes (1), a follow-up question (HE360) was asked to determine which household member(s) have difficulty dressing or bathing. If the family-level response was Don't Know (-8) or Refused (-7), all persons were coded with the family-level response.

DFERN42 indicates whether a person has difficulty doing errands alone. This variable is based on two questions, HE370 and HE380. The initial question (HE370) determined whether anyone in the family has difficulty doing errands alone. If the response was Yes (1), a follow-up question (HE380) was asked to determine which household member(s) have difficulty doing errands alone. If the family-level response was Don't Know (-8) or Refused (-7), all persons were coded with the family-level response.

### ***Any Limitation Rounds 3 and 4 (Panel 27) / Rounds 1 and 2 (Panel 28)***

ANYLMI23 summarizes whether a person had any IADL, ADL, functional, or activity limitations in any of the pertinent rounds. ANYLMI23 was built from the component variables IADLHP31, ADLHLP31, WLKLIM31, ACTLIM31, DFSEE42, and DFHEAR42. If any of these components was coded Yes (1), then ANYLMI23 was coded Yes (1). If all components were coded No (2), then ANYLMI23 was coded No (2). If all the components were coded Inapplicable (-1), then ANYLMI23 was coded as Inapplicable (-1). If all the components had missing value codes (i.e., -7, -8, or -1), ANYLMI23 was coded as Cannot be Computed (-15). If some components were coded No (2), and others had missing value codes, ANYLMI23 was coded as Cannot be Computed (-15). The exception to the last rule is for children younger than 5, for whom questions that are the basis for ACTLIM31 were not asked; for these RU members, if all other components were coded No (2), then ANYLMI23 was coded No (2).

### ***Child Health and Preventive Care***

Questions were asked about each child (younger than 18 excluding deceased children) in the applicable age subgroups to which the questions pertain. For the Child Preventive Health (CS) variables, a code of Inapplicable (-1) was assigned if a person was deceased; was not in the



appropriate round (2 or 4); or was not in the applicable age subgroup as of the interview date. The Consolidated PUF contains variables and frequency distributions from the CS section associated with 4,941 children who were eligible for the CS section. Children were eligible when PSTATS42 was not equal to 23, 24, 31, 61 (Deceased) and when  $0 \leq \text{AGE42X} \leq 17$ . Of these children, 3,572 were assigned a positive person-level weight for 2023 ( $\text{PERWT23F} > 0$ ). Cases not eligible for the CS section should be excluded from estimates made with the data in this section.

The series of questions from the Consumer Assessment of Healthcare Providers and Systems® (CAHPS) and the Columbia Impairment Scale (CIS) is administered every other year. CAHPS is an AHRQ-sponsored family of survey instruments designed to measure quality of care from the consumer's perspective. CAPI is used to administer the CAHPS and CIS series as follows:

- In Round 2 for the panel whose Round 1 collection occurred in an odd year and
- In Round 4 for the panel whose Round 1 collection occurred in an even year.

Therefore, because the Panel 28 Round 1 collection started in 2023 and the Panel 27 Round 1 collection started in 2022, the CAHPS and CIS questions were asked in 2023, and their corresponding variables are included in the 2023 dataset.

In addition, the child preventive care series is administered every other year. CAPI is used to administer the child preventive care series as follows:

- In Round 2 for the panel whose Round 1 collection occurred in an even year and
- In Round 4 for the panel whose Round 1 collection occurred in an odd year.

Therefore, the child preventive care questions were not asked in 2023 and are not included in the 2023 dataset.

**Table 11**

***Data Years in which the Subsections of the CS Section have been Asked***

| Child Health Survey Section                                     | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|------|------|------|------|------|
| Special Health Care Needs                                       | X    | X    | X    | X    | X    |
| Child Preventive Care   |      | X    |      | X    |      |
| Columbia Impairment Scale (CIS)                                 | X    |      | X    |      | X    |
| Consumer Assessment of Healthcare Providers and Systems (CAHPS) | X    |      | X    |      | X    |

### Children with Special Health Care Needs Screener (ages 0 - 17)

The Children with Special Health Care Needs (CSHCN) Screener instrument was developed through a national collaboration as part of the Child and Adolescent Health Measurement Initiative coordinated by the Foundation for Accountability. Bethel, Read, & Stein (2002) provide a detailed description and evaluation of this screener instrument, which asks about children aged 0-17. The screener identifies children with activity limitations or who need or use more health care or other services than is usual for most children of the same age. When a response to a gate question was set to No (2), Refused (-7), Don't Know (-8), or Cannot be Computed (-15), the variables corresponding to follow-up questions based on the gate question were coded as Inapplicable (-1).

The variable CSHCN42 identifies children with special health care needs and was created by using the CSHCN screener questions according to the specifications in Bethel, Read, & Stein (2002). The CSHCN screener consists of a series of question sequences about the following five health consequences: the need for or use of medicines prescribed by a doctor; the need for or use of more medical care, mental health, or education services than is usual for most children; being limited in or prevented from doing things most children can do; the need for or use of special therapy such as physical, occupational, or speech therapy; and the need for or use of treatment or counseling for emotional, developmental, or behavioral problems. Parents who responded "Yes" to any of the gate questions in the five question sequences were then asked to respond to up to two follow-up questions about whether the health consequence was attributable to a medical, behavioral, or other health condition lasting or expected to last at least 12 months. Children with positive responses to at least one of the five health consequences along with all of the follow-up questions were identified as having a special health care need. Children with a "No" to all five health consequences were *not* considered to have a special health care need. Children whose special health care need status could not be determined (because of missing data for any of the questions) were coded as Unknown (3) for CSHCN42. More [information about the CSHCN screener questions](#) can be obtained from the website for the Child and Adolescent Health Measurement Initiative.

The variables corresponding to the CSHCN screener questions include the following:

- CHPMED42 - Child needs or uses prescribed medicines
- CHPMHB42 - Medicines are prescribed due to a medical, behavioral, or other health condition
- CHPMC42 - Condition requiring prescribed medicines has lasted or is expected to last at least 12 months
- CHSERV42 - Child needs or uses more medical, mental health, or educational services than is usual for their age
- CHSRHB42 - Additional services are needed due to a medical, behavioral, or other health condition
- CHSRC42 - Condition requiring additional services has lasted or is expected to last at least 12 months

- CHLIMI42 - Child is limited or prevented from performing typical activities for their age
- CHLIHB42 - Limitations are due to a medical, behavioral, or other health condition
- CHLICO42 - Condition causing limitations has lasted or is expected to last at least 12 months
- CHTHER42 - Child needs or receives special therapy (e.g., physical, occupational, speech)
- CHTHHB42 - Therapy is needed due to a medical, behavioral, or other health condition
- CHTHCO42 - Condition requiring therapy has lasted or is expected to last at least 12 months
- CHCOUN42 - Child has an emotional, developmental, or behavioral problem requiring treatment or counseling
- CHEMPB42 - Condition requiring treatment or counseling has lasted or is expected to last at least 12 months
- CSHCN42 - Indicates whether a child has special health care needs based on the screener

**Columbia Impairment Scale (ages 5 - 17) (included in alternating years only)**

The questions in this scale focus on possible child behavioral problems and were asked in previous years. Respondents were asked to rate on a scale from 0 to 4 - where 0 indicates No Problem and 4 indicates A Very Big Problem - how much of a problem the child has with thirteen specified activities. Bird et al. (1996) provide a key description of the Columbia Impairment Scale.

Certain questions in this series were coded to Asked, but Inapplicable (99) when the question was not applicable to a specific child. For example, if a child's mother was deceased, the question about how much of a problem a child has getting along with his or her mother would be set to "Asked, but Inapplicable" (99). Similarly, the question about problems getting along with siblings would be set to Asked, but Inapplicable (99) for children with no siblings. Variables in this set include:

- GETTRB42 - Getting into trouble
- MOMPRO42 - Getting along with mother
- DADPRO42 - Getting along with father
- UNHAP42 - Feeling unhappy or sad
- SCHLBH42 - (His/her) behavior at school

- HAVFUN42 - Having fun
- ADUPRO42 - Getting along with adults
- NERVAF42 - Feeling nervous or afraid
- SIBPRO42 - Getting along with brothers and sisters
- KIDPRO42 - Getting along with other kids
- SPRPRO42 - Getting involved in activities like sports or hobbies
- SCHPRO42 - (His/her) schoolwork
- HOME42 - (His/her) behavior at home

**CAHPS (Consumer Assessment of Healthcare Providers and Systems) ages 0 - 17 (included in alternating years only)**

The health care quality measures were taken from the health plan version of CAHPS. All of the CAHPS variables refer to events experienced in the last 12 months. The variables included from the CAHPS are:

- CHILCR42 - Whether a person had an illness, injury, or condition that needed care right away from a clinic, emergency room, or doctor's office
- CHILWW42 - How often a person got care as soon as was needed (coded as Inapplicable [-1] when CHILCR42 = 2, -7, -8, or -15)
- CHRTCR42 - Whether any appointments were made for routine care
- CHRTWW42 - How often a person got an appointment for routine care as soon as was needed (coded as Inapplicable [-1] when CHRTCR42 = 2, -7, -8, or -15)
- CHAPPT42 - How many times a person went to a doctor's office or clinic for health care
- CHEXPL42 - How often a person's doctors or other health providers explained things in a way the parent could understand (coded as Inapplicable [-1] when CHAPPT42 = 0, -7, -8, or -15)
- CHLIST42 - How often a person's doctors or other health providers listened carefully to the parent (coded as Inapplicable [-1] when CHAPPT42 = 0, -7, -8, or -15)
- CHRESP42 - How often a person's doctors or other health providers showed respect for what the parent had to say (coded as Inapplicable [-1] when CHAPPT42 = 0, -7, -8, or -15)

- CHPRTM42 - How often doctors or other health providers spent enough time with a person (coded as Inapplicable [-1] when CHAPPT42 = 0, -7, -8, or -15)
- CHHECR42 - Rating of health care from 0 to 10 where 0 = Worst health care possible and 10 = Best health care possible (coded as Inapplicable [-1] when CHAPPT42 = 0, -7, -8, or -15)
- CHSPEC42\_M18 - Whether a person made an appointment to see a specialist
- CHEYRE42\_M18 - How often did a person get appointments to see a specialist (coded as Inapplicable [-1] when CHSPEC42 = 2, -7, -8, or -15)

### ***Additional Health Variables***

The Additional Healthcare (AH) section of the MEPS includes questions that correspond to the following variables: LSTETH53 (has person lost all natural [permanent] teeth), PHYEXE53 (currently spends half hour or more in moderate to vigorous physical activity at least five times a week), and OFTSMK53 (how often smokes cigarettes). These questions are asked every year of each person aged 18 or older. A code of Inapplicable (-1) was assigned if the person was deceased or younger than 18. In 2023, these variables include data collected in Panel 27 Round 5 and Panel 28 Round 3.

### ***COVID-19 Vaccination Status***

In 2023, questions pertaining to COVID-19 vaccinations were collected in the AH section for Panel 27 Rounds 3, 4, and 5; and Panel 28 Rounds 1, 2, and 3. The initial question (AH91) determined whether a person has ever received a COVID-19 vaccine and was collected only once. The second question (AH93) indicates whether the person received a COVID-19 vaccine since the prior round. COVAXEVR31, COVAXEVR42, and COVAXEVR53 are round-specific variables that indicate whether a person has ever received a COVID-19 vaccination and are constructed from AH91 and AH93. Sample members who were reported as ever vaccinated as of 2022 (COVAXEVR53=1 in the 2022 Consolidated PUF) had COVAXEVR31, COVAXEVR42, and COVAXEVR53 coded Yes (1). COVAXNEW31, COVAXNEW42, and COVAXNEW53 indicate whether the person received a COVID-19 vaccine since the prior round.

### ***Self-Administered Questionnaires (SAQs)***

The MEPS distributes several self-administered questionnaires (SAQs) to collect health-related information from different subpopulations of MEPS participants. The Diabetes Care Survey was distributed every year through 2022, while other SAQs are distributed only in select years. The table below lists the SAQs distributed in select years and the years they are collected, while the remainder of this section describes in detail the SAQ collected in the current data year.

**Table 12****SAQ Data Year Collections**

| Self-Administered<br>Questionnaire | 2019 | 2020 | 2021 | 2022 | 2023 |
|------------------------------------|------|------|------|------|------|
| SAQ                                | X    |      | X    |      | X    |
| Preventive SAQ (PSAQ)              |      | X    |      | X    |      |

***Self-Administered Questionnaire (SAQ)***

The Self-Administered Questionnaire (SAQ) is a questionnaire that includes core questions about health status, health care quality, and preventive health care measures for adults. For the first time, the SAQ was administered as a multimode questionnaire, with web completion mode being added to the hard copy mode.

The preventive health questions are asked in alternating years and are not included in this file; they will be included in the 2024 SAQ. In 2023, questions regarding quality of health care, general health questions, and questions about health-related opinions were asked in the SAQ and are included in this file.

The 2023 SAQ was fielded during Panel 27 Round 4 and Panel 28 Round 2 of the 2023 MEPS data collection.

All Key and eligible adults aged 18 or older as of the Round 2 or 4 interview date (AGE42X >= 18) in MEPS households were asked to complete an SAQ. The questionnaires were administered in late 2023 and early 2024.

The variable SAQELIG indicates the person's eligibility status for the SAQ. SAQELIG was used to construct the variables based on the SAQ data. SAQELIG was coded 'Not Eligible for SAQ' (0) if there was no record for the person in the round, if the person was not Key, if the person was deceased or institutionalized, if the person moved out of the U.S., if the person moved to a military facility, if the person's disposition status was inapplicable, or if the person was younger than 18 years old. SAQELIG was coded 'Eligible for SAQ and Has SAQ Data' (1) if an SAQ record existed for the person in Round 2 for Panel 28 or Round 4 for Panel 27. SAQELIG was coded 'Eligible for SAQ, but No SAQ Data' (2) if no SAQ record existed for the person in the round. This variable was used as a building block for all other constructed SAQ variables.

A question on the form asked if the respondent was the person represented in the form. If a person was unable to respond to the SAQ, the questionnaire was completed by a proxy. The relationship of the proxy to the adult represented in the questionnaire is indicated by the variable ADPROX42. The response categories for proxy relationship are collapsed in the variable ADPRXY42. ADPROX42 was coded Self-administered (1) if the respondent was the person represented in the questionnaire. A code of Inapplicable (-1) was assigned if a person was not eligible or was eligible but no data existed (SAQELIG = 0 or 2).

If a person was not assigned a positive SAQ weight, all SAQ variables except SAQELIG were coded Inapplicable (-1). When a gate question answer was set to No (2), follow-up variables based on the gate question were coded as Inapplicable (-1). When a gate question answer was set to Cannot be Computed (-15), follow-up variable answers were left as reported. A special weight variable (SAQWT23F) has been designed to be used with the SAQ for persons who were aged 18 or older at the interview date. This weight adjusts for non-response and weights to the U.S. civilian noninstitutionalized population (see Section 3.0: Survey Sample Information for details). The variables created from the SAQ begin with “AD” except SAQELIG.

### **Health Care Quality (included in alternating years only)**

The health care quality measures in the SAQ were taken from the health plan version of CAHPS®. CAHPS is an AHRQ-sponsored family of survey instruments designed to measure quality of care from the consumer’s perspective. All CAHPS variables refer to events experienced in the last 12 months and were asked of adults aged 18 or older. The variables included from the CAHPS are:

- ADILCR42 - Had an illness, injury or condition needing care right away from a clinic, emergency room or doctor’s office
- ADILWW42 - If ADILCR42 = 1, how often got care right away
- ADRTCR42 - Any appointment was made with a doctor or clinic for routine health care
- ADRTWW42 - If ADRTCR42 = 1, how often got an appointment for routine health care as soon as you needed
- ADAPPT42 - Number of times went to doctor’s office or clinic to get care
- ADLIST42 - If ADAPPT42 > 0, how often health providers listened carefully to you
- ADEXPL42 - If ADAPPT42 > 0, how often health providers explained things in a way that was easy to understand
- ADRESP42 - If ADAPPT42 > 0, how often providers showed respect for what you had to say
- ADPRTM42 - If ADAPPT42 > 0, how often health providers spent enough time with you
- ADINST42 - If ADAPPT42 > 0, whether doctors or other health providers gave instructions about what to do about a specific illness or health condition
- ADEZUN42 - If ADINST42 = 1, how often the advice given by doctors or other health providers was easy to understand
- ADTLHW42 - If ADINST42 = 1, how often doctors or other health providers asked you to describe how you are going to follow their instructions

- ADFFRM42 - If ADAPPT42 > 0, whether had to fill out or sign any forms at the doctor's office or other health provider's office
- ADFHLP42 - If ADFFRM42 = 1, how often you were offered help with filling out forms at the office
- ADHECR42 - If ADAPPT42 > 0, rating of healthcare from all doctors and other health providers, from 0 (worst health care possible) to 10 (best health care possible)
- ADSPCL42 - Needed to see a specialist
- ADSNP42 - If ADSPCL42 = 1, how easy to see a specialist

#### **General Health (included in alternating years only)**

- ADSMOK42 - Currently smoke
- ADNSMK42 - If ADSMOK42 = 1, doctor advised you to quit smoking

#### **Health Status Measures**

The SAQ contained three measures of health status: the Veteran RAND (VR-12), a registered trademark, the Kessler Index (K6) of non-specific psychological distress, and the Patient Health Questionnaire (PHQ-2). More information about the VR-12 is available through the [Boston University School of Public Health website](#). Key references for these three measures are Kessler et al. (2002), Kroenke et al. (2003), Selim et al. (2018) and Selim et al. (2009).

#### **Veterans RAND 12 Version (VR-12®)**

The Veterans RAND 12 Item Health Survey (VR-12®) is a self-administered health survey comprising 12 items used to measure health related quality of life, to estimate disease burden, and to evaluate disease-specific impact on general and selected populations.

The VR instrument uses five-point ordinal response choices for four items in the VR-12®. Response choices are:

- No, none of the time
- Yes, a little of the time
- Yes, some of the time
- Yes, most of the time
- Yes, all of the time

These answers then contribute to the scales for role limitations due to physical and emotional problems (PCS) and the physical and mental summary scores (MCS).

In analyzing data from the VR-12, the standard approach is to form two summary scores based on responses to the 12 questions. The standard scoring algorithms for both the Physical Component



Summary (PCS) and the Mental Component Summary (MCS) incorporate information from all 12 questions. However, the PCS weights more heavily responses to the following questions: ADGENH42, ADDAYA42, ADCLIM42, ADACLS42, ADWKLM42, and ADPAIN42. The MCS weights more heavily responses to the following questions: ADPRST42, ADENGY42, ADPCFL42, ADEMLS42, ADMWCF42, and ADSOCA42. The computer programs to create VR scales and PCS/MCS summaries are copyrighted (all rights reserved) by the Trustees of Boston University to ensure the integrity of the assessments.

The comparability of the 2017 MEPS VR-12 PCS and MCS summary scores from the standard scoring algorithm and the SF-12v2 PCS and MCS summary scores obtained from prior years of MEPS was assessed, and it was determined that the scores were misaligned. A bridging algorithm specific to MEPS was developed by a team at the Boston University School of Public Health. The goal of this bridging algorithm was to align the VR-12 PCS and MCS scores from the 2017 MEPS as closely as possible with the SF-12v2 PCS and MCS scores from prior MEPS years across a wide range of MEPS subpopulations. This bridging algorithm was applied to the VR-12 PCS and MCS score variables (VPCS42 and VMCS42) available on this PUF.

The PCS and MCS could not be computed directly if a person had missing data for any of the twelve items. A proprietary method was used for imputing the PCS and MCS scores if some data were missing. The bridging algorithm used for these measures was developed to be tolerant of missing data in item responses when computing PCS and MCS scores.

Therefore, the variables VPCS42 and VMCS42 include some cases in which the scores have been imputed. Some cases were unable to be scored in the bridging algorithm due to the amount of missing data in item responses; these cases have VRFLAG42 = No (0). VRFLAG42 indicates whether the physical component summary, VPCS42, or the mental component, VMCS42, was imputed for a respondent. Persons who were not eligible for the SAQ, or who were eligible but for whom no data existed based on SAQELIG, or who did not have a positive SAQ weight, were set to Inapplicable (-1) for VRFLAG42, VPCS42, and VMCS42. Any remaining persons who could not be scored were set to Cannot be Computed (-15) for VPCS42 and VMCS42. Additionally, beginning in 2017, there are no negative score values for VPCS42 and VMCS42 because they are both top- and bottom-coded.

More information on the VR-12 can be found on the [Boston University website VR-12 page](#). The report containing information on the methodology used for the bridging algorithm can be requested from [mepsprojectdirector@ahrq.hhs.gov](mailto:mepsprojectdirector@ahrq.hhs.gov).

The VR-12 questions are as follows:

ADGENH42 - General health today

ADDAYA42 - During a typical day, limitations in moderate activities

ADCLIM42 - During a typical day, limitations in climbing several flights of stairs

ADACLS42 - During past 4 weeks, as result of physical health, accomplished less than would like

- ADWKLM42 - During past 4 weeks, as result of physical health, limited in kind of work or other activities
- ADEMLS42 - During past 4 weeks, as result of emotional problems, accomplished less than you would like
- ADMWCF42 - During past 4 weeks, as result of emotional problems, did work or other activities less carefully than usual
- ADPAIN42 - During past 4 weeks, pain interfered with normal work outside the home and housework
- ADPCFL42 - During the past 4 weeks, felt calm and peaceful
- ADENGY42 - During the past 4 weeks, had a lot of energy
- ADPRST42 - During the past 4 weeks, felt downhearted and blue
- ADSOCA42 - During the past 4 weeks, physical health or emotional problems interfered with social activities

### **Nonspecific Psychological Distress**

The 2023 SAQ includes six mental health-related questions, using the “K6” scale developed by R.C. Kessler and colleagues. These questions assess the person’s nonspecific psychological distress during the past 30 days.

The non-specific psychological distress variables are as follows:

- ADNERV42 - During the past 30 days, how often felt nervous
- ADHOPE42 - During the past 30 days, how often felt hopeless
- ADREST42 - During the past 30 days, how often felt restless or fidgety
- ADSAD42 - During the past 30 days, how often felt so sad that nothing could cheer the person up
- ADEFRT42 - During the past 30 days, how often felt that everything was an effort
- ADWRTH42 - During the past 30 days, how often felt worthless

### **Kessler Index (K6)**

A summary of the six variables above provides an index to measure non-specific, rather than disorder-specific, psychological distress using the following values:

- 0 None of the Time
- 1 A Little of the Time

- 2     Some of the Time
- 3     Most of the Time
- 4     All of the Time

The index, called K6SUM42, is a summation of the values of the six variables above. The higher the value of K6SUM42, the greater the person's tendency towards mental disability.

### **Patient Health Questionnaire (PHQ-2)**

The 2023 SAQ includes two additional mental health questions. These questions assess the frequency of the person's depressed mood and decreased interest in usual activities.

- ADINTR42 -     During the past two weeks, bothered by having little interest or pleasure in doing things
- ADDPRS42 -     During the past two weeks, bothered by feeling down, depressed, or hopeless

PHQ242 is a summation of the values of the two variables above, with scores ranging from 0 through 6. The higher the value of PHQ242, the greater the person's tendency towards depression. Kroenke et al. (2003) suggest a score of 3 as the optimal cut point for screening purposes. Note that these items are intended as a screening measure for depression and are not equivalent to a DSM-V diagnosis of depression.

The language in which the SAQ was completed is indicated by the variable ADLANG42. If the English version of the SAQ was completed, ADLANG42 was coded English Version SAQ Was Administered (1). If the Spanish version of the SAQ was completed, or if the English version was translated into Spanish, ADLANG42 was coded Spanish Version SAQ Was Administered (2). If the language in which the SAQ was administered could not be determined from the data, ADLANG42 was coded Cannot be Computed (-15).

The month and year the SAQ was completed are indicated by the variables ADCMPM42 and ADCMPY42, respectively.

When using the SAQ variables in analysis, the weight specific to these questions should be used (SAQWT23F). For persons who are not assigned a positive SAQ weight, the SAQ variables are recoded to Inapplicable (-1). Please see Section 3.0: Survey Sample Information for details.

### ***Diabetes Care Survey***

Beginning in 2023, variables from the Diabetes Care Survey are no longer released for public use.

### **2.5.7 Disability Days Indicator Variables (DDNWRK23-OTHNDD23)**

The Disability Days (DD) questions in the AH section of the core interview ask about time lost from work because of a physical illness or injury, or a mental or emotional problem. Data were collected on each individual in the household. The questions were repeated in each round of interviews; this Consolidated PUF contains data from Rounds 3, 4, and 5 for Panel 27, initiated in 2022, and Rounds 1, 2, and 3 for Panel 28, initiated in 2023.

Annualized versions of these variables were constructed for release, and the number at the end of the variable name (23) identifies the variable as representing data from 2023. Because of confidentiality concerns, the annual DD variables, which represent the number of days a person missed work (DDNWRK23 and OTHNDD23), were top-coded to mask values that exceed the top half of 1 percent of the population.

The reference period for the DD questions runs from the beginning of the panel or the previous interview date to the current interview date. Analysts should be aware that Round 3 of Panel 27 and Round 3 of Panel 28 are conducted across years. The DD variables reflect only the data pertinent to the calendar year (i.e., the current delivery year of 2023). Analysts who are interested in examining DD data across years can link to other person-level PUFs using the DUPERSID.

The flow of the DD questions relies on the person's age as of the interview date. Therefore, the round-specific constructed age variables (AGE31X, AGE42X, and AGE53X) were used to construct the comparable round-specific DD building-block variables. Because of the age-specific nature of the DD questions, age data from other rounds should not be used when the person's age for the round is missing.

The variable DDNWRK23 represents the number of times the person lost a half-day or more from work because of illness, injury, or mental or emotional problems during the calendar year. A response of No work days lost was coded 0; if the person did not work, this variable was coded Inapplicable (-1). Analysts should note that responses to DD questions regarding "days not able to work" may not be consistent with employment status reflected in EMPST. For instance, EMPST may indicate a person is working as of the interview date (EMPST=1) or has a job to return to as of the interview date (EMPST=2) but DDNWRK23 may indicate the person did not work at all in the reference period due to illness or injury. This situation occurs because these questions were asked in two different sections; disability days questions were posed in the AH section and employment status was asked in the EM section. Responses to AH questions are independent of responses to the EM questions. Persons who were younger than 16 or whose age is missing (AGE##X was set to -1) were not asked about work days lost, so the variable was coded Inapplicable (-1) for these persons.

A final set of DD variables indicates both whether an individual took a half-day or more off from work to care for the health problems of another individual in the family and the number of days missed. OTHDYS23 indicates whether a person missed work because of someone else's illness, injury, or health care needs, for example, to take care of a sick child or relative. Persons younger than 16, persons whose age is missing, and persons who do not work were coded as Inapplicable (-1).

OTHNDD23 indicates the number of days of work lost because of another's health problem. Persons younger than 16, those whose age is missing, those who do not work, and those who answered "No" to OTHDYS23 were not asked OTHNDD23 and were coded as Inapplicable (-1).

Note that, because DD variables use only the data from Round 3 of Panel 27 and Round 3 of Panel 28 that are pertinent to the data year, it is possible for a person to report missing work to care for the health problems of another individual (OTHDYS23 = 1) but to also report no days missed (OTHNDD23 = 0). This combination indicates that the person did not miss those workdays during the data year. These variables were edited to preserve the skip patterns. Data were not imputed for persons with missing data.

The variables DDNWRK23 and OTHNDD23 are annualized variables derived from responses to questions at each interview round. If the round-specific responses included a mix of missing values (-1, -7, -8, or 0), then the annualized variables were set to Cannot be Computed (-15) on the Consolidated PUF. This editing results in elevated rates of -15 values for these variables compared with other variables on the Consolidated PUF.

### **2.5.8 Access to Care Variables (ACCELI42-AFRDPM42)**

The variables ACCELI42 through AFRDPM42 describe data from the Access to Care (AC) section of the MEPS HC questionnaire, which was administered in Panel 27 Round 4 and Panel 28 Round 2. This supplement gathers information on family members' usual source of health care (USC); characteristics of the USC provider; access to and satisfaction with the USC provider; and affordability of medical treatment, dental treatment, and prescription medicines.

The variable ACCELI42 indicates whether persons were eligible to receive the AC section. Persons with ACCELI42 set to Inapplicable (-1) should be excluded from estimates made with the AC data.

#### ***Family Members' Usual Source of Health Care***

For each family member, the AC section ascertains whether there is a particular doctor's office, clinic, health center, or other place that the individual usually goes to if they are sick or need advice about their health (HAVEUS42).

PRACTP42 indicates whether a USC provider has their own practice that is not part of a group practice, health center, clinic, or other facility. For family members who have a USC provider, question AC30 ascertains the type of practice, which was coded as follows:

- 1 Own Practice, Not Part of Group/Facility
- 2 Practice Associated with Group/Facility

YNOUSC42\_M18 indicates the main reason why a person does not have a USC provider. For family members who do not have a USC provider, question AC40 ascertains the main reason why. The reasons were coded as follows:

- |    |  |
|----|--|
| 1  | Seldom or Never Sick                                       |
| 2  | Recently Moved to Area                                     |
| 3  | Just Changed Insurance Plans                               |
| 4  | No Health Insurance, Oth Insurance-Related Issue           |
| 5  | Don't Know Where to Go for Care                            |
| 6  | USC in This Area No Longer Available                       |
| 7  | Likes to Go to Different Places for Different Health Needs |
| 8  | Don't Use Doctors/Treat Self                               |
| 9  | Cost of Medical Care                                       |
| 10 | No Health Insurance  |
| 91 | Other Reason   |

In 2018, YNOUSC42 was renamed as YNOUSC42\_M18 because the list of answer categories changed.

### ***Characteristics of Usual Source of Health Care Providers***

The AC section collects information about the characteristics of each unique USC provider for a given family. If a person does not have a USC provider - that is, HAVEUS42 was set to No (2), Refused (-7), Don't Know (-8), or Cannot be Computed (-15) - these variables were set to Inapplicable (-1).

The basis for the AC provider questions is PROVTY42\_M18. This variable indicates whether the person's provider is a Facility (1), a Person (2), or a Person-in-Facility (3). PROVTY42\_M18 is a copy of PROVTYPE\_M18 (Provider Type) for persons who have a USC provider. Depending on how PROVTYPE\_M18 is set, persons are asked about the provider's location, the provider's personal characteristics (e.g., race), the provider's accessibility, and the person's satisfaction with the provider.

### **Provider Location**

Two variables indicate the location of the provider. For facility or person-in-facility types of providers, PLCTYP42 indicates whether the person's facility is a Hospital Clinic or Outpatient Department (1), Hospital Emergency Room (2), or Other Kind of Place (3). According to the CAPI flow, persons do not report the type of facility for person-type providers; therefore, if PROVTY42\_M18 was set to Person (2), PLCTYP42 was set to Inapplicable (-1).

For all provider types, including person-type, LOCATN42 indicates whether the person's provider is located in an Office (1), a Hospital but Not the Emergency Room (2), or a Hospital Emergency Room (3).

### **Personal Characteristics of Providers**

For person and person-in-facility types of providers, TYPEPE42 indicates the person's type of doctor or other medical provider. The possible values include the following:

- 1 - MD - General/Family Practice
- 2 - MD - Internal Medicine
- 3 - MD - Pediatrics
- 4 - MD - OB/Gyn
- 5 - MD - Surgery
- 6 - MD - Other
- 7 - Chiropractor
- 8 - Nurse
- 9 - Nurse Practitioner
- 10 - Physician's Assistant
- 11 - Other non-MD Provider
- 12 - Unknown
- 13 - MD - Cardiologist
- 14 - Doctor of Osteopathy
- 15 - MD - Endocrinologist
- 16 - MD - Gastroenterologist
- 17 - MD - Geriatrician
- 18 - MD - Nephrologist
- 19 - MD - Oncologist
- 20 - MD - Pulmonologist
- 21 - MD - Rheumatologist

- 22 - Psychiatrist/Psychologist
- 23 - MD - Neurologist
- 24 - Alternative Care Provider

TYPEPE42 was constructed from variables collected at several questions:

- AC70: “Is provider a medical doctor?” (PROV.MEDTYPE\_M18);
- AC80: “Is provider a nurse, nurse practitioner, physician’s assistant, midwife, or some other kind of person?” (PROV.OTHTYPE\_M18); and
- AC90: “What is provider’s specialty?” (PROV.MDSPECLT\_M18).

If respondents chose Other (91) at AC80 or AC90, they were asked at AC80OS or AC90OS, respectively, to verbally explain the type of provider or medical doctor. These explanations, known as text strings, can be recoded to one of the existing categorical values listed above or, if the frequency of the response warrants it, to additional categorical values. Recoding is described in greater detail below under Satisfaction with the Provider.

The AC section also collects demographic information about person and person-in-facility types of providers (PROVTY42 = 2 or 3). Six variables indicate the provider’s race: WHITPR42 (White), BLCKPR42 (Black/African American), ASIANP42 (Asian), NATAMP42 (Indian/Native American/Alaska Native), PACISP42 (Other Pacific Islander), and OTHRCP42 (Other Race). The respondent may choose more than one race for a single provider. These variables reflect the answer categories given at AC110.

In addition to the race variables, two other demographic variables were created: HSPLAP42 indicates whether the provider is Hispanic or Latino, and PROVSEX42 indicates whether the provider is Male (1) or Female (2).

### Using Constructed Variables to Describe the Usual Source of Care Provider

The variables describing a person’s USC provider can be used in combination to present a broader picture of the provider. For example, a person-in-facility provider with a particular person named who is a White, Hispanic, female pediatrician with no other race specified and whose location is in a hospital is coded as follows:

- |                  |              |
|------------------|--------------|
| 3 - PROVTY42_M18 | 2 - BLCKPR42 |
| 1 - PLCTYP42     | 2 - ASIANP42 |
| 3 - TYPEPE42     | 2 - NATAMP42 |
| 1 - HSPLAP42     | 2 - PACISP42 |
| 1 - WHITPR42     | 2 - OTHRCP42 |



***Access to and Satisfaction with the Provider***

The AC section collects information regarding the person's ability to access the USC provider as well as the person's satisfaction with the USC provider.

**Access to the Provider**

TMTKUS42 indicates how long it takes the person to travel to the USC provider: Less Than 15 Minutes (1), 15 to 30 Minutes (2), 31 to 60 Minutes (3), 61 to 90 Minutes (4), 91 Minutes to 120 Minutes (5), or More than 120 Minutes (6).

OFFHOU42, PHNREG42, and AFTHOU42 assess aspects of the USC provider that may make it difficult for the person to contact this provider. OFFHOU42 indicates whether the provider has office hours at night or on the weekend. The remaining two variables reflect the person's rating of the difficulty of accessing the USC provider by phone (PHNREG42) and after hours (AFTHOU42). The person has the following choices: Very Difficult (1), Somewhat Difficult (2), Not Too Difficult (3), or Not at All Difficult (4).

**Satisfaction with the Provider**

The variables in this section reflect the person's satisfaction with the USC provider. The level of satisfaction was examined through four questions: Does the USC provider (a) usually ask about prescription medications and treatments other doctors may give them (TREATM42), (b) ask the person to help make decisions about treatment options (DECIDE42), (c) present and explain all options to the person (EXPLOP42), and (d) speak the person's language or provide translator services (PRVSPK42).

PRVSPK42 was set to a value other than Inapplicable (-1) for persons eligible for the AC supplement who had a usual source of care provider, were identified as speaking a language other than English at home (OTHLGSPK = 1), and speak English either Not Well or Not at All (HWELLSPK = 3 or 4). PRVSPK42 was set to Inapplicable (-1) for all persons not meeting these criteria or who were deceased, institutionalized, or younger than 5.

If the person was younger than 5 in Round 1 and aged 5 in Round 2 of the first-year panel or in Round 4 of the second-year panel, and if the source data were missing, PRVSPK42 was set to Inapplicable (-1); if the source data were available, PRVSPK42 was set per specifications.

***Affordability of Medical Care, Dental Care, and Prescription Medicines***

The AC supplement gathers information on whether care was not received or was delayed because of cost in the past 12 months. These questions are split into three sections that ask about medical care, dental care, and prescription medicines. Each section asks whether the person did not receive care because they could not afford it (AFRDCA42, AFRDDN42, AFRDPM42). The affordability variables indicate with a value of Yes (1) that the person needed care but was unable to afford it and a value of No (2) that the person did not have any unmet needs for that type of care because of the cost.

Respondents were also asked if anyone in the household delayed receiving care because of worry about cost (DLAYCA42, DLAYDN42, DLAYPM42). The delay variables indicate with a value of Yes (1) that the person was delayed in receiving that type of care because of worry about the cost and a value of No (2) that the person was not delayed in seeking that type of care because of the worry about the cost.

### ***Editing the Access to Care Variables***

Editing consisted primarily of logical editing for consistency with skip patterns. Other editing included the construction of new response values and new variables describing the recoding of “other specify” text items into existing or new categorical values, which are described in the section directly below.

Not all variables or categories that appear in the AC section of the MEPS questionnaire are included on the Consolidated PUF, as some small cells have been suppressed to maintain confidentiality.

### ***Recoding of Additional Other Specify Text Items***

For items AC80 and AC90, the “other specify” text responses were reviewed and coded as an existing or new value for the related categorical variables.

In 2023, machine learning was implemented in the recoding process. The program suggested a value for each text string based on how similar strings were previously coded. The suggested values were then reviewed manually before being finalized.

OTHTYPE\_M18 and MDSPECLT\_M18 were used to construct the variable TYPEPE42. The variables’ text strings can be recoded to each other’s categories. For example, for persons who indicated that their USC provider is not a medical doctor (PROV.MEDTYPE = 2), the other type of USC provider is other (PROV.OTHTYPE = 91), and the text string collected is “GYNECOLOGIST,” TYPEPE42 would be set to MD - OB/GYN (4) instead of OTHER NON-MD PROVIDER (11).

## **2.5.9 Employment Variables (EMPST31-RTPLN53H)**

Employment questions were asked of all persons aged 16 or 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 for persons whose edited age is 16 or older. All job-specific variables refer to a person’s current main job (CMJ). This job, defined by the respondent, indicates the main source of employment.

Most employment variables in the 2023 file pertain to the interview date for Rounds 1-4, and to December 31 of the delivery year for Round 5 of a second-year panel.

In 2023, Panel 27 Round 3 was fielded as a cross-year round in which respondents were asked to provide information about the reference period between the prior interview date in 2022 (Round 2) and the current round interview date in 2023. Panel 28 Round 3 was also fielded as a cross-

year round in which respondents were asked to provide information about the reference period between the prior interview date in 2023 (Round 2) and the Round 3 interview date (occurring in 2024).

In contrast, Panel 27 Round 5 was fielded as a 2023 terminal round in which respondents were asked to provide relevant information between the prior interview date in 2023 (Round 4) and December 31, 2023.

**Table 13**

***Reference Periods Used in the Construction of Employment Variables***

| Panel/round    | Reference period (construction)                 | EM variable reference year(s) |
|----------------|---|-------------------------------|
| Panel 27       |   |                               |
| <i>Round 3</i> | Round 2 2022 intvw thru Round 3 2023 intvw date | 2022-2023                     |
| <i>Round 4</i> | Round 3 2023 intvw thru Round 4 2023 intvw date | 2023                          |
| <i>Round 5</i> | Round 4 2023 intvw thru Dec 31, 2023            | 2023                          |
| Panel 28       |   |                               |
| <i>Round 1</i> | Jan 1, 2023 thru Round 1 2023 intvw date        | 2023                          |
| <i>Round 2</i> | Round 1 2023 intvw thru Round 2 2023 intvw date | 2023                          |
| <i>Round 3</i> | Round 2 2023 intvw thru Round 3 2024 intvw date | 2023-2024                     |

When performing longitudinal analyses, analysts combining 2023 data with 2022, 2021, and 2020 MEPS data should refer to the documentation from those delivery years to fully understand the composition of the data. From 2020 through 2022, employment variables were constructed to reflect responses from additional panels and rounds due to the impact of the pandemic on response rates.

The variable naming protocol for 2023 is consistent with all prior years. Data rounds are indicated by two numbers following the variable name. The first number represents the round for second-panel persons (Panel 27), and the second number represents the round for first-panel persons (Panel 28). For example, EMPST31 refers to employment status on the Round 3 interview date for Panel 27 persons and to employment status on the Round 1 interview date for Panel 28 persons.

With the exception of some health insurance and wage variables, no attempt has been made to logically edit any employment variables. When missing, values were imputed for certain persons' hourly wages. Because of confidentiality concerns, hourly wages greater than or equal to \$132.21 were top-coded to -10, and the variable for the number of employees was top-coded at 500. With the exception of a variable indicating whether the employer has more than one location (MORE31, MORE42, MORE53), all employer-specific variables on this Consolidated PUF refer to the specific establishment that is the location of a person's CMJ.

For analysts interested in additional jobs (i.e., current miscellaneous, former main job, and others) or in additional details about the CMJ (including information such as the reason for

change in full or part-time status at the CMJ or the current establishment size of CMJ where the person is self-employed), please refer to the Jobs Public Use File (hereafter referred to as the Jobs PUF) for the current delivery year.

The MEPS Employment (EM) section used dependent interviewing in Rounds 2-5. If employment status and certain job characteristics did not change from the previous round, as identified in the Review of Employment (RJ) section, the respondent was skipped through the main EM section. The code Determined in Previous Round (-2) is used to indicate that the information in the question was obtained in a previous round. Determined in Previous Round (-2) is not an allowed value for any “31” variables. It may only be used on “42” or “53” variables.

For example, if HRWG42X (Round 4 interview date hourly wage for Panel 27 persons or Round 2 interview date hourly wage for Panel 28 persons) is coded as Determined in Previous Round (-2), it means that hourly wage was collected in a previous round. In this case, analysts would need to refer to HRWG31X (Round 3 interview date hourly wage for Panel 27 persons or Round 1 interview date hourly wage for Panel 28 persons) to obtain the value for HRWG42X. The -2 value for HRWG42X indicates that the person was skipped past the hourly wage question in the main EM section at the time of the Round 4/2 interview. The same coding applies to HRWG53X when a person was skipped past the main EM section at the time of the Round 5/3 interview. Note that analysts may find a positive value in the HRWG31X (Round 3/1 hourly wage), or they may find that the variable was coded Inapplicable (-1). Unlike HRWG42X and HRWG53X, the Round 3 variable HRWG31X does not contain -2 values.

The following variables contain information from the first report of the CMJ. They contain the reported value in the round in which the job was first reported and then were set to -2 in subsequent rounds as long as the person was still employed at the CMJ in Round 4/2 or in Round 5/3. If the same CMJ continued across years to the Round 3/1 interview date of the second year (Panel 27 Round 3), the original reported value from the prior year was carried forward into the current year Round 3/1 variable, and RNDFLG31 can be used to determine the original round in which the job was first reported (RNDFLG31 is described more fully below). If a person changed their CMJ to a new CMJ in the current round, the variable does not contain -2. Instead, the variable reflects the value reported in the current round for the new CMJ. If the person left the CMJ during the current round and did not start a new CMJ in the round, the current round variables are set to -1. With the exception of wage variables, questions associated with these variables were asked only one time for a CMJ.

- |          |          |          |
|----------|----------|----------|
| • BSNTY  | • INDCAT | • PAYVAC |
| • CHOIC  | • JOBORG | • RETPLN |
| • HOUR   | • MORE   | • SICPAY |
| • HRHOW  | • NUMEMP | • STJBMM |
| • HRWGX  | • OCCCAT | • STJBYY |
| • HRWGIM | • PAYDR  | • SELFCM |

- SSNLJB
- TEMPJB
- UNION

To determine who should be skipped through the various employment questions, certain information, such as employment status (EMPST), had to be asked in every round. Therefore, a -2 code does not apply to variables set from questions asked in every round, such as questions about employment status, whether the person currently works at more than one job (MORJOB) or, in rounds where a CMJ exists, whether the person holds health insurance from a current main employer (HELDX). The -2 code also does not apply to the RNDFLG31 variable, the variables associated with a change in wage at the CMJ (DIFFWG, NHRWG\_M23, and the new ‘wage round’ variable, NHRWGRND), most insurance variables, or to the full set of imputed employment variables. (Imputed variables are described more fully below.)

Therefore, in addition to “31” variables, variables that do not use -2 codes because associated questions may be asked in every round or in multiple rounds are as follows:

- Person’s Work Experience/Status Variables
  - CHGJ/CHGJ
  - EMPST
  - EVRETIRE
  - EVRWRK
  - MORJOB
  - NWK
  - YCHJ/YCHJ
- Insurance Variables
  - DISVWX
  - HELDX
  - OFFERX
  - OFREMP
- Change in Wage Variables
  - DIFFWG
  - NHRWG\_M23
  - NHRWGRND (*new variables as of 2023*)

- Imputed Employment Variables
  - EMPST31H - RTPLN53H
- Round flag variable for Round 3/1 jobs
  - RNDFLG31

While wage questions were asked in each round, responses are stored differently. As noted above, HRWGX contains the value calculated from responses to questions asked in the main EM section of the initial report of the job and are stored in the round in which the job was first reported, or in Round 3/1 if the CMJ continues from the prior year. In subsequent rounds, when the respondent indicated the wage at the job has changed (DIFFWG=1), and variables that set HRWGX (primary wage) were updated, NHRWG\_M23 stores the updated wage information and HRWGX is -2 (except for Round 3/1 for a year two continuing CMJ). Because the respondent was asked if the wage changed in each round the job continues, -2 is not applicable to DIFFWG.

As in past years, the updated wage variable, NHRWG, does not use -2. Prior to 2023, NHRWG only contained a positive wage value in the round in which the update was reported. If no update was reported in the current round, NHRWG was -1 for that round. Starting in 2023, NHRWG\_M23 is calculated differently than in prior years. NHRWG\_M23 can contain an updated primary wage value for the CMJ, even if the update was not made in the current round and, NHRWG\_M23 no longer reflects any changes to supplemental wages at the CMJ. Specifically, NHRWG\_M23 will contain the value of the most recent updated primary wage amount reported in the RJ section where a different value is reported in one of the source variables used to calculate a primary wage. Therefore, the variable NHRWG has been renamed to NHRWG\_M23 indicating analysts should note the variable population has changed for the variable. The variable change allows analysts to access the last reported wage update from the prior year without looking back at the 2022 Consolidated PUF. Prior year updated wage values reported in Round 2 may be carried forward into the current year Round 3/1 variable for a CMJ that continues into the current year if no variable used to calculate the updated primary wage at the CMJ was updated. Alternatively, if a variable used to calculate the primary wage changed in Round 3, NHRWG31\_M23 will reflect the same value as NHRWG53 from the previous delivery year. For these reasons, -2 processing does not apply to DIFFWG and NHRWG\_M23.

If the updated Round 3 wage amount cannot be calculated due to incomplete or missing information, NHRWG31\_M23 is set to Cannot be Computed (-15). Therefore, analysts may wish to review wage information from 2022 Consolidated PUF or Jobs PUF to determine if a wage change occurred in Round 2 of the prior year.

Like NHRWG, the new, related wage variable, NHRWGRND, does not use -2. This is because the new variable retains the round number of the most recent wage update. More information regarding changes to NHRWG variable and the new NHRWGRND variables is provided in the Hourly Wage section of this document.

For variables using the -2 dependent interviewing, CMJ job characteristic values from the prior year Round 5/3 are carried forward into Round 3/1 if the CMJ continues into the next year.

Therefore, Panel 27 persons who have a CMJ in Round 3 that continued from a job first reported in Round 1 or Round 2 of 2022 will not have the -2 code in the 2023 Consolidated PUF Round 3/1 variables. Instead, the 2023 Consolidated PUF Round 3/1 variables will have values copied forward from a prior year and round in which the CMJ was first reported. The reason for not using code -2 in these cases is that prior year employment variables are not included in the current year Consolidated PUF and, therefore, are not easily accessible for analysts (and in some cases, the data could be impossible to obtain). Instead, the values for the variables resulting from skipped questions were copied from the Panel 27 Round 1 or 2 constructed variable from the 2022 Consolidated PUF.

The accompanying 2023 variable RNDFLG31 indicates the round from which these employment data were collected. For example, if a Panel 27 person has a Round 3 CMJ that continues from Round 2 and was first reported as the CMJ in Round 2, then HRWG31X in the 2023 Consolidated PUF will be a copy of the HRWG42X variable from the 2022 Consolidated PUF, and RNDFLG31 in the 2023 Consolidated PUF will be 2, indicating the round in which the job was first reported as the CMJ. More information regarding construction of “31” variables is found throughout this section.

### ***Employment Status (EMPST31/42/53)***

All persons aged 16 or older were asked about their employment status. Allowable responses to these questions were as follows:

- “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 the round; 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 which they could return.

These responses are mutually exclusive. A CMJ was defined for persons who either reported that they were currently employed and identified a CMJ or who reported and identified a job to return to. Therefore, job-specific information such as hourly wage exists for persons not currently working at the interview date but who have a job to return to as of the interview date. EMPST was constructed using the edited age variable AGEX described in Section 2.5.3: Demographic Variables. Due to differences between reported and edited age values, job records may appear on the Jobs PUF where the person’s edited age is less than 16. In these cases, the full year person-level variables will indicate no employment, even though the job records for these individuals will continue to contain valid employment information. While this typically occurs in the second panel of a full year delivery, it may, in rare instances, occur in the first panel as well.

Analysts should note that responses to Disability Days questions regarding “days not able to work” may not be consistent with employment status reflected in EMPST. For instance, EMPST may indicate a person is working as of the interview date (EMPST = 1) or has a job to return to as of the interview date (EMPST=2) but DDNWRK23 may indicate the person did not work at all in the reference period due to illness or injury. This situation occurs because these questions were asked in two different sections; disability days questions were posed in the Additional Health Questions section (AH), and employment status was asked in the Employment section (EM). Responses to AH questions are independent of the responses to EM questions.

### ***Data Collection Round for Current Main Job in Round 3 or 1 (RNDFLG31)***

As mentioned, for Panel 27, if a person’s Round 3 current main job (CMJ) is a continuation CMJ from Round 2 or Round 1, the values for most “31” variables contain settings copied forward from the 2022 Consolidated PUF variable representing the round in which the job was first reported as the CMJ. For persons in Panel 27, RNDFLG31 indicates the 2022 round in which the Round 3 CMJ was first reported as the CMJ and provides a time frame for the reported wage information and other job details. RNDFLG31 is used with many “31” variables to indicate the round in which the reported information is based.

- |             |             |          |
|-------------|-------------|----------|
| • BSNTY     | • JOBORG    | • SICPAY |
| • CHOIC     | • MORE      | • STJBMM |
| • HOUR      | • NUMEMP    | • STJBYY |
| • HRHOW     | • OCCCAT_18 | • SELFCM |
| • HRWGX     | • PAYDR     | • SSLNJB |
| • HRWGIM    | • PAYVAC    | • TEMPJB |
| • INDCAT_17 | • RETPLN    | • UNION  |

RNDFLG31 was set to Inapplicable (-1) for persons in either panel who were younger than 16 or who did not have a CMJ in Panel 27 Round 3 or Panel 28 Round 1. For persons who were part of Panel 27, RNDFLG31 was also set to Inapplicable (-1) if the person was out-of-scope in the 2023 portion of Round 3. For persons who were part of Panel 28, RNDFLG31 was also set to Inapplicable (-1) if the person was out-of-scope in Round 1. Values for RNDFLG31 were set as follows:

- 1 Continuing Panel 27 Round 3 CMJ reported first in Round 1, or newly reported Panel 28 Round 1 CMJ
- 2 Continuing Panel 27 Round 3 CMJ reported first in Round 2
- 3 Newly reported Panel 27 Round 3 CMJ



- 15 Panel 27 Round 3 CMJ is a continuation CMJ (wage information and other details were not collected in Round 3), but the Panel 27 Round 2 CMJ record either does not exist or is not the same job. This setting applies even when there is a corresponding Round 1 CMJ for Panel 27. This pattern can occur in rare instances when corrections made to a person's record in a current file cannot be made to that record in an earlier file because of database processing constraints. Such corrections are made on the basis of respondents' comments in subsequent rounds that affect employment information previously reported. Analysts may refer to the previously released 2022 Jobs PUF to review Panel 27 Rounds 1-3 rosters.

### ***Variable Construction Where CMJ is New in Cross-Year Round***

As noted above, in cases where a person's CMJ continues from the prior year PUF, data are copied into the Round 3/1 variables from prior year PUF files using RNDFLG31 to select the correct year-round.

Variables for new CMJs reported in the cross-year round, Round 3 for Panel 27 in 2023, are processed differently. These persons have RNDFLG31 of 3. Variables for this round are constructed twice, once in the first delivery year of the round and a second time in the second delivery year of the round. In the first delivery year, new CMJ information is constructed on "53" variables. In the second delivery year, new CMJ information is constructed for a second time and stored on "31" variables. Values from "53" variables are not copied into "31" variables. Instead, variables are constructed for a second time. Since job rosters may be edited based on additional information provided in the Round 4 or Round 5 interview, the Round 3 jobs roster may have been edited. Thus, analysts may notice different values.

For instance, a Panel 27 Round 3 respondent reports working 30 hours per week at a new Round 3 CMJ. Therefore, in the 2022 Consolidated PUF, which was the first delivery year of Panel 27 Round 3, HOUR53 was set to 30. However, a comment provided in Round 4 indicates that the job holder has always worked 40 hours per week at the job. The variable on which the Consolidated PUF variable HOUR is based, HRSPRWK, is updated from 30 to 40. Then, in the second delivery year, RNDFLG31 is set to 3 and HOUR31 is set to 40.

Constructing variables again in the second delivery year ensures that values reflect more current feedback provided by respondents in Round 4 or Round 5 interviews for Panel 27 persons.

In cases where a wage at a new CMJ reported in a cross-year round requires imputation, the wage is imputed separately in each delivery year. Similarly, the bottom code value of the variable STJBYY is also recalculated based on the second delivery year. Refer to the section below that describes Other Employment CMJ Characteristic Variables including STJBYY.

For employment variables with review questions in subsequent rounds beyond the initial job report (such as HELD, OFFER, NHRWG, DIFFWG), the "31" variables are set based on updated information collected in the current round and reflect responses from the current round.

### ***Self-Employed (SELFCM31/42/53)***

Information on whether an individual is self-employed at the CMJ was obtained for all persons who reported a CMJ. Individuals who reported that they are self-employed at their CMJ were asked to identify whether the self-employed business is incorporated, a proprietorship, or a partnership (BSNTY31, BSNTY42, BSNTY53). These questions were not asked of individuals who are not self-employed and, as a result, individuals who are not self-employed are coded with Inapplicable (-1). Self-employed are not considered “wage earners.” As a result, they were not asked questions related to hourly wage during the interview, and they have hourly wage coded with Inapplicable (HRWG31/42/53 = -1).

Alternatively, several variables were constructed for wage earners only, not for self-employed individuals. These variables include benefits, employment characteristics, and hourly wage variables (covered in the following two sections). As noted in these sections, self-employed individuals were coded with Inapplicable (-1) for benefits, employment characteristics, and hourly wage variables.

### ***Benefits and Employment Characteristics (PAYDR31/42/53, SICPAY31/42/53, PAYVAC31/42/53, RETPLN31/42/53, MORE31/42/53, JOBORG31/42/53)***

Several variables were constructed only for individuals who reported not being self-employed at their CMJ. These individuals were asked questions to indicate whether the establishment reported as the main source of employment offered any of the following benefits:

- Paid leave to visit a doctor (PAYDR31, PAYDR42, and PAYDR53),
- Paid sick leave (SICPAY31, SICPAY42, and SICPAY53),
- Paid vacation (PAYVAC31, PAYVAC42, and PAYVAC53), or
- Pension plan (RETPLN31, RETPLN42, and RETPLN53).

These individuals were also asked about whether the firm had more than one business location (MORE31, MORE42, MORE53) and whether the establishment was a private for-profit, nonprofit, or a government entity (JOBORG31, JOBORG42, JOBORG53). These questions are only asked once, in the round when the CMJ is first reported. For persons who are self-employed at their CMJ, all of the variables detailed in this section were coded as Inapplicable (-1).

### ***Hourly Wage (HRWG31/42/53X), Wage Update Variable (DIFFWG31/42/53), Updated Hourly Wage (NHRWG31/42/53\_M23), and Round Wage Update (NHRWGRND31/42/53)***

#### **Wages at Newly Reported CMJ**

Hourly wage was constructed for all persons who reported a CMJ that is not self-employment (SELFCM). HRWG31X, HRWG42X, and HRWG53X provide the wage amount reported initially for a person’s CMJ. HRWG31/42/53 is set only once, in the round when the CMJ is first

reported. It does not reflect any changes in CMJ wage over time. If a person changes CMJs, HRWGX can be set in more than one round, reflecting information for different jobs.

The initial hourly wage variables (HRWG31X, HRWG42X, HRWG53X) in this Consolidated PUF should be considered along with their accompanying variables, HRHOW31, HRHOW42, and HRHOW53, which indicate how the initial report of the hourly wage was constructed for the respective round. (HRHOW does not apply to updated hourly wage NHRWG\_M23).

HRWGX and HRHOW use -2 to indicate the first reported wage may be found in a preceding round. RNDFLG31 is also applicable to HRWG31X/HRHOW31 since it indicates the round the initial “31” CMJ was reported. In cases where more than one HRWGX variable is set to a positive value (HRWGX > 0 in multiple rounds on the same Consolidated PUF), it indicates the person has changed CMJs in the round. HRWGX reflects the wage at the new CMJ.

### **Wage Changes at Continuing Jobs**

If the CMJ continues into subsequent rounds, DIFFWG31, DIFFWG42, and DIFFWG53 indicate whether the wage changed in the current round. DIFFWG does not use -2 or RNDFLG31 since it reflects responses in the current round. While the question regarding wage changes pertains to the primary wage at the CMJ, respondents occasionally update a person’s supplemental wage only at this question.

Changes in wage are captured in variables for updated wage (NHRWG31\_M23, NHRWG42\_M23, and NHRWG53\_M23). Starting in FY 2023, updated wage variables differ from prior years. They now reflect a specific type of wage change. CAPI collects wage information for two categories of wages - primary wages and supplemental wages. In the RJ section, respondents can report a change in wage in the current round for their primary wage, their supplemental wage, or both. Respondents can report a new wage by updating various wage characteristics (such as wage amount or unit of wage) at the job. These variables are then used to calculate an updated hourly wage at the job, and the value is used to populate NHRWG\_M23 for the round. Unlike the prior version of NHRWG, the NHRWG\_M23 variable applies *only to changes in the primary wage* in the RJ section where a different value is reported in one of the source variables used to calculate a primary wage. In some situations, a new updated primary wage cannot be calculated due to incomplete information. In these cases, NHRWG\_M23 is set to Cannot be Computed (-15). Therefore, in addition to being set to a calculated wage value in the round a wage changes, NHRWG\_M23 can also be set in rounds where the wage has been reported as changed, but the value of the wage change cannot be determined.

NHRWG\_M23 does not use -2 or RNDFLG31. Instead, it copies forward to subsequent rounds as long as 1) the person continues working at the same job that is not self-employed, 2) the same job continues to be the CMJ, and 3) the person reports no change to primary wage information in the current round. If a person reports another change to primary wage information at the same CMJ in a later round, NHRWG\_M23 is recalculated to reflect the newly updated wage information. Moreover, NHRWG\_M23 is also calculated for persons reporting a wage change at a CMJ whose initial wage was imputed on the first report of the job. Prior to FY 2023, in these situations, NHRWG was set to Initial Wage Imputed (-13). Thus, starting in FY 2023, once a wage is updated, NHRWG\_M23 will be set to a value other than Inapplicable (-1), as long as the job continues as the CMJ.

Conversely, if a person never reports a change to primary wage information at the same CMJ, NHRWG\_M23 is set to Inapplicable (-1) in all rounds. These persons are set in the same “copy forward” process that sets NHRWG\_M23 to the prior round value. Like other wage variables, NHRWG\_M23 is set to Inapplicable (-1) in the round the job ends. For all Panel 28 Round 1 persons, DIFFWG31 and NHRWG31 were set to Inapplicable (-1) because this was the first round that wages could be reported for these persons.

NHRWG\_M23 variables also differ from NHRWG variables in treatment of settings where whether the wage changed in the round is Refused (-7) or Don’t Know (-8) (DIFFWG is -7 or -8) in the prior year. NHRWG\_M23 copies forward from the prior round to the current round. Previously, NHRWG was set to Cannot be Computed (-15) for these records. Thus, in most situations, analysts wishing to collect the most recent wage will need to consider a combination of HRWG31 and NHRWG\_M23 in all rounds of the CMJ in this file.

It is also important to note that there is no variable on the Consolidated PUF for *supplemental wages* and that NHRWG\_M23 and HRWG31 only pertain to primary hourly wages at the CMJ. Prior to FY 2023, DIFFWG could indicate an updated wage in the round, and the updated hourly wage in the round, NHRWG, would contain the same value as the initial hourly wage, HRWG31, or an updated wage from a previous round, i.e. NHRWG from a different round. These were primarily cases where only the supplemental wage information changed. Starting in FY 2023, NHRWG\_M23 no longer reflects a wage change if only supplemental wage information changed. While DIFFWG continues to indicate an updated wage in the round when only supplemental wage information is updated, the prior round value of NHRWG\_M23 now copies forward to the current round, rather than calculating a value in the current round. Analysts can obtain the change to the supplemental wage value (from all rounds of the CMJ) from the 2023 Jobs PUF.

However, there will still be situations where a wage change is indicated (DIFFWG=1) but NHRWG\_M23 calculates to the same value as a previous round (NHRWG\_M23) or the initial reported wage (HRWG31). In the past, this was primarily due to reporting wage changes to supplemental wages only, but this can continue to occur in situations where the *type* of wage changes (e.g. person is paid daily and is then paid hourly) and the wage calculates to the same amount as previously reported. Wage variables reflect this type of situation as a wage change.

In order to fully implement modifications to NHRWG\_M23, variable construction logic for NHRWG31\_M23 was adjusted for Panel 27 persons since NHRWG42/53 variable logic differed in FY 2022. Settings of Initial Wage Imputed (-13) were calculated or set to Cannot be Computed (-15) prior to copying forward to NHRWG31\_M23. Also, for cases where FY 2022 NHRWG needed to be copied forward to FY 2023 NHRWG31\_M23 and was set to Cannot be Computed (-15) (because DIFFWG was Refused [-7] or Don’t Know [-8]), NHRWG31\_M23 was set to Inapplicable (-1) consistent with the revised definition of the variable. Similarly, if only supplemental wage information changed on NHRWG42, and no wage change occurred in Round 3, NHRWG31\_M23 was set to Inapplicable (-1). With these modifications, NHRWG31\_M23 for Panel 27 persons was constructed consistently with the current definition of the variable series.

### Round of Wage Change & Copying Forward Wage Amounts

To determine the round a change to primary wage occurs, analysts should use the new variable, NHRWGRND, along with DIFFWG and NHRWG\_M23. NHRWGRND indicates the round a wage changed to the amount stored on NHRWG\_M23. When the respondent updates information associated with a primary wage, NHRWGRND is set to the current round and NHRWG\_M23 is either calculated or set to Cannot be Computed (-15), in cases where an hourly wage amount cannot be derived. If no wage change occurred in the round (DIFFWG=2), or only supplemental wage information changed, NHRWGRND copies forward from the prior round to the current round. Thus, if a wage change occurred in a prior round, NHRWGRND in the current round reflects the prior round number. If whether the wage changed is refused or unknown in the current round, NHRWGRND is set to Refused (-7) or Don't Know (-8). If no wage change occurred in the round (DIFFWG = 2), and whether the wage changed in the prior round was refused or unknown, NHRWGRND is set to Refused (-7) or Don't Know (-8), as reported in the prior round.

#### EXAMPLE 1: Wage changes within the delivery year

Ruth reports a current main job in Round 1 earning \$10.00 per hour and \$100.00 per day in tips. In Round 2, Ruth reports a wage change of \$150.00 per day in tips. In Round 3, Ruth reports another wage change of \$15.00 per hour and continues to report \$150.00 per day in tips. In this example, a wage change is reported in two rounds, so the variables DIFFWG42 and DIFFWG53 are set to Yes (Wage Amount Changed) (1). However, NHRWG42\_M23 and NHRWGRND42 are Inapplicable (-1) showing no change to *primary* wage, since only tips information changed in Round 2. An updated wage will be reflected first in Round 3, since the primary wage did not change in Round 2. NHRWG53\_M23 is \$15.00 and NHRWGRND53 is Round (3). Below are variable settings for this example in the Consolidated PUF and the Jobs PUF.

**Table 14****Example for Ruth: Wage Changes within the Delivery Year**

| Settings in Consolidated PUF  | Settings in Jobs PUF<br>(how data are reported)                             |
|---|---|
| <i>Round 1</i>  |   |
| HRWG31X = \$10.00 PER HOUR<br>HRHOW31 = 3, NO CALCULATION: HOURLY WAGE PROVIDED<br>NHRWG31_M23 = -1, INAPPLICABLE<br>NHRWGRND31 = -1, INAPPLICABLE  | DIFFWAGE = -1<br>HRLYWAGE = 10<br>TIPSAMT = 100<br>TIPSUNIT_M18 = 1 PER DAY |
| <i>Round 2</i>  |   |
| DIFFWG42 = 1, WAGE CHANGED<br>HRHOW42 = -2, DETERMINED IN PREVIOUS ROUND<br>HRWG42X = -2, DETERMINED IN PREVIOUS ROUND<br>NHRWG42_M23 = -1, INAPPLICABLE<br>NHRWGRND42 = -1, INAPPLICABLE | DIFFWAGE = 1<br>HRLYWAGE = 10<br>TIPSAMT = 150<br>TIPSUNIT_M18 = 1 PER DAY  |
| <i>Round 3</i>  |   |
| DIFFWG53 = 1, WAGE CHANGED<br>HRHOW53 = -2, DETERMINED IN PREVIOUS ROUND<br>HRWG53X = -2, DETERMINED IN PREVIOUS ROUND<br>NHRWG53_M23 = \$15.00 PER HOUR<br>NHRWGRND53 = 3, ROUND 3       | DIFFWAGE = 1<br>HRLYWAGE = 15<br>TIPSAMT = 150<br>TIPSUNIT_M18 = 1 PER DAY  |

**EXAMPLE 2: Wage changes across delivery years**

In Round 1, Franklin reports earning \$156,000 per year with 40 hours per week on which the salary is based and 52 weeks per year on which the salary is based. This calculates to \$75.00 per hour. Franklin also reports a bonus of \$5,000 per year. In Round 2, Franklin reports an updated wage of \$160,160 per year, also with 40 hours per week on which the salary is based and 52 weeks per year on which the salary is based. This calculates to \$77.00 per hour. A bonus continues to be reported at \$5,000 per year. No other wage changes are reported until Round 4 when Franklin reports a wage change and updates bonus earnings only to \$9,000 per year. No wage change is reported in Round 5.

In the first PUF year, Round 2 will reflect an updated wage, since the primary wage changed in Round 2. NHRWG42\_M23 is \$77.00 and NHRWGRND42 is Round 2 (2). Since no wage change is reported in Round 3, NHRWG42\_M23 and NHRWGRND42 copy forward to Round 5/3 variables. In the second PUF year, HRWG31X is a copy of HRWG31X from the first year and updated wage variables (NHRWG31\_M23 and NHRWGRND31) are copies of Round 5/3 variables from the first year. While a wage change is reported in Round 4, only the supplemental wage changes, so NHRWG31\_M23 and NHRWGRND31 wage variables copy forward to second year NHRWG42\_M23 and NHRWGRND42 wage variables, showing the last wage change occurred in Round 2. NHRWG53\_M23 and NHRWGRND53 also reflect the Round 2 wage change since no change to primary wage information is reported in Round 5/3 of the second year. Below are variable settings for this example in the Population Characteristics PUF and the Jobs PUF.

**Table 15****Example for Franklin: Wage Changes Across Delivery Years**

| Settings in Consolidated PUF  | Settings in Jobs PUF<br>(how data are reported)   |
|---|---|
| <i>Round 1 (first year)</i>   |   |
| HRWG31X = \$75.00 PER HOUR<br>HRHOW31 = 4, CALCULATED FROM SALARY<br>NHRWG31_M23 = -1, INAPPLICABLE<br>NHRWGRND31 = -1, INAPPLICABLE  | DIFFWAGE = -1<br>GROSSPAY = 156000<br>GROSSPER = 1<br>HRSALBAS = 40/SALRYWKS = 52<br>BONSAMT = 5000<br>BONSUNIT = 6, PER YEAR |
| <i>Round 2 (first year)</i>   |   |
| DIFFWG42 = 1, WAGE CHANGED<br>HRHOW42 = -2, DETERMINED IN PREVIOUS ROUND<br>HRWG42X = -2, DETERMINED IN PREVIOUS ROUND<br>NHRWG42_M23 = \$77.00 PER HOUR<br>NHRWGRND42 = 2, ROUND 2   | DIFFWAGE = 1<br>GROSSPAY = 160160<br>GROSSPER = 1<br>HRSALBAS = 40/SALRYWKS = 52<br>BONSAMT = 5000<br>BONSUNIT = 6, PER YEAR  |
| <i>Round 3 (first year)</i>   |   |
| DIFFWG53 = 2, NO WAGE CHANGE<br>HRHOW53 = -2, DETERMINED IN PREVIOUS ROUND<br>HRWG53X = -2, DETERMINED IN PREVIOUS ROUND<br>NHRWG53_M23 = \$77.00 PER HOUR<br>NHRWGRND53 = 2, ROUND 2 | DIFFWAGE = 2<br>GROSSPAY = 160160<br>GROSSPER = 1<br>HRSALBAS = 40/SALRYWKS = 52<br>BONSAMT = 5000<br>BONSUNIT = 6, PER YEAR  |
| <i>Round 3 (second year)</i>  |   |
| HRWG31X = \$75.00 PER HOUR<br>HRHOW31 = 4, CALCULATED FROM SALARY<br>NHRWG31_M23 = \$77.00 PER HOUR<br>NHRWGRND31 = 2, ROUND 2  | DIFFWAGE = 2<br>GROSSPAY = 160160<br>GROSSPER = 1<br>HRSALBAS = 40/SALRYWKS = 52<br>BONSAMT = 5000<br>BONSUNIT = 6, PER YEAR  |
| <i>Round 4 (second year)</i>  |   |
| DIFFWG42 = 1, WAGE CHANGED<br>HRHOW42 = -2, DETERMINED IN PREVIOUS ROUND<br>HRWG42X = -2, DETERMINED IN PREVIOUS ROUND<br>NHRWG42_M23 = \$77.00 PER HOUR<br>NHRWGRND42 = 2, ROUND 2   | DIFFWAGE = 1<br>GROSSPAY = 160160<br>GROSSPER = 1<br>HRSALBAS = 40/SALRYWKS = 52<br>BONSAMT = 9000<br>BONSUNIT = 6, PER YEAR  |
| <i>Round 5 (second year)</i>  |   |
| DIFFWG53 = 2, NO WAGE CHANGE<br>HRHOW53 = -2, DETERMINED IN PREVIOUS ROUND<br>HRWG53X = -2, DETERMINED IN PREVIOUS ROUND<br>NHRWG53_M23 = \$77.00 PER HOUR<br>NHRWGRND53 = 2, ROUND 2 | DIFFWAGE = 2<br>GROSSPAY = 160160<br>GROSSPER = 1<br>HRSALBAS = 40/SALRYWKS = 52<br>BONSAMT = 9000<br>BONSUNIT = 6, PER YEAR  |

## Calculating and Editing Hourly Wage Variables

Hourly wage was derived from a large number of source variables. In the simplest case, hourly wage was reported directly by the respondent. For other persons, the construction of the hourly wage was based on 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 HRHOW variable.

To assist interviewers during the collection of wage amounts, CAPI prompts the respondent to confirm wages reported in the Employment Wage section if a wage amount falls outside a specified range. Ranges vary depending on the unit of pay, as follows:

**Table 16**

### *Units of Pay and Corresponding Wage Ranges*

| Unit of pay       | Wage range          |
|-------------------|---------------------|
| Per year          | \$5,000 - \$200,000 |
| Per month         | \$375 - \$20,000    |
| Per 2-week period | \$150 - \$10,000    |
| Per week          | \$75 - \$5,000      |
| Per day           | \$10 - \$750        |
| Per hour          | \$1 - \$125         |

When there was not enough information to calculate the initial hourly wage, the initial hourly wage variables HRWG31X, HRWG42X, and HRWG53X were imputed by using a weighted sequential hot-deck procedure for individuals who reported a CMJ (and were not self-employed) but did not know their wage or refused to report a wage. The hourly wage for persons whose employment status was not known was coded as Cannot be Computed (-15). Wages were also imputed for earners who reported a wage range instead of a specific wage value. For each of these persons, a value was imputed from other persons on the file who did report a specific value that fell within the reported range. Wages from 2022 were eligible “donors” in the 2023 process, which is consistent with pre-pandemic processing when PUFs consisted of data from two panels only. Processing between 2020 and 2022 used donor pools that were expanded to include wages from any prior year for panels in the delivery. This expansion of the donor pool allowed AHRQ to maintain a donor pool that was similar in size to pools in prior releases, but it did mean that some recipients were assigned a donor wage from 4 years prior.

The variables HRWGIM31, HRWGIM42, and HRWGIM53 identify persons whose initial hourly wage (HRWG31X, HRWG42X, HRWG53X) was imputed. The variables HRHOW31, HRHOW42, and HRHOW53 are also set to indicate that these wages were imputed, and whether they were imputed using a range estimate (1) or not using a range estimate (2). Note that wages were imputed only for persons with a positive person-level and/or a positive family-level weight.



Unlike HRWGX, NHRWG\_M23 is never imputed, so in Rounds 2-5 for both panels, no imputation was performed on NHRWG31\_M23, NHRWG42\_M23, or NHRWG53\_M23.

In 2023, wage information has been logically edited for consistency by using established rules and guidance from AHRQ. Outliers are checked for persons who report a wage change, and the new reported wage is (a) substantially different from the prior wage (change  $\geq 100\%$ ), (b) no different from prior wage, (c) low in value ( $\$0 < \text{wage} < \$1$ ), or (d) higher in value than the prior year's top-code value. There are numerous sources for these types of errors, including keystroke or respondent error. In 2023, approximately 100 wages were reviewed per panel, resulting in approximately 45 persons whose wage variables, HRWGX/NHRWG\_M23 were edited overall. In rare circumstances, updates were applied to a current year HRWG31X value that had been copied forward from a value reported in the prior year Consolidated PUF. These edits are performed in the current year Consolidated PUF only and are not edited historically in the prior year Consolidated PUF (no edit is made to the originally reported HRWGX value from prior year). For this reason and others, editing of wage outliers is another reason a "53" wage may differ from a "31" wage across delivery years. These editing decisions were made by AHRQ after careful review of extreme wage reports. Note that copied forward values of NHRWG\_M23 were excluded when identifying the outlier group of wages that were no different from prior wage, ensuring that only the initial updated wage report was included, consistent with prior years.

For reasons of confidentiality, the hourly wage variables were top-coded. A value of -10 indicates that the hourly wage was greater than or equal to \$132.21. The top-coding process used the highest calculated wage for an individual regardless of whether it was reported in the HRWG31X, HRWG42X, and HRWG53X variable or the NHRWG31\_M23, NHRWG42\_M23, and NHRWG53\_M23 variable. Because NHRWG\_M23 copies forward, top coding was adjusted. Copied forward values of NHRWG\_M23 were excluded from the process, ensuring that only the initial updated wage report was included, consistent with prior years. All wages for a person were top-coded if any wage variable was at or above the top-code amount.

To protect the confidentiality of persons across deliveries, the same top-code amount of \$132.21 used in this Consolidated PUF was also applied to the 2023 Jobs PUF. Moreover, any person who was top coded in the Consolidated PUF also had their job records top coded for all wage variables in the Jobs PUF. Because a person can have other jobs besides a CMJ that are included in the corresponding 2023 Jobs PUF, wages at these other jobs were reviewed in the top-coding process. In some cases, wages reported at the CMJ were below the top-code amount while the wage at another job (i.e., former main job or current miscellaneous job) had to be top-coded. Therefore, to further protect the confidentiality of such persons across deliveries, wages reported at all jobs in the 2023 Jobs PUF were top-coded at \$132.21 and the wages at the CMJ (HRWG31X, HRWG42X, HRWG53X, NHRWG31\_M23, NHRWG42\_M23, and NHRWG53\_M23) included in this Consolidated PUF were also top-coded at \$132.21.

In rare cases, additional top coding may be required due to CMJ wages reported in the 2023 Jobs PUF that were delivered in the 2022 Consolidated PUF for Panel 27. These are cases where the wage at a continuing Panel 27 Round 3 CMJ was updated in a prior PUF, and it has not changed since. That wage exists on the 2023 Jobs PUF and, when greater than or equal to the top coded

value, was top coded in the current year. Therefore, wages for these persons were also top coded in the 2023 Consolidated PUF.

***Health Insurance (HELD31/42/53X, OFFER31/42/53X, CHOIC31/42/53, DISVW31/42/53X, OFREMP31/42/53)***

Several employment-related health insurance measures are included in this Consolidated PUF: health insurance held at a CMJ (HELD31X, HELD42X, HELD53X), health insurance offered through a CMJ (OFFER31X, OFFER42X, OFFER53X), health insurance offered to any other employees through the CMJ employer (OFREMP31, OFREMP42, OFREMP53), and choice of health plans available through the CMJ (CHOIC31, CHOIC42, CHOIC53). This collection of variables reflects the insurance status and availability of employer-sponsored insurance in the current round. They were logically edited for consistency in each round.

MEPS asks whether the person holds health insurance through the CMJ (HELDX) in the first round in which the person is reported as having that job. If the person does not hold health insurance at the job, then a follow-up question is asked as to whether the person was offered insurance but declined coverage (OFFERX). If the person neither holds nor was offered health insurance at the job, then an additional question is asked to determine whether any other employees at the CMJ were offered health insurance by the job (OFREMP). If the person either holds insurance from the job or was offered insurance at the job, then an additional question is asked to determine whether a choice of health plans is available at the job (CHOIC).

Prior to Panel 27 Round 5, Panel 28 Round 3, and Panel 29 Round 1, if a respondent indicated Refused (-7) or Don't Know (-8) at insurance questions that set HELDX and OFFERX, subsequent insurance questions were skipped. As of Panel 27 Round 5, Panel 28 Round 3, and Panel 29 Round 1, which correspond to Round 5/3 variables in this 2023 PUF, CAPI was adjusted so that persons who indicated Refused (-7) or Don't Know (-8) at HELDX or OFFERX questions were asked subsequent insurance questions. The questions that set OFFER were asked when HELDX responses were either Refused (-7) or Don't Know (-8). Questions that set OFREMP were asked when OFFER responses were either Refused (-7) or Don't Know (-8).

Because more persons were asked if insurance was offered through the job, more persons were asked the question that populates CHOIC, which asked if the company offers a choice of insurance plans.

Analysts should review different treatments to CHOIC variable over the past few years to ensure proper use of data.

- Before Panel 23 Round 9, Panel 24 Round 7, Panel 25 Round 5, and Panel 26 Round 3 (which corresponds to CHOIC53 variable in the 2021 Consolidated PUF), when the responses to the questions that correspond to HELDX (EM660) or OFFERX (EM670) were Refused (-7) or Don't Know (-8), the question that populates CHOIC (EM680) was not asked and CHOIC PUF variable was set to Inapplicable (-1).
- As of Panel 23 Round 9, Panel 24 Round 7, Panel 25 Round 5, and Panel 26 Round 3 (CHOIC53 variable in the 2021 PUF), CHOIC PUF variable was coded Cannot be

Computed (-15) if the responses to HELDX (EM660) or OFFERX (EM670) were Refused (-7) or Don't Know (-8) to reflect that a value cannot be calculated for CHOIC as a result of skip patterns.

- With the CAPI change as of Panel 27 Round 5, Panel 28 Round 3, and Panel 29 Round 1, which corresponds to CHOIC53 variable in this 2023 PUF, CHOIC (EM680) can now be asked. When the question that populates HELDX (EM660) is Refused (-7) or Don't Know (-8), CAPI now routes to the OFFERX question (EM670). When OFFERX (EM670) is Yes (1), CAPI routes to the CHOIC question (EM680). Therefore, starting in FY 2023, CHOIC53 is no longer set to Cannot be Computed (-15) if HELDX is -7 or -8. CHOIC53 continues to be set to -15 if OFFERX is -7 or -8.

In the rounds after a job is first reported, the RJ section has the same series of insurance questions with one exception; it does not ask whether there is a choice of health insurance plans at an employer. This question is only asked in the round in which the job is first reported (in the EM section).

In rounds after the job is first reported, one of two “held” questions (whether a person now holds health insurance through the employer) is asked in the RJ section to determine whether there was any change in coverage.

Question RJ70 (HELDX) is asked if insurance was offered but not taken by the employee when the job was first reported and when no coverage has been reported since the initial round.

Question RJ80 (HELDX) is asked under the following circumstances:

- Insurance coverage through the job ended in a prior round; or
- Insurance coverage through the job was never reported, and the person was not offered insurance through the job in the round in which the job was first reported; or
- The respondent disavowed insurance coverage in the Health Insurance (HX) section despite having previously indicated insurance coverage through the job in the EM section of the interview; or
- Persons who reported new employer-sponsored health insurance coverage in the prior round through the CMJ, but the insurance covered the person for only part of that round.

MEPS then includes several clarifying questions regarding health insurance status and availability of coverage to the job holder through an employer. When the person did not report, did not know, or refused to indicate holding employer-sponsored health insurance through their job at RJ70 (HELDX), or when the person did not report having health insurance coverage through their job at RJ80 (HELDX), the respondent was asked if the person was offered insurance through their job at RJ90 (OFFERX). Last, when a respondent indicated that the job holder of a reviewed job neither holds nor was offered health insurance at the job, the respondent

was asked whether *any other* employees at the job were offered health insurance at RJ100 (OFREMP).

If a person does hold insurance through their job, then that person was not asked the offer question, and the OFFERX variable was automatically set to Yes (1). Analysts should note that OFREMP was automatically set to 1 when the job holder has health insurance coverage through the job (HELDX=1) or when health insurance is offered to the employee at their job (OFFERX=1).

Responses in the EM and RJ sections for health insurance held were recoded to be consistent with the variables in the HX section of the survey.

For persons who responded in the EM or RJ sections that they held health insurance coverage through the employer but then disavowed (said they did not have) the coverage in the HX section, the MEPS includes follow-up questions regarding whether health insurance was offered (either to the employee or to any other employee, depending on responses to questions) and whether more than one plan was available. This information was used in an edit process whereby responses to these questions in the Health Insurance section were transferred to insurance variables set in the EM section or the RJ section. These additional questions, along with the edit process, allow analysts to have access to insurance-related information in OFFERX, OFREMP, and CHOIC for persons who have disavowed coverage. The round-specific flag variable DISVWX reflects the respondent's disavowal of coverage at the CMJ in the current round.

Related to health insurance, information indicating whether a person belonged to a labor union (UNION31, UNION42, and UNION53) is also contained in this release. Because job holders with union membership (UNION=Yes [1]) may have employer-sponsored health insurance coverage through the employer, union, or both, CAPI asked respondents to indicate whether the health insurance was from the employer/business or the union at EM710. Respondents then identified the *primary* source - either the employer/business or the union - if the person indicated both provide insurance, as follows.

- 1 - Employer
- 2 - Union
- 3 - Both Employer and Union (Employer Is Primary)
- 4 - Both Employer and Union (Union Is Primary)

The primary source of private insurance coverage was then created in the HX section. Persons who report having insurance through both union and employer sources in the EM section continue to have the opportunity to report any additional private coverage in the HX section at HX190/HX200.

### ***Hours (HOUR31/42/53)***

The hours variables refer to usual hours worked per week at the CMJ. Note that when the respondent estimated hours worked per week at 35 hours or more, HOUR31, HOUR42, and HOUR53 were set to 40.

### ***Temporary (TEMPJB31/42/53) and Seasonal (SSNLJB31/42/53) Jobs***

The temporary job variables (TEMPJB31, TEMPJB42, TEMPJB53) indicate whether a *newly reported* CMJ lasts for only a limited amount of time or until a project is completed.

The seasonal job variables (SSNLJB31, SSNLJB42, SSNLJB53) indicate whether the *newly reported* CMJ is only available during certain times of the year. SSNLJB was coded Yes (1) if the job is only available during certain times of the year; SSNLJB was coded No (2) if the job is year round. Teachers and other school personnel who work only during the school year are considered to work year round.

Both variables are set on CMJs regardless of whether a person is self-employed or not. These questions were asked only in the round in which the job was newly reported. Consequently, in rounds following the initial report, a code of Determined in Previous Round (-2) is used to indicate that the information in the question was obtained in a previous round. This differs from some previous files in which both questions were asked in each round, and -2 was not an allowed value. Analysts using either of these variables over multiple years of MEPS should refer to documentation for each year to ensure that the data they are using for the variable are consistent.

### ***Number of Employees (NUMEMP31/42/53)***

NUMEMP indicates the number of employees at the location of the person's CMJ. For confidentiality reasons, this variable has been top-coded to -10 where there are 501 or more employees. As of 2023, Top Coded (-10) is a new setting on NUMEMP variables. Prior to 2023, persons who reported more than 500 employees were coded to 500. Analysts were not able to differentiate respondents reporting 500 as the exact size of an establishment from those estimating more than 500 who were programmatically set to 500. Beginning in 2023, analysts can differentiate responses of 500 from those greater than 500 (-10). For respondents who do not know the specific number of employees at the establishment, a categorical question was offered as an alternative. In these cases, a numerical value for NUMEMP was constructed by using a median estimated size calculated from donors within the reported categorical range. As always, median values may vary across panels/rounds because calculations are panel/round specific.

CAPI does not accept an establishment size value of 0 as an indication of the total number of employees working at a *self-employed business*. However, CAPI does allow a person who is *not self-employed* at a job to indicate an establishment size of 0. NUMEMP was set to Cannot be Computed (-15) when 0 was entered as establishment size for *not self-employed*.

### ***Other Employment CMJ Characteristic Variables***

Information about industry and occupation types for a person's CMJ at the interview date is also in this Consolidated PUF. Based on verbatim text strings collected for wage earners and the self-employed during the interview, numeric industry and occupation codes are assigned by trained coders at the Census Bureau. Starting in 2023, industry and occupation code variables are now set based on newer coding schemes. Census Bureau used 2017 Census Industry (based on 2017 NAICS) and 2018 Census Occupation (based on 2018 SOC) coding schemes which were developed for the Bureau's Current Population survey (CPS) and American Community Survey (ACS). From FY 2010 through FY 2022, the coders at Census Bureau used 2007 Census Industry (based on 2007 NAICS) and 2010 Census Occupation Coding schemes (based on 2010 SOC). Earlier versions of Census coding schemes were used in files before FY 2010.

CMJs were initially coded at the 4-digit level for both industry and occupation. For confidentiality reasons, these codes were then condensed into broader groups for release on the file. Categorical values on condensed industry and occupation variables did not change in 2023. However, because newer coding schemes were used to code variables, the previous variables representing the condensed industry codes for a person's CMJ at the interview date, INDCAT31, INDCAT42, and INDCAT53 were renamed to INDCAT31\_17, INDCAT42\_17, and INDCAT53\_17, representing the condensed industry codes for a person's CMJ at the interview date coded to the 2017 Census coding scheme. Similarly, OCCCAT31, OCCCAT42, and OCCCAT53 were renamed to OCCCAT31\_18, OCCCAT42\_18, and OCCCAT53\_18, representing the condensed occupation codes for a person's CMJ at the interview date coded to 2018 Census coding scheme. As newer coding schemes are used in future study years, the last two digits of industry and occupation code variables will be renamed with the year of the newer coding scheme.

For transition purposes of Panel 27 persons who were also part of the 2022 file, the 2023 PUF also includes INDCAT31 and OCCCAT31 variables containing values from the previous 2007 industry and 2010 occupation coding schemes. These variables are set to Inapplicable (-1) for Panel 28 persons.

This Consolidated PUF incorporates crosswalks showing how the detailed 2017 Census industry codes (Appendix 1) and the 2018 Census occupation codes (Appendix 2) were collapsed into the condensed codes on the file. The schemes used in this file can be linked directly to the 2017 North American Industry Code System and the 2018 Standard Occupation Code scheme by going to the [U.S. Census Bureau website](https://www.census.gov/naics/) where a variety of additional crosswalks is also available. Comparable crosswalks are included for previous coding schemes as well to assist analysts using INDCAT31/OCCCAT31 variables in this delivery.

The month and year in which a person's CMJ started are provided in this Consolidated PUF (STJBMM31, STJBYY31, STJBMM42, STJBYY42, STJBMM53, and STJBYY53). A value for start month and start year will only appear in the round in which the job is first reported (as the job continues, other rounds will contain -2).

In the 2023 Consolidated PUF, STJBYY31, STJBYY42, and STJBYY53 were bottom coded to a value of 1953 to keep the respondents' age confidential if the CMJ was newly reported in 2023.

This value was calculated by taking the delivery year of 2023 and subtracting the age top-code value of 85, then adding back 15, the age of a person in the year before entering the work force as defined in the MEPS. Thus, the bottom code value differs in each delivery year.

Because a current main job that continues from prior rounds into Panel 27 Round 3 may have been reported in a previous delivery year, bottom code values vary for each panel. Therefore, the bottom codes on STJBYY31 are as follows:

- For Panel 27 Round 3 the value is 1952 since the job may have first been reported in Round 1 or Round 2 of 2022
- For Panel 28 Round 1 the value is 1953 since the job was first reported in 2023.

### ***Other Employment Status-Related Variables***

Two measures in this PUF relate to a person's work history over a lifetime.

The first measure indicates whether a person ever retired from a job as of the Round 5 interview date for Panel 27 persons or as of the Round 3 interview date for Panel 28 persons (EVRETIRE). All persons who reported or reviewed a job in the current round and were aged 55 or older as of the interview date were asked if they "ever retired." This question was not asked for persons who were 54 or younger.

Construction of EVRETIRE changed beginning with the 2022 Consolidated PUF. This analytic change was not prompted by a change to CAPI but was designed to better capture retirement status across multiple variables with differing skip patterns. Persons who indicated retirement as the main reason for not working in the reference period at EM750 (NWK) now use the NWK report of retirement to supersede their response to whether they retired in the round at EM350 (EVRETIRE). If a person reported retirement as the main reason for not working in the round but then reported they did not retire in the round, EVRETIRE is now set to Yes (1). Prior to 2022, these cases had EVRETIRE set to No (2). This revision more accurately represents whether persons have "ever" retired. For more information regarding a person's retirement status, refer to the section Retirement from a Job/Workforce that follows this section.

The second measure indicates whether a person ever worked for pay as of the Round 5 interview date for Panel 27 persons or as of the Round 3 interview date for Panel 28 persons (EVRWRK). The response to question EM300 that sets EVRWRK was asked of persons in the round of their first interview who indicated that they were not working as of the round interview date. It is important for analysts to note that EVRWRK is intended to provide prior work information for persons *who were not employed during the MEPS survey*. After the person's first round, anyone who indicated current employment status or who had a job during any of the previous or current rounds was skipped past the question identifying whether the person ever worked for pay. Therefore, EVRWRK for these individuals was coded as Inapplicable (-1). Analysts wishing to define an "ever worked" measure that applies to the entire MEPS sample will need to combine MEPS work history using EMPST (to capture persons who reported employment or jobs in the MEPS survey) with EVRWRK (to capture non-workers in MEPS who reported having worked before the MEPS survey period).

Since both EVRETIRE and EVRWK are not round specific, these variables do not use Determined in Previous Round (-2).

The Consolidated PUF contains variables indicating the main reason for a person not working since the start of the reference period (NWK31, NWK42, and NWK53). If a person was not employed at all during the reference period (at the interview date or at any time during the reference period) but was employed at some time before the start of the round, the person was asked to choose the main reason why they did not work during the reference period from a list of reasons at EM750.

Beginning Panel 24 Round 9, Panel 26 Round 5, and Panel 27 Round 3 (which corresponds to Round 5/3 information in the 2022 Consolidated PUF), two new groups are now asked to select a reason for not working.

1. Persons who are in their first MEPS interview in Panel 24 Round 9, Panel 26 Round 5, and Panel 27 Round 3 who did not report a job. For these cases, either a) the person did not work prior to MEPS or b) the respondent 'does not know' or 'refuses' to indicate whether the person worked prior to MEPS. The job roster for these persons is empty in first MEPS interview.
2. Persons in cross-over Panel 27 Round 3, terminal Panel 24 Round 9, or terminal Panel 26 Round 5 who are not new to the MEPS in the round and who have never reported a job either before or during the MEPS. The job roster for these persons is empty.

Prior to Panel 24 Round 9, Panel 26 Round 5, and Panel 27 Round 3, these persons were skipped past this question.

The Inapplicable (-1) category for the NWK variables includes the following:

- Persons who were employed during the reference period,
- Prior to Panel 24 Round 9, Panel 26 Round 5, and Panel 27 Round 3, persons who were not employed during the reference period and who were never employed,
- Persons who were out-of-scope for the entire reference period, and
- Persons who were younger than 16.

Additional CAPI skip patterns impact Round 4 and Round 2 persons only starting in 2023. Persons who have never been employed, both before and during the MEPS study, are not asked the reason for not working in the Round 4/2 reference period. These persons have no job records in the 2022 or 2023 Jobs PUF as of Round 4/2. The intention of this CAPI change was to reduce respondent burden. These same persons are re-asked the reason for not working in their next Round 5/3 interview.



Also starting with Panel 27 Round 4 and Panel 28 Round 2, persons who previously indicated “retired” at EM750 will skip EM750 in all future rounds. This routing is applicable to Round 2 through Round 5 beginning with Panel 27 Round 4 and Panel 28 Round 2.

Consistent with this change, beginning in 2023, NWK is specially constructed for persons not working in the reference period and who indicated in any prior interview their reason for not working is “retired.” NWK will be set to Retired (2) when a person is not working in the reference period and previously indicated “retired” at EM750. These persons were not asked EM750 in the current round and will not be asked EM750 in the future. Since some retirees return to the workforce and then stop working again, NWK will be set to “retired” in any subsequent round the person is not employed in the reference period.

A measure of whether an individual had more than one job on the round interview date (MORJOB31, MORJOB42, and MORJOB53) is provided in this PUF. For the MORJOB variable, the Inapplicable (-1) category includes individuals who were younger than 16, individuals who were out-of-scope, and individuals who did not report having a CMJ. Because this variable is not job-specific, no responses were coded as Determined in Previous Rounds (-2).

This PUF also contains a variable indicating whether a CMJ changed between the third and fourth rounds for Panel 27 persons or between the first and second rounds for Panel 28 persons (CHGJ3142). It contains another variable indicating whether a CMJ changed between the fourth and fifth rounds for Panel 27 persons or between the second and third rounds for Panel 28 persons (CHGJ4253). In addition to the Inapplicable (-1), Refused (-7), Don’t Know (-8), and Cannot be Computed (-15) codes, the change-job variables were coded to represent the following:

- 1 - Person left previous round current main job and now has a new current main job
- 2 - Person still working at the previous round’s current main job but, as of the new round, no longer considers this job to be the current main job and defines a new current main job (previous round’s current main job is now a current miscellaneous job)
- 3 - Person left previous round’s current main job and does not have a new job
- 4 - Person did not change current main job

Finally, this PUF contains the reason given by the respondent for the job change (YCHJ3142 and YCHJ4253). The reasons for a job change were listed in the CAPI questionnaire, and a respondent was asked to choose the main reason from this list. In addition to those out-of-scope, those younger than 16, those not having a CMJ, and workers who did not change jobs, the Inapplicable (-1) category for YCHJ3142 and YCHJ4253 now also includes workers who continue to work at the CMJ but no longer consider it their main job (CHGJrrrr = Changed CMJ/Previous CMJ is Now Current Miscellaneous job [2]). These persons did not leave the job and therefore were not asked why they left a job. Before this change, the YCHJ values for persons who remained at their job (but no longer had it as their CMJ) were set to Cannot be Computed (-15).

## ***Retirement from a Job/Workforce***

MEPS reflects the complex status of “retired” in several ways. For persons aged 55 years or older who either (a) worked at some point in the round, or (b) are in their first MEPS interview and did not work in the round, but worked prior to MEPS, the question EM350 (EVRETIRE) probes for instances of retirement in the round. If the respondent reports retirement, the respondent may then select an existing former job (at question EM380) or create a new retirement job whose Jobs PUF variable SUBTYPE is set to Retirement Job (6) at question EM390. More than one job may be selected, as well.

In the case of persons who worked in the round (i.e., person has a former main job [SUBTYPE=3] or former miscellaneous job [SUBTYPE=4]), a setting of Yes (1) on the Jobs PUF variable RETIRJOB indicates the job holder was actively employed at the job in the round but stopped working due to retirement. This information is represented in the Consolidated PUF variable EVRETIRE if the person is in scope and aged 55 or older in the round. These persons may continue to work in the round and have current job records, that is, jobs with SUBTYPE values of Current Main Job (1) and Current Miscellaneous Job (2).

Jobs reported by persons in their first interview who worked prior to MEPS but not in the round where SUBTYPE is Last Job Outside Reference Period (5), may also be selected at EM380 and RETIRJOB will be set to Yes (1). The designation is automatic when a new retirement job is reported instead of selected at EM390. These persons will have EVRETIRE set to Yes (1) where the person is in scope and edited age of 55 years or older in the round.

As long as CAPI conditions are met, a person may report any number of retirement jobs in any round.

When a person aged 55 years or older is not employed in a round (i.e., not actively employed at any point in the round), the retirement question EM350 (EVRETIRE) is skipped. Instead, the MEPS collects information on the reason the person is not working in the round at question EM750 (NWK), where a workforce status of “retired” can be selected. This question is also asked in a person’s first MEPS round, when the person was employed prior to MEPS but not in the current round or never employed at all. The response selected at EM750 (NWK) to indicate why the person is not employed is captured in the Consolidated PUF variable NWKrr.

Lastly, the construction logic of the Consolidated PUF variable EVRETIRE also impacts how “retirement” is reflected. Beginning with the 2022 Consolidated PUF, EVRETIRE now prioritizes persons indicating retirement as the reason for not working in the round at EM750 (reflected in NWKrr) over whether retirement is indicated in the current round at EM350.

It is important to note that the retirement job classification is independent of any retirement response in the following variables included in the Jobs PUF:

- YNOBUSN\_M18 (EM530), which indicates why a person no longer has a self-employed business;
- WHY\_LEFT\_M18 (RJ110), which indicates why a person left a job in the current round.

Responses to these questions and to EM750 (reflected in NWKrr) are not age-dependent.

For analysts interested in capturing retirement information for persons aged 54 or younger, reports of retirement can be found in YNOBUSN\_M18 and WHY\_LEFT\_M18 from the Jobs PUF and in NWKrr from the Consolidated PUF. These will only cover persons who are not working in a round when EM750 (NWK) is asked, persons who ended a self-employment job during the round, and persons who left a CMJ in the round. There is no question equivalent to EVRETIRE asked of persons aged 54 or younger to assess whether a person who is currently working or had a job history of work when entering MEPS has ever retired.

### ***Employment Variables Imputed for Missing Values (EMPST31H - RTPLN53H)***

To further assist analysts, a series of fully-imputed employment variables is available on the Consolidated PUF. They are developed from the constructed Employment variables in the 2023 Consolidated PUF. The imputed employment variables do not use the Determined in Previous Round (-2) coding.

Observations for these employment variables with values of Refused (-7), Don't Know (-8), or Cannot be Computed (-15) were imputed using weighted sequential hot-decking. The imputations were performed separately for each MEPS HC panel across the five survey rounds of the MEPS. First, all missing values of a given variable were imputed for Round 1. If a person remained in the same job in Round 2, and the MEPS questionnaire did not ask for updated job information (i.e., if the variable on the FY PUF was coded as -2), then the value for that variable was pulled forward from Round 1 to Round 2 (including values that had been imputed in Round 1). After pulling values forward from Round 1, any remaining missing values were imputed for Round 2. This process was repeated for Rounds 3-5. For Panel 28, the imputed employment variables use constructed employment variables from Round 1, 2 and 3 data in this PUF. For Panel 27, Rounds 3, 4, and 5 data from the current delivery year are used as well as data from Rounds 1 and 2 from the 2022 Consolidated PUF.

For Panel 27 Round 3 that crosses the calendar year from 2022 to 2023, the most up-to-date version of data in the round are used to construct 2023 variables. While MEPS HC 243 also has Round 3 information for Panel 27, the 2023 PUF has the most up-to-date version of Round 3 information. These data are the most consistent with subsequent rounds in 2023.

Some inconsistencies may exist on imputed variables across rounds. Analysts may wish to use a combination of imputed and unimputed variables, select a single round for analysis, or combine rounds in a variety of ways. Access to both imputed and unimputed variables provides analysts with maximum flexibility for research.

Following imputation, no values of -2, -7, -8, or -15 remain on any variable. Due to skip patterns, the majority of -1s (question was not asked due to skip pattern) remain. For reasons of confidentiality, values of -10 (hourly wage was top coded at \$132.21) also remain. Moreover, where the unimputed NUMEMP was top coded to -10, the imputed employer size variable NMEMP (number of employees in establishment) is also top-coded to -10.

### ***Imputed Variable Naming***

The names of the imputed variables are similar to the names of the corresponding constructed variables in this PUF. An ‘H’ suffix was added and the resulting name was shortened to 8 characters when necessary (e.g., the imputed version of SELFCM31 is SLFCM31H). The variables CMJHLD31/42/53 differ from this naming convention because they are not imputed (they contain no missing values) but were constructed using information from the Person Round Plan PUF (MEPS HC 250) (hereafter referred to as the PRPL PUF). CMJHLD31/42/53 may be compared with the constructed Employment variables HELD31X/42X/53X. Both sets of variables provide information on the insurance coverage individuals obtain through their current main jobs. However, these variables may differ since they are constructed from two different PUFs and because the CMJHLD31/42/53 variables capture information on some additional sources of employment-related insurance that were identified in the insurance section of the instrument, while the HELD31X/42X/53X variables only contain information on sources of coverage identified in the employment section. In addition, for Panel 27 Round 3 that crosses the calendar year from 2022 to 2023, the values of CMJHLD31 reflect coverage in the 2023 PRPL PUF as well as in the 2022 PRPL PUF. Note that the variables CMJHLD31/42/53 are included on this PUF because they were used to perform logical edits on the OFFER31H/42H/53H and OFEMP31H/42H/53H variables (edits are described below). The CMJHLD31H/42H/53H variables were used to edit the OFFER31H/42H/53H and OFEMP31H/42H/53H variables (rather than the HELD31X/42X/53X variables) because they were more consistent with the other health insurance variables on the FY PUF for each year.

The following table provides the name of the constructed Employment variables that correspond with each imputed Employment variable.

**Table 17**

#### ***Employment Variable Crosswalk***

| Imputed  | Constructed |
|----------|-------------|
| EMPST31H | EMPST31     |
| EMPST42H | EMPST42     |
| EMPST53H | EMPST53     |
| SLFCM31H | SELFCM31    |
| SLFCM42H | SELFCM42    |
| SLFCM53H | SELFCM53    |
| NMEMP31H | NUMEMP31    |
| NMEMP42H | NUMEMP42    |
| NMEMP53H | NUMEMP53    |
| MORE31H  | MORE31      |
| MORE42H  | MORE42      |
| MORE53H  | MORE53      |

| Imputed     | Constructed |
|-------------|-------------|
| INDCT31H    | INDCAT31    |
| INDCT31H_17 | INDCAT31_17 |
| INDCT42H_17 | INDCAT42_17 |
| INDCT53H_17 | INDCAT53_17 |
| OCCCT31H    | OCCCAT31    |
| OCCCT31H_18 | OCCCAT31_18 |
| OCCCT42H_18 | OCCCAT42_18 |
| OCCCT53H_18 | OCCCAT53_18 |
| HOUR31H     | HOUR31      |
| HOUR42H     | HOUR42      |
| HOUR53H     | HOUR53      |
| JBORG31H    | JOBORG31    |
| JBORG42H    | JOBORG42    |
| JBORG53H    | JOBORG53    |
| UNION31H    | UNION31     |
| UNION42H    | UNION42     |
| UNION53H    | UNION53     |
| BSNTY31H    | BSNTY31     |
| BSNTY42H    | BSNTY42     |
| BSNTY53H    | BSNTY53     |
| HRWG31H     | HRWG31X     |
| HRWG42H     | HRWG42X     |
| HRWG53H     | HRWG53X     |
| CMJHLD31*   | HELD31X     |
| CMJHLD42*   | HELD42X     |
| CMJHLD53*   | HELD53X     |
| OFFER31H    | OFFER31X    |
| OFFER42H    | OFFER42X    |
| OFFER53H    | OFFER53X    |
| OFEMP31H    | OFREMP31    |
| OFEMP42H    | OFREMP42    |
| OFEMP53H    | OFREMP53    |
| PYVAC31H    | PAYVAC31    |

| Imputed  | Constructed |
|----------|-------------|
| PYVAC42H | PAYVAC42    |
| PYVAC53H | PAYVAC53    |
| SCPAY31H | SICPAY31    |
| SCPAY42H | SICPAY42    |
| SCPAY53H | SICPAY53    |
| PAYDR31H | PAYDR31     |
| PAYDR42H | PAYDR42     |
| PAYDR53H | PAYDR53     |
| RTPLN31H | RETPLN31    |
| RTPLN42H | RETPLN42    |
| RTPLN53H | RETPLN53    |

\* Both CMJHLD and HELDX reflect the insurance status at a current main job but were constructed from different sources of data. See the text for a description of possible differences in these variables. CMJHLD is *not* an imputed version of HELDX.

### ***Imputation Strategy***

The first variables to be imputed were the employment status variables (EMPST31H/42H/53H) which identify all persons (EMPST31H/42H/53H = 1 or 2) who should have valid information related to their current main job.

EMPST31H/42H/53H were created from EMPST31/42/53. The EMPST31/42/53 variables have separate response categories for individuals who were “employed during the reference period” and those who were “not employed with no job to return to.” In the imputed variables EMPST31H/42H/53H these responses were collapsed into a single category for analytic purposes. The resulting three responses are mutually exclusive as follows:

**Table 18**

#### ***EMPST Variables Values***

| Value | Label                                   |
|-------|---|
| -1    | INAPPLICABLE                            |
| 1     | EMPLOYED AT RD## INT DATE               |
| 2     | JOB TO RETURN TO AT RD ## INT DATE      |
| 34    | NOT EMPL AT INT DATE/NOT EMPL DUR RD ## |

Respondents with EMPST31H/42H/53H equal to 1 or 2 went through the imputation process. Respondents with EMPST31H/42H/53H equal to -1 or 34 have values of -1 for all remaining imputed employment variables.

The next set of variables to be imputed were the self-employment/wage-earner variables (SLFCM31H/42H/53H) which determine skip patterns for the remaining variables (e.g., self-employed persons are not asked about wages).

Many of the remaining variables were imputed separately for wage-earners and the self-employed for the following reasons: (1) self-employed and wage-earners were asked different sets of questions about their current main jobs; (2) even when variables were asked for both groups, the quality of the imputations was improved by specifying separate sets of class variables tailored to the wage-earner and self-employed populations.

The weighted sequential hot decking process requires class variables to impute missing values. These class variables were identified with regression models in order to identify the predictive quality of a set of variables for each variable to be imputed. The set of possible class variables includes age, sex, region, educational attainment, industry and occupation codes. The same set of variables has been consistently used to impute a given variable across panels.

As mentioned above, self-employed and wage-earners were asked different sets of questions about their current main job. These variables can be categorized into the following sets:

#### **Variables with Valid Data for Wage-Earners but Not for Self-Employed Individuals**

- Hourly wage (HRWG31H, HRWG42H, HRWG53H)
- Paid sick leave (SCPAY31H, SCPAY42H, SCPAY53H)
- Paid leave to visit a doctor (PAYDR31H, PAYDR42H, PAYDR53H)
- Paid vacation (PYVAC31H, PYVAC42H, PYVAC53H)
- Pension plan (RTPLN31H, RTPLN42H, RTPLN53H),
- Business has more than one location (MORE31H, MORE42H, MORE53H)
- Sector: private-foreign govt/federal government/state-local government (JBORG31H, JBORG42H, JBORG53H)

#### **Variables with Valid Data for Self-Employed Individuals but Not for Wage-Earners**

- Business was incorporated, a proprietorship, or a partnership (BSNTY31H, BSNTY42H, and BSNTY53H)

#### **Variables with Valid Data for All Workers**

- Usual hours worked per week (HOUR31H, HOUR42H, HOUR53H)

- Number of employees (NMEMP31H, NMEMP42H, NMEMP53H)
  - Establishment size for wage-earners
  - Business size for self-employed
- Union status (UNION31H, UNION42H, UNION53H)
- Industry category (INDCT31H, INDCT42H, INDCT53H)
- Occupation category (OCCCT31H, OCCCT42H, OCCCT53H)

**Variables with Valid Data for All Workers Except for Self-Employed Individuals with No Employees (i.e., persons for whom SLFCM31H/42H/53H = 1 and NMEMP31H/42H/53H = 1 within each round)**

- Insurance coverage from current main job (CMJHLD31, CMJHLD42, CMJHLD53)
- Eligible for insurance offered at current main job (OFFER31H, OFFER42H, OFFER53H)
- Insurance offered to anyone at current main job (OFEMP31H, OFEMP42H, OFEMP53H)

In situations where SLFCM31/42/53 was imputed to “Self employed at the current main job” because SELFCM31/42/53 was set to Refused (-7) or Don’t Know (-8), imputed job characteristic and wage variables were set to Inapplicable (-1). Corresponding unimputed variables, however, contain job characteristic and wage information. This is because persons who indicated Refused (-7) or Don’t Know (-8) during the interview when asked if the jobholder is self-employed at the current main job followed skip patterns for persons who are not self-employed. Job characteristic and wage information was collected and stored on corresponding unimputed variables, i.e. variables that do not end in ‘H.’

### ***Additional Detail on Specific Variables***

#### **Hourly Wage (HRWG31H, HRWG42H, HRWG53H)**

Valid data for imputed hourly wages is available for all wage-earners (SLFCM31H/42H/53H equal to 2). The values for the imputed hourly wage variables (HRWG31H/42H/53H) reflect the most up-to-date version of hourly wages for the wage-earner in each round. By contrast, the constructed hourly wage variables (HRWG31X/42X/53X) identify the wage reported in the round a current main job is first reported. Information on any wage changes after that round are contained in the variables DIFFWG31/42/53 and NHRWG31/42/53\_M23. These variables, as well as HRWG31X/42X/53X, were used in the construction of the imputed hourly wage variables.



For reasons of confidentiality, the hourly wage variables are top-coded. Like the constructed hourly wage variables, imputed hourly wages greater than or equal to \$132.31 are top-coded to a value of -10.

#### **Union Membership (UNION31H/42H/53H)**

In addition to using weighted sequential hot-decking techniques, individuals who were identified as being employed by the military had their union membership status logically edited to Inapplicable (-1).

#### **Health Insurance (CMJHLD31, CMJHLD42, CMJHLD53, OFFER31H, OFFER42H, OFFER53H, OFEMP31H, OFEMP42H, OFEMP53H)**

This PUF includes several employment-related health insurance variables, CMJHLD31/42/53, OFFER31H/42H/53H, and OFEMP31H/42H/53H. These variables are valid for wage-earners (SLFCM31H/42H/53H = 2) and self-employed individuals with employees (SLFCM31H/42H/53H = 1 and NMEMP31H/42H/53H > 1).

The variables CMJHLD31/42/53 were constructed from the PRPL PUF and indicate whether the person held insurance coverage from his/her current main job at some point during the round. This is primarily defined using the PRPL PUF variable CMJINS which identifies insurance obtained through a current main job, and STAT1-12, which indicates whether the coverage is in effect during the month in the delivery year. Since Panel 27 Round 3 crosses two calendar years, CMJHLD31 indicates if the person held coverage during the portion of Round 3 in either the 2022 or 2023 PRPL PUF for the individual.

The variables OFFER31H/42H/53H indicate whether the person was offered (was eligible for) insurance at their current main job at some point during the round. For records that had a value of Cannot be Computed (-15), valid reported values for OFFER31H/42H/53H were brought forward from a previous round (including imputed values from that round) if the person did not change jobs before any further imputations were performed.

The variables OFEMP31H/42H/53H indicate whether an employer offered health insurance to any employees in the establishment and rely on OFFER31H/42H/53H for their construction.

OFFER31H/42H/53H and the related variable OFEMP31H/42H/53H were logically edited as follows. If a person indicates that they held insurance from their current main job (CMJHLD31/42/53 = 1) then OFFER31H/42H/53H was set equal to 1. For Panel 27 Round 3 that crosses the calendar year from 2022 to 2023, OFFER31H/53H was set to Yes (1) if the person held coverage at any point in the round in either the first or second calendar year of the round. If a person indicated that they held insurance (CMJHLD31/42/53 = 1) or were offered insurance (OFFER31H/42H/53H = 1) at their current main job, then OFEMP31H/42H/53H, the variable indicating that the employer offered insurance to at least one employee, was set equal to Yes (1).

Analysts should note that under rare circumstances, CMJHLD31/42/53, OFFER31H/42H/53H, and OFEMP31H/42H/53H may be set to Cannot be Computed (-15). These cases are described below under Number of Employees.

### **Number of Employees (NMEMP31H, NMEMP42H, NMEMP53H)**

Like the corresponding constructed NUMEMP31/42/53, NMEMP31H/42H/53H indicate the number of employees at the location of the person's current main job. Due to confidentiality concerns, this variable is now top-coded to -10 as of the 2023 PUF, instead of the historical setting of 500, if the corresponding variable NUMEMP31/42/53 is top coded to -10. Missing value imputation was performed using weighted sequential hot-decking techniques. Note that the definition of NMEMP31H/42H/53H, like that of NUMEMP31/42/53, differs for wage-earners and self-employed individuals. For wage-earners, it represents the size of the worker's establishment. For self-employed individuals, it represents the size of the self-employed individual's entire business.

Self-employed persons whose establishment size variable was imputed to 1 (SLFCM31H/42H/53H=1 and NMEMP31H/42H/53H=1) but were originally coded as the top code value -10 in NUMEMP31/42/53, had inconsistent imputed values on CMJHLD31/42/53, OFFER31H/42H/53H and OFEMP31H/42H/53H. In these few cases, values for CMJHLD31/42/53, OFFER31H/42H/53H, and OFEMP31H/42H/53H were not re-imputed. Instead, they were reset to Cannot be Computed (-15). These are the only Employment imputed variables for which -15 is an allowed value.

## **2.5.10 Health Insurance Variables (TRIJAyyX- PMEDPY53)**

Throughout this section references to “yy” represent the year (23); references to “mm” indicate the month (JA through DE); and references to “rr” indicate either a combination of rounds (“31”/“42”/“53”), where the first r denotes the interview round for Panel 27 and the second r denotes the round for Panel 28, or the end of the calendar year (23).

Beginning with Panel 22 Round 3, Panel 23 Round 1, design changes to the Health Insurance section may impact trend analyses. Analysts should note that a series of questions was added to the Health Insurance section of the questionnaire to confirm whether a person who did not initially report any comprehensive coverage during a round has insurance. Starting at HX210, questions were presented to respondents who at that point in the instrument had not yet reported any sources of health insurance coverage, or they had only reported a source of health insurance without hospital and physician benefits, to determine 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 (e.g. Medicaid, private, etc.). This may cause analysts to see changes to the insurance variables, and in particular, changes both to the monthly health insurance coverage indicators PUBmmyyX, PRImmyyX, INSmmyyX, and to the summary health insurance coverage indicators UNINSyy, INSCOVyy, INSURCyy, PUBrrX, PUBATrrX, PRIVrr, PRIVATrr, INSrrX, and INSATrrX.

Other changes were made in FY 2018 to the health insurance questions that may affect the continuity of estimates. These changes include modifications to the Medicaid/SCHIP and the TRICARE/CHAMPVA questions to ask whether each person in the household is covered by referencing the person's name in the question text (e.g., Was Person 1 covered? What about Person 2?, and so on). Moreover, 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 aged 65 or older versus RU members who were younger than 65. Similar to the Medicaid and TRICARE series, Medicare coverage questions were asked for each RU member who was at least aged 65.

The aforementioned changes to the administration of the insurance section may also be evident in the managed care variables (TRICHyyX-PRVHMOyy) because more respondents are now more likely to be asked about managed care.

Respondents were allowed to simultaneously report Medicaid and other public hospital/physician coverage. As a result, analysts should be aware that they might see changes in coverage trends in the constructed variables relating to Medicaid, edited Medicaid, or other public coverage as well as respondents reporting both types of coverage after FY 2018.

The variables VERFLG31, VERFLG42, and VERFLGyy indicate the round in which comprehensive health insurance coverage was first reported through the verification series of questions collected in the loop that starts at HX210 (HXLoop\_40). These values will be carried through to subsequent rounds (e.g., from VERFLG31 to VERFLG42) if the coverage initially added through the verification loop continues and if no other comprehensive source of coverage is reported for that person outside of the verification loop. If previously reported coverage through the verification series ends and, in a future round, new comprehensive coverage is reported through the verification loop, then the VERFLG31/42/yy variable will reflect the corresponding round of the newly reported coverage. The VERFLG variables were set to 95 to indicate that: (a) coverage was reported outside verification, (b) the person did not have coverage, or (c) the person would have been assigned edited coverage even though they may have reported coverage in the verification loop. As an example of the last condition, a person who is aged 65 or older and reports Medicare coverage through verification but also reports the receipt of Social Security would have MCARErrX set to “1” because of the reporting of Social Security, so the report of coverage in the verification module would not have changed the person’s coverage status in the MEPS. In FY 2019, the construction of the VERFLG variables was modified such that all persons aged 65 or older who gained edited Medicare through the Medicare coverage of their spouse also have a value of 95 in the verification variables, provided that the coverage of the spouse was added outside of the verification series.

Persons who report coverage under the Indian Health Service (IHS) are identified in the constructed variables IHSrr, IHSATrr, and IHSmmyy. Persons reporting only IHS coverage are not considered covered for the summary insurance measures, including: PUBmmyyX, PUByyX, INSmmyyX, INSCOVyy, and INSURCyy. Persons who report coverage under the Veteran’s Administration (VA) can be identified in this PUF in the constructed variables VAPROGrr, VAPRATrr, and VAEVyy, as well as in the monthly variables VAPmmyy.

Several design changes were made beginning with the Spring 2023 CAPI instrument to eliminate underutilized questions and/or response categories. Several response options for the source of private, direct purchase coverage and coverage from an employer were dropped, including purchase from an HMO and purchase through a school. Additionally, several response options for types of services covered were eliminated. Respondents now have the following options: hospital/physician coverage, Medicare supplemental, dental, vision, prescription medicine, and

“other” coverage. All items on the types of Medicare coverage, including participation in Medicare Part B, were eliminated. All questions on Medicaid premium payments were dropped, and questions on amounts for premiums for other government-sponsored coverage were also eliminated. Two questions on dental coverage were added: one question on private standalone dental coverage, and, for respondents reporting Medicare Advantage enrollment, a question on dental coverage through their Medicare Advantage plan.

### ***Monthly Health Insurance Indicators (TRIJAyyX-INSDEyyX)***

Constructed and edited variables in the Consolidated PUF indicate any coverage in each month of 2023 for the sources of health insurance coverage collected during the MEPS interviews (Panel 27 Rounds 3-5 and Panel 28 Rounds 1-3). One edit to the private insurance variables corrects for a problem concerning covered benefits that occurred when respondents reported a change in any of their private health insurance plan names. Additional edits address issues of missing data on the time period of coverage for both public and private coverage that was either reviewed or initially reported in a given round. Other edits described in this section were performed on the Medicare and Medicaid or State Children’s Health Insurance Program (SCHIP) variables to assign persons to coverage from these sources. Observations that were edited to assign persons to Medicare or Medicaid/SCHIP coverage can be identified by comparing the edited and unedited versions of the Medicare and Medicaid/SCHIP variables. Starting on October 1, 2001, persons aged 65 or older have been able to retain TRICARE coverage in addition to Medicare. Therefore, unlike in earlier MEPS PUFs, persons aged 65 or older do not have their reported TRICARE coverage (TRIJAyyX-TRIDEyyX) overturned. TRICARE acts as supplemental insurance for Medicare, similar to Medigap insurance.

Public sources of coverage include Medicare, TRICARE/CHAMPVA, VA, Medicaid, SCHIP, and other public hospital/physician coverage. Reported enrollment in the IHS is not included as a public source of coverage.

### **Medicare**

Medicare (MCRJAyy-MCRDEyy) coverage was edited (MCRJAyyX-MCRDEyyX) for persons aged 65 or older. Within this age group, individuals were assigned Medicare coverage if:

- They answered “Yes” to a follow-up question on whether they received Social Security benefits; or
- They were covered by Medicaid/SCHIP, other public hospital/physician coverage or Medigap coverage; or
- Their spouse was aged 65 or older and covered by Medicare; or
- They reported TRICARE coverage.

Note that age (AGErrX) is checked for edited Medicare, but date of birth is not considered. Edited Medicare is somewhat imprecise with regard to a person’s 65<sup>th</sup> birthday.

### **Medicaid/SCHIP 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 with Panel 22 Round 3, Panel 23 Round 1, these questions were asked even if a respondent reported Medicaid or SCHIP directly. (In interviews from previous years, questions about other public hospital/physician coverage were asked only of respondents who did not report Medicaid or SCHIP.) Respondents reporting other public hospital/physician coverage were asked follow-up questions to determine whether the coverage was through a specific Medicaid HMO or if it included some other managed care characteristics. Respondents who identified managed care from either source were asked whether the recipient paid anything for the coverage and/or whether a government source paid for the coverage.

The Medicaid/SCHIP variables (MCDJAyy-MCDDEyy) have been edited (MCDJAyyX-MCDDEyyX) to include persons who paid nothing for their other public hospital/physician insurance when such coverage was through a Medicaid HMO or reported to include some other managed care characteristics.

To assist analysts in further editing sources of insurance, this PUF contains variables constructed from the other public hospital/physician series that indicate the following:

- Respondents who reported coverage through other public hospital/physician insurance (GVAJAyy-GVADEyy);
- Respondents who reported coverage through other public hospital/physician insurance, and the source was identified as an HMO or the source required the covered person to sign up with a doctor or clinic (GVBJAyy-GVBDEyy); and
- Respondents who reported coverage through other public hospital/physician insurance and they pay a monthly premium for this coverage (GVCJAyy-GVCDEyy).

The variables GVAJAyy-GVADEyy, GVBJAyy-GVBDEyy, and GVCJAyy-GVCDEyy 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 Month**

The Consolidated PUF also includes summary measures that indicate whether a sample person had any public insurance in a month (PUBJAyyX-PUBDEyyX). Persons identified as covered by public insurance are those who reported coverage under TRICARE/CHAMPVA, Medicare, Medicaid or SCHIP, other public hospital/physician programs, or the VA. As mentioned, the IHS is not included as a public source of coverage. Note that further edits may be made to the public insurance variables in later MEPS data releases to address cases in which private coverage through a federally-facilitated, or a state-based or state partnership exchange/marketplace may have been originally reported as public insurance. These potential edits could affect the variables MCAIDyyX, GOVTAyy, GOVTByy, GOVTCyy, and PUByyX.

## Private Insurance

Variables identifying private insurance in general (PRIJAyy-PRIDEyy) and specific private insurance sources such as employer/union group insurance (PEGJAyy-PEGDEyy); non-group (PNGJAyy-PNGDEyy); other group (POGJAyy-POGDEyy); and private insurance through a federally facilitated, state-based, or state partnership exchange/marketplace (PRXJAyy-PRXDEyy) were constructed. Private insurance sources identify coverage in effect at any time during each month of 2023. Separate variables beginning with the letter “H” identify policyholders (e.g., HPEJAyy-HPEDEyy). Both types of variables indicate the coverage or policyholder status for a particular source of insurance but do not identify persons who may be covered by more than one policy from the same type of insurance. For example, someone who is a policyholder for one employer/union group plan and also a dependent on another employer/union group plan held by their spouse would be flagged as both dependent and policyholder, but there would be no indication of the number of coverages for that coverage type. In some cases, the policyholder was unable to characterize the source of insurance (PDKJAyy-PDKDEyy).

Before FY 2018, persons covered under a policy held by someone living outside the RU were identified in POUJAyy-POUDEyy and in PROUTr. Beginning in FY 2018, the constructed variables PRIEUOr and PRINEOr were included instead. PRIEUOr indicates coverage from a policyholder living outside the RU when the source of coverage is through an employer, and PRINEOr indicates coverage from a policyholder living outside the RU when the source is not through an employer. These variables are based on responses to a follow-up question for respondents who indicated that they have coverage from a policyholder outside the household. The question HP130 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, their coverage is now included in PRIDKrr.

An individual was considered to have private health insurance coverage if, at a minimum, that coverage provided benefits for hospital and physician services (including Medicare supplemental coverage). Note, however, that persons covered by private insurance through an exchange/marketplace (PRSTXrr and PRXJAyy-PRXDEyy) were considered to have private health coverage if that coverage provided hospital/physician services but excluded coverage that was explicitly identified as Medicare supplemental coverage (HX620/OE130=5). If a person reported Medicare supplemental coverage through the exchange/marketplace, then the source of the insurance purchased was edited to reflect coverage “from a professional association” (HP40=1) or coverage “from a group or association” (HX200/HX300=4). The exchange variables are further described at the end of this section. Sources of insurance with missing information regarding the type of coverage were assumed to include hospital/physician coverage. Persons who reported private insurance that did not provide hospital/physician insurance were not counted as privately insured. Coverage indicated by these variables may be from any type of job whereas the Employment section insurance variables in this PUF reflect only coverage through a CMJ.

Questions about health insurance through a job or union (PEGJAyy-PEGDEyy) were initially asked in the Employment section of the interview and were later confirmed in the Health Insurance section.



Insurance that was reported in the Employment section through a job classified as self-employed with a firm size of 1 is included in the other private insurance variables: PEGJAyy-PEGDEyy; PNGJAyy-PNGDEyy; POGJAyy-POGDEyy; PDKJAyy-PDKDEyy; HPEJAyy-HPEDEyy; HPNJAyy-HPNDEyy; HPOJAyy-HPODEyy; HPDJAyy-HPDDEyy; and PRIEUrr, PRINGrr, PRIOGrr, and PRIDKrr based on responses at HP40.

Private insurance that was not employment related (POGJAyy-POGDEyy, PNGJAyy-PNGDEyy, PDKJAyy-PDKDEyy, PNEJAyy-PNEDEyy, and PRXJAyy-PRXDEyy) was reported in the Health Insurance section only.

The variables PRSTXrr contain information on private coverage that was reported as obtained through a federally-facilitated, state-based, or state partnership marketplace. Federal/State Exchange is included in the list of private insurance categories (HP40 = 4 and HX200/HX300 = 2). Information on federal/state exchanges is also collected at question HP50 (“Is this coverage through {state exchange name}?”) for respondents reporting insurance from a group, directly from an insurance company or insurance agent or from an “other” unspecified source, and at OE40 in Round 3 for Panels 27 and 28 (“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 these questions and also in the list of private insurance categories at HP40, HX200, and HX300. The variables PRSTXrr were constructed to include persons younger than 65 who reported private insurance through a federally-facilitated, state-based, or state partnership exchange/marketplace at HP40, HX200, or HX300, or persons aged 65 or older who reported private insurance through a federally-facilitated, state-based, or state partnership exchange/marketplace at HP40, HX200, or HX300 and who were 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, respondents had to identify coverage as hospital/physician coverage at HX620/OE130 (=1 or missing [-7, -8]) but not as having Medicare supplemental coverage (HX620/OE130 = 5). Consistent with the approach used in the CPS and the NHIS, MEPS respondents reporting public coverage were asked whether this coverage was obtained through a federal or state marketplace in case respondents were confused about whether the source of coverage was public or private. Responses to these questions were not used to edit the PRSTXrr variables.

### **Any Insurance in Month**

The Consolidated PUF also includes summary measures that indicate whether a person had any insurance in a month (INSJAyyX-INSDEyyX). Persons identified as insured are those reporting coverage under TRICARE/CHAMPVA, Medicare, Medicaid, SCHIP, other public hospital/physician, or private hospital/physician insurance (including Medigap plans), or the VA. A person is considered uninsured if they are not covered by one of these insurance sources. The IHS is not included as a source of coverage.

### ***Summary Insurance Coverage Indicators (PRVEVyy-INSURCyy)***

The variables PRVEVyy-UNINSyy summarize health insurance coverage for the person in 2023 for the following types of insurance: private (PRVEVyy), TRICARE/CHAMPVA (TRIEVyy), VA (VAEVyy), Medicaid or SCHIP (MCDEVyy), Medicare (MCREVyy), other public coverage (GVAEVyy), other public coverage that is an HMO (GVBEVyy), and other public coverage for which a premium is paid (GVCEVyy). Each variable was constructed on the basis of the values of the corresponding 12 month-by-month health insurance variables described above in Monthly Health Insurance Indicators. For persons not in scope for the full year, these summary variables are based on the period of eligibility. If the person was not in scope for all 12 months throughout the year, the values are based on the months in which the person was eligible. A value of 1 indicates that the person was covered for at least 1 day of at least 1 month during 2023. A value of 2 indicates that the person was not covered for a given type of insurance for all of 2023. The variable UNINSyy summarizes PRVEVyy-GVAEVyy. When PRVEVyy-GVAEVyy are all equal to 2, then UNINSyy equals 1, as the person was uninsured for all of 2023. Otherwise, UNINSyy was set to 2, insured for all or part of 2023.

For the analyst's convenience, this PUF contains the constructed variable INSCOVyy, which summarizes health insurance coverage for the person in 2023 and has the following three values:

- 1 - Any private (Person had any private insurance coverage [including TRICARE/CHAMPVA] at any time during 2023)
- 2 - Public only (Person had only public insurance coverage [excluding TRICARE/CHAMPVA] during 2023)
- 3 - Uninsured (Person was uninsured during all of 2023)

INSURCyy summarizes health insurance coverage for the person in 2023 using eight categories of insurance defined by the person's age on December 31, 2023:

- 1 - Any private (0-64) (Person is 0-64 years old and is covered by private insurance or TRICARE/CHAMPVA in 2023)
- 2 - Public only (0-64) (Person is 0-64 years old and is covered by public insurance only (excluding TRICARE/CHAMPVA) in 2023)
- 3 - Uninsured (0-64) (Person is 0-64 years old and is uninsured for all of 2023)
- 4 - Edited Medicare only (65+) (Person is aged 65 or older and is covered by edited Medicare only in 2023)
- 5 - Edited Medicare & priv (65+) (Person is aged 65 or older and is covered by edited Medicare and private insurance or TRICARE/CHAMPVA in 2023)
- 6 - Edited Medicare & oth pub only (65+) (Person is aged 65 or older and is covered by edited Medicare and public insurance, including edited Medicaid/SCHIP or other public coverage but excluding TRICARE/CHAMPVA in 2023)



7 - Uninsured (65+) (Person is aged 65 or older and is uninsured for all of 2023)

8 - No Medicare but any public/private (65+) (Person is aged 65 or older and is not covered by Medicare but is covered by private insurance, Medicaid, TRICARE/CHAMPVA, VA, or other public coverage in 2023)

Please note the following:

- Beginning in 2012, Category 7 was revised to categorize persons who are aged 65 or older and uninsured, and Category 8 was added to include persons aged 65 or older who do not have Medicare but are covered by public or private insurance.
- The IHS is not included as a source of coverage for either INSCOVyy or INSURCyy.
- Both INSCOVyy and INSURCyy categorize TRICARE as private coverage. All other health insurance indicators included in this data release categorize TRICARE as public coverage. If an analyst wishes to consider TRICARE public coverage, the variable can easily be reconstructed by using the PRVEVyy and TRIEVyy variables. Also note that these categories are mutually exclusive, with preference given to private insurance and TRICARE. Persons with both private insurance/TRICARE and public insurance are coded as 1 for INSCOVyy and INSURCyy.

Analysts wishing to compare INSCOVyy and INSURCyy across years should also note at least two changes beginning in 2018 that may affect the continuity of estimates: (1) an increase in the number of reports of coverage because the coverage verification series was included and (2) the inclusion of VA coverage as a public coverage source.

### ***Flexible Spending Accounts (FSAGT31-PFSAMT31)***

Respondents in Rounds 1 and 3 were asked whether any RU members set aside pre-tax dollars of their own money to pay for out-of-pocket health care expenses. If an RU has a flexible spending account (FSA), then FSAGT31 was set to Yes (1), and two follow-up questions were asked: HASFSA31 and PFSAMT31. HASFSA31 was set for each RU member to indicate which one has an FSA. The constructed variable PFSAMT31 indicates the total amount the individual RU member contributed to their FSA. If no RU member has an FSA, then both HASFSA31 and PFSAMT31 were set to Inapplicable (-1).

### ***Unedited Health Insurance Variables (PREVCOVR-MORECOVR)***

#### **Duration of Uninsurance**

If a person was identified as being without insurance as of January 1 in the MEPS Round 1 interview, a series of follow-up questions was asked to determine the duration of uninsurance before the start of the MEPS survey. Persons who were insured as of January 1 and persons with a date of birth on or after December 31, 2023 or whose age was younger than 1 were skipped past this loop of questions. These questions were asked in Round 1 only.

PREVCOVR indicates whether the person was covered by insurance in the 2 years before the MEPS Round 1 interview. For persons who reported only noncomprehensive coverage as of January 1, a question was asked to determine whether they had been covered by more comprehensive coverage that paid for medical and doctors' bills in the previous 2 years (MORECOVR). Beginning with Panel 23 Round 1, several follow-up questions to PREVCOVR and MORECOVR are no longer being asked.

Note that these variables are unedited and have been taken directly as they were recorded from the raw data. There may be inconsistencies in the health insurance variables released in PUFs that indicate that an individual is uninsured in January. Out-of-scope persons have been set to Inapplicable (-1) for PREVCOVR and MORECOVR. For all other persons, PREVCOVR and MORECOVR were copied directly from the value of the unedited source variable.

Persons whose January 1 insurance coverage status could not be determined because their reference period began after January 1 were also asked the follow-up questions described at the beginning of this section. In these cases, persons who reported comprehensive coverage were asked whether they were ever without insurance. Those who were uninsured were asked to determine the duration of uninsurance before the start of their reference period. Those who reported only noncomprehensive coverage were asked whether they had been covered by comprehensive coverage that paid for medical and doctors' bills in the previous 2 years. Coverage is determined by health insurance status during the whole reference period or the month of January and ignores that these persons were not in the household on January 1.

***Health Insurance Coverage Variables: At Any Time/At Interview Date/At 12-31 (TRICR31X-INSATyyX)***

Constructed and edited variables in the Consolidated PUF indicate that the person had health insurance coverage at any time in a given round, at the MEPS interview dates, and on December 31, 2023. Note that for persons who left the RU before the MEPS interview date or before December 31, the variables measuring coverage at the interview date or on December 31 represent coverage on the date that the person left the RU.

Variables indicating coverage for Panel 27 members for any time in the round that end in "31" reflect the portion of Round 3 that occurred in calendar year 2023 unless otherwise noted (see the section Dental and Prescription Drug Private Insurance). Variables indicating coverage for Panel 28 members that end in "53" indicate coverage at any time in Round 3, including the portion of the round that occurred in calendar year 2023. For the data that reflect the portion of Round 3 that occurred in calendar year 2023 for Panel 28 members, analysts should use variables ending in "yy." The Panel 27 Round 4 data and Panel 28 Round 2 data are contained in the "42" variables.

As mentioned at the beginning of this section, the health insurance variables were constructed for the sources of health insurance coverage collected during the MEPS interviews (Panel 27 Rounds 3-5 and Panel 28 Rounds 1-3). Note that the "coverage at any time in the round" variable is not available on this PUF for Medicare coverage as well as for the particular source of private coverage (rather than any private coverage). Analysts should also note that general editing rules applied in this section were similar to the ones used for the month-by-month health insurance

variables released on this PUF (see the section Monthly Health Insurance Indicators for details). Editing programs checking for consistencies between these sets of variables were developed to ensure as much consistency as possible between the round-specific indicators and the month-by-month indicators of insurance.

Public sources of coverage include Medicare, TRICARE/CHAMPVA, the VA, Medicaid/SCHIP, and other public hospital/physician coverage. The IHS was not considered a public coverage source.

### **Medicare**

Medicare coverage variables (MCARErr) and the edited versions of these variables (MCARErrX) were constructed in a way that is similar to how the month-by-month Medicare variables were constructed. Since Medicare coverage is logically edited to continue for a person once it has been reported in the MEPS, the Medicare coverage variables can be considered as either “coverage at any time in the round” or “coverage at the interview date,” with the same caveats noted above regarding (a) persons who left the RU before the interview date, (b) coverage on the December 31, 2023 variables, and (c) the restrictions on Round 3 coverage to reflect coverage in 2023.

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

Medicaid/SCHIP variables (MCAIDrr) and the edited versions of these variables (MCAIDrrX and MCDATrrX) were constructed in a way that is similar to how the month-by-month Medicaid/SCHIP variables were constructed.

The variables indicating coverage through other public hospital/physician insurance (GOVTArr and GOVAATrr); other public coverage that is an HMO (GOVTBrr and GOVBATrr); and other public coverage for which a premium is paid (GOVTCrr and GOVCATrr) were constructed in a way that is similar to how the month-by-month other public variables were constructed.

### **Any Public Insurance**

The any public insurance variables (PUBrrX and PUBATrrX) were constructed in a way that is similar to how the month-by-month any public insurance variables were constructed. The variables indicating coverage through the VA (VAPROGrr and VAPRATrr) are included in this PUF and were constructed in a way that is similar to how the VA month-by-month variables were constructed.

### **Private Insurance**

The variables identifying private insurance were constructed in a way that is similar to how the month-by-month variables in the Monthly Health Insurance Indicators section were constructed. These variables indicate private insurance in general (PRIVrr and PRIVATrr) and specific private insurance sources (such as employer/union group insurance [PRIEUrr], other group coverage [PRIOGrr], coverage from a non-group plan [PRINGrr], coverage through an unknown private category [PRIDKrr], coverage from a policyholder living outside the RU that is employer-based coverage [PRIEUOr], coverage from a policyholder living outside the RU that is not employer-based coverage [PRINEOr], and coverage through an exchange [PRSTXrr]). Variables indicating any private insurance coverage are available for the following time periods: at any time in a given round, at the interview date, and on December 31, 2023. The variables for

the specific sources of private coverage are available for coverage on the interview dates and on December 31, 2023 but not any time in a given round.

### **Any Insurance in Period**

The any insurance variables (INSrrX and INSArrX) were constructed in a way that is similar to how the month-by-month any insurance variables were constructed.

### ***2023 Consolidated PUF Managed Care Variables (TRICH31X-PRVHMOyy\_M23)***

In addition to the month-by-month indicators of coverage, there are round-specific health insurance variables indicating coverage by an HMO or another type of managed care plan. Managed care variables have been constructed from information on health insurance coverage at any time in a reference period and from the characteristics of the plan. A separate set of managed care variables has been constructed for private insurance, Medicaid/SCHIP, and Medicare coverage. The purpose of these variables is to provide information on managed care participation during the portion of the three rounds (i.e., reference periods) that fall within the same calendar year.

Managed care variables for calendar year 2023 are based on responses to health insurance questions asked during the Round 3, 4, and 5 interviews of Panel 27 and the Round 1, 2, and 3 interviews of Panel 28. Each managed care variable ends in “rr,” where the first r denotes the interview round for Panel 27, and the second r denotes the round for Panel 28. The variables ending in “31” and “42” correspond to the first two interviews of each panel in the calendar year. Because Round 3 interviews typically overlap the final months of one year and the beginning months of the next year, the “31” managed care variables for Panel 27 indicate whether a person had coverage from a managed care plan in the 2023 calendar year. Similarly, Panel 28 Round 3 managed care variables indicate whether a person had coverage from a managed care plan in the 2023 calendar year, and the variables have been given the suffix “yy” (as opposed to “53”) to emphasize the restricted time frame. The implications for managed care plan coverage resulting from the overlapping calendar year in Round 3 are described in more detail directly below.

Constructing the managed care variables is straightforward, but three caveats are appropriate. First, the MEPS estimates of the number of persons in HMOs are higher than figures reported by other sources, particularly for estimates based on HMO industry data. The differences stem from the use of household-reported information, which may include respondent error, to determine HMO coverage in the MEPS.

Second, the managed care questions focus on the last plan held by a person through their establishment (employer or insurer) even though the person could have had a different plan through the establishment at an earlier point during the interview period. As a result, when a person changed their establishment-related insurance, the managed care variables describe the characteristics of the last plan held through the establishment.

Third, the “yy” versions of the managed care variables were developed from two sets of Round 3 source variables that cover different time frames. Using Round 3 managed care variables as an example, the first set of source variables-Round 3 health insurance status variables-are restricted to the same calendar year as the Rounds 1 and 2 data. The second set of source variables-Round

3 variables describing plan type-overlap with the next calendar year, 2024. As a consequence, the “yy” managed care variables may not describe the characteristics of the last plan held in the calendar year if the person changed plans in the beginning of the following year.

The variables PRVHMOr indicate coverage by a private HMO in Panel 28 Rounds 1-3 and Panel 27 Rounds 3-5. The variables MCRPHOr indicate coverage by a Medicare managed care plan (or Medicare Advantage plan) in Panel 28 Rounds 1-3 and Panel 27 Rounds 3-5. The variables MCRPDrr indicate coverage by the Medicare prescription drug benefit, also known as Part D, in Panel 28 Rounds 1-3 and Panel 27 Rounds 3-5. The edited versions of the Medicare prescription drug coverage variables (MCRPDrrX) include persons who are covered by both edited Medicare and edited Medicaid. The variables MCDHMOr and MCDMCrr indicate coverage by a Medicaid or SCHIP HMO or a managed care plan in Panel 28 Rounds 1-3 and Panel 27 Rounds 3-5. The variables MCRPHDrr indicate Medicare coverage for dental benefits. The TRICARE plan variables are similarly defined.

For Panel 28, the “31” version indicates coverage at any time in Round 1, the “42” version indicates coverage at any time in Round 2, and the “yy” version represents coverage at any time during the 2023 portion of Round 3. For Panel 27, the “31” version indicates coverage at any time during the 2023 portion of Round 3, the “42” version indicates coverage at any time in Round 4, and the “yy” version represents coverage at any time during Round 5 since Round 5 ends on December 31, 2023 for Panel 27.

In the Health Insurance section of the questionnaire, respondents reporting private health insurance were asked to identify what types of coverage a person had via a checklist. If the respondent selected prescription drug or dental coverage from this checklist, variables were constructed to indicate these two coverages. It should be noted, however, that in some cases respondents may have failed to identify prescription drug or dental coverage that was part of a hospital and physician plan.

### **TRICARE Plan Variables**

In spring 2022, the response options for the CAPI TRICARE questions HX125\_01, HX260, and PR280\_01 were changed. The options TRICARE Standard, TRICARE Prime, TRICARE Extra, and TRICARE for Life were replaced by the single response option TRICARE. As a result, the previous plan-specific variables TRICARE Standard (TRISTrrX), TRICARE Prime (TRIPRrrX), TRICARE Extra (TRIEXrrX), and TRICARE for Life (TRILrrX) were dropped from the 2021 Consolidated PUF, and the new variable TRrrX (Person Covered by Tricare at Any Time During the Reference Period) was added.

Beginning with Panel 22 Round 3, Panel 23 Round 1, questions related to military health coverage were asked at the person level. If it was reported that someone in the RU had coverage through military health care, a follow-up question was asked to determine who in the RU was covered; then, a pick-list, code-all-that-apply question was asked to determine the type of military coverage the person obtained. This list includes TRICARE, CHAMPVA, and VA. TRI31rrX, TRICHrrX, VAPROGrr and VAPRATrr come from the response to the pick list.

In each round, the TRICARE variable has four possible values:

- 1           The person was covered by TRICARE
- 2           The person was covered by CHAMPVA but not TRICARE
- 3           The person was not covered by TRICARE/CHAMPVA
- 1          The person was out of scope

### **Medicare Managed Care Plans and Prescription Drug Benefit**

Questions on Medicare Part B were dropped from the survey in spring 2023; as a result, variables MCRPB31/42/yy will no longer be constructed.

Persons were assigned Medicare coverage based on their responses to the health insurance questions or through logical editing of the survey data. A small number of persons were edited to have Medicare, most often because a person had a spouse receiving Social Security or Medicare and they were aged 65 or older but did not report receiving Medicare. Since this group was not asked about coverage through a managed care plan or a prescription drug plan, the persons' status in terms of Medicare managed care and the prescription drug benefit were set to Cannot be Computed (-15). Persons who reported Medicare coverage in response to the health insurance questions were asked about a Medicare managed care plan and the prescription drug benefit. The Medicare prescription drug benefit variables (MCRPDrr) have been edited (MCRPDrrX) to turn on coverage for all persons who are covered by both edited Medicare and edited Medicaid regardless of the status on their unedited Medicare prescription drug benefit variable.

In each round, the variables MCRPHOr have five possible values:

- 1           The person was covered by Medicare and covered through a Medicare managed care or Medicare Advantage plan
- 2           The person was covered by Medicare but not covered through a Medicare managed care or Medicare Advantage plan
- 3           The person was not covered by Medicare
- 15        The person was covered by Medicare, but whether the coverage is through a Medicare managed care or Medicare Advantage plan cannot be computed
- 1          The person was out of scope

In each round, the variables MCRPDrr/MCRPDrrX have five possible values:

- 1           The person was covered by Medicare and covered by prescription drug benefit
- 2           The person was covered by Medicare but not covered by prescription drug benefit
- 3           The person was not covered by Medicare

- 15 The person was covered by Medicare, but prescription drug benefit coverage cannot be computed
- 1 The person was out of scope

Variables MCRPHDrr have six possible values:

- 1 The person was covered by a Medicare managed care plan and reported dental coverage
- 2 The person was covered by a Medicare managed care plan but did not report dental coverage
- 3 The person was covered by Medicare that was not a managed care plan
- 4 The person was not covered by Medicare
- 15 The person was covered by Medicare, but managed care dental coverage was not ascertained
- 1 The person was out of scope

### **Medicaid/SCHIP Managed Care Plans**

Persons were assigned Medicaid or SCHIP coverage based on their responses to the health insurance questions or through logical editing of the survey data. The number of persons who were edited to have Medicaid or SCHIP coverage is small. These persons indicated coverage through an other government program that was identified as a Medicaid HMO or gatekeeper plan that did not require a premium payment from the insured party. By definition, these respondents were asked about the managed care characteristics of this insurance coverage.

### **Medicaid/SCHIP HMOs**

If Medicaid/SCHIP or other government programs were identified as the source of hospital/physician coverage, the respondent was asked about the characteristics of the plan. The variables MCDHMOrr were set to Yes (1) if the respondent answered in the affirmative to the following question:

Under {Medicaid{, also known as {STATE NAME FOR MEDICAID}}, or {STATE CHIP NAME}/{PROGRAM NAME FROM HX160/HX270}, the program sponsored by a state or local government agency which provides hospital and physician benefits,}} {{are/is}/{were/was}} {PERSON 1}, {PERSON 2}, {PERSON 3}, {PERSON 4}, {PERSON N} enrolled in an HMO, that is a Health Maintenance Organization {between {START DATE} and {END DATE}}?

[With an HMO, you must generally receive care from HMO physicians. If another doctor is seen, the expense is not covered unless you were referred by the HMO, or there was a medical emergency.]



In subsequent rounds, for persons who were previously identified as covered by Medicaid, the respondent was asked whether the name of the person's insurance plan had changed since the previous interview. An affirmative response triggered the previous set of questions above about managed care (i.e., whether the person enrolled in an HMO).

In each round, the variables MCDHMOrr have five possible values:

- 1           The person was covered by a Medicaid/SCHIP HMO
- 2           The person was covered by Medicaid/SCHIP but the plan was not an HMO
- 3           The person was not covered by Medicaid/SCHIP
- 15        The person was covered by Medicaid/SCHIP, but the plan type cannot be computed
- 1        The person was out of scope

#### **Medicaid/SCHIP Gatekeeper Plans**

If a person did not belong to a Medicaid/SCHIP HMO, a third question was used to determine whether the person was in a gatekeeper plan. The variables MCDMCrr were set to Yes (1) if the respondent answered in the affirmative to the following question:

{Does/Between {START DATE} and {END DATE}, did} {Medicaid},{STATE NAME FOR MEDICAID}, or {STATE CHIP NAME}/{PROGRAM NAME FROM HX160/HX270}, the program sponsored by a state or local government agency which provides hospital and physician benefits,} require {PERSON 1}, {PERSON 2}, {PERSON 3}, {PERSON 4}, {PERSON N} to sign up with a certain primary care doctor, group of doctors, or with a certain clinic which they must go to for all of their routine care?

PROBE: Do not include emergency care or care from a specialist they were referred to.

In each round, the variables MCDMCrr have five possible values:

- 1           The person was covered by a Medicaid/SCHIP gatekeeper plan
- 2           The person was covered by Medicaid/SCHIP, but it was not a gatekeeper plan
- 3           The person was not covered by Medicaid/SCHIP
- 15        The person was covered by Medicaid/SCHIP, but the plan type cannot be computed
- 1        The person was out of scope

#### **Private Managed Care Plans**

Persons with private insurance were identified from their responses to questions in the Health Insurance section of the questionnaire. In some cases, persons were assigned private insurance as a result of comments collected during the interview, but data editing was minimal. As a



consequence, most persons with private insurance were asked about the characteristics of their plan, and their responses were used to identify HMOs and other gatekeeper plans.

Persons with private insurance were classified as being covered by an HMO if the person answered “Yes” to the following question:

{Is/Was} {your/{POLICYHOLDER}'s} {NAME OF INSURER} an HMO {as of {END DATE}}? {When answering this question, do not consider {your/his/her} insurance through Medicare.}

[With an HMO, you must generally receive care from HMO physicians. For other doctors, the expense is not covered unless you were referred by the HMO or there was a medical emergency.]

In subsequent rounds, policyholders were asked whether the name of their insurance plan had changed since the previous interview. An affirmative response triggered the detailed question above about managed care (i.e., whether the insurer was an HMO).

Some insured persons have more than one private plan. In these cases, if the policyholder identified any plan as an HMO, the variables PRVHMOrr were set to Yes (1). If a person had multiple plans and one or more were identified as not being an HMO and the other(s) were missing plan type information, the person-level variable was set to missing. Moreover, if a person had multiple plans and none was identified as an HMO, the person-level variable was set to No (2).

Note that CAPI items HX190/HX200/HX300 and HP40 were modified in spring of 2023 to eliminate the HMO selection option as a source of a direct purchase coverage. As a result, those questions no longer serve as a data source for PRVHMOrr, and the variable names have been changed to PRVHMO31\_M23, PRVHMO42\_M23, and PRVHMOyy\_M23.

In each round, the variables PRVHMOrr\_M23 have five possible values:

- 1           The person was covered by a private HMO
- 2           The person was covered by private insurance, but it was not an HMO
- 3           The person was not covered by private insurance
- 15        The person was covered by private insurance, but the plan type cannot be computed
- 1        The person was out of scope

## ***Dental and Prescription Drug Private Insurance Variables (DENTIN31\_M23-PMDINSyy)***

### **Dental Private Insurance Variables**

Round-specific variables (DENTINrr\_M23) in this Consolidated PUF indicate that the person was covered by a private health insurance plan that included at least some dental coverage for each round of 2023. It should be noted that the information was elicited from a pick-list, code-all-that-apply question that asked what type of health insurance a person obtained through an establishment. The list comprised hospital and physician benefits including coverage through an HMO, Medigap coverage, vision coverage, and dental coverage, and prescription drug coverage. For policyholders who did not report dental coverage initially, an additional question asking whether policyholders had a separate policy with dental coverage was included beginning in the spring 2023 interview. Affirmative responses to that question are included in the coding of the DENTIN variables. As a result of this change to the logic, the variable names were changed to DENTIN31\_M23, DENTIN42\_M23, and DENTIN53\_M23.

It is possible that some dental coverage provided by hospital and physician plans was not independently enumerated in these questions. Analysts should also note that persons with missing information on dental benefits for all reported private plans and those who reported that they did not have dental coverage for one or more plans but had missing information on other plans were coded as not having private dental coverage. Persons who reported having dental coverage from at least one reported private plan or who reported a separate policy with dental coverage were coded as having private dental coverage.

DENTIN53\_M23 reflects coverage for all of Panel 28 Round 3 and all of Panel 27 Round 5, where the end of the reference year for Panel 28 could extend into 2024. DENTIN31\_M23 for Panel 27 Round 3 reflects coverage in 2022 and 2023, since the reference period for the round spans both years. A second version of these dental coverage indicators was built to reflect only current year coverage (DNTINSrr). Note that the DNTINS variables also include data from the spring 2023 question on dental coverage through a separate policy noted above, and thus also have been renamed as DNTINS31\_M23 and DNTINSyy\_M23.

### **Prescription Drug Private Insurance Variables**

Round-specific variables (PMEDINrr) on the Consolidated PUF indicate that the person was covered by a private health insurance plan that included at least some prescription drug coverage for each round of 2023. It should be noted that the information was elicited from a pick-list, code-all-that-apply question that asked what type of health insurance a person obtained through an establishment. The list comprised hospital and physician benefits, Medicare supplemental coverage, vision coverage, dental coverage, and prescription drug coverage. It is possible that some prescription drug coverage provided by hospital and physician plans was not independently enumerated in this question. Persons who reported prescription drug coverage from at least one reported private plan were coded as having private prescription drug coverage. Analysts should note that persons with missing information on prescription drug benefits for all reported private plans and those who reported that they did not have prescription drug coverage for one or more plans but had missing information on other plans were coded as not having private prescription drug coverage.

PMEDIN53 reflects coverage for all of Panel 28 Round 3 and all of Panel 27 Round 5 where the end of the reference year for Panel 28 could extend into 2024. PMEDIN31 for Panel 27 Round 3 reflects coverage in 2022 and 2023 since the reference period for the round spans both years. A second version of these prescription drug coverage indicators was built to reflect only current year coverage (PMDINSrr).

### ***Medical Debt Variables (PROBPY42 - PYUNBL42)***

Questions relating to medical debt were asked in the Health Insurance section. Respondents in Round 2 or Round 4 were asked the following questions: HX770 (“In the past 12 months did anyone in the family have problems paying or were unable to pay any medical bills?”), HX780 (“Does anyone in your family currently have any medical bills that are being paid off over time?”), and HX790 (“Does anyone in your family currently have any medical bills that you are unable to pay at all?”). The corresponding constructed variables PROBPY42, CRFMPY42, and PYUNBL42 are included in this PUF. PROBPY42 was set to Yes (1) if the respondent indicated that someone in their family had problems paying or were unable to pay any medical bills. Additional questions ascertained whether anyone in the family currently had medical bills that were being paid off over time (CRFMPY42) and whether anyone in the family currently had any medical bills that could not be paid at all (PYUNBL42). If the respondent indicated that someone in their family currently had any medical bills that were being paid off over time, then CRFMPY42 was set to Yes (1). Note that if the respondent indicated that no one in their family had problems paying medical bills, then PYUNBL42 was set to Inapplicable (-1).

### ***Prescription Drug Usual Third Party Payer Variables (PMEDUP31-PMEDPY53)***

Round-specific variables on the Consolidated PUF indicate whether the sample member had a usual third-party payer for prescription medications (PMEDUPrr), and if so, what type of payer this was (PMEDPYrr). These questions were asked only of sample members who reportedly had at least one prescription medication purchase in the round. In each interview, if the sample member reportedly had a third-party payer, then the respondent was asked the name of the sample member’s usual third-party payer. These responses were coded into the following source of payment categories in PMEDPYrr: Private Insurance, Medicare, Medicaid, VA/CHAMPVA, TRICARE, State/Local Government, and Other. Analysts should note that the questions were asked in the Prescribed Medicines section of the questionnaire and that no attempt was made to reconcile the responses with information collected in the Health Insurance section of the questionnaire. In particular, respondents may report the names of private entities (such as insurance companies) that contract with public programs, and these may be coded as private insurance instead of the public programs.

## **2.5.11 Utilization, Expenditures, and Source of Payment Variables (TOTCH23-RXOSR23)**

The MEPS HC collects data in each round on use and expenditures for office- and hospital-based care, home health care, dental services, vision aids, and prescribed medicines. Data were collected for each sample person at the event level (e.g., doctor visit, hospital stay) and summed across Rounds 3-5 for Panel 27 (excluding 2022 events covered in Round 3) and across Rounds

1-3 for Panel 28 (excluding 2024 events covered in Round 3) to produce the annual utilization and expenditure data for 2023. In addition, the MEPS MPC is a follow-back survey that collected data from a sample of medical providers and pharmacies that were used by sample persons in 2023. Expenditure data collected in the MPC are generally regarded as more accurate than information collected in the HC and were used to improve the overall quality of MEPS expenditure data in this PUF (see below for description of methodology used to develop expenditure data).

This PUF contains utilization and expenditure variables for several categories of health care services. In general, there is one utilization variable (based on HC responses only), 11 expenditure variables (derived from both HC and MPC responses), and one charge variable for each category of health care service (derived from both HC and MPC responses). The utilization variable is typically a count of the number of medical events reported for the category. The 11 expenditure variables consist of an aggregate total payments variable and 10 main component source of payment category variables (see below for description of source of payment categories). Expenditure variables for all categories of health care combined are also provided. These variables generally represent a full year of use and expenditures. However, for persons who were not in scope for the entire year, these variables reflect only the period of eligibility.

The table in Appendix 3 provides an overview of the utilization and expenditure variables included in this PUF. For each health service category, the table lists the corresponding utilization variable(s) and provides a general key to the expenditure variable names (11 per service category). The first three characters of the expenditure variable names reflect the service category (except only two characters for prescription medicines) while the subsequent three characters (\*\*\*) in table) reflect the naming convention for the source of payment categories described below (except only two characters for Veterans Administration). The last two positions of all utilization and expenditure variable names reflect the survey year (i.e., 23).

### ***Expenditures Definition***

Expenditures on this PUF refer to payments for health care services. More specifically, expenditures in the MEPS are defined as the sum of direct payments for care provided during the year, including out-of-pocket payments and payments by private insurance, Medicaid, Medicare, and other sources. Payments for over-the-counter drugs are not collected in the MEPS. Indirect payments not related to specific medical events, such as Medicaid Disproportionate Share and Medicare Direct Medical Education subsidies, are also not included.

The definition of expenditures used in the MEPS is different from the 1987 NMES and 1977 NMCES surveys where charges rather than sum of payments were used to measure expenditures. This change was adopted because charges became a less appropriate proxy for medical expenditures during the 1990s due to the increasingly common practice of discounting charges. Currently, charges associated with uncollected liability, bad debt, and charitable care (unless provided by a public clinic or hospital) are not counted as expenditures because there are no associated payments.

While the concept of expenditures in the MEPS has been operationalized as payments for health care services, variables reflecting charges for services received are also provided in this PUF (see

below). Analysts should use caution when working with the charge variables because they do not typically represent actual dollars exchanged for services or the resource costs of those services.

### **Data Sources on Expenditures**

The expenditure data included on this PUF were derived from the MEPS HC and MPC. Only HC data were collected for non-physician visits, dental and vision services, other medical equipment and services, and home health care not provided by an agency. Data on expenditures for care provided by home health agencies were only collected in the MPC. In addition to HC data, MPC data were collected for a sample of office-based visits to physicians (or medical providers supervised by physicians), hospital-based events (e.g., inpatient stays, emergency room visits, and outpatient department visits), and prescribed medicines. For these types of events, MPC data were used if complete; otherwise, HC data were used if complete. Missing data for events where HC data were not complete and MPC data were not collected or complete were derived through an imputation process (see below).

A series of logical edits were applied to both the HC and MPC data to correct for several problems including, but not limited to, outliers, copayments or charges reported as total payments, and reimbursed amounts that were reported as out-of-pocket payments. In addition, edits were implemented to correct for misclassifications between Medicare and Medicaid and between Medicare HMOs and private HMOs as payment sources. Data were not edited to ensure complete consistency between the health insurance and source of payment variables in this PUF.

### **Imputation for Missing Expenditures and Data Adjustments**

Expenditure data were imputed to (1) replace missing data, (2) provide estimates for care delivered under capitated reimbursement arrangements, and (3) to adjust household-reported insurance payments because respondents were often unaware that their insurer paid a discounted amount to the provider. This section contains a general description of the approaches used for these three situations. A more detailed description of the editing and imputation procedures is provided in the documentation for the MEPS event-level PUFs.

Predictive mean matching (PMM) was used to impute missing expenditures. This procedure uses regression models (based on events with completely reported expenditure data) to predict total expenses for each event. Then, for each event with missing payment information, the donor event with the closest predicted payment and the same pattern of expected payment sources as the event with missing payment information was used to impute the missing payment value.

The general approach that was used to impute missing expenditure data on prescribed medicines is described below.

Payments under capitated arrangement and, in some cases, public clinics are not tied to individual episodes of medical care. Therefore, expenditures for medical care covered under capitated arrangement or for some services delivered in public settings were imputed. Using a weighted sequential hot-deck procedure, events covered under capitated arrangements were imputed using donor events covered by a managed care organization but paid on a fee-for-service basis. For other events, including public clinics, expenditures were imputed using the PMM method where selected predictor variables were used to predict expenditures and match recipient and donor events.

An adjustment was also applied to some HC-reported expenditure data because an evaluation of matched HC/MPC data showed that respondents who reported that charges and payments were equal were often unaware that insurance payments for the care were based on a discounted charge. To compensate for this systematic reporting error, a weighted sequential hot-deck imputation procedure was implemented to determine an adjustment factor for HC-reported insurance payments when charges and payments were reported to be equal. Similar to the other imputations, selected predictor variables were used to form groups of donor and recipient events for the imputation process.

### **Methodology for Flat Fee Expenditures**

Most of the expenditures for medical care reported by MEPS participants are associated with single medical events. However, in some situations one charge covers multiple contacts between a medical provider and patient (e.g., obstetrician services, orthodontia). In these situations (generally called flat or global fees), total payments for the flat or global fee were included if the initial service was provided in 2023. For example, all payments for an orthodontist's fee that covered multiple visits over three years were included if the initial visit occurred in 2023. However, if a visit in 2023 to an orthodontist was part of a flat fee in which the initial visit occurred in 2022, then none of the payments for the flat fee were included.

Certain flat fee bundle types reported by household respondents were identified as having a high likelihood of being simple events misidentified as bundle events. To address this, starting in 2021, HC-reported flat fee bundles were considered flat fees only if the bundle consisted only of dental events.

Other HC-reported bundles were not allowed as flat fee bundles, and events in these bundles were treated as simple events. HC-reported bundles that included a mix of emergency room and hospitalization events were treated as linked events. All emergency room expenditures were combined with hospital inpatient expenditures. Provider-reported flat fees were processed in a similar way to prior years.

### **Zero Expenditures**

There are some medical events reported by respondents where the payments were zero. This could occur for several reasons including (1) free care was provided, (2) bad debt was incurred, (3) care was covered under a flat fee arrangement and it was not the initial event of the bundle (see prior section on Methodology for Flat Fee Expenditures), or (4) follow-up visits were provided without a separate charge (e.g., after a surgical procedure). These types of events have no impact on totals for the person-level expenditure variables contained in this PUF.

### **Source of Payment Categories**

In addition to total expenditures, variables are provided that itemize expenditures according to the major source of payment categories. These categories are:

1. Out of pocket by patient or patient's family (SLF) - includes any deductible, coinsurance, and copayment amounts not covered by other sources, as well as payments for services and providers not covered by the person's insurance or other sources;

2. Medicare (MCR);
3. Medicaid (MCD);
4. Private Insurance (PRV);
5. Veterans' Administration/CHAMPVA, excluding TRICARE (VA);
6. TRICARE (TRI);
7. Other Federal Sources - includes Indian Health Service, military treatment facilities, and other care provided by the federal government (OFD);
8. Other State and Local Sources - includes community and neighborhood clinics, state and local health departments, and state programs other than Medicaid (STL);
9. Worker's Compensation (WCP);
10. Other Unclassified Sources - includes sources such as automobile, homeowner's, liability, and other miscellaneous or unknown sources (OSR).

Prior to 2019, for cases where reported insurance coverage and sources of payment appear inconsistent, the positive amount from a source inconsistent with reported insurance coverage was moved to one or both of the source categories Other Private and Other Public. Beginning in 2019, this step is removed and the apparent inconsistency between the payment sources and insurance coverage is allowed to remain-the amounts are not moved to Other Private and Other Public categories anymore. The two source of payment categories, Other Private and Other Public, are no longer available. Some inconsistencies arise from either misreporting of health insurance coverage or sources of payment. However, apparent inconsistencies may also have logical explanations. For example, private insurance coverage in MEPS is defined as having a major medical plan covering hospital and physician services. If a MEPS sample person did not have such coverage but had a single service type insurance plan (e.g., dental insurance) that paid for a particular episode of care, those payments may be classified as private. Apparent inconsistencies in public payments may stem from confusion between Medicaid and other state and local programs or may be for persons who were not enrolled in Medicaid, but were presumed eligible by a provider who ultimately received payments from the program.

The naming conventions used for the source of payment expenditure variables are shown in parentheses in the list of categories above and in the key to the attached table in Appendix 3. In addition, total expenditure variables (EXP in Appendix 3 key) based on the sum of the 10 source of payment variables above are provided.

### **Charge Variables**

In addition to the expenditure variables described above, a variable reflecting total charges is provided for each type of service category (except prescribed medicines). This variable represents the sum of all fully established charges for care received and usually does not reflect actual payments made for services, which can be substantially lower due to factors such as negotiated discounts, bad debt, and free care (see above). The weighted sequential hot-deck

procedure was used to impute missing total charges. The naming convention used for the charge variables (TCH) is also included in the key to the attached table in Appendix 3. The total charge variable across services (TOTTCH23) excludes prescribed medicines.

### ***Utilization and Expenditure Variables by Type of Medical Service***

The following sections summarize definitional, conceptual, and analytic considerations when using the utilization and expenditure variables in this PUF. Separate discussions are provided for each MEPS medical service category. There is also a discussion in the section dealing with analyses of trends using MEPS data (Section 3.11: Using MEPS Data for Trend Analysis).

#### **Medical Provider Visits (i.e., Office-Based Visits)**

Medical provider visits consist of encounters that took place primarily in office-based settings and clinics. Care provided in other settings such as a hospital, nursing home, or a person's home are not included in this category.

The total number of office-based visits reported for 2023 (OBTOTV23) as well as the number of such visits to physicians (OBDRV23) are contained in this PUF.

Expenditure variables associated with all medical provider visits and physician visits can be identified using the attached table in Appendix 3.

#### **Hospital Events**

Separate utilization variables for hospital care are provided for each type of setting (outpatient department, emergency room, and inpatient stays) along with three expense variables per setting: one for basic hospital facility expenses, one for payments to physicians who billed separately for services provided at the hospital (referred to as "separately billing doctor" or SBD expenses) and one that aggregates the facility and SBD expenses (aggregated variable not included in PUFs prior to 2007).

Hospital facility expenses include all expenses for direct hospital care, including room and board, diagnostic and laboratory work, x-rays, and similar charges, as well as any physician services included in the hospital charge. SBD expenses typically cover services provided to patients in hospital settings by providers like radiologists, anesthesiologists, and pathologists, whose charges are often not included in hospital bills.

#### **Hospital Outpatient Visits**

Variables for the total number of reported visits to hospital outpatient departments in 2023 (OPTOTV23) as well as the number of outpatient department visits to physicians (OPDRV23) are contained in this PUF.

Expenditure variables (both facility and SBD) associated with all medical provider visits and physician visits can be identified using the attached table in Appendix 3.

#### **Hospital Emergency Room Visits**

The variable ERTOT23 represents a count of all emergency room visits reported for the survey year. Expenditure variables associated with ERTOT23 are identified in the attached table in Appendix 3. It should be noted that for emergency room visits that immediately preceded an



inpatient stay, the facility expenditures associated with the emergency room visits are included in the inpatient expenditures. To avoid double counting, these emergency room visits resulted in \$0 facility expenditures (but there still may be associated SBD expenses). However, these \$0 emergency room visits are still counted as separate visits in the utilization variable ERTOT23.

### **Hospital Inpatient Stays**

Two measures of total inpatient utilization are provided in this PUF:

- IPDIS23 is the total number of hospital discharges.
- IPNGTD23 is the total number of nights associated with these discharges. For the FY 2023 data, the number of imputed length of stay cases is 11.

Expenditure variables associated with hospital inpatient stays are identified in Appendix 3. As described in the previous section, payments associated with emergency room visits that immediately preceded an inpatient stay are included in inpatient expenditures. In addition, payments associated with healthy newborns are included in expenditures for the mother. Specifically, data used to construct the inpatient utilization and expenditure variables for newborns were edited to exclude stays where the newborn left the hospital on the same day as the mother. This edit was applied because discharges for infants without complications after birth were not consistently reported in the survey, and charges for newborns without complications are typically included in the mother's hospital bill. However, if the newborn was discharged at a later date than the mother was discharged, then the discharge was considered a separate stay for the newborn when constructing the utilization and expenditure variables.

### **Telehealth Events**

The Telehealth (TH) module is asked of all events tagged as TH events by the respondent. As part of the TH module, a question is asked about whether the provider or facility is owned or operated by a hospital. Post-collection, the response to this question is used to reclassify all TH events as either office-based or outpatient. The TH module items were designed to align with the office-based or outpatient items to easily allow for reclassifying the event type.

### **Dental Care Visits**

The total number of dental care visits variable (DVTOT23) includes visits to any person(s) for dental care including general dentists, dental hygienists, dental technicians, dental surgeons, orthodontists, endodontists, and periodontists.

### **Home Health Care**

In contrast to other types of medical events where data were collected on a per visit basis, information on home health care utilization is collected in MEPS on a per month basis. Variables are provided that indicate the total number of days in 2023 where home health care was received from the following: from any type of paid or unpaid caregiver (HHTOTD23), from agencies, hospitals, or nursing homes (HHAGD23), from self-employed persons (HHINDD23), and from unpaid informal caregivers not living with the sample person (HHINFD23). The number of provider days represents the sum across months of the number of days on which home health care was received, with days summed across all providers seen. For example, if a person received care in one month from one provider on two different days, then the number of provider

days would equal two. The number of provider days would also equal two if a person received care from two different providers on the same day. However, if a person received care from one provider two times on the same day, then the provider days would equal one. These variables were assigned missing values if the number of provider days could not be computed for any month in which the specific type of home health care was received.

Separate expenditure variables are provided for agency-sponsored home health care (including care provided by home health agencies, hospitals, and nursing homes) and care provided by self-employed persons. Appendix 3 identifies the home health care utilization and expenditure variables contained in the file.

### **Other Medical Equipment and Services**

The new CAPI instrument collects round-specific Other Medical (OM) expenditures for all OM types (glasses/contact lenses, ambulance, disposable supplies, and long-term equipment). Please note for disposable supplies, the total charge and out-of-pocket expenditures are collected in a range format. The ranges were replaced with mean dollar amounts of respective expenditures reported in each range in prior years.

### **Prescribed Medicines**

There are one total utilization variable (RXTOT23) and 11 expenditure variables included on the 2023 full-year PUF relating to prescribed medicines. These 11 expenditure variables include an annual total expenditure variable (RXEXP23) and 10 corresponding annual source of payment variables (RXSLF23, RXMCR23, RXMCD23, RXPRV23, RXVA23, RXTRI23, RXOFD23, RXSTL23, RXWCP23, and RXOSR23). The total utilization variable is a count of all fills and refills of prescribed medications obtained during 2023. The total expenditure variable sums all amounts paid out-of-pocket and by third party payers for each prescription obtained in 2023. No variables reflecting charges for prescription medicines are included because a large proportion of respondents to the MEPS pharmacy component survey did not provide charge data (see below).

### **Prescribed Medicines Data Collected**

Data regarding prescription drugs were obtained through the household questionnaire and a pharmacy component survey. During each round of the MEPS HC, all respondents were asked to supply the name of any prescribed medication they or their family members purchased or otherwise obtained during that round. For each medication and in each round, the MEPS collected the number of times the prescription drug was obtained or purchased. In the round each medication was first reported, the following information was collected: the name(s) of any health conditions the medication was prescribed for, and the year and month which the person first used the medication. Respondents were also asked the names, addresses, and types of pharmacies that filled the household's prescriptions. Payment information was collected in the pharmacy component survey.

Pharmacy providers identified by the household were contacted by telephone in the pharmacy component if permission to release their pharmacy records was obtained in writing from the person with the prescription. The signed permission forms were provided to the various establishments prior to making any requests for information. Each establishment was informed of all persons participating in the survey that had prescriptions filled there in 2023 and a computerized printout containing information about these prescriptions was sought. For each

medication listed, the following information was requested: national drug code (NDC), medication name, strength of medicine (amount and unit), quantity (package size and amount dispensed), and payments by source.

Information about diabetic supplies and equipment, such as syringes and test strips, were reported in the prescription drug section of MEPS, and use of and expenditures for these items are included in the person-level prescribed medicine variables.

### **Prescribed Medicines Data Editing and Imputation**

The general approach to preparing the household prescription data for this PUF was to utilize the pharmacy component prescription data to assign expenditure values to the household drug mentions. For those with PC data, a matching program was adopted to link pharmacy component drugs and the corresponding drug information to household drug mentions. To improve the quality of these matches, all drugs on the household and pharmacy PUFs were coded based on the medication names provided by the household and pharmacy, and when available, the national drug code (NDC) provided in the pharmacy survey. Considerable editing was done prior to the matching to correct data inconsistencies in both datasets, fill in missing data, and correct outliers on the pharmacy PUF.

Drug price per unit outliers were analyzed on the pharmacy PUF by first identifying the national average drug acquisition cost (NADAC) per unit, wholesale acquisition unit cost (WAUC), and average wholesale unit price (AWUP) of the drug by linkage through the NDC to secondary databases. In general, prescription drug unit prices were deemed to be outliers by comparing unit prices reported in the pharmacy database to the NADAC per unit and were edited, as necessary. Prior to 2021, AWUP was the benchmark used to identify outlier prices for prescription medications in the PC. Beginning with the 2007 data, the rules used to identify outlier prices relative to the AWUP changed. New outlier thresholds were established based on the distribution of the ratio of retail unit prices relative to the AWUP in the 2006 MarketScan Outpatient Pharmaceutical Claims database.

Starting with the 2008 Prescribed Medicine PUF, improvements in the data editing changed the distribution of payments by source: (1) more spending on Medicare beneficiaries is by private insurance, rather than Medicare, and (2) there are less out-of-pocket payments and more Medicaid payments among Medicaid enrollees. Beginning with the 2009 data, another change affected the data for Medicare beneficiaries with both Part D and Medicaid coverage: reported Medicaid and other state and local program payments were no longer edited to be Medicare payments. Beginning with the 2017 data, changes in the price imputation procedures for specialty drugs with missing payment information resulted in higher total prescribed medicines expenditures.

Beginning with the 2021 data, the rules used to identify outlier prices for prescription medications in the PC were improved based on newer price benchmarks and analyses (Ding & Hill, 2022). New outlier thresholds were established based on the distribution of the ratio of retail unit prices relative to the NADAC per unit, collected for the Centers for Medicare and Medicaid Services. When the NADAC per unit is not available, then the WAUC is used, and if neither are available, the AWUP is used. AWUP and WAUC are list prices, not averages, so the NADAC per unit better reflects the prices paid for drugs, and as a result the prices paid for

generics are lower in the 2020 data, compared with the 2019 data, and fewer generic fills have third party payments.

For Round 3, which span two years, drug mentions in the round were allocated between the years based on the following information: the number of times the respondent said the drug was purchased in the respective year, the year the person started taking the drug, the length of the person's round, the dates of the person's round, and the number of fills of that drug for that person in the round.

### **Collapsed Source of Payment Variables**

Two additional source of payment variables are included for each health care service category as a convenience to analysts since they are common analytic groupings of the payment sources. The first (\*\*PTR23 series) is the sum of the private and Tricare payer categories (i.e.,  $***PTR23 = ***PRV23 + ***TRI23$ ). The second (\*\*OTH23 series) is the sum of the least common source of payment categories including: 1) other federal (\*\*OFD23), 2) state and local (\*\*STL23), and 3) other sources (\*\*OSR23). Since the \*\*PTR23 and \*\*OTH23 variable series represent combined totals of existing individual source of payment variables, analysts should exercise caution to avoid inappropriate double counting of expenditures when working with these variables.

## **2.5.12 Changes in Variable List**

Variables were added and deleted from the PUF because of changes in the questions asked in 2023 relative to prior years. The [MEPS HC questionnaires](#) can be found on the MEPS website.

The following variables were added to or deleted from the 2023 Consolidated PUF.

### ***Added***

- |                |               |               |
|----------------|---------------|---------------|
| • COVAXNEW31   | • COVYRDX31   | • MCRPHD42    |
| • COVAXNEW42   | • EVERSERVED  | • NHRWGRND31  |
| • COVID12MO31  | • INDCAT31_17 | • NHRWGRND42  |
| • COVIDEVER31  | • INDCAT42_17 | • NHRWGRND53  |
| • COVMNTHX31   | • INDCAT53_17 | • OCCCAT31_18 |
| • COVREDABIL31 | • LCEVER31    | • OCCCAT42_18 |
| • COVSYMNOW31  | • MCRPHD31    | • OCCCAT53_18 |

***Added (included in alternating years only, will not be included in 2024):***

- |            |                |                |
|------------|----------------|----------------|
| • ADAPPT42 | • ADRISK42     | • CHRESP42     |
| • ADEXPL42 | • ADRTCR42     | • CHRTCR42     |
| • ADEZUN42 | • ADRTWW42     | • CHRTWW42     |
| • ADFFRM42 | • ADSMOK42     | • CHSPEC42_M18 |
| • ADFHLP42 | • ADSNSP42     | • DADPRO42     |
| • ADHECR42 | • ADSPCL42     | • GETTRB42     |
| • ADILCR42 | • ADTLHW42     | • HAVFUN42     |
| • ADILWW42 | • ADUPRO42     | • HOMEBH42     |
| • ADINSA42 | • CHAPPT42     | • KIDPRO42     |
| • ADINSB42 | • CHEXPL42     | • MOMPRO42     |
| • ADINST42 | • CHEYRE42_M18 | • NERVAF42     |
| • ADLIST42 | • CHHECR42     | • SCHLBH42     |
| • ADNSMK42 | • CHILCR42     | • SCHPRO42     |
| • ADOVER42 | • CHILWW42     | • SIBPRO42     |
| • ADPRTM42 | • CHLIST42     | • SPRPRO42     |
| • ADRESP42 | • CHPRTM42     | • UNHAP42      |

***Deleted***

- |                 |            |            |
|-----------------|------------|------------|
| • BOOSTERSHOT31 | • DSCB2153 | • DSCHNV53 |
| • BOOSTERSHOT42 | • DSCGRP53 | • DSCINT53 |
| • DCSELIG       | • DSCH2153 | • DSCNPC53 |
| • DIABWyyF      | • DSCH2253 | • DSCONF53 |
| • DSA1C53       | • DSCH2353 | • DSCPCP53 |

- DSCPHN53
- DSDIA53
- DSDIET53
- DSEB2153
- DSEY2153
- DSEY2253
- DSEY2353
- DSEYNV53
- DSEYPR53
- DSFB2153
- DSFL2153
- DSFL2253
- DSFL2353
- DSFLNV53
- DSFT2153
- DSFT2253
- DSFT2353
- DSFTNV53
- DSINSU53
- DSKIDN53
- DSMED53
- DSPRX53
- DSVB2153
- INDCAT42
- INDCAT53
- OCCCAT42
- OCCCAT53

***Deleted (Included in alternating years only, will be included in 2024)***

- ADAGE42
- ADASKALC42
- ADBLDS42
- ADBMI42
- ADBNDN42
- ADBPCK42
- ADBRST42
- ADBRTC42
- ADCHLC42
- ADCLNS42
- ADCOLN42
- ADCOMPAN42
- ADDAYEXER42
- ADDEBT42
- ADDSCU42
- ADFLST42
- ADISOL42
- ADLATERENT42
- ADLATEUTIL42
- ADLEFTOUT42
- ADMDVT42
- ADMINSEXER42
- ADMISSCCLN42
- ADMMGR42
- ADMNTRT42
- ADMOOD42
- ADNOAP42
- ADNUMDRK42
- ADOFTALC42
- ADOFTB42
- ADOSTP42
- ADPAP42
- ADPAPG42
- ADPNEU42
- ADPROBTRT42
- ADPROS42
- ADPSAG42
- ADQTHP42
- ADQTMD42

- ADQTTB42
- ADRNK442\_M20
- ADRNK542\_M20
- ADSEX42
- ADSGMD42
- ADSHNG42
- ADSLEEP42
- ADSTAL42
- ADTBAC42
- ADTRTEXP42
- ADUNABTRT42
- ADUNEXPEXP42
- ADUTRM42
- ADWGH42
- ADWTAD42
- BOOST42
- CHBMIX42
- EATHLT42
- HELMET42
- LAPBLT42
- MESHGT42
- MESVIS42
- MESWGT42
- NOSMOK42
- PHYSCL42
- SAFEST42
- TIMALN42
- WHNBST42
- WHNEAT42
- WHNHEL42
- WHNHGT42
- WHNLAP42
- WHNPHY42
- WHNSAF42
- WHNSMK42
- WHNWGT42

## 2.6 Linking to Other Files

### 2.6.1 Event and Condition Files

Records in this PUF can be linked to the 2023 MEPS HC event and Medical Conditions PUFs by the sample person identifier (DUPERSID). The Panel 27 cases on this PUF (PANEL=27) can also be linked back to the 2022 MEPS HC event and Medical Conditions PUFs.

### 2.6.2 National Health Interview Survey

The set of households selected for the MEPS is a subsample of those participating in the NHIS; thus, each MEPS panel can also be linked back to the previous year's NHIS public use data files. For information on obtaining the MEPS/NHIS link files, please see the [AHRQ website](#).

### 2.6.3 Longitudinal Analysis

Panel-specific longitudinal files can be downloaded from 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 this PUF 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 Consolidated PUFs from the two years covered by that panel.

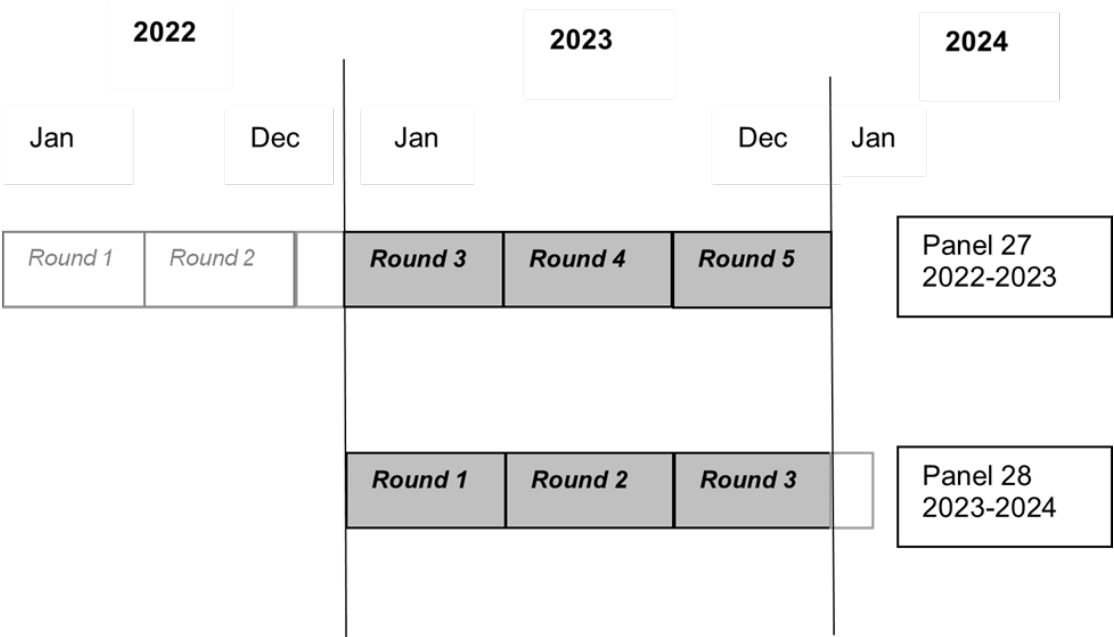
For more details or to download the data files, please see Longitudinal Weight Files at the [AHRQ website](#).

### 3.0 Survey Sample Information

#### 3.1 Background on Sample Design and Response Rates

The MEPS is designed to produce estimates at the national and regional level over time for the U.S. civilian noninstitutionalized population and some subpopulations of interest. The data in this PUF pertain to calendar year 2023.

Modifications to the MEPS sample design because of the COVID-19 pandemic ended in 2022 (see documentation for the FY2022 MEPS Consolidated PUF for details of the modifications). Thus, the data in this PUF were collected with the standard procedure of Rounds 1, 2, and 3 for Panel 28 and Rounds 3, 4, and 5 for Panel 27. (Note that Round 3 for a MEPS panel is designed to overlap two calendar years, as illustrated below.)



Variables convey the same information for this full year consolidated file that has been provided for the full year consolidated files associated with years 1996 - 2022 of MEPS.

A sample design feature shared by both Panel 27 and Panel 28 involves the partitioning of the sample domain “Other” (serving as the catchall stratum and consisting mainly of households with “White” members) into two sample domains. This was done for the first time in Panel 16. The two domains distinguished between households characterized as “complete” respondents to



the NHIS and those characterized as “partial completes.” Starting with Panel 25, the “Other, Partial” domain also includes NHIS households that have provided only a roster of household members. NHIS partial completes typically have a lower response rate to MEPS, and for both MEPS panels, the partial domain was sampled at a lower rate than the complete domain. This approach has reduced survey costs because the partials tend to have higher costs in gaining survey participation, but it has also increased sample variability stemming from the resulting increased variability in sampling rates. For detailed information on the MEPS sample design, see Chowdhury, et al. (2019).

### **3.1.1 MEPS-Links to the National Health Interview Survey**

Each responding household in the 2023 MEPS dataset is associated with one of the two separate and overlapping panels: Panel 27 and Panel 28. These panels consist of subsamples of households that participated in the 2021 and 2022 NHIS, respectively.

Whenever there is a change in sample or study design, it is good survey practice to assess whether such a change could affect the sample estimates. For example, increased coverage of the target populations with an updated sample design based on data from the latest Census can improve the accuracy of the sample estimates. MEPS estimates have been and will continue to be evaluated to determine whether an important change in the survey estimates might be associated with a change in design. Background on the two NHIS sample redesigns of interest here is provided next.

#### ***Background on the NHIS Sample Redesign Implemented in 2016***

Beginning in 2016, NCHS implemented another new sample design for the NHIS, which differed substantially from the prior design. Each of the 50 states as well as the District of Columbia served as explicit strata for sample selection purposes with the intent of providing the capability of state-level NHIS estimates obtained through pooling across years if the sample size for a single year would result in unreliable estimates. In contrast to the previous design, households in areas with relatively high concentrations of minorities were not oversampled. PSUs are still formed at the county level. However, within the sampled PSUs, the clusters of addresses that have been sampled for each year of the NHIS are not in the form of segments (consisting of one or more Census blocks) as they were in the previous NHIS designs. For the 2016 NHIS, each such cluster consisted of roughly 25 subclusters selected by using random systematic sampling across the full geography of the PSU. Each subcluster is made up of, generally, 4 nearby addresses or roughly 100 addresses in all. The number of subclusters per cluster can vary from year to year.

Another major change is that the list of DUs (addresses) was obtained from the Computerized Delivery Sequence File (CDSF) of the U.S. Postal Service, and its approach differs from the standard listing process for area probability samples used in the pre-2016 designs. While addresses in the CDSF provide very high coverage of most areas of the country, coverage in rural areas can be somewhat lower. For rural areas in which this was a concern, address lists were created through the conventional listing process. NCHS describes [the NHIS sample design](#) on the NHIS website.

### ***Panel 27 Household Sample Size***

A subsample of 9,700 households was randomly selected for Panel 27 from the households responding to the 2021 NHIS, 9,694 of which were fielded for MEPS after the elimination of any units characterized as ineligible for fielding.

### ***Panel 28 Household Sample Size***

A subsample of 9,800 households was randomly selected for Panel 28 from the households responding to the 2022 NHIS, 9,774 of which were fielded for MEPS after the elimination of any units characterized as ineligible for fielding.

### ***Implications of the New Design on MEPS Estimates***

Under the new design, the MEPS sampled households reflect the clustering of the NHIS as described above but to a somewhat lesser degree because of the sampling from NHIS respondents. Because the NHIS sample is spread in small subclusters across the PSU, and because the sampling is limited to NHIS respondents only, the impact of clustering on the variance of MEPS estimates may be more limited. Also, in contrast to the previous design, the NHIS sampling rates at the address level currently do not vary as a function of the oversampling of minorities (although this could change in subsequent years). On balance, the overall variation in sampling rates/weights at the national level for the NHIS is expected to be lower, with a corresponding positive impact on the precision of MEPS estimates. However, with a reduction in the sample sizes of minority households, the precision levels of MEPS estimates for Asians, Blacks, and Hispanics may be reduced to some extent.

### **3.1.2 Discussion of Pandemic Effects on Quality of MEPS Data**

As mentioned in Section 3.1, modification to the MEPS sample design because of the pandemic ended in 2022. Concerns of potential bias due to these modifications should no longer apply to data collected in this PUF. However, like most other surveys, MEPS has been substantially affected by the pandemic. As a result of these changes, potential bias continues to be a concern. One effect of the pandemic is the significantly lower response rates (Section 3.2), and these lower rates might differentially exclude households more likely to experience IP stays. The demographic shifts on MEPS between 2019 and 2022 suggest a more educated, higher-income, older MEPS sample. (For more detail, see Section 3.1 of the 2020 Consolidated PUF, Section 3.1 of the 2021 Consolidated PUF, and Section 3.1.2 of the 2022 Consolidated PUF.)

Analyses undertaken to examine the quality of the MEPS FY 2023 data compare health care utilization and health insurance coverage for the MEPS target population between the panels fielded. These comparisons were undertaken for the full sample and the three age groups of 0-17, 18-64, and 65+. These comparisons found no abnormal differences between the two panels. Analyses across years also suggest a rebound to pre-pandemic utilization levels for most key event types.

The various actions taken in the development of the person-level weights for the MEPS FY 2023 data were designed to limit the potential for response bias. However, analysts of the MEPS FY 2023 Consolidated PUF should continue to exercise caution when interpreting estimates and assessing analyses, especially for data collected from 2020 through 2022. This includes the comparison of such estimates to those of other years and corresponding trend analyses.

### **3.1.3 Sample Weights and Variance Estimation**

Weight variables in the 2023 Consolidated PUF can be used to generate estimates of totals, means, percentages, and rates for persons and families in the U.S. civilian noninstitutionalized population. The person-level weight variable PERWT23F provided in this PUF supersedes the corresponding person-level weight variable provided in the 2023 Full Year Population Characteristic PUF (HC-247). Procedures and considerations associated with the construction and interpretation of person- and family-level estimates using these and other variables are discussed in this section. NCHS has modified the NHIS sample design since 2016, and that has affected the MEPS variance structure. This is discussed in detail in Section 3.9.1.

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

For most MEPS panels, a sample representing about three-eighths of the NHIS responding households is made available. This was the case for MEPS Panel 27 and Panel 28.

Because the MEPS subsampling has to be done soon after the 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 adjustment actually increases the overall MEPS response rate slightly, since the percentage of NHIS households designated for use in the MEPS (all those characterized initially as respondents from the NHIS panels and quarters used by the MEPS for a given year) is slightly larger than the final NHIS household-level response rate, and some NHIS nonresponding households do participate in the MEPS. However, as a result, these NHIS nonrespondents who are MEPS participants have no NHIS data that can be linked with MEPS data. Once the MEPS sample is selected from among the NHIS households, characterized as NHIS respondents, RUs consisting entirely of military personnel are deleted from the sample. Military personnel not living in the same RU as civilians are ineligible for the MEPS. After these exclusions, all RUs associated with households, selected from among those identified as NHIS responding households, are then fielded in the first round of the MEPS.

Table 19 shows in Rows A, B, and C the three informational components just discussed. Row A indicates the percentage of NHIS households eligible for the MEPS. Row B indicates the number of NHIS households sampled for the MEPS. Row C indicates the number of sampled households actually fielded for the MEPS (after the military members discussed above were dropped, and after a small number of NHIS households sampled in error were dropped). Note that all response rates discussed here are unweighted.

**Table 19**

**Sample Size and Unweighted Response Rates for the 2023 Consolidated PUF (Panel 28 Rounds 1-3/Panel 27 Rounds 3-5)**

| Components   | Panel 27                         | Panel 28                         | 2023<br>Combined |
|--|----------------------------------|----------------------------------|------------------|
| A. Percentage of NHIS households designated for use in the MEPS (those initially characterized as responding) <sup>a</sup> | 59.4%                            | 55.0%                            | -                |
| B. Number of households sampled from the NHIS  | 9,700                            | 9,800                            | -                |
| C. Number of households sampled from the NHIS and fielded for the MEPS   | 9,694                            | 9,774                            | -                |
| D. Round 1 - Number of RUs eligible for interviewing   | 10,007                           | 10,035                           | -                |
| E. Round 1 - Number of RUs with completed interviews   | 6,158                            | 6,527                            | -                |
| F. Round 2 - Number of RUs eligible for interviewing   | 6,285                            | 6,635                            | -                |
| G. Round 2 - Number of RUs with completed interviews   | 5,368                            | 5,766                            | -                |
| H. Round 3 - Number of RUs eligible for interviewing   | 5,429                            | 5,826                            | -                |
| I. Round 3 - Number of RUs with completed interviews   | 4,818                            | 5,143                            | -                |
| J. Round 4 - Number of RUs eligible for interviewing   | 4,868                            | -                                | -                |
| K. Round 4 - Number of RUs with completed interviews   | 4,509                            | -                                | -                |
| L. Round 5 - Number of RUs eligible for interviewing   | 4,544                            | -                                | -                |
| M. Round 5 - Number of RUs with completed interviews   | 4,262                            | -                                | -                |
| Overall annual unweighted response rates   | 24.1%                            | 27.4%                            | 26.1%            |
| P28: $A \times (E/D) \times (G/F) \times (I/H)$  | (Panel 27<br>through<br>Round 5) | (Panel 28<br>through<br>Round 3) |                  |
| P27: $A \times (E/D) \times (G/F) \times (I/H) \times (K/J) \times (M/L)$  |                                  |                                  |                  |
| Combined: $0.40 \times P27 + 0.60 \times P28$  |                                  |                                  |                  |

<sup>a</sup>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.

### **3.2.1 Response Rates**

To produce annual health care estimates for calendar year 2023 based on the full MEPS sample, data from Panel 27 and Panel 28 were combined. More specifically, full calendar year 2023 data collected in Rounds 3 - 5 for the Panel 27 sample were pooled with data from the first three rounds of data collection for the Panel 28 sample (the general approach is described below).

All response rates discussed in this section are unweighted. To understand how the MEPS response rates were calculated, some features related to data collection should be noted. When an RU is visited for a round of data collection, changes in RU membership are identified. Such changes include the formation of student RUs as well as other new RUs created when RU members from a previous round have moved to another location in the United States. Thus, the number of RUs eligible for an interview in a given round is determined after data collection is fully completed. The ratio of the number of RUs completing the 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 the MEPS in that round and is thus “conditioned” on prior participation rather than on representing the overall response rate through that round. For example, in Table 19, for Panel 28 Round 2, the ratio of 5,766 (Row G) to 6,635 (Row F) multiplied by 100 represents the response rate for the round (86.9 percent when computed), conditioned on the set of RUs characterized as eligible for the MEPS for that round. Taking the product of the percentage of the NHIS sample eligible for the MEPS (Row A) with the product of the ratios for a consecutive set of MEPS rounds beginning with Round 1 produces the overall response rate through the last round specified.

### **3.2.2 Panel 27 Response Rates**

A total of 9,694 households were fielded in 2022 for Panel 27 (as indicated in Row C of Table 19), a randomly selected subsample of the households responding to the 2021 NHIS.

Table 19 shows the number of RUs eligible for interviewing and the number completing the interview for all five rounds of Panel 27. Computing the individual round “conditional” response rates as described in Section 3.2.1 and then taking the product of these five response rates and the factor 59.4 (the percentage of the NHIS sampled households characterized as responding when the household sample was selected for the MEPS) yields an overall response rate of 24.1 percent for Panel 27 through Round 5.

### **3.2.3 Panel 28 Response Rates**

A total of 9,774 households were fielded in 2023 for Panel 28 Round 1 (Row C of Table 19), which is a randomly selected subsample of the households responding to the 2022 NHIS.

Table 19 shows the number of RUs eligible for interviewing in each round of Panel 28 as well as the number of RUs completing the interview. The overall response rate for Panel 28 was computed in a similar fashion to that of Panel 27, but it covered three rounds of interviewing as well as the factor representing the percentage of the NHIS sampled households eligible for the MEPS. The overall response rate for Panel 28 through Round 3 is 27.4 percent.

### **3.2.4 Annual (Combined Panel) Response Rate**

The overall unweighted response rate for 2023 for the combined sample after pooling the respondents across both panels was obtained by computing the product of the compositing factor associated with each panel (discussed in Section 3.3.5 which describes the development of the final weight for the FY 2023 Consolidated PUF) and the corresponding overall panel response rate and then summing the two products. The Panel 27 response rate was weighted by a factor of 0.40, and the Panel 28 response rate was weighted by a factor of 0.60, reflecting approximately the distribution of the overall sample across both panels. The resulting combined response rate for the combined panels was computed as  $(0.40 \times 24.1) + (0.60 \times 27.4)$ , or 26.1 percent (as shown in Table 19).

### **3.2.5 Oversampling**

Oversampling is a feature of the MEPS sample design that helps to increase the precision of estimates for some subgroups of interest. This section discusses the concept of oversampling and how it relates to the MEPS.

For a sample in which 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, to improve the precision of estimates for specific 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, an oversampled subgroup comprises a higher proportion of the sample than it represents in the general population. Sample weights ensure that population estimates are not distorted by a disproportionate contribution from oversampled subgroups. Base sample weights for oversampled groups are 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 (before nonresponse or poststratification adjustments) that are roughly half the size of the group not oversampled.

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

The NHIS no longer oversamples households with members who are Asian, Black, or Hispanic. Nevertheless, these minority groups are still of analytic interest for the MEPS. As a result, for Panels 27 and 28, all households in the Asian, Hispanic, and Black domains were sampled with certainty (i.e., all households assigned to those domains were included in the MEPS). For Panel 27, the corresponding sampling rates for the Other, complete domain and the Other, partial complete domain were a little over 80 percent and slightly under 80 percent, respectively. For Panel 28, the corresponding sampling rates for the Other, complete domain and the Other, partial complete domain were about 98 percent and 61 percent, respectively.

Within the “noncertainty” strata (the “Other” domains) for both Panel 27 and Panel 28, responding NHIS households were selected for the MEPS by using a systematic sample selection procedure from among the eligible households. Households were selected with probability proportionate to size (PPS), where the size measure was the inverse of the NHIS initial probability of selection. The purpose of PPS sampling was to help reduce the variability in the MEPS weights incurred as a result of the variability of the NHIS sampling rates.

A note with respect to the interpretation of the MEPS response rates, which are unweighted. Sample allocations across sample domains typically change from one MEPS panel to another. The sample domains may also vary by panel, although this was not the case for Panel 27 and Panel 28. When one compares unweighted measures (e.g., response rates) between panels and years, one should take into account such differences. Suppose, for example, that members of one domain have a lower propensity to respond than those of another domain. If the former domain has been allocated a higher proportion of the sample, the corresponding panel may have a lower unweighted response rate simply because of the differences in sample allocation.

### **3.3 Background on Person-Level Estimation Using this MEPS Public Use Release**

#### **3.3.1 Requirements to Receive a Person-Level Weight**

There is a single full year person-level weight (PERWT23F) assigned to each record for each Key, in-scope person who responded to MEPS for the full period of time that they were in scope during 2023. A Key person is either a member of a responding NHIS household at the time of the interview or joined a family associated with such a household after being out of scope at the time of the NHIS (the latter circumstance includes newborns as well as those returning from military service, an institution, or residence in a foreign country). A person is in scope whenever they are a member of the civilian noninstitutionalized portion of the U.S. population.

#### **3.3.2 Details on Person-Level Weights Construction**

The person-level weight PERWT23F was developed in several stages. Initially, weights were developed for the Full Year 2023 Population Characteristics PUF, released a number of months earlier. Preliminary person-level weights for Panel 27 and Panel 28 were first created separately. The weighting process for each panel included adjustments for nonresponse over time and a

calibration to the same independent population figures. Only those who were in scope on December 31, 2023, were raked to Current Population Survey (CPS) control totals.

The calibration was undertaken for each panel separately by raking the nonresponse adjusted weights to CPS population estimates based on six variables. The six variables used in the establishment of the person-level control figures were: education of the reference person (no degree, high school/GED only or some college, bachelor's or a higher degree); census region (Northeast, Midwest, South, West); MSA status (MSA, non-MSA); race/ethnicity (Hispanic; Black, non-Hispanic; Asian, non-Hispanic; and other); sex; and age (0-18, 19-25, 26-34, 35-44, 45-64, and 65 or older). (Note for confidentiality reasons, the MSA status variables are no longer released for public use.)

A weight for the full sample was created by applying compositing factors to the weights associated with each panel where the factors are all greater than 0 and sum to 1. The compositing factors for these weights reflect the relative "effective sample size" of each panel, representing the inverse of the relative amount of variability in the individual panel estimates attributable to the variability of the sample weights and sample size. Using these factors helps limit the variability of the estimates obtained using the composited weights across the two samples pooled.

The effective sample sizes were computed for each panel by dividing the sample size by the design effect associated with the variability of the nonresponse-adjusted person weights in that panel (i.e., before raking the weights of a panel) across the person-level respondents in the panel. The relative effective sample size was then computed by taking the ratio of the effective sample size for a panel to the sum of the effective sample sizes across both panels.

Using the relative nominal sample sizes (the proportions that the number of respondents in a panel represent among the total number of respondents in both panels) as compositing factors has worked well for MEPS in previous years. However, in 2020 because the panel weights were more variable due to the higher than usual nonresponse, we switched to using the relative effective sample size to increase the effectiveness of the compositing factors by limiting variance to some extent. We have continued with this approach after 2020 and plan to proceed for MEPS in future years as well.

In terms of the actual details, the individual panel weights from Panel 27 were multiplied by the factor .40, and weights from Panel 28 by the factor .60. Once the compositing factors were applied to produce a full-sample weight, a final raking was undertaken, based on the same six variables used in the raking of the individual panel weights. This weight served as the person-level weight appearing on the Full Year 2023 Population Characteristics PUF.

The standard approach for establishing the 2023 Consolidated PUF weight from the 2023 Population Characteristics PUF is as follows. When MEPS poverty status information derived from MEPS income variables becomes available, a final raking is undertaken. The full sample weight appearing on the Population Characteristics PUF for a given year is re-raked, replacing educational attainment with poverty status while retaining the other five raking variables previously indicated. Specifically, control totals based on CPS estimates of poverty status (five categories: less than 100% of poverty, 100% to less than 125% of poverty, 125% to less than



200% of poverty, 200% to less than 400% of poverty, greater than or equal to 400% of poverty) as well as age, race/ethnicity, sex, region, and MSA status are used to calibrate weights. Only those in scope on December 31, 2023 were included in the raking process.

### **3.3.3 MEPS Panel 27 Weight Development Process**

The person-level weight for MEPS Panel 27 was developed by using the 2022 full-year weight for an individual as a “base” weight for survey participants present in 2023.

For Key, in-scope members who joined an RU at some time in 2023 after being out of scope in 2022, the initially assigned person-level weight was the corresponding 2022 family-level weight. The weighting process also included an adjustment for person-level nonresponse over Rounds 4 and 5 as well as raking to the population control figures for December 2023 for Key, responding persons in scope on December 31, 2023. These control totals were derived by scaling back the population distribution obtained from the March 2024 CPS to reflect the December 31, 2023 estimated population total (estimated based on Census projections for January 1, 2024).

Variables used for person-level raking included: education of the reference person (no degree, high school/GED only or some college, bachelor’s or a higher degree); Census region (Northeast, Midwest, South, West); MSA status (MSA, non-MSA); race/ethnicity (Hispanic; Black, non-Hispanic; Asian, non-Hispanic; and other); sex; and age (0-18, 19-25, 26-34, 35-44, 45-64, and 65 or older). (Note for confidentiality reasons, the MSA status variables are no longer released for public use.) The final weight for key responding persons who were not in-scope on December 31, 2023 but were in-scope earlier in the year was the nonresponse-adjusted person weight without raking.

Note that the 2022 full-year weight that was used as the base weight for Panel 27 was derived from the 2022 MEPS Round 1 weight and reflected an adjustment for nonresponse over the remaining data collection rounds in 2022 as well as raking to the December 2022 population control figures.

### **3.3.4 MEPS Panel 28 Weight Development Process**

The person-level weight for MEPS Panel 28 was developed by using the 2023 MEPS Round 1 person-level weight as a “base” weight. The Round 1 weights incorporated the following components: the original household probability of selection for the NHIS and for the NHIS subsample reserved for the MEPS, an adjustment for NHIS nonresponse, the probability of selection for the MEPS from the NHIS, an adjustment for nonresponse at the dwelling unit level for Round 1, and raking to control figures at the person level obtained from the March CPS of the corresponding year. For Key, in-scope members who joined an RU after Round 1, the Round 1 DU weight served as a base weight.

The weighting process also included an adjustment for nonresponse over the remaining data collection rounds in 2023 as well as raking to the same population control figures for December 2023 that were used for the Panel 27 weights for Key, responding persons in scope on December 31, 2023. The same six variables used for Panel 27 raking (education level of the reference person, Census region, MSA status, race/ethnicity, sex, and age) were also used for Panel 28

raking. Similar to Panel 27, the Panel 28 final weight for Key, responding persons who were not in scope on December 31, 2023 but were in scope earlier in the year was the nonresponse-adjusted person-level weight without raking.

### 3.3.5 The Final Person-Level Weight for 2023

As described in Section 3.3.2, person-level weights from both panels were then composited using factors identified in 3.3.2 and, for those persons in scope on December 31, 2023, raked to CPS based control totals reflecting poverty status as well as Census region, MSA status, race/ethnicity, sex, and age. In addition, the composite weights of two groups of persons who were out of scope on December 31, 2023 underwent weight calibration to adjust for expected undercoverage. Specifically, the weights of those who were out of scope on December 31, 2023, but in scope at some time during the year and were residing in a nursing home at the end of the year were poststratified to an estimated number of persons who were residents of Medicare- and Medicaid-certified nursing homes for part of the year (approximately 3-9 months) during 2014. This estimate was developed from data on the Minimum Data Set (MDS) of the Center for Medicare and Medicaid Services (CMS). The weights of persons who died while in scope during 2023 were poststratified to corresponding estimates derived using data obtained from the Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), [Provisional Mortality Statistics, 2018 through Last Week](#) on [CDC WONDER](#) Online Database, released in 2024, the latest available data at the time. Separate decedent control totals were developed for the “65 and older” and “under 65” civilian noninstitutionalized populations.

The sum of the person-level weights across all persons assigned a positive person-level weight, (i.e., for the civilian, noninstitutionalized or in-scope population over the course of the year (based on PERWT23F>0) is 334,530,273 (see Table 20). The corresponding total for the population that was in scope on December 31, 2023 is 330,710,135.

**Table 20**  
*Number of Person-level Respondents and Corresponding Population Estimates for the 2023 Full Year Consolidated PUF*

| Populations of interest   | Panel 27 | Panel 28 | Combined | Population estimate (weighted total of combined samples) |
|---|----------|----------|----------|--|
| Civilian, Noninstitutionalized Population over the course of 2023 | 8,175    | 10,288   | 18,463   | 334,530,273  |

| Populations of interest  | Panel 27 | Panel 28 | Combined | Population estimate (weighted total of combined samples) |
|--|----------|----------|----------|--|
| Civilian, Noninstitutionalized Population on December 31, 2023 | 8,080    | 10,181   | 18,261   | 330,710,135  |

### 3.3.6 A Note on MEPS Population Estimates

Beginning with the 2021 full-year data, the MEPS was transitioned to 2020 Census-based population estimates from the CPS for poststratification and raking. CPS estimates began reflecting 2020 Census-based data in 2022, and the March 2024 CPS data serve as the basis for the 2023 MEPS weight calibration efforts. An article ([“Adjustments to Household Survey Population Estimates in January 2022”](#)) discussing the impact of this transition can be found at the Bureau of Labor statistics website.

The updated population controls will have a noticeable effect on estimated totals for some population subgroups. In the article, the Bureau of Labor Statistics (2022) compares some 2021 CPS estimates for those aged 16 or older “as published” with estimates that would have been generated had the updated population controls been used. The more notable increases in estimated totals occurred in the following subgroups: those aged 16-19 (about a half million more, a 3.5 percent increase) and Asians (170,000 more, a 1 percent increase). Corresponding changes were thus anticipated for the MEPS full-year data beginning with the 2021 PUFs.

## 3.4 Coverage

The target population associated with this MEPS database is the 2023 U.S. civilian noninstitutionalized population. However, the MEPS sampled households are a subsample of the NHIS households interviewed in 2021 (Panel 27) and 2022 (Panel 28). New households created after the NHIS interviews for the respective panels and consisting exclusively of persons who entered the target population after 2021 (Panel 27) or after 2022 (Panel 28) are not covered by the 2023 MEPS. Nor are previously out-of-scope persons who joined an existing household but are not related to the current household residents. Persons not covered by a given MEPS panel thus include some members of the following groups: immigrants, persons leaving the military, U.S. citizens returning from residence in another country, and persons leaving institutions. Those not covered represent a small proportion of the MEPS target population.

## **3.5 Background on Family-Level Estimation Using This MEPS Public Use File**

### **3.5.1 Overview**

There are two family weight variables provided in this release: FAMWT23F and FAMWT23C. FAMWT23F can be used to make estimates for the cross-section of families in the U.S. civilian noninstitutionalized population on December 31, 2023 where families are identified based on the MEPS definition of a family unit. Estimates can include MEPS families that existed at some time during 2023 but whose members became out of scope before the end of the year (e.g., all family members moved out of the country, died, etc.) as well as MEPS families in existence on December 31, 2023. FAMWT23C can be used to make estimates for the cross-section of families in the U.S. civilian, noninstitutionalized population on December 31, 2023 where families are identified based on the CPS definition of a family unit. Note that married couples, regardless of sex, are assigned to the same family unit for the CPS. This represents a definitional change in family structure for the CPS with the 2021 CPS ASEC file, associated specifically with March, 2021. It is reflected in MEPS starting with the 2019 Consolidated PUF.

### **3.5.2 Definition of “Family” for Estimation Purposes**

A MEPS family generally consists of two or more persons living together in the same household who are related by blood, marriage, or adoption. The MEPS definition of family includes unmarried persons living together who consider themselves a family unit (these are not families under the CPS definition). Single people who do not live with a relative or a person identified as a “significant other” have also been assigned a family ID value and a family-level weight. Thus, they can be included or excluded from family-level estimates, as desired. Relatives identified as usual residents of the household 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.

To make estimates at the family level, it is necessary to prepare a family-level file containing one record per family (see instructions below), family-level summary characteristics, and the family-level weight variable (FAMWT23F or FAMWT23C). Each MEPS family unit is uniquely identified by the combination of the variables DUID and FAMIDYR while each CPS family unit is uniquely identified by the combination of the variables DUID and CPSFAMID. Only persons with positive nonzero family weight values are candidates for inclusion in family estimates.

Two sets of families for whom estimates can be obtained are defined in Table 21 below (along with respective sample sizes). Persons with FMRS1231=1 were a member of a MEPS family on 12/31/23. The more expansive definition of families (second row in Table 21) includes families and members of families who were not in scope at the end of the year. While MEPS includes individual persons as family units (over 41% of all units), analysts may restrict their analyses to families with two or more members using the family size variables shown in Table 21 (for example, to limit consideration to the cross-section of families with two or more members on December 31, 2023, analyze only families where FAMS1231 is 2 or more). Estimates can also

be made for the cross-section of CPS families on December 31, 2023 based on the 8,438 sample CPS families in this PUF.

**Table 21**

***Identifying MEPS Families and Corresponding Sample Sizes***

| Population of interest  | Cases to include        | Sample size (includes single person units) | Family size variable |
|---|-------------------------|--|----------------------|
| Cross-section of families in the civilian noninstitutionalized population on 12/31/23   | FAMWT23F>0 & FMRS1231=1 | 8,063                                      | FAMS1231             |
| Families in the civilian noninstitutionalized population on 12/31/23 plus families and members of families in existence earlier in 2023 who were not part of the civilian noninstitutionalized population on 12/31/23 | FAMWT23F>0              | 8,133                                      | FAMSZEYR             |

### 3.5.3 Instructions to Create Family Estimates

The following is a summary of the steps and the variables to be used for family-level estimation based on the MEPS definition of families.

- Restrict the records of interest to those where FAMWT23F>0
- Concatenate the variables DUID and FAMIDYR into a new variable (e.g., DUIDFAMY).
- To create a family-level file, sort by DUIDFAMY and then subset to one record per DUIDFAMY value by retaining only the reference person record (FAMRFPYR=1) for each value of DUIDFAMY. Some family-level measures needed for analytic purposes (e.g., means or totals) can be obtained after aggregating person-level information across all members of a family. For other types of measures, analysts frequently use the characteristics of the reference person to characterize their family unit (e.g., the race/ethnicity, marital status, or age of the reference person).
- Apply the weight FAMWT23F to the analytic variable(s) of interest to obtain national MEPS family estimates.

Note that the MEPS families defined above include members who were out-of-scope on December 31, 2023 although they were members of the family immediately before going out of scope for the remainder of the year. If an analyst wishes to restrict MEPS family members to those who were a family member on December 31, 2023, the analyst should restrict family members to those with FMRS1231=1.

The following is a summary of the steps and the variables to be used for family-level estimation based on the CPS definition of families.

- Restrict the records of interest to those where FAMWT23C>0
- Concatenate the variables DUID and CPSFAMID into a new variable (e.g., DUIDFAMC).
- To create a family-level file, sort by DUIDFAMC and then subset to one record per DUIDFAMC value by retaining only the reference person record (FCRP1231=1) for each value of DUIDFAMC. Some family-level measures needed for analytic purposes (e.g., means or totals) can be obtained after aggregating person-level information across all members of a family. For other types of measures, analysts frequently use the characteristics of the reference person to characterize their family unit (e.g., the race/ethnicity, marital status, or age of the reference person). (Note that to be strictly comparable to the CPS definition of families, only those with two or more family members should be included in analyses.)
- Apply the weight FAMWT23C to the analytic variable(s) of interest to obtain national CPS family estimates.

Note that these CPS-families consist solely of those who were family members on December 31, 2023.

### **3.5.4 Details on Family Weight Construction and Estimated Number of Families**

Because health care related decisions are influenced by a family's economic status, poverty status is incorporated into the poststratification component of the weighting process. However, poverty status is defined based on the CPS definition of a family, which differs from the MEPS family definition in that unmarried partners living together are considered separate family units for the CPS. Since data are collected in MEPS family units (RUs) prior to poststratification, MEPS families in existence on December 31, 2023 containing unmarried partners living together were partitioned into units that correspond to CPS families (families with no unmarried partners are defined as family units in both MEPS and CPS).

The process of calibrating the family weights to achieve consistency with CPS control figures was carried out in several steps. First, all CPS-like family units were assigned an initial family-level weight based on the person-level weight (PERWT23F) of the family reference person (FAMRFPYR=1) of the MEPS family with which they were associated. These CPS family-level weights (FAMWT23C) were obtained by raking to population control figures derived from CPS estimates for December 2023 (derived by projecting the family population totals for the March 2023 CPS forward to reflect December 31, 2023). In addition to poverty status, the calibration process for the family-level weights incorporated the following variables: Census region; MSA status; race/ethnicity of reference person (Hispanic, Black but non-Hispanic, Asian, and other); family type (reference person married, living with spouse; male reference person, unmarried or spouse not present; female reference person, unmarried or spouse not present); age of reference person; and family size on December 31, 2023. The family-level weight variable for MEPS

families (FAMWT23F) was then constructed by putting MEPS families that consisted of more than one CPS-like family back together and assigning the MEPS family-level weight based on the CPS family weight of the MEPS family reference person.

The weighted population estimate for CPS families on December 31, 2023 based on 8,438 CPS families in the sample is 149,273,967. Overall, the weighted population estimate for the 8,063 MEPS family units containing at least one member of the U.S. civilian noninstitutionalized population on December 31, 2023 (those families whose members have FAMWT23F>0 and FMRS1231=1) is 140,940,905. The inclusion of families whose members left the in-scope population before December 31, 2023 increases the estimated total number of families represented by the 8,133 MEPS responding families (whose members have FAMWT23F>0) to 142,088,938.

**Table 22**

*Families with a Family Weight >0 for the 2023 Full Year Consolidated PUF*

|        | Panel 27 | Panel 28 | Combined | Population estimate<br>(weighted total of<br>combined samples) |
|--------|----------|----------|----------|--|
| Number | 3,622    | 4,511    | 8,133    | 142,088,938  |

### 3.6 Analysis Using Health Insurance Eligibility Units

To construct a weight for use in analysis using Health Insurance Eligibility Units, as identified by the variable HIEUIDX:

1. Identify the HIEU head by your analytic intent, i.e. if only studying health insurance unit with female heads of households, choose the female adult as head of household.
2. If the weight of the HIEU head is non-zero, use the weight of the HIEU head for all members of that HIEU; or

If the weight of the HIEU head is zero, delete the case.

### 3.7 Weights and Response Rates for the Self-Administered Questionnaire

For analytic purposes, a single person-level weight variable, SAQWT23F, has been provided for use with the data obtained from the Self-Administered Questionnaire (SAQ). This questionnaire was administered in Panel 27 Round 4 and Panel 28 Round 2 and was to be completed by each adult (person aged 18 or older) in the family. Thus, the target population for the SAQ is adults in the civilian noninstitutionalized population at the time data were collected for Rounds 4/2 (generally speaking, the fall of the year in question).



The final full-year person-level SAQ weight for 2023 was constructed as follows with only those with a 2023 full-year person-level weight ( $PERWT23F > 0$ ) eligible to receive the 2023 SAQ weight. The weighting process was similar to that of the full sample person-level weights: nonresponse adjustments for the weights for each panel separately; raking to CPS control totals; compositing the weights from both panels; and finally re-raking of the composited weights.

The weights were raked to CPS estimates corresponding to December 2023 (the same source of control figures used for the full-year person-level weights). The variables used to form control figures (education of the reference person, region, MSA status, age, sex, and race/ethnicity) are the same variables that were used for the full-year person-level weights. The only difference was that the CPS estimates were developed after excluding ages under 18 since only adults were eligible for the SAQ.

The final 2023 SAQ weight for this Consolidated PUF was then obtained by raking the preliminary weight to CPS estimates that were based on poverty status (replacing education of the reference person) as well as the aforementioned variables. This final weight was assigned the variable name `SAQWT23F`.

In all, there were 9,776 persons assigned an SAQ weight with the sum of the weights being 258,426,862 (an estimate of the civilian noninstitutionalized population aged 18 or older at the time the SAQ was administered).

The Panel 27 unweighted response rate for the 2023 SAQ was 58.6 percent, while the Panel 28 unweighted response rate for the 2023 SAQ was 59.4 percent. Pooled unweighted response rates for the survey respondents have been computed by taking a weighted average of the panel-specific response rates, where the weights were the relative proportion of effective sample size associated with each panel (Panel 27 response rate was weighted by a value of 0.40 and Panel 28 response rate was weighted by a value of 0.60). The pooled unweighted response rate for the combined panels for the 2023 SAQ is 59.1 percent.

### **3.8 Variance Estimation**

To obtain estimates of variability in the MEPS estimates (such as the standard error of sample estimates or corresponding confidence intervals), analysts should consider the complex sample design of the 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 (BRR), and jackknife replication (JK). Various software packages provide analysts with the capability of implementing these methodologies. MEPS analysts most commonly use the Taylor series approach. Although this PUF does not contain replicate weights, analysts can use the BRR methodology to construct replicate weights to develop variances for more complex estimators (see Section 3.8.2: Balanced Repeated Replication Method).



### **3.8.1 Taylor Series Linearization Method**

The variables needed to calculate appropriate standard errors based on the Taylor series linearization method are included on this file as well as all other MEPS PUFs. Software packages that permit the use of the Taylor series linearization method include SUDAAN, R, Stata, SAS (version 8.2 and higher), and SPSS (version 12.0 and higher). For complete information on the capabilities of a package, analysts should refer to the user documentation for the software.

With 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 PUF 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 software packages will provide estimated standard errors appropriate for assessing the variability of the MEPS estimates. Note 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 see at least 100 degrees of freedom associated with the estimated standard errors for national estimates based on this MEPS database.

Before 2002, the 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. Beginning with the 2002 Point-in-Time PUF, the approach changed with the intention that variance strata and PSUs would be developed to be compatible with all future PUFs until the NHIS design changed. Thus, when pooling data across years 2002 through Panel 11 of the 2007 files, analysts can use the variance strata and PSU variables provided without modifying them for variance estimation purposes for estimates covering multiple years of data. There are 203 variance estimation strata, each stratum with either two or three variance estimation PSUs.

Beginning in Panel 12 of the 2007 files, a new set of variance strata and PSUs was developed because of the introduction of a new NHIS design. There are 165 variance strata with either two or three variance estimation PSUs per stratum. Therefore, there are a total of 368 (203+165) variance strata in the 2007 Consolidated PUF, as it consisted of two panels that were selected under two independent NHIS sample designs. Since both MEPS panels in the full-year files from 2008 through 2016 are based on the same NHIS design, there are only 165 variance strata. These strata (VARSTR values) have been numbered from 1001 to 1165 so that they can be readily distinguished from those developed under the former NHIS sample design if data are pooled for several years.

The NHIS sample design was changed again in 2016, effectively changing the MEPS design beginning with calendar year 2017. Beginning with Panel 22 of the 2017 files, a new set of variance strata and PSUs were developed. There are 117 variance strata with either two or three variance estimation PSUs per stratum. Therefore, there are a total of 282 (165+117) variance strata in the 2017 Consolidated PUF as it consisted of two panels that were selected under two independent NHIS sample designs. To make the pooling of data across multiple years of the MEPS more straightforward, the numbering system for the variance strata was changed. The strata associated with the new design are numbered from 2001 to 2117.

The NHIS sample design was further modified in 2018, so the MEPS variance structure for the 2019 Consolidated PUF was also modified, reducing the number of variance strata to 105. Consistency was maintained with the prior structure in that the 2019 variance strata were also numbered within the range of values from 2001 to 2117, although there are now gaps in the values assigned within this range. Because of the modification, each stratum could contain up to 5 variance estimation PSUs.

For Panel 26 in the 2021 and 2022 Consolidated PUFs, an additional NHIS sample was used for the MEPS to account for increasing nonresponse during the pandemic (as discussed in Section 3.1.2). The additional sample was assigned to the existing variance strata, so the 2021 and 2022 Consolidated PUFs continued to have 105 variance strata, numbered 2001-2117, with a few gaps in the values in that range. In many cases, the additional sample was assigned to new variance estimation PSUs, so in the 2021 and 2022 Consolidated PUFs, each stratum contained up to eight variance estimation PSUs.

Additional NHIS samples were no longer needed in 2023, leading to fewer variance estimation PSUs than in the 2021 and 2022 Consolidated PUFs. Simultaneously, the 2022 NHIS sample associated with MEPS Panel 28 introduced “PSU-cycling” where a handful of sampled PSUs were replaced by similar PSUs that were not originally sampled. The replacement PSUs were assigned to the existing variance strata of the PSUs they replaced, so the 2023 Consolidated PUF continues to have 105 variance strata, numbered 2001-2117, with a few gaps in the values in that range. Each stratum contains up to six variance estimation PSUs.

Some analysts may be interested in pooling data across multiple years of MEPS data. When doing so, analysts should note that, to obtain appropriate standard errors, it is necessary to specify a common variance structure. Before 2002, each annual PUF was released with a variance structure unique to the particular MEPS sample in that year. Starting in 2002, the annual PUFs were released with a common variance structure that allowed analysts to pool data from 2002 through 2018. However, analysts can no longer do this routinely because the variance structure had to be modified beginning with 2019.

To ensure that variance strata are identified appropriately for variance estimation purposes when pooling MEPS data across several years, analysts can proceed as follows:

1. When pooling any year from 2002 through 2018, use the variance strata numbering as is.
2. When pooling (a) any year from 1996 to 2001 with any year from 2002 or later, or (b) the year 2019 and beyond with any earlier year, use the pooled linkage PUF HC-036, which contains the proper variance structure. The HC-036 PUF is updated every year so that appropriate variance structures are available with pooled data. Further details on the HC-036 PUF are included in the public use documentation of the HC-036 PUF.

### **3.8.2 Balanced Repeated Replication Method**

BRR replicate weights are not provided on this MEPS PUF for the purposes of variance estimation. However, a file containing a BRR replication structure is made available so that analysts can form replicate weights, if desired, from the final MEPS weight to compute variances of MEPS estimates using either BRR or Fay's modified BRR (Fay, 1989) methods. The replicate weights are useful for computing variances of complex nonlinear estimators for which a Taylor linear form is neither easy to derive nor available in commonly used software. For instance, it is not possible to calculate the variances of a median or the ratio of two medians by using the Taylor linearization method. For these types of estimators, analysts can calculate a variance using BRR or Fay's modified BRR methods. However, it should be noted that the replicate weights have been derived from the final weight through a shortcut approach. Specifically, the replicate weights are not computed starting with the base weight, and all adjustments made in different stages of weighting are not applied independently in each replicate. Thus, the variances computed by using this one-step BRR do not capture the effects of all weighting adjustments that would be captured in a set of fully developed BRR replicate weights. The Taylor series approach does not fully capture the effects of the different weighting adjustments either.

The dataset HC-036BRR, MEPS 1996-2023 Replicates for Variance Estimation File contains the information necessary to construct the BRR replicates. It includes a set of 128 flags (BRR1-BRR128) in the form of half sample indicators, each of which is coded 0 or 1 to indicate whether the person should or should not be included in that particular replicate. These flags can be used in conjunction with the full-year weight to construct the BRR replicate weights. For an analysis of MEPS data pooled across years, the BRR replicates can be formed in the same way by using the HC-036, MEPS 1996-2021 Pooled Linkage Variance Estimation File. For more information about creating BRR replicates, analysts can refer to the documentation for the [HC-036BRR pooled linkage file](#) on the AHRQ website.

## **3.9 Guidelines for Determining which Weight to Use for Analyses Involving Data/Variables from Multiple Sources and Supplements: MEPS 2023 Consolidated PUF**

Which weight variable to use is decided based on a hierarchy.

For person-level analyses not involving variables from the SAQ, PERWT23F should always be used.

For person-level analysis involving variables from the SAQ, the weight variable SAQWT23F should be used. For example, if examining access to care or quality of care variables from the SAQ by socio-demographics, health status, or health insurance status, SAQWT23F is the appropriate weight even though person-level socio-demographic, health status, and health insurance status variables are part of the core person-level questionnaire.

For all family-level analyses, FAMWT23F (for MEPS families) or FAMWT23C (for CPS-like families) should be used.

### 3.10 Using MEPS Data for Trend Analysis

For analysts using the MEPS data for trend analysis, we note that there are uncertainties associated with 2020, 2021, and 2022 data quality for reasons discussed throughout Section 3.1.2. Evaluations of important MEPS estimates suggest that they are of reasonable quality. Nevertheless, analysts are advised to exercise caution in interpreting these estimates, particularly in terms of trend analyses, since access to health care was substantially affected by the pandemic, as were related factors such as health insurance and employment status for many people.

The MEPS began in 1996, and the utility of the survey for analyzing health care trends expands with each additional year of data; however, when examining trends over time using the MEPS, the length of time being analyzed should be considered. In particular, large shifts in survey estimates over short periods of time (e.g., from one year to the next) that are statistically significant should be interpreted with caution unless they are attributable to known factors such as changes in public policy, economic conditions, or the MEPS methodology.

With respect to methodological considerations, changes in data collection methods, such as interviewer training, were introduced in 2013 to obtain more complete information about health care utilization from MEPS respondents; the changes were fully implemented in 2014. This effort likely resulted in improved data quality and a reduction in underreporting starting in the second half of 2013 and continuing throughout the 2014 full-year files; the changes have also had some impact on analyses involving trends in utilization across years. The changes in the NHIS sample design in 2016 and 2018 could also potentially affect trend analyses. The new NHIS sample design is based on more up-to-date information related to the distribution of housing units across the United States. As a result, it can be expected to better cover the full civilian noninstitutionalized population, the target population for MEPS, as well as many of its subpopulations. Better coverage of the target population helps to reduce the potential for bias in both NHIS and MEPS estimates.

Another change with the potential to affect trend analysis involved major modifications to the MEPS instrument design and data collection process, particularly in the events sections of the instrument. These were introduced in the spring of 2018 and thus affected data beginning with Round 1 of Panel 23, Round 3 of Panel 22, and Round 5 of Panel 21. Since the full-year 2017 MEPS PUFs were established from data collected in Rounds 1-3 of Panel 22 and Rounds 3-5 of Panel 21, they reflected two instrument designs. To mitigate the effect of such differences within the same full-year file, the Panel 22 Round 3 data and the Panel 21 Round 5 data were transformed to make them as consistent as possible with data collected under the previous design. The changes in the instrument were designed to make the data collection effort more efficient and easier to administer. In addition, expectations were that data on some items, such as those related to health care events, would be more complete with the potential of identifying more events. Increases in service use reported since the implementation of these changes are consistent with these expectations. *Analysts should be aware of the possible impacts of these changes on the data and especially trend analyses that include the year 2018 because of the design transition.*

Process changes, such as data editing and imputation, may also affect trend analyses. For example, analysts should refer to Section 2.5.11: Utilization, Expenditures, and Sources of

Payment Variables above and, for more detail, to the documentation for the prescription drug PUF (HC-248A) when analyzing prescription drug spending over time.

As always, it is recommended that, before conducting trend analyses, analysts should review relevant sections of the documentation for descriptions of these types of changes that might affect the interpretation of changes over time.

To smooth or stabilize trend analyses based on the MEPS data, analysts may also wish to consider using statistical techniques such as comparing pooled time periods (e.g., 1996-1997 versus 2011-2012), working with moving averages, or using modeling techniques with several consecutive years of the data.

Finally, statistical significance tests should be conducted to assess the likelihood that observed trends are not attributable to sampling variation. In addition, researchers should be aware of the impact of multiple comparisons on Type I error. Without making appropriate allowance for multiple comparisons, conducting numerous statistical significance tests of trends will increase the likelihood of concluding that a change has taken place when one has not.

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## D. Variable-Source Crosswalk

### FOR MEPS HC 251: 2023 CONSOLIDATED DATA FILE

#### SURVEY ADMINISTRATION VARIABLES - PUBLIC USE

| Variable | Description                                | Source                          |
|----------|--|---------------------------------|
| DUID     | Panel # + Encrypted DU Identifier          | Assigned in Sampling            |
| PID      | Person Number                              | Assigned in Sampling or by CAPI |
| DUPERSID | Person ID (DUID + PID)                     | Assigned in Sampling            |
| PANEL    | Panel Number                               | Constructed                     |
| DATAYEAR | Survey Data Year                           | Constructed                     |
| FAMID31  | Family ID (Student Merged In) - R3/1       | CAPI Derived                    |
| FAMID42  | Family ID (Student Merged In) - R4/2       | CAPI Derived                    |
| FAMID53  | Family ID (Student Merged In) - R5/3       | CAPI Derived                    |
| FAMID23  | Family ID (Student Merged In) - 12/31/23   | CAPI Derived                    |
| FAMIDYR  | Annual Family Identifier                   | Constructed                     |
| CPSFAMID | CPS-Like Family Identifier                 | Constructed                     |
| FCSZ1231 | Family Size Responding 12/31 CPS Family    | Constructed                     |
| FCRP1231 | Ref Person of 12/31 CPS Family             | Constructed                     |
| RULETR31 | RU Letter - R3/1                           | CAPI Derived                    |
| RULETR42 | RU Letter - R4/2                           | CAPI Derived                    |
| RULETR53 | RU Letter - R5/3                           | CAPI Derived                    |
| RULETR23 | RU Letter as of 12/31/23                   | CAPI Derived                    |
| RUSIZE31 | RU Size - R3/1                             | CAPI Derived                    |
| RUSIZE42 | RU Size - R4/2                             | CAPI Derived                    |
| RUSIZE53 | RU Size - R5/3                             | CAPI Derived                    |
| RUSIZE23 | RU Size as of 12/31/23                     | CAPI Derived                    |
| RUCLAS31 | RU fielded as: Standard/New/Student - R3/1 | CAPI Derived                    |
| RUCLAS42 | RU fielded as: Standard/New/Student - R4/2 | CAPI Derived                    |
| RUCLAS53 | RU fielded as: Standard/New/Student - R5/3 | CAPI Derived                    |
| RUCLAS23 | RU fielded as: Standard/New/Stud-12/31/23  | CAPI Derived                    |
| FAMSZE31 | RU Size Including Students - R3/1          | CAPI Derived                    |



| Variable   | Description   | Source               |
|------------|---|----------------------|
| FAMSZE42   | RU Size Including Students - R4/2                   | CAPI Derived         |
| FAMSZE53   | RU Size Including Students - R5/3                   | CAPI Derived         |
| FAMSZE23   | RU Size Including Students as of 12/31/23           | CAPI Derived         |
| FMRS1231   | Member of Responding 12/31 Family                   | Constructed          |
| FAMS1231   | Family Size of Responding 12/31 Family              | Constructed          |
| FAMSZEYR   | Size of Responding Annualized Family                | Constructed          |
| FAMRFPYR   | Reference Person of Annualized Family               | Constructed          |
| REGION31   | Census Region - R3/1                                | Assigned in Sampling |
| REGION42   | Census Region - R4/2                                | Assigned in Sampling |
| REGION53   | Census Region - R5/3                                | Assigned in Sampling |
| REGION23   | Census Region as of 12/31/23                        | Assigned in Sampling |
| REFPRS31   | Reference Person at - R3/1                          | RE480-RE500          |
| REFPRS42   | Reference Person at - R4/2                          | RE480-RE500          |
| REFPRS53   | Reference Person at - R5/3                          | RE480-RE500          |
| REFPRS23   | Reference Person as of 12/31/23                     | RE480-RE500          |
| RESP31     | 1st Respondent Indicator for R3/1                   | ST30                 |
| RESP42     | 1st Respondent Indicator for R4/2                   | ST30                 |
| RESP53     | 1st Respondent Indicator for R5/3                   | ST30                 |
| RESP23     | 1st Respondent Indicator as of 12/31/23             | ST30                 |
| PROXY31    | Was Respondent a Proxy in R3/1                      | ST30                 |
| PROXY42    | Was Respondent a Proxy in R4/2                      | ST30                 |
| PROXY53    | Was Respondent a Proxy in R5/3                      | ST30                 |
| PROXY23    | Was Respondent a Proxy as of 12/31/23               | ST30                 |
| INTVLANG   | Language Interview Was Completed                    | CL350                |
| INTVTYPE31 | Was Interview In-Person, By Phone, Or By Video R3/1 | ST65                 |
| INTVTYPE42 | Was Interview In-Person, By Phone, Or By Video R4/2 | ST65                 |
| INTVTYPE53 | Was Interview In-Person, By Phone, Or By Video R5/3 | ST65                 |
| BEGRFM31   | R3/1 Reference Period Begin Date: Month             | CAPI Derived         |
| BEGRFY31   | R3/1 Reference Period Begin Date: Year              | CAPI Derived         |
| ENDRFM31   | R3/1 Reference Period End Date: Month               | CAPI Derived         |
| ENDRFY31   | R3/1 Reference Period End Date: Year                | CAPI Derived         |

| Variable | Description                             | Source           |
|----------|---|------------------|
| BEGRFM42 | R4/2 Reference Period Begin Date: Month | CAPI Derived     |
| BEGRFY42 | R4/2 Reference Period Begin Date: Year  | CAPI Derived     |
| ENDRFM42 | R4/2 Reference Period End Date: Month   | CAPI Derived     |
| ENDRFY42 | R4/2 Reference Period End Date: Year    | CAPI Derived     |
| BEGRFM53 | R5/3 Reference Period Begin Date: Month | CAPI Derived     |
| BEGRFY53 | R5/3 Reference Period Begin Date: Year  | CAPI Derived     |
| ENDRFM53 | R5/3 Reference Period End Date: Month   | CAPI Derived     |
| ENDRFY53 | R5/3 Reference Period End Date: Year    | CAPI Derived     |
| ENDRFM23 | 2023 Reference Period End Date: Month   | RE Section       |
| ENDRFY23 | 2023 Reference Period End Date: Year    | RE Section       |
| KEYNESS  | Person Key Status                       | RE Section       |
| INSCOP31 | Inscope - R3/1                          | RE Section       |
| INSCOP42 | Inscope - R4/2                          | RE Section       |
| INSCOP53 | Inscope - R5/3                          | RE Section       |
| INSCOP23 | Inscope - R5/3 Start through 12/31/23   | RE Section       |
| INSC1231 | Inscope Status on 12/31/23              | Constructed      |
| INSCOPE  | Was Person Ever Inscope in 2023         | RE Section       |
| ELGRND31 | Eligibility - R3/1                      | RE Section       |
| ELGRND42 | Eligibility - R4/2                      | RE Section       |
| ELGRND53 | Eligibility - R5/3                      | RE Section       |
| ELGRND23 | Eligibility Status as of 12/31/23       | RE Section       |
| PSTATS31 | Person Disposition Status - R3/1        | RE Section       |
| PSTATS42 | Person Disposition Status - R4/2        | RE Section       |
| PSTATS53 | Person Disposition Status - R5/3        | RE Section       |
| RURSLT31 | RU Result - R3/1                        | Assigned by CAPI |
| RURSLT42 | RU Result - R4/2                        | Assigned by CAPI |
| RURSLT53 | RU Result - R5/3                        | Assigned by CAPI |

## DEMOGRAPHIC VARIABLES - PUBLIC USE

| Variable | Description                              | Source                 |
|----------|--|------------------------|
| AGE31X   | Age - R3/1 (Edited/Imputed)              | RE80, 650, 680, 750    |
| AGE42X   | Age - R4/2 (Edited/Imputed)              | RE80, 650, 680, 750    |
| AGE53X   | Age - R5/3 (Edited/Imputed)              | RE80, 650, 680, 750    |
| AGE23X   | Age as of 12/31/23 (Edited/Imputed)      | RE80, 650, 680, 750    |
| AGELAST  | Person's Age Last Time Eligible          | AGE23X, AGE42X, AGE31X |
| DOBMM    | Date of Birth: Month                     | RE70, 650, 680, 730    |
| DOBY     | Date of Birth: Year                      | RE70, 650, 680, 730    |
| SEX      | Sex                                      | RE60, 650, 680, RE 720 |
| RACEV1X  | Race (Edited/Imputed)                    | RE1170                 |
| RACEV2X  | Race (Edited/Imputed)                    | RE1170                 |
| RACEAX   | Asian Among Races Rptd (Edited/Imputed)  | RE1170                 |
| RACEBX   | Black Among Races Rptd (Edited/Imputed)  | RE1170                 |
| RACEWX   | White Among Races Rptd (Edited/Imputed)  | RE1170                 |
| RACETHX  | Race/Ethnicity (Edited/Imputed)          | RE1170                 |
| HISPANX  | Hispanic Ethnicity (Edited/Imputed)      | RE1170                 |
| HISPNCAT | Hispanic Ethnicity (Edited/Imputed)      | RE1170                 |
| MARRY31X | Marital Status - R3/1 (Edited/Imputed)   | RE100, 1170            |
| MARRY42X | Marital Status - R4/2 (Edited/Imputed)   | RE100, 1170            |
| MARRY53X | Marital Status - R5/3 (Edited/Imputed)   | RE100, 1170            |
| MARRY23X | Marital Status-12/31/23 (Edited/Imputed) | RE100, 1170            |
| SPOUID31 | Spouse ID - R3/1                         | RE900                  |
| SPOUID42 | Spouse ID - R4/2                         | RE900                  |
| SPOUID53 | Spouse ID - R5/3                         | RE900                  |
| SPOUID23 | Spouse ID - 12/31/23                     | RE900                  |
| SPOUIN31 | Marital Status w/ Spouse Present - R3/1  | RE900                  |
| SPOUIN42 | Marital Status w/ Spouse Present - R4/2  | RE900                  |
| SPOUIN53 | Marital Status w/ Spouse Present - R5/3  | RE900                  |
| SPOUIN23 | Marital Status w/Spouse Present-12/31/23 | RE900                  |
| EDUCYR   | Years of Educ When First Entered MEPS    | RE1180-1200            |
| HIDEG    | Highest Degree When First Entered MEPS   | RE1180-1200            |
| FTSTU31X | Student Status if Ages 17-23 - R3/1      | RE50, 1210             |

| Variable   | Description                                | Source                  |
|------------|--|-------------------------|
| FTSTU42X   | Student Status if Ages 17-23 - R4/2        | RE50, 1210              |
| FTSTU53X   | Student Status if Ages 17-23 - R5/3        | RE50, 1210              |
| FTSTU23X   | Student Status if Ages 17-23 - 12/31/23    | RE50, 1210              |
| ACTDTY31   | Military Full-Time Active Duty - R3/1      | RE110, 1050, 1080, 1100 |
| ACTDTY42   | Military Full-Time Active Duty - R4/2      | RE110, 1050, 1080, 1100 |
| ACTDTY53   | Military Full-Time Active Duty - R5/3      | RE110, 1050, 1080, 1100 |
| EVERSERVED | Has Served in the Military                 | CAPI Derived            |
| REFRL31X   | Relation to Ref Pers - R3/1 (Edit/Imp)     | RE900                   |
| REFRL42X   | Relation to Ref Pers - R4/2 (Edit/Imp)     | RE900                   |
| REFRL53X   | Relation to Ref Pers - R5/3 (Edit/Imp)     | RE900                   |
| REFRL23X   | Relation to Ref Pers - 12/31/23 (Edit/Imp) | RE900                   |
| OTHLGSPK   | Speak Other Language at Home               | RE1170                  |
| WHTLGSPK   | What Language Spoken Other Than English    | RE1170                  |
| HWELLSPK   | How Well Person Speaks English             | RE1170                  |
| BORNUSA    | Person Born in the US                      | RE1170                  |
| YRSINUS    | Years Person Lived in the US               | RE1170                  |
| MOPI31X    | PID of Person's Mom - RD 3/1               | RE900                   |
| MOPI42X    | PID of Person's Mom - RD 4/2               | RE900                   |
| MOPI53X    | PID of Person's Mom - RD 5/3               | RE900                   |
| DAPID31X   | PID of Person's Dad - RD 3/1               | RE900                   |
| DAPID42X   | PID of Person's Dad - RD 4/2               | RE900                   |
| DAPID53X   | PID of Person's Dad - RD 5/3               | RE900                   |

## INCOME VARIABLES

| Variable | Description  | Source      |
|----------|--|-------------|
| FILEDR23 | Has Person Filed A Fed Income Tax Return               | IN20        |
| WILFIL23 | Will Person File Fed Income Tax Return                 | IN30        |
| FLSTAT23 | Person's Filing Status                                 | IN40        |
| FILER23  | Primary Or Secondary Filer                             | IN40        |
| JTINRU23 | Joint Filer's Membership In RU                         | IN50        |
| JNTPID23 | PID of Joint Filer                                     | IN50        |
| TAXFRM23 | Tax Form Person Will File                              | IN60        |
| FOODST23 | Did Anyone Receive Food Stamps                         | IN700       |
| FOODMN23 | Number Of Months Food Stamps Received                  | IN710       |
| FOODVL23 | Monthly Value Of Food Stamps                           | IN720       |
| TTLP23X  | Person's Total Income                                  | Constructed |
| FAMINC23 | Family's Total Income                                  | Constructed |
| POVCAT23 | Family Income As Percent Of Poverty Line - Categorical | Constructed |
| POVLEV23 | Family Income As Percent Of Poverty Line - Continuous  | Constructed |
| WAGEP23X | Person's Wage Income                                   | Constructed |
| WAGIMP23 | Wage Imputation Flag                                   | Constructed |
| BUSNP23X | Person's Business Income                               | Constructed |
| BUSIMP23 | Business Income Imputation Flag                        | Constructed |
| UNEMP23X | Person's Unemployment Comp Income                      | Constructed |
| UNEIMP23 | Unemployment Imputation Flag                           | Constructed |
| WCMPP23X | Person's Workers' Compensation                         | Constructed |
| WCPIMP23 | Workers' Comp Imputation Flag                          | Constructed |
| INTRP23X | Person's Interest Income                               | Constructed |
| INTIMP23 | Interest Imputation Flag                               | Constructed |
| DIVDP23X | Person's Dividend Income                               | Constructed |
| DIVIMP23 | Dividend Imputation Flag                               | Constructed |
| SALEP23X | Person's Sales Income                                  | Constructed |
| SALIMP23 | Sales Income Imputation Flag                           | Constructed |
| PENSP23X | Person's Pension Income                                | Constructed |
| PENIMP23 | Pension Income Imputation Flag                         | Constructed |
| SSECP23X | Person's Social Security Income                        | Constructed |

| Variable | Description                                  | Source      |
|----------|--|-------------|
| SSCIMP23 | Social Security Imputation Flag              | Constructed |
| TRSTP23X | Person's Trust/Rent Income                   | Constructed |
| TRTIMP23 | Trust Income Imputation Flag                 | Constructed |
| VETSP23X | Person's Veteran's Income                    | Constructed |
| VETIMP23 | Veteran's Income Imputation Flag             | Constructed |
| IRASP23X | Person's Ira Income                          | Constructed |
| IRAIMP23 | Ira Income Imputation Flag                   | Constructed |
| ALIMP23X | Person's Alimony Income                      | Constructed |
| ALIIMP23 | Alimony Income Imputation Flag               | Constructed |
| CHLDP23X | Person's Child Support                       | Constructed |
| CHLIMP23 | Child Support Imputation Flag                | Constructed |
| CASHP23X | Person's Other Regular Cash Contrib          | Constructed |
| CSHIMP23 | Cash Contribution Imputation Flag            | Constructed |
| SSIP23X  | Person's SSI                                 | Constructed |
| SSIIMP23 | SSI Imputation Flag                          | Constructed |
| PUBP23X  | Person's Public Assistance                   | Constructed |
| PUBIMP23 | Public Assistance Imputation Flag            | Constructed |
| OTHRP23X | Person's Other Income                        | Constructed |
| OTHIMP23 | Other Income Imputation Flag                 | Constructed |
| HIEUIDX  | Health Insurance Eligibility Unit Identifier | Constructed |

## PERSON-LEVEL CONDITION VARIABLES - PUBLIC USE

| Variable | Description                                       | Source |
|----------|---|--------|
| HIBPDX   | High Blood Pressure Diag (>17)                    | PE30A  |
| HIBPAGED | Age of Diagnosis-High Blood Pressure              | PE40   |
| BPMLDX   | Mult Diag High Blood Press (>17)                  | PE50   |
| CHDDX    | Coronary Hrt Disease Diag (>17)                   | PE30B  |
| CHDAGED  | Age of Diagnosis-Coronary Heart Disease           | PE60   |
| ANGIDX   | Angina Diagnosis (>17)                            | PE30C  |
| ANGIAGED | Age of Diagnosis-Angina                           | PE70   |
| MIDX     | Heart Attack (MI) Diag (>17)                      | PE30D  |
| MIAGED   | Age of Diagnosis-Heart Attack (MI)                | PE80   |
| OHRTDX   | Other Heart Disease Diag (>17)                    | PE30E  |
| OHRTAGED | Age of Diagnosis-Other Heart Disease              | PE100  |
| OHRTTYPE | Type of Other Heart Disease (>17)                 | PE90   |
| STRKDX   | Stroke Diagnosis (>17)                            | PE30F  |
| STRKAGED | Age of Diagnosis-Stroke                           | PE110  |
| EMPHDX   | Emphysema Diagnosis (>17)                         | PE30G  |
| EMPHAGED | Age of Diagnosis-Emphysema                        | PE120  |
| CHBRON31 | Chronc Bronchits Last 12 Mths (>17)-R3/1          | PE330  |
| CHOLDX   | High Cholesterol Diagnosis (>17)                  | PE30H  |
| CHOLAGED | Age of Diagnosis-High Cholesterol                 | PE130  |
| CANCERDX | Cancer Diagnosis (>17)                            | PE30I  |
| CABLADDR | Cancer Diagnosed - Bladder (>17)                  | PE140  |
| CABREAST | Cancer Diagnosed - Breast (>17)                   | PE140  |
| CACERVIX | Cancer Diagnosed - Cervical (>17)                 | PE140  |
| CACOLON  | Cancer Diagnosed - Colon (>17)                    | PE140  |
| CALUNG   | Cancer Diagnosed - Lung (>17)                     | PE140  |
| CALYMPH  | Cancer Diagnosed - Lymphoma (Non-Hodgkin's) (>17) | PE140  |
| CAMELANO | Cancer Diagnosed - Skin Melanoma (>17)            | PE140  |
| CAOTHER  | Cancer Diagnosed - Other (>17)                    | PE140  |
| CAPROSTA | Cancer Diagnosed - Prostate (>17)                 | PE140  |
| CASKINNM | Cancer Diagnosed - Skin-Nonmelano (>17)           | PE140  |
| CASKINDK | Cancer Diagnosed - Skin-Unknown Type (>17)        | PE140  |

| Variable     | Description  | Source |
|--------------|--|--------|
| CAUTERUS     | Cancer Diagnosed - Uterine (>17)   | PE140  |
| DIABDX_M18   | Diabetes Diagnosis   | PE30K  |
| DIABAGED     | Age of Diagnosis-Diabetes  | PE190  |
| JTPAIN31_M18 | Joint Pain Last 12 Months (>17) - RD 3/1                                 | PE320  |
| ARTHDX       | Arthritis Diagnosis (>17)  | PE30J  |
| ARTHTYPE     | Type Of Arthritis Diagnosed (>17)  | PE170  |
| ARTHAGED     | Age of Diagnosis-Arthritis   | PE180  |
| ASTHDX       | Asthma Diagnosis   | PE30L  |
| ASTHAGED     | Age of Diagnosis-Asthma  | PE200  |
| ASSTIL31     | Does Person Still Have Asthma - RD 3/1                                   | PE210  |
| ASATAK31     | Asthma Attack Last 12 Mos- RD 3/1  | PE220  |
| ASTHEP31     | When Was Last Episode Of Asthma - RD 3/1                                 | PE230  |
| ASACUT31     | Used Acute Pres Inhaler Last 3 Mos - RD 3/1                              | PE260  |
| ASMRCN31     | Used >3 Acute Cn Pres Inh Last 3 Mos - RD 3/1                            | PE270  |
| ASPREV31     | Ever Used Prev Daily Asthma Meds - RD 3/1                                | PE240  |
| ASDALY31     | Now Take Prev Daily Asthma Meds - RD 3/1                                 | PE250  |
| ASPKFL31     | Have Peak Flow Meter At Home - RD 3/1                                    | PE280  |
| ASEVFL31     | Ever Used Peak Flow Meter - RD 3/1                                       | PE290  |
| ASWNFL31     | When Last Used Peak Flow Meter - RD 3/1                                  | PE300  |
| ADHDADDX     | ADHD/ADD Diagnosis (5-17)  | PE30M  |
| ADHDAGED     | Age of Diagnosis-ADHD/ADD  | PE310  |
| COVIDEVER31  | Ever Had COVID-19 - RD 3/1   | PE350  |
| COVIDEVER53  | Ever Had COVID-19 - RD 5/3   | PE350  |
| LCEVER31     | Ever had COVID-19 Symptoms Lasting $\geq$ 3 Months (Long Covid) - RD 3/1 | PE362  |
| LCEVER53     | Ever had COVID-19 Symptoms Lasting $\geq$ 3 Months (Long Covid) - RD 5/3 | PE362  |
| COVSYMNOW31  | Has COVID-19 or Long COVID-19 Symptoms Now - RD 3/1                      | PE364  |
| COVSYMNOW53  | Has COVID-19 or Long COVID-19 Symptoms Now - RD 5/3                      | PE364  |
| COVREDABIL31 | Reduced Ability from COVID-19 or Long COVID-19 Symptoms- RD 3/1          | PE366  |
| COVREDABIL53 | Reduced Ability from COVID-19 or Long COVID-19 Symptoms- RD 5/3          | PE366  |



| Variable    | Description                                 | Source   |
|-------------|---|----------|
| COVID12MO31 | Had COVID-19 in the Past 12 Months - RD 3/1 | PE370    |
| COVID12MO53 | Had COVID-19 in the Past 12 Months - RD 5/3 | PE370    |
| COVMNTHX31  | Month Last had COVID-19 - RD 3/1            | PE380 01 |
| COVMNTHX53  | Month Last had COVID-19 - RD 5/3            | PE380 01 |
| COVYRDX31   | Year Last had COVID-19 - RD 3/1             | PE380 02 |
| COVYRDX53   | Year Last had COVID-19 - RD 5/3             | PE380 02 |

## HEALTH STATUS VARIABLES - PUBLIC USE

| Variable | Description                                 | Source                     |
|----------|---|----------------------------|
| RTHLTH31 | Perceived Health Status - RD 3/1            | PE10                       |
| RTHLTH42 | Perceived Health Status - RD 4/2            | PE10                       |
| RTHLTH53 | Perceived Health Status - RD 5/3            | PE10                       |
| MNHLTH31 | Perceived Mental Health Status - RD 3/1     | PE20                       |
| MNHLTH42 | Perceived Mental Health Status - RD 4/2     | PE20                       |
| MNHLTH53 | Perceived Mental Health Status - RD 5/3     | PE20                       |
| IADLHP31 | IADL Screener - RD 3/1                      | HE10-30                    |
| ADLHLP31 | ADL Screener - RD 3/1                       | HE40-60                    |
| AIDHLP31 | Used Assistive Devices - RD 3/1             | HE70-80                    |
| WLKLIM31 | Limitation in Physical Functioning - RD 3/1 | HE90-100                   |
| LFTDIF31 | Difficulty Lifting 10 Pounds - RD 3/1       | HE110                      |
| STPDIF31 | Difficulty Walking up 10 Steps - RD 3/1     | HE120                      |
| WLKDIF31 | Difficulty Walking 3 Blocks - RD 3/1        | HE130                      |
| MILDIF31 | Difficulty Walking a Mile - RD 3/1          | HE140                      |
| STNDIF31 | Difficulty Standing 20 Minutes - RD 3/1     | HE150                      |
| BENDIF31 | Difficulty Bending/Stooping - RD 3/1        | HE160                      |
| RCHDIF31 | Difficulty Reaching Overhead - RD 3/1       | HE170                      |
| FNGRDF31 | Difficulty Using Fingers to Grasp - RD 3/1  | HE180                      |
| ACTLIM31 | Any Limitation Work/Housework/Schl - RD 3/1 | HE190-200                  |
| WRKLIM31 | Work Limitation - RD 3/1                    | HE210                      |
| HSELIM31 | Housework Limitation - RD 3/1               | HE210                      |
| SCHLIM31 | School Limitation - RD 3/1                  | HE210                      |
| UNABLE31 | Completely Unable to Do Activity - RD 3/1   | HE220                      |
| SOCLIM31 | Social Limitations - RD 3/1                 | HE230-240                  |
| COGLIM31 | Cognitive Limitations - RD 3/1              | HE250A, 250B,<br>250C, 260 |
| DFHEAR42 | Serious Difficulty Hearing-RD4/2            | HE270-280                  |
| DFSEE42  | Serious Difficulty See w/Glasses-RD4/2      | HE290C-300                 |
| DFCOG42  | Serious Cognitive Difficulties-RD4/2        | HE310-320                  |
| DFWLKC42 | Serious Difficulty Wlk/Climb Stairs-RD4/2   | HE330-340                  |
| DFDRSB42 | Difficulty Dressing/Bathing-RD4/2           | HE350-360                  |
| DFERN42  | Difficulty Doing Errands Alone-RD4/2        | HE370-380                  |

| Variable | Description                                | Source      |
|----------|--|-------------|
| ANYLMI23 | Any Limitation in P27R3,4/P28R1,2          | Constructed |
| CHPMED42 | CSHCN: Child Needs Prescrb Med(0-17)-R4/2  | CS10        |
| CHPMHB42 | CSHCN: Pmed for Hlth/Behv Cond (0-17)-R4/2 | CS20        |
| CHPMC42  | CSHCN: Pmed Cond Last 12+ Mos (0-17)-R4/2  | CS30        |
| CHSERV42 | CSHCN: Chld Needs Med&Oth Serv (0-17)-R4/2 | CS40        |
| CHSRHB42 | CSHCN: Serv for Hlth/Behv Cond(0-17)-R4/2  | CS50        |
| CHSRCN42 | CSHCN: Serv Cond Last 12+ Mos (0-17)-R4/2  | CS60        |
| CHLIMI42 | CSHCN: Limited in Any Way (0-17)-R4/2      | CS70        |
| CHLIHB42 | CSHCN: Limt for Hlth/Behv Cond(0-17)-R4/2  | CS80        |
| CHLICO42 | CSHCN: Limit Cond Last 12+ Mos (0-17)-R4/2 | CS90        |
| CHTHER42 | CSHCN: Chld Needs Spec Therapy (0-17)-R4/2 | CS100       |
| CHTHHB42 | CSHCN: Spec Ther for Hlth+Cond(0-17)-R4/2  | CS110       |
| CHTHCO42 | CSHCN: Ther Cond Last 12+ Mos (0-17)-R4/2  | CS120       |
| CHCOUN42 | CSHCN: Child Needs Counseling (0-17)-R4/2  | CS130       |
| CHEMPB42 | CSHCN: Couns Prob Last 12+ Mos (0-17)-R4/2 | CS140       |
| CSHCN42  | CSHCN:Child w/Spec HC Needs (0-17)-R4/2    | CS10-140    |
| GETTRB42 | Prblm Getting in Trouble (5-17)-R4/2       | CS150A      |
| MOMPRO42 | Problem Getting Along w/Mom (5-17)-R4/2    | CS150B      |
| DADPRO42 | Problem Getting Along w/Dad (5-17)-R4/2    | CS150C      |
| UNHAP42  | Problem Feeling Unhappy/Sad (5-17)-R4/2    | CS150D      |
| SCHLBH42 | Problem Behavior at School (5-17)-R4/2     | CS160A      |
| HAVFUN42 | Problem Having Fun (5-17) - R4/2           | CS160B      |
| ADUPRO42 | Prblm Getting Along w/Adults (5-17)-R4/2   | CS160C      |
| NERVAF42 | Prblm Feeling Nervous/Afraid (5-17)-R4/2   | CS170A      |
| SIBPRO42 | Prblm Getting Along w/Sibs (5-17)-R4/2     | CS170B      |
| KIDPRO42 | Prblm Getting Along w/Kids (5-17)-R4/2     | CS170C      |
| SPRPRO42 | Problem w/Sports/Hobbies (5-17)-R4/2       | CS180A      |
| SCHPRO42 | Problem With Schoolwork (5-17)-R4/2        | CS180B      |
| HOMEBH42 | Problem w/Behavior at Home (5-17)-R4/2     | CS180C      |

| Variable     | Description                                   | Source      |
|--------------|---|-------------|
| CHILCR42     | CAHPS:12Mos: Ill/Inj Need Care (0-17)R4/2     | CS190       |
| CHILWW42     | CAHPS:12Mos: Ill Care Whn Wntd (0-17)R4/2     | CS200       |
| CHRTCR42     | CAHPS:12Mos: Make Rout Apt (0-17)R4/2         | CS210       |
| CHRTWW42     | CAHPS:12Mos: Rout Apt Whn Wntd (0-17)R4/2     | CS220       |
| CHAPPT42     | CAHPS:12Mos: # of Off/Clin Apts (0-17)R4/2    | CS230       |
| CHLIST42     | CAHPS:12Mos: Chld Dr Lsn to You (0-17)R4/2    | CS250       |
| CHEXPL42     | CAHPS:12Mos: Chld Dr Expl Thng (0-17)R4/2     | CS240       |
| CHRESP42     | CAHPS:12Mos: Chld's Dr Shw Resp(0-17)R4/2     | CS260       |
| CHPRTM42     | CAHPS:12Mos: Child Dr Engh Time(0-17)R4/2     | CS270       |
| CHHECR42     | CAHPS:12Mos: Rate Chld Hlt Care (0-17)R4/2    | CS280       |
| CHSPEC42_M18 | CAHPS:12Mos: Make Appt for Spec (0-17)R4/2    | CS290       |
| CHEYRE42_M18 | CAHPS:12Mos: Get Appt for Spec (0-17)R4/2     | CS300       |
| LSTETH53     | Lost All Uppr And Lowr Teeth (>17) - RD 5/3   | AH100       |
| PHYEXE53     | Mod/Vig Phys Exec 5X Wk (>17) - RD 5/3        | AH110       |
| OFTSMK53     | How Oftrn Smoke Cigarettes (>17) - RD 5/3     | AH120       |
| COVAXEVR31   | Ever Had COVID-19 Vaccine-RD 3/1              | AH91-93     |
| COVAXEVR42   | Ever Had COVID-19 Vaccine-RD 4/2              | AH91-93     |
| COVAXEVR53   | Ever Had COVID-19 Vaccine-RD 5/3              | AH91-93     |
| COVAXNEW31   | Had COVID-19 Vaccine Since Prior Round-RD 3/1 | AH91-93     |
| COVAXNEW42   | Had COVID-19 Vaccine Since Prior Round-RD 4/2 | AH91-93     |
| COVAXNEW53   | Had COVID-19 Vaccine Since Prior Round-RD 5/3 | AH91-93     |
| SAQELIG      | Eligibility Status for SAQ                    | Constructed |
| ADPROX42     | SAQ: Relationship of Proxy to Adult           | Constructed |
| ADGENH42     | SAQ: Health in General VR-12                  | SAQ Q1      |
| ADDAYA42     | SAQ: Hlth Limits Mod Activities VR-12         | SAQ Q2a     |

| Variable | Description                                 | Source      |
|----------|---|-------------|
| ADCLIM42 | SAQ: Hlth Limits Climbing Stairs VR-12      | SAQ Q2b     |
| ADACLS42 | SAQ 4Wks:Accmp Less B/C Phy Prbs VR-12      | SAQ Q3a     |
| ADWKLM42 | SAQ 4Wks:Work Limt B/C Phy Probs VR-12      | SAQ Q3b     |
| ADEMLS42 | SAQ 4Wks:Accmp Less B/C Mnt Prbs VR-12      | SAQ Q4a     |
| ADMWCF42 | SAQ 4Wks:Work Limt B/C Mnt Probs VR-12      | SAQ Q4b     |
| ADPAIN42 | SAQ 4Wks:Pain Limits Normal Work VR-12      | SAQ Q5      |
| ADPCFL42 | SAQ 4Wks: Felt Calm/Peaceful VR-12          | SAQ Q6a     |
| ADENGY42 | SAQ 4Wks: Had a Lot of Energy VR-12         | SAQ Q6b     |
| ADPRST42 | SAQ 4Wks: Felt Downhearted/Depr VR-12       | SAQ Q6c     |
| ADSOCA42 | SAQ 4Wks: Hlth Stopped Soc Activ VR-12      | SAQ Q7      |
| ADNERV42 | SAQ 30 Days: How Often Felt Nervous         | SAQ Q8a     |
| ADHOPE42 | SAQ 30 Days: How Often Felt Hopeless        | SAQ Q8b     |
| ADREST42 | SAQ 30 Days: How Often Felt Restless        | SAQ Q8c     |
| ADSAD42  | SAQ 30 Days: How Often Felt Sad             | SAQ Q8d     |
| ADEFRT42 | SAQ 30 Days: How Oftrn Everything an Effort | SAQ Q8e     |
| ADWRTH42 | SAQ 30 Days: How Often Felt Worthless       | SAQ Q8f     |
| K6SUM42  | SAQ 30 Days: Overall Rating of Feelings     | Constructed |
| ADINTR42 | SAQ 2 Wks: Little Interest in Things        | SAQ Q9a     |
| ADDPRS42 | SAQ 2 Wks: Felt Down/Depressed/Hopeless     | SAQ Q9b     |
| PHQ242   | SAQ 2 Wks: Overall Rating of Feelings       | Constructed |
| ADINSA42 | SAQ: Do Not Need Health Insurance           | SAQ Q10a    |
| ADINSB42 | SAQ: Health Insurance Not Worth Cost        | SAQ Q10b    |
| ADRISK42 | SAQ: More Likely to Take Risks              | SAQ Q10c    |
| ADOVER42 | SAQ: Can Overcome Ills Without Med Help     | SAQ Q10d    |
| ADILCR42 | SAQ 12 Mos: Ill/Injury Needing Immed Care   | SAQ Q11     |
| ADILWW42 | SAQ 12 Mos: Got Care When Needed Ill/Inj    | SAQ Q12     |
| ADRTCR42 | SAQ 12 Mos: Made Appt Routine Med Care      | SAQ Q13     |
| ADRTWW42 | SAQ 12 Mos: Got Med Appt When Needed        | SAQ Q14     |
| ADAPPT42 | SAQ 12 Mos: # Visits to Med Off for Care    | SAQ Q15     |
| ADHECR42 | SAQ 12 Mos: Rating of Health Care           | SAQ Q16     |
| ADINST42 | SAQ 12 Mos: Dr Gave Spcific Instrctns       | SAQ Q17     |
| ADEZUN42 | SAQ 12 Mos: Dr Given Instr. EZ Understd     | SAQ Q18     |
| ADTLHW42 | SAQ 12 Mos: Dr Asked R Desc How Follow      | SAQ Q19     |

| Variable | Description                                | Source                       |
|----------|--|------------------------------|
| ADFFRM42 | SAQ 12 Mos: Had to Fill Out/Sign Forms     | SAQ Q20                      |
| ADFHLP42 | SAQ 12 Mos: Offrd Help Filling Out Forms   | SAQ Q21                      |
| ADEXPL42 | SAQ 12 Mos: Doc Explained So Understood    | SAQ Q22                      |
| ADLIST42 | SAQ 12 Mos: Doctor Listened to You         | SAQ Q23                      |
| ADRESP42 | SAQ 12 Mos: Doctor Showed Respect          | SAQ Q24                      |
| ADPRTM42 | SAQ 12 Mos: Dr Spent Enuf Time With You    | SAQ Q25                      |
| ADSMOK42 | SAQ: Currently Smoking                     | SAQ Q26                      |
| ADNSMK42 | SAQ 12 Mos: Dr Advised to Quit Smoking     | SAQ Q27                      |
| ADSPCL42 | SAQ 12 Mos: Needed to See Specialist       | SAQ Q28                      |
| ADSNP42  | SAQ 12 Mos: How E sy to See Specialist     | SAQ Q29                      |
| VPCS42   | SAQ: Phy Component Summry VR-12<br>Imputed | Constructed                  |
| VMCS42   | SAQ: Mnt Component Summry VR-12<br>Imputed | Constructed                  |
| VRFLAG42 | SAQ: VPCS42/VMCS42 Imputation Flag VR-12   | Constructed                  |
| ADCM42   | SAQ: Date Completed - Month                | SAQ Completed<br>Month field |
| ADCM42   | SAQ: Date Completed - Year                 | SAQ Completed Year<br>field  |
| ADLANG42 | SAQ: Language of SAQ Interview             | Constructed                  |

## DISABILITY DAYS VARIABLES - PUBLIC USE

| Variable | Description                            | Source       |
|----------|--|--------------|
| DDNWRK23 | # Days Missed Work Due to Ill/Inj 2023 | AH10, 20, 30 |
| OTHDYS23 | Miss Any Work Day to Care for Oth 2023 | AH40         |
| OTHNDD23 | # Day Missed Work to Care for Oth 2023 | AH50, 60     |

## ACCESS TO CARE VARIABLES - PUBLIC USE

| Variable     | Description                              | Source       |
|--------------|--|--------------|
| ACCELI42     | Pers Eligible for Access Supplement-R4/2 | Constructed  |
| HAVEUS42     | Does Person Have USC Provider-R4/2       | AC10, 20     |
| PRACTP42     | Provider Own/Group Practice-R4/2         | AC20, 30     |
| YNOUSC42_M18 | Main Reas Pers Doesnt Have USC-R4/2      | AC40         |
| PROVTY42_M18 | Provider Type - R4/2                     | PV30LU, 70   |
| PLCTYP42     | USC Type of Place - R4/2                 | AC50         |
| TMTKUS42     | How Long It Takes Get to USC-R4/2        | AC60         |
| TYPEPE42     | USC Type of Provider - R4/2              | AC70, 80, 90 |
| LOCATN42     | USC Location - R4/2                      | Constructed  |
| HSPLAP42     | Is Provider Hispanic or Latino-R4/2      | AC100        |
| WHITPR42     | Is Provider White - R4/2                 | AC110        |
| BLCKPR42     | Is Provider Black/African Amer-R4/2      | AC110        |
| ASIANP42     | Is Provider Asian - R4/2                 | AC110        |
| NATAMP42     | Is Provider Native American - R4/2       | AC110        |
| PACISP42     | Is Provider Oth Pacific Islndr-R4/2      | AC110        |
| OTHRCP42     | Is Provider Some Other Race - R4/2       | AC110        |
| PROVSEX42    | Is Provider Male or Female - R4/2        | AC120        |
| PHNREG42     | How Diff Contact USC By Phone-R4/2       | AC140        |
| OFFHOU42     | USC Has Office Hrs Nghts/Wkends-R4/2     | AC150        |
| AFTHOU42     | How Diff Contact USC Aft Hours-R4/2      | AC160        |
| TREATM42     | Prov Ask About Oth Treatments-R4/2       | AC170        |
| DECIDE42     | Prov Asks Pers to Help Decide-R4/2       | AC180        |
| EXPLOP42     | Prov Explns Options to Pers - R4/2       | AC190        |
| PRVSPK42     | Prov Speaks Person's Language-R4/2       | AC200        |
| DLAYCA42     | Delay Med Care For Cost-R4/2             | AC210, 220   |
| AFRDCA42     | Could Not Afford Med Care-R4/2           | AC230, 240   |
| DLAYDN42     | Delay Getting Dental for Cost-R4/2       | AC250, 260   |
| AFRDDN42     | Could Not Afford Dental Care-R4/2        | AC270, 280   |
| DLAYPM42     | Delay Getting Pmed For Cost-R4/2         | AC290, 300   |
| AFRDPM42     | Could Not Afford Pmed Care-R4/2          | AC310, 320   |



## EMPLOYMENT VARIABLES - PUBLIC USE

| Variable | Description                              | Source  |
|----------|--|---|
| EMPST31  | Employment Status RD 3/1                 | EM10-30; RJ10, 60   |
| EMPST42  | Employment Status RD 4/2                 | EM10-30; RJ10, 60   |
| EMPST53  | Employment Status RD 5/3                 | EM10-30; RJ10, 60   |
| RNDFLG31 | Data Collection Round for RD 3/1 CMJ     | RJ10; Constructed   |
| MORJOB31 | Has More than One Job RD 3/1 Int Date    | EM40, 230; RJ10, 60; Constructed  |
| MORJOB42 | Has More than One Job RD 4/2 Int Date    | EM40, 230; RJ10, 60; Constructed  |
| MORJOB53 | Has More than One Job RD 5/3 Int Date    | EM40, 230; RJ10, 60; Constructed  |
| EVRWRK   | Ever Wrkd for Pay in Life as of 12/31/23 | EM300; Constructed  |
| HRWG31X  | Hourly Wage RD 3/1 CMJ (Imp)             | EW10, 20, 30, 40, 50, 60, 70, 110, 120, 130, 140, 180, 190, 260, 270, 280, 290, EM420, 540, 550 |
| HRWG42X  | Hourly Wage RD 4/2 CMJ (Imp)             | EW10, 20, 30, 40, 50, 60, 70, 110, 120, 130, 140, 180, 190, 260, 270, 280, 290, EM420, 540, 550 |
| HRWG53X  | Hourly Wage RD 5/3 CMJ (Imp)             | EW10, 20, 30, 40, 50, 60, 70, 110, 120, 130, 140, 180, 190, 260, 270, 280, 290, EM420, 540, 550 |
| HRWGIM31 | HRWG31X Imputation Flag                  | Constructed   |
| HRWGIM42 | HRWG42X Imputation Flag                  | Constructed   |
| HRWGIM53 | HRWG53X Imputation Flag                  | Constructed   |
| HRHOW31  | How Hourly Wage Was Calculated RD 3/1    | EM420, 540, EW20-220, 260, 270, 280, 290  |
| HRHOW42  | How Hourly Wage Was Calculated RD 4/2    | EM420, 540, EW20-220, 260, 270, 280, 290  |

| Variable    | Description   | Source   |
|-------------|---|--|
| HRHOW53     | How Hourly Wage Was Calculated RD 5/3                       | EM420, 540, EW20-220, 260, 270, 280, 290   |
| DIFFWG31    | Persons Wages Different this RD 3/1 at CMJ                  | EM420, RJ10, 30  |
| DIFFWG42    | Persons Wages Different this RD 4/2 at CMJ                  | EM420, RJ10, 30  |
| DIFFWG53    | Persons Wages Different this RD 5/3 at CMJ                  | EM420, RJ10, 30  |
| NHRWGRND31  | RD of Most Recent Wage Update (Primary) RD 3/1 CMJ          | Constructed  |
| NHRWGRND42  | RD of Most Recent Wage Update (Primary) RD 4/2 CMJ          | Constructed  |
| NHRWGRND53  | RD of Most Recent Wage Update (Primary) RD 5/3 CMJ          | Constructed  |
| NHRWG31_M23 | Most Recent Updated Hrly Wage (Primary) RD 3/1 CMJ (Edited) | EW10, 20, 30, 40, 50 60, 70, 110, 120, 130, 140, 180, 190, 260, 270, 280, 290; RJ10, 30, 60, EM420, 540, 550 |
| NHRWG42_M23 | Most Recent Updated Hrly Wage (Primary) RD 4/2 CMJ (Edited) | EW10, 20, 30, 40, 50 60, 70, 110, 120, 130, 140, 180, 190, 260, 270, 280, 290; RJ10, 30, 60, EM420, 540, 550 |
| NHRWG53_M23 | Most Recent Updated Hrly Wage (Primary) RD 5/3 CMJ (Edited) | EW10, 20, 30, 40, 50 60, 70, 110, 120, 130, 140, 180, 190, 260, 270, 280, 290; RJ10, 30, 60, EM420, 540, 550 |
| HOUR31      | Hours Per Week at RD 3/1 CMJ                                | EM540-550  |
| HOUR42      | Hours Per Week at RD 4/2 CMJ                                | EM540-550, RJ10  |
| HOUR53      | Hours Per Week at RD 5/3 CMJ                                | EM540-550, RJ10  |
| TEMPJB31    | Is CMJ a Temporary Job RD 3/1                               | EM560  |
| TEMPJB42    | Is CMJ a Temporary Job RD 4/2                               | EM560  |
| TEMPJB53    | Is CMJ a Temporary Job RD 5/3                               | EM560  |
| SSNLJB31    | Is CMJ a Seasonal Job RD 3/1                                | EM570  |
| SSNLJB42    | Is CMJ a Seasonal Job RD 4/2                                | EM570  |
| SSNLJB53    | Is CMJ a Seasonal Job RD 5/3                                | EM570  |

| Variable    | Description                                      | Source   |
|-------------|--|--|
| SELFCM31    | Self-Employed at RD 3/1 CMJ                      | EM420  |
| SELFCM42    | Self-Employed at RD 4/2 CMJ                      | EM420, RJ10  |
| SELFCM53    | Self-Employed at RD 5/3 CMJ                      | EM420, RJ10  |
| DISVW31X    | Disavowed Health Ins at RD 3/1 CMJ (Ed)          | EM480, 660-670, 710-720, 740; RJ70, 80; HX and OE Sections |
| DISVW42X    | Disavowed Health Ins at RD 4/2 CMJ (Ed)          | EM480, 660-670, 710-720, 740; RJ70, 80; HX and OE Sections |
| DISVW53X    | Disavowed Health Ins at RD 5/3 CMJ (Ed)          | EM480, 660-670, 710-720, 740; RJ70, 80; HX and OE Sections |
| CHOIC31     | Choice of Health Plans at RD 3/1 CMJ             | EM480, 660 - 680, 740                                      |
| CHOIC42     | Choice of Health Plans at RD 4/2 CMJ             | EM480, 660 - 680, 740, RJ10                                |
| CHOIC53     | Choice of Health Plans at RD 5/3 CMJ             | EM480, 660 - 680, 740, RJ10                                |
| INDCAT31    | Industry Grp P27 RD 3 CMJ Only (2007 Census IND) | EM50, 80, 110, 240, 480, 490, 500, 510; RJ10; Constructed  |
| INDCAT31_17 | Industry Group RD 3/1 CMJ (2017 Census IND)      | EM50, 80, 110, 240, 480, 490, 500, 510; RJ10; Constructed  |
| INDCAT42_17 | Industry Group RD 4/2 CMJ (2017 Census IND)      | EM50, 80, 110, 240, 480, 490, 500, 510; RJ10; Constructed  |
| INDCAT53_17 | Industry Group RD 5/3 CMJ (2017 Census IND)      | EM50, 80, 110, 240, 480, 490, 500, 510; RJ10; Constructed  |
| NUMEMP31    | Number of Employees at RD 3/1 CMJ                | EM420, 430-440, 740; Imputed                               |
| NUMEMP42    | Number of Employees at RD 4/2 CMJ                | EM420, 430-440, 740; Imputed                               |
| NUMEMP53    | Number of Employees at RD 5/3 CMJ                | EM420, 430-440, 740; Imputed                               |

| Variable | Description                              | Source   |
|----------|--|--|
| MORE31   | RD 3/1 CMJ Firm Has More than 1 Location | EM420, 450                                       |
| MORE42   | RD 4/2 CMJ Firm Has More than 1 Location | EM10-30, 230, 420, 450; RJ10                     |
| MORE53   | RD 5/3 CMJ Firm Has More than 1 Location | EM10-30, 230, 420, 450; RJ10                     |
| UNION31  | Union Status at RD 3/1 CMJ               | EM10-30, 230, 480, 700; RJ10                     |
| UNION42  | Union Status at RD 4/2 CMJ               | EM10-30, 230, 480, 700; RJ10                     |
| UNION53  | Union Status at RD 5/3 CMJ               | EM10-30, 230, 480, 700; RJ10                     |
| NWK31    | Reason Not Working During RD 3/1         | EM300, 750                                       |
| NWK42    | Reason Not Working During RD 4/2         | EM300, 750                                       |
| NWK53    | Reason Not Working During RD 5/3         | EM300, 750                                       |
| CHGJ3142 | Changed Job between RD 3/1 and RD 4/2    | RJ10   |
| CHGJ4253 | Changed Job between RD 4/2 and RD 5/3    | RJ10   |
| YCHJ3142 | Why Chngd Job between RD 3/1 and RD 4/2  | RJ10, 130  |
| YCHJ4253 | Why Chngd Job between RD 4/2 and RD 5/3  | RJ10, 130  |
| STJBMM31 | Month Started RD 3/1 CMJ                 | EM60_01-02, 90_01-02, 110_01-02, 250_01-02; RJ10 |
| STJBYY31 | Year Started RD 3/1 CMJ                  | EM60_01, 90_01, 110_01, 250_01; RJ10             |
| STJBMM42 | Month Started RD 4/2 CMJ                 | EM60_01-02, 90_01-02, 110_01-02, 250_01-02; RJ10 |
| STJBYY42 | Year Started RD 4/2 CMJ                  | EM60_01, 90_01, 110_01, 250_01; RJ10             |
| STJBMM53 | Month Started RD 5/3 CMJ                 | EM60_01-02, 90_01-02, 110_01-02, 250_01-02; RJ10 |
| STJBYY53 | Year Started RD 5/3 CMJ                  | EM60_01, 90_01, 110_01, 250_01; RJ10             |
| EVRETIRE | Person Has Ever Retired                  | EM350, Constructed                               |

| Variable    | Description  | Source  |
|-------------|--|---|
| OCCCAT31    | Occupation Grp P27 RD 3 CMJ Only (2010 Census OCC) | EM480, 490, 500, 510; Constructed                                 |
| OCCCAT31_18 | Occupation Group RD 3/1 CMJ (2018 Census OCC)      | EM480, 490, 500, 510; Constructed                                 |
| OCCCAT42_18 | Occupation Group RD 4/2 CMJ (2018 Census OCC)      | EM480, 490, 500, 510; Constructed                                 |
| OCCCAT53_18 | Occupation Group RD 5/3 CMJ (2018 Census OCC)      | EM480, 490, 500, 510; Constructed                                 |
| PAYVAC31    | Paid Vacation at RD 3/1 CMJ                        | EM420, 600  |
| PAYVAC42    | Paid Vacation at RD 4/2 CMJ                        | EM420, 600; RJ10  |
| PAYVAC53    | Paid Vacation at RD 5/3 CMJ                        | EM420, 600; RJ10  |
| SICPAY31    | Paid Sick Leave at RD 3/1 CMJ                      | EM420, 580  |
| SICPAY42    | Paid Sick Leave at RD 4/2 CMJ                      | EM420, 580; RJ10  |
| SICPAY53    | Paid Sick Leave at RD 5/3 CMJ                      | EM420, 580; RJ10  |
| PAYDR31     | Paid Leave to Visit Dr RD 3/1 CMJ                  | EM420, 580-590  |
| PAYDR42     | Paid Leave to Visit Dr RD 4/2 CMJ                  | EM420, 580-590; RJ10  |
| PAYDR53     | Paid Leave to Visit Dr RD 5/3 CMJ                  | EM420, 580-590; RJ10  |
| RETPLN31    | Pension Plan at RD 3/1 CMJ                         | EM420, 610  |
| RETPLN42    | Pension Plan at RD 4/2 CMJ                         | EM420, 610; RJ10  |
| RETPLN53    | Pension Plan at RD 5/3 CMJ                         | EM420, 610; RJ10  |
| BSNTY31     | Sole Prop, Partner, Corp, RD 3/1 CMJ               | EM420 ,460-470  |
| BSNTY42     | Sole Prop, Partner, Corp, RD 4/2 CMJ               | EM420, 460-470; RJ10  |
| BSNTY53     | Sole Prop, Partner, Corp, RD 5/3 CMJ               | EM420, 460-470; RJ10  |
| JOBORG31    | Priv (Profit,Nonprofit) Gov RD 3/1 CMJ             | EM420, 480  |
| JOBORG42    | Priv (Profit,Nonprofit) Gov RD 4/2 CMJ             | EM420, 480; RJ10  |
| JOBORG53    | Priv (Profit,Nonprofit) Gov RD 5/3 CMJ             | EM420, 480; RJ10  |
| HELD31X     | Health Insur Held from RD 3/1 CMJ (Ed)             | EM480, 660, 670, 710, 740; RJ70, 80, 110; HX, HP, and OE Sections |

| Variable | Description                             | Source  |
|----------|---|---|
| HELD42X  | Health Insur Held from RD 4/2 CMJ (Ed)  | EM480, 660, 670, 710, 740; RJ70, 80, 110; HX, HP, and OE Sections |
| HELD53X  | Health Insur Held from RD 5/3 CMJ (Ed)  | EM480, 660, 670, 710, 740; RJ70, 80, 110; HX, HP, and OE Sections |
| OFFER31X | Health Insur Offered by RD 3/1 CMJ (Ed) | EM480, 660, 670, 710, 740; RJ70-90, 110, HX Sections              |
| OFFER42X | Health Insur Offered by RD 4/2 CMJ (Ed) | EM480, 660, 670, 710, 740; RJ70-90, 110, HX Sections              |
| OFFER53X | Health Insur Offered by RD 5/3 CMJ (Ed) | EM480, 660, 670, 710, 740; RJ70-90, 110, HX Sections              |
| OFREMP31 | Employer Offers Health Ins RD 3/1 CMJ   | EM690, 740; RJ100   |
| OFREMP42 | Employer Offers Health Ins RD 4/2 CMJ   | EM690, 740; RJ100   |
| OFREMP53 | Employer Offers Health Ins RD 5/3 CMJ   | EM690, 740; RJ100   |
| EMPST31H | Employment Status RD 3/1 (Imp)          | Full-Year Consolidated File: Missing Values Imputed               |
| EMPST42H | Employment Status RD 4/2 (Imp)          | Full-Year Consolidated File: Missing Values Imputed               |
| EMPST53H | Employment Status RD 5/3 (Imp)          | Full-Year Consolidated File: Missing Values Imputed               |
| SLFCM31H | Self-employed at RD 3/1 CMJ (Imp)       | Full-Year Consolidated File: Missing Values Imputed               |
| SLFCM42H | Self-employed at RD 4/2 CMJ (Imp)       | Full-Year Consolidated File: Missing Values Imputed               |

| Variable    | Description  | Source  |
|-------------|--|---|
| SLFCM53H    | Self-employed at RD 5/3 CMJ (Imp)                      | Full-Year Consolidated File: Missing Values Imputed |
| NMEMP31H    | Number of Employees at RD 3/1 CMJ (Imp)                | Full-Year Consolidated File: Missing Values Imputed |
| NMEMP42H    | Number of Employees at RD 4/2 CMJ (Imp)                | Full-Year Consolidated File: Missing Values Imputed |
| NMEMP53H    | Number of Employees at RD 5/3 CMJ (Imp)                | Full-Year Consolidated File: Missing Values Imputed |
| MORE31H     | RD 3/1 CMJ Firm More Than 1 Locat (Imp)                | Full-Year Consolidated File: Missing Values Imputed |
| MORE42H     | RD 4/2 CMJ Firm More Than 1 Locat (Imp)                | Full-Year Consolidated File: Missing Values Imputed |
| MORE53H     | RD 5/3 CMJ Firm More Than 1 Locat (Imp)                | Full-Year Consolidated File: Missing Values Imputed |
| INDCT31H    | Industry Grp P27 RD 3 CMJ Only (2007 Census IND) (Imp) | Full-Year Consolidated File: Missing Values Imputed |
| INDCT31H_17 | Industry Group RD 3/1 CMJ (2017 Census IND) (Imp)      | Full-Year Consolidated File: Missing Values Imputed |
| INDCT42H_17 | Industry Group RD 4/2 CMJ (2017 Census IND) (Imp)      | Full-Year Consolidated File: Missing Values Imputed |

| Variable    | Description   | Source  |
|-------------|---|---|
| INDCT53H_17 | Industry Group RD 5/3 CMJ (2017 Census IND) (Imp)         | Full-Year Consolidated File: Missing Values Imputed |
| OCCCT31H    | Occupation Grp P27 RD 3 CMJ Only (2010 Census OCC) (Imp)  | Full-Year Consolidated File: Missing Values Imputed |
| OCCCT31H_18 | Occupation Group RD 3/1 CMJ (2018 Census OCC) (Imp)       | Full-Year Consolidated File: Missing Values Imputed |
| OCCCT42H_18 | Occupation Group RD 4/2 CMJ (2018 Census OCC) (Imp) (Imp) | Full-Year Consolidated File: Missing Values Imputed |
| OCCCT53H_18 | Occupation Group RD 5/3 CMJ (2018 Census OCC) (Imp) (Imp) | Full-Year Consolidated File: Missing Values Imputed |
| HOUR31H     | Hours Per Week at RD 3/1 CMJ (Imp)                        | Full-Year Consolidated File: Missing Values Imputed |
| HOUR42H     | Hours Per Week at RD 4/2 CMJ (Imp)                        | Full-Year Consolidated File: Missing Values Imputed |
| HOUR53H     | Hours Per Week at RD 5/3 CMJ (Imp)                        | Full-Year Consolidated File: Missing Values Imputed |
| JBORG31H    | Prv, St-Lc Gov, Fed Gov RD 3/1 CMJ (Imp)                  | Full-Year Consolidated File: Missing Values Imputed |
| JBORG42H    | Prv, St-Lc Gov, Fed Gov RD 4/2 CMJ (Imp)                  | Full-Year Consolidated File: Missing Values Imputed |



| Variable | Description                              | Source  |
|----------|--|---|
| JBORG53H | Prv, St-Lc Gov, Fed Gov RD 5/3 CMJ (Imp) | Full-Year Consolidated File: Missing Values Imputed |
| UNION31H | Union Status at RD 3/1 CMJ (Imp)         | Full-Year Consolidated File: Missing Values Imputed |
| UNION42H | Union Status at RD 4/2 CMJ (Imp)         | Full-Year Consolidated File: Missing Values Imputed |
| UNION53H | Union Status at RD 5/3 CMJ (Imp)         | Full-Year Consolidated File: Missing Values Imputed |
| BSNTY31H | Sol Prop, Prtnr, Corp, RD 3/1 CMJ (Imp)  | Full-Year Consolidated File: Missing Values Imputed |
| BSNTY42H | Sol Prop, Prtnr, Corp, RD 4/2 CMJ (Imp)  | Full-Year Consolidated File: Missing Values Imputed |
| BSNTY53H | Sol Prop, Prtnr, Corp, RD 5/3 CMJ (Imp)  | Full-Year Consolidated File: Missing Values Imputed |
| HRWG31H  | Hourly Wage RD 3/1 CMJ (Imp)             | Full-Year Consolidated File: Missing Values Imputed |
| HRWG42H  | Hourly Wage RD 4/2 CMJ (Imp)             | Full-Year Consolidated File: Missing Values Imputed |
| HRWG53H  | Hourly Wage RD 5/3 CMJ (Imp)             | Full-Year Consolidated File: Missing Values Imputed |
| CMJHLD31 | Hlth Insur Held from RD 3/1 CMJ (PRPL)   | PRPL PUF  |

| Variable | Description                              | Source   |
|----------|--|--|
| CMJHLD42 | Hlth Insur Held from RD 4/2 CMJ (PRPL)   | PRPL PUF   |
| CMJHLD53 | Hlth Insur Held from RD 5/3 CMJ (PRPL)   | PRPL PUF   |
| OFFER31H | Health Insur Offered by RD 3/1 CMJ (Imp) | Full-Year Consolidated File:<br>Missing Values Imputed |
| OFFER42H | Health Insur Offered by RD 4/2 CMJ (Imp) | Full-Year Consolidated File:<br>Missing Values Imputed |
| OFFER53H | Health Insur Offered by RD 5/3 CMJ (Imp) | Full-Year Consolidated File:<br>Missing Values Imputed |
| OFEMP31H | Emp Offers Health Ins RD 3/1 CMJ (Imp)   | Full-Year Consolidated File:<br>Missing Values Imputed |
| OFEMP42H | Emp Offers Health Ins RD 4/2 CMJ (Imp)   | Full-Year Consolidated File:<br>Missing Values Imputed |
| OFEMP53H | Emp Offers Health Ins RD 5/3 CMJ (Imp)   | Full-Year Consolidated File:<br>Missing Values Imputed |
| PYVAC31H | Paid Vacation at RD 3/1 CMJ (Imp)        | Full-Year Consolidated File:<br>Missing Values Imputed |
| PYVAC42H | Paid Vacation at RD 4/2 CMJ (Imp)        | Full-Year Consolidated File:<br>Missing Values Imputed |
| PYVAC53H | Paid Vacation at RD 5/3 CMJ (Imp)        | Full-Year Consolidated File:<br>Missing Values Imputed |

| Variable | Description                             | Source  |
|----------|---|---|
| SCPAY31H | Paid Sick Leave at RD 3/1 CMJ (Imp)     | Full-Year Consolidated File: Missing Values Imputed |
| SCPAY42H | Paid Sick Leave at RD 4/2 CMJ (Imp)     | Full-Year Consolidated File: Missing Values Imputed |
| SCPAY53H | Paid Sick Leave at RD 5/3 CMJ (Imp)     | Full-Year Consolidated File: Missing Values Imputed |
| PAYDR31H | Paid Leave to Visit Dr RD 3/1 CMJ (Imp) | Full-Year Consolidated File: Missing Values Imputed |
| PAYDR42H | Paid Leave to Visit Dr RD 4/2 CMJ (Imp) | Full-Year Consolidated File: Missing Values Imputed |
| PAYDR53H | Paid Leave to Visit Dr RD 5/3 CMJ (Imp) | Full-Year Consolidated File: Missing Values Imputed |
| RTPLN31H | Pension Plan at RD 3/1 CMJ (Imp)        | Full-Year Consolidated File: Missing Values Imputed |
| RTPLN42H | Pension Plan at RD 4/2 CMJ (Imp)        | Full-Year Consolidated File: Missing Values Imputed |
| RTPLN53H | Pension Plan at RD 5/3 CMJ (Imp)        | Full-Year Consolidated File: Missing Values Imputed |

## HEALTH INSURANCE VARIABLES - PUBLIC USE

### MONTHLY HEALTH INSURANCE COVERAGE INDICATORS

| Variable | Description  | Source  |
|----------|--|---|
| TRImm23X | Covered by TRICARE/CHAMPVA in mm 23 (Ed), where mm = JA-DE | HX120_01, 125_01, 230, PR260_01-280_01, HQ Section  |
| MCRmm23  | Covered by Medicare in mm 23, where mm = JA-DE             | HX40_01, 50_01, 60, 230   |
| MCRmm23X | Covered by Medicare in mm 23 (Ed), where mm = JA-DE        | HX40_01, 50_01, 60, 230, see Section 2.5.10 for additional edit specifications                |
| MCDmm23  | Cov by Medicaid or SCHIP in mm 23, where mm = JA-DE        | HX100, 230, PR150_01-160_01 and HQ Section  |
| MCDmm23X | Cov by Medicaid or SCHIP in mm 23 (Ed), where mm = JA-DE   | HX100_01, 230, PR150_01-160_01 and MCDmm23, Section 2.5.10 for additional edit specifications |
| GVAm23   | Cov by Other Public Coverage in mm 23, where mm = JA-DE    | HQ Section, HX170_01, 230, PR310_01-320_01 and HQ Section                                     |
| GVBmm23  | Cov by Other Public HMO in mm 23, where mm = JA-DE         | HX170_01, 230, 530-540, PR310_01-320_01, 340-350 and HQ Section                               |

| Variable | Description  | Source   |
|----------|--|--|
| GVCmm23  | Cov by Other Public Pays Prem in mm 23,<br>where mm = JA-DE    | HX170_01, 230,<br>560-570,<br>PR310_01-<br>320_01, 370-380<br>and HQ Section |
| VAPmm23  | Covered by VA in mm 23,<br>where mm=JA-DE                      | HX120_01-<br>125_01, 230,<br>PR260_01 -<br>280_01                            |
| IHSmm23  | Cov by Indian Health Service in mm 23,<br>where mm=JA-DE       | HX140,<br>PR290_01,<br>300_01  |
| PUBmm23X | Covr by Any Public Ins in mm 23 (Ed),<br>where mm = JA-DE      | TRImm23X,<br>MCRmm23X,<br>MCDmm23X,<br>GVAm23,<br>VAPmm23                    |
| PEGmm23  | Covered by Empl Union Ins in mm 23,<br>where mm = JA-DE        | HX20,<br>HX200, 300, 620;<br>HP, OE, HQ, EM,<br>RJ Sections                  |
| PDKmm23  | Covr by Priv Ins (Source Unknwn) mm 23,<br>where mm = JA-DE    | HX200, 300, 620,<br>HP, OE, and HQ<br>Sections                               |
| PNGmm23  | Covered by Nongroup Ins in mm 23,<br>where mm = JA-DE          | HX200, 300, 620,<br>HP, OE, and HQ<br>Sections                               |
| POGmm23  | Covered by Other Group Ins in mm 23,<br>where mm = JA-DE       | HX200, 300, 620,<br>HP, OE, and HQ<br>Sections                               |
| POEmm23  | Cov by ESI, Pholder Outside RU in mm 23,<br>where mm = JA-DE   | HX200, 300, 620,<br>HP130, HQ, OE,<br>RJ and EM<br>sections                  |
| PNEmm23  | Cov by Non-ESI, Phldr Outside RU in mm 23,<br>where mm = JA-DE | HX200, 300, 620,<br>HP130, OE, and<br>HQ Sections                            |
| PRXmm23  | Cov by Priv Ins through Exchng in mm 23,<br>where mm = JA-DE   | HX200, 300,<br>620,HP, OE, and<br>HQ Sections                                |

| Variable | Description  | Source  |
|----------|--|---|
| PRImm23  | Covered by Private Ins in mm 23,<br>where mm = JA-DE           | POGmm23,<br>PDKmm23,<br>PEGmm23,<br>PNEmm23,<br>POEmm23,<br>PNGmm23,<br>PRXmm23 |
| HPEmm23  | Pholder of Empl Union Ins in mm 23,<br>where mm = JA-DE        | PEGmm23, HP70   |
| HPDmm23  | Pholder of Priv Ins (Source Unknwn) mm 23,<br>where mm = JA-DE | PDKmm23; HP90   |
| HPNmm23  | Pholder of Nongroup Ins in mm 23,<br>where mm = JA-DE          | PNGmm23; HP90   |
| HPOmm23  | Pholder of Other Group Ins in mm 23,<br>where mm = JA-DE       | POGmm23; HP90   |
| HPXmm23  | Pholder of Priv Ins through Exch in mm 23,<br>where mm = JA-DE | PRXmm23; HP90   |
| HPRmm23  | Pholder of Private Insurance in mm 23,<br>where mm = JA-DE     | HPEmm23,<br>HPNmm23,<br>HPDmm23,<br>HPXmm23                                     |
| INSmm23X | Covr by Hosp/Med Ins in mm 23 (Ed),<br>where mm = JA-DE        | PUBmm23X,<br>PRImm23  |

### SUMMARY HEALTH INSURANCE COVERAGE INDICATORS

| Variable | Description                              | Source      |
|----------|--|-------------|
| PRVEV23  | Ever Have Private Insurance during 2023  | Constructed |
| TRIEV23  | Ever Have TRICARE/CHAMPVA during 2023    | Constructed |
| MCREV23  | Ever Have Medicare during 2023 (ED)      | Constructed |
| MCDEV23  | Ever Have MCAID/SCHIP during 2023 (ED)   | Constructed |
| VAEV23   | Ever Have VA during 2023                 | Constructed |
| GVAEV23  | Ever Have Other Public during 2023       | Constructed |
| GVBEV23  | Ever Have Other Public HMO during 2023   | Constructed |
| GVCEV23  | Ever Have Oth Pub Pays Prem during 2023  | Constructed |
| UNINS23  | Uninsured All of 2023                    | Constructed |
| INSCOV23 | Health Insurance Coverage Indicator 2023 | Constructed |

| Variable | Description                              | Source      |
|----------|--|-------------|
| INSURC23 | Full Year Insurance Coverage Status 2023 | Constructed |

### MANAGED CARE VARIABLES

| Variable | Description   | Source   |
|----------|---|--|
| TRICH31X | Covered By CHAMPVA - Any Time in R3/1                 | HX230, 260,<br>PR260_01,<br>270_01, 280_01,<br>HQ Section        |
| TRICH42X | Covered By CHAMPVA - Any Time in R4/2                 | HX230, 260,<br>PR260_01,<br>270_01, 280_01,<br>HQ Section        |
| TRICH23X | Covered By CHAMPVA - R5/3 Until 12/31/23              | HX230, 260,<br>PR260_01,<br>270_01, 280_01,<br>HQ Section        |
| TRI31X   | Cov By TRICARE - Any Time in R3/1                     | HX125_01, 260,<br>PR280_01                                       |
| TRI42X   | Cov By TRICARE - Any Time in R4/2                     | HX125_01, 260,<br>PR280_01                                       |
| TRI23X   | Cov By TRICARE - R5/3 Til 12/31/23                    | HX125_01, 260,<br>PR280_01                                       |
| MCRPHD31 | Cov By Medicare Mnged Care Dntl Benefit - R3/1        | HX40_01, 50_01,<br>60, 390, 415,<br>PR10, 35                     |
| MCRPHD42 | Cov By Medicare Mnged Care Dntl Benefit - R4/2        | HX40_01, 50_01,<br>60, 390, 415,<br>PR10, 35                     |
| MCRPHD23 | Cov By Medicare Mnged Care Dntl Benefit -<br>12/31/23 | HX40_01, 50_01,<br>60, 390, 415,<br>PR10, 35                     |
| MCRPD31  | Cov By Medicare Pmed Benefit - R3/1                   | HX40_01, 50_01,<br>60, 230, 410, 470,<br>PR30, 90, HQ<br>Section |

| Variable | Description  | Source  |
|----------|--|---|
| MCRPD42  | Cov By Medicare Pmed Benefit - R4/2                        | HX40_01, 50_01, 60, 230, 410, 470, PR30, 90, HQ Section             |
| MCRPD23  | Cov By Medicare Pmed Benefit - 12/31/23                    | HX40_01, 50_01, 60, 230, 410, 470, PR30, 90, HQ Section             |
| MCRPD31X | Cov By Medicare Pmed Benefit - R3/1 (ED)                   | MCARE31X, MCAID31X, MCRPD31   |
| MCRPD42X | Cov By Medicare Pmed Benefit - R4/2 (ED)                   | MCARE42X, MCAID42X, MCRPD42   |
| MCRPD23X | Cov By Mcare Pmed Benefit-12/31/23 (ED)                    | MCARE23X, MCAID23X, MCRPD23   |
| MCRPHO31 | Cov By Medicare Managed Care/Medicare Advantage - R3/1     | HX40_01, 50_01, 60, 230, 390, PR10, HQ Section                      |
| MCRPHO42 | Cov By Medicare Managed Care/Medicare Advantage - R4/2     | HX40_01, 50_01, 60, 230, 390, PR10, HQ Section                      |
| MCRPHO23 | Cov By Medicare Managed Care/Medicare Advantage - 12/31/23 | HX40_01, 50_01, 60, 230, 390, PR10, HQ Section                      |
| MCDHMO31 | Cov By Mcaid/SCHIP HMO -Any Time in R3/1                   | MCDAT31X, HX100, 230, 530 PR150_01-160_01, 180, 340, and HQ Section |
| MCDHMO42 | Cov By Mcaid/SCHIP HMO -Any Time in R4/2                   | MCDAT42X, HX100, 230, 530 PR150_01-160_01, 180, 340, and HQ Section |
| MCDHMO23 | Cov By Mcaid/SCHIP HMO-R5/3 Til 12/31/23                   | MCDAT23X, HX100, 230, 530 PR150_01-160_01, 180, 340, and HQ Section |



| Variable     | Description                              | Source  |
|--------------|--|---|
| MCDMC31      | Cv Mcaid/CHIP Gtpr Pln-Any Time in R3/1  | MCDHMO31,<br>MCDAT31X,<br>HX100, 230, 540<br>PR150_01-<br>160_01, 190, 350,<br>and HQ Section |
| MCDMC42      | Cv Mcaid/CHIP Gtpr Pln-Any Time in R4/2  | MCDHMO42,<br>MCDAT42X,<br>HX100, 230, 540,<br>PR150_01-<br>160_01, 190, 350<br>and HQ Section |
| MCDMC23      | Cv Mcd/CHIP Gtpr Pln-R5/3 Til 12/31/23   | MCDHMO23,<br>MCDAT23X,<br>HX100, 230, 540,<br>PR150_01-<br>160_01, 190, 350<br>and HQ Section |
| PRVHMO31_M23 | Covered By Private HMO-Any Time in R3/1  | MC10, HX200,<br>300, 620; HP, OE,<br>HQ, EM, and RJ<br>Sections                               |
| PRVHMO42_M23 | Covered By Private HMO-Any Time in R4/2  | MC10, HX200,<br>300, 620; HP, OE,<br>HQ, EM, and RJ<br>Sections                               |
| PRVHMO23_M23 | Covered By Private HMO-R5/3 Til 12/31/23 | MC10, HX620;<br>HP, OE, HQ, EM,<br>and RJ Sections  |

### FLEXIBLE SPENDING ACCOUNT VARIABLES

| Variable | Description                          | Source   |
|----------|--------------------------------------|----------|
| FSAGT31  | Anyone in RU Have FSA - R3/1         | HX720    |
| HASFSA31 | Person is FSA Holder - R3/1          | HX730    |
| PFSAMT31 | Person-level FSA Total Amount - R3/1 | HX740_01 |

## DURATION OF HEALTH INSURANCE VARIABLES

| Variable | Description                              | Source |
|----------|--|--------|
| PREVCOVR | Per Cov by Ins in Prev 2 Yrs-Pnl 28 Only | HX750  |
| MORECOVR | Cov by Mor Compr Pl Prev 2 Yr-Pn 28 Only | HX760  |

## OTHER HEALTH INSURANCE COVERAGE VARIABLES

| Variable | Description                              | Source      |
|----------|--|-------------|
| TRICR31X | Cov by TRICR/CHAMV - R3/1 Int Dt (Ed)    | Constructed |
| TRICR42X | Cov by TRICR/CHAMV - R4/2 Int Dt (Ed)    | Constructed |
| TRICR53X | Cov by TRICR/CHAMV 12-31/R3 Int Dt (Ed)  | Constructed |
| TRICR23X | Cov by TRICR/CHAMV - 12/31/23 (Ed)       | Constructed |
| TRIAT31X | Cov TRICARE/CHAMPVA - Any Time in R3/1   | Constructed |
| TRIAT42X | Cov TRICARE/CHAMPVA - Any Time in R4/2   | Constructed |
| TRIAT53X | Cov TRICARE/CHAMPVA - Any Time in R5/3   | Constructed |
| TRIAT23X | Cov TRICARE/CHAMPVA-R5/3 Until 12/31/23  | Constructed |
| MCAID31  | Cov by Medicaid or SCHIP - R3/1 Int Dt   | Constructed |
| MCAID42  | Cov by Medicaid or SCHIP - R4/2 Int Dt   | Constructed |
| MCAID53  | Cov by Medicaid or SCHIP 12-31/R3 Int Dt | Constructed |
| MCAID23  | Cov by Medicaid or SCHIP - 12/31/23      | Constructed |
| MCAID31X | Cov by Medicaid/SCHIP - R3/1 Int Dt (Ed) | Constructed |
| MCAID42X | Cov by Medicaid/SCHIP - R4/2 Int Dt (Ed) | Constructed |
| MCAID53X | Cov Medicaid/SCHIP 12-31/R3 Int Dt (Ed)  | Constructed |
| MCAID23X | Cov by Medicaid or SCHIP - 12/31/23 (Ed) | Constructed |
| MCARE31  | Cov by Medicare - R3/1 Int Dt            | Constructed |
| MCARE42  | Cov by Medicare - R4/2 Int Dt            | Constructed |
| MCARE53  | Cov by Medicare 12-31/R3 Int Dt          | Constructed |
| MCARE23  | Cov by Medicare - 12/31/23               | Constructed |
| MCARE31X | Cov by Medicare - R3/1 Int Dt (Ed)       | Constructed |
| MCARE42X | Cov by Medicare - R4/2 Int Dt (Ed)       | Constructed |
| MCARE53X | Cov by Medicare 12-31/R3 Int Dt (Ed)     | Constructed |
| MCARE23X | Cov by Medicare - 12/31/23 (Ed)          | Constructed |
| MCDAT31X | Cov Medicaid Or SCHIP - Any Time in R3/1 | Constructed |

| Variable | Description                               | Source      |
|----------|---|-------------|
| MCDAT42X | Cov Medicaid Or SCHIP - Any Time in R4/2  | Constructed |
| MCDAT53X | Cov Medicaid Or SCHIP - Any Time in R5/3  | Constructed |
| MCDAT23X | Cv Mcd/CHIP-Any Tme In R5/3 Til 12/31/23  | Constructed |
| GOVTA31  | Cov by Other Public Cov - R3/1 Int Dt     | Constructed |
| GOVTA42  | Cov by Other Public Cov - R4/2 Int Dt     | Constructed |
| GOVTA53  | Cov by Other Public Cov 12-31/R3 Int Dt   | Constructed |
| GOVTA23  | Cov by Other Public Cov - 12/31/23        | Constructed |
| GOVAAT31 | Cov by Other Public -Any Time in R3/1     | Constructed |
| GOVAAT42 | Cov by Other Public -Any Time in R4/2     | Constructed |
| GOVAAT53 | Cov by Other Public -Any Time in R5/3     | Constructed |
| GOVAAT23 | Cv Oth Pub- Any Time in R5/3 Til 12/31/23 | Constructed |
| GOVTB31  | Cov By Oth Pub HMO - R3/1 Int Dt          | Constructed |
| GOVTB42  | Cov By Oth Pub HMO - R4/2 Int Dt          | Constructed |
| GOVTB53  | Cov By Oth Pub HMO 12-31/R3 Int Dt        | Constructed |
| GOVTB23  | Cov By Oth Pub HMO - 12/31/23             | Constructed |
| GOVBAT31 | Cov By Oth Pub HMO-Any Time in R3/1       | Constructed |
| GOVBAT42 | Cov By Oth Pub HMO-Any Time in R4/2       | Constructed |
| GOVBAT53 | Cov By Oth Pub HMO-Any Time in R5/3       | Constructed |
| GOVBAT23 | Cov Oth Pb HMO-Any Tm R5/3 Til 12/31/23   | Constructed |
| GOVTC31  | Cov By Oth Pub Pays Prem - R3/1 Int Dt    | Constructed |
| GOVTC42  | Cov By Oth Pub Pays Prem - R4/2 Int Dt    | Constructed |
| GOVTC53  | Cov By Oth Pub Pays Prem 12-31/R3 Int Dt  | Constructed |
| GOVTC23  | Cov By Oth Pub Pays Prem - 12/31/23       | Constructed |
| GOVCAT31 | Cv By Oth Pub Pays Prem-Any Time in R3/1  | Constructed |
| GOVCAT42 | Cv By Oth Pub Pays Prem-Any Time in R4/2  | Constructed |
| GOVCAT53 | Cv By Oth Pub Pays Prem-Any Time in R5/3  | Constructed |
| GOVCAT23 | Cv Oth Pub Pays Prem- R5/3 Til 12/31/23   | Constructed |
| VAPROG31 | Cov By VA - R3/1 Int Dt                   | Constructed |
| VAPROG42 | Cov By VA - R4/2 Int Dt                   | Constructed |
| VAPROG53 | Cov By VA 12-31/R3 Int Dt                 | Constructed |
| VAPROG23 | Cov By VA- 12/31/23                       | Constructed |
| VAPRAT31 | Cov By VA - Any Time in R3/1              | Constructed |
| VAPRAT42 | Cov By VA - Any Time in R4/2              | Constructed |

| Variable | Description                                   | Source      |
|----------|---|-------------|
| VAPRAT53 | Cov By VA - Any Time in R5/3                  | Constructed |
| VAPRAT23 | Cov By VA-Any Tme In R5/3 Til 12/31/23        | Constructed |
| IHS31    | Cv By Indian Health Service- R3/1 Int Dt      | Constructed |
| IHS42    | Cv By Indian Health Service- R4/2 Int Dt      | Constructed |
| IHS53    | Cv By IHS 12-31/R3 Int Dt                     | Constructed |
| IHS23    | Cov By IHS - 12/31/23                         | Constructed |
| IHSAT31  | Cov By IHS - Any Time in R3/1                 | Constructed |
| IHSAT42  | Cov By IHS - Any Time in R4/2                 | Constructed |
| IHSAT53  | Cov By IHS - Any Time in R5/3                 | Constructed |
| IHSAT23  | Cov By IHS-Any Tme In R5/3 Til 12/31/23       | Constructed |
| PRIDK31  | Cov by Priv Ins (Dk Plan) - R3/1 Int          | Constructed |
| PRIDK42  | Cov by Priv Ins (Dk Plan) - R4/2 Int          | Constructed |
| PRIDK53  | Cov by Priv Ins (Dk Plan) 12-31/R3 Int        | Constructed |
| PRIDK23  | Cov by Priv Ins (Dk Plan) - 12/31/23          | Constructed |
| PRIEU31  | Cov by Empl/Union Grp Ins - R3/1 Int Dt       | Constructed |
| PRIEU42  | Cov by Empl/Union Grp Ins - R4/2 Int Dt       | Constructed |
| PRIEU53  | Cov by Empl/Union Grp Ins 12-31/R3 Int        | Constructed |
| PRIEU23  | Cov by Empl/Union Grp Ins - 12/31/23          | Constructed |
| PRING31  | Cov by Non-Group Ins - R3/1 Int Dt            | Constructed |
| PRING42  | Cov by Non-Group Ins - R4/2 Int Dt            | Constructed |
| PRING53  | Cov by Non-Group Ins 12-31/R3 Int Dt          | Constructed |
| PRING23  | Cov by Non-Group Ins - 12/31/23               | Constructed |
| PRIOG31  | Cov by Other Group Ins - R3/1 Int Dt          | Constructed |
| PRIOG42  | Cov by Other Group Ins - R4/2 Int Dt          | Constructed |
| PRIOG53  | Cov by Other Group Ins 12-31/R3 Int Dt        | Constructed |
| PRIOG23  | Cov by Other Group Ins - 12/31/23             | Constructed |
| PRINEO31 | Cov By Non-ESI, PHoldr Out RU - R3/1 Int Dt   | Constructed |
| PRINEO42 | Cov By Non-ESI, PHoldr Out RU - R4/2 Int Dt   | Constructed |
| PRINEO53 | Cov By Non-ESI, PHoldr Out RU 12-31/R3 Int Dt | Constructed |
| PRINEO23 | Cov By Non-ESI, PHoldr Out RU- 12/31/23       | Constructed |
| PRIEUO31 | Cov By ESI, Pholdr Outside RU - R3/1 Int      | Constructed |
| PRIEUO42 | Cov By ESI, Pholdr Outside RU - R4/2 Int      | Constructed |
| PRIEUO53 | Cv By ESI, Phldr Outside RU 12-31/R3 Int      | Constructed |

| Variable | Description   | Source      |
|----------|---|-------------|
| PRIEUO23 | Cov By ESI, PHoldr Outside RU - 12/31/23                  | Constructed |
| PRSTX31  | Cov by Priv Exchange Ins - R3/1 Int Dt                    | Constructed |
| PRSTX42  | Cov by Priv Exchange Ins - R4/2 Int Dt                    | Constructed |
| PRSTX53  | Priv Exchange Ins on 12-31 R5/R3 Int Dt                   | Constructed |
| PRSTX23  | Priv Exchange Insurance on 12/31/23                       | Constructed |
| PRIV31   | Cov by Priv Hlth Ins - R3/1 Int Date                      | Constructed |
| PRIV42   | Cov by Priv Hlth Ins - R4/2 Int Date                      | Constructed |
| PRIV53   | Cov by Priv Hlth Ins 12-31/R3 Int Date                    | Constructed |
| PRIV23   | Cov by Priv Hlth Ins - 12/31/23                           | Constructed |
| PRIVAT31 | Cov by Private Ins - Any Time in R3/1                     | Constructed |
| PRIVAT42 | Cov by Private Ins - Any Time in R4/2                     | Constructed |
| PRIVAT53 | Cov by Private Ins - Any Time in R5/3                     | Constructed |
| PRIVAT23 | Cov by Private Ins - R5/3 Until 12/31/23                  | Constructed |
| PUB31X   | Cov by Public Ins - R3/1 Int Dt (Ed)                      | Constructed |
| PUB42X   | Cov by Public Ins - R4/2 Int Dt (Ed)                      | Constructed |
| PUB53X   | Cov by Public Ins 12-31/R3 Int Dt (Ed)                    | Constructed |
| PUB23X   | Cov by Public Ins - 12/31/23 (Ed)                         | Constructed |
| PUBAT31X | Cov by Public - Any Time in R3/1                          | Constructed |
| PUBAT42X | Cov by Public - Any Time in R4/2                          | Constructed |
| PUBAT53X | Cov by Public - Any Time in R5/3                          | Constructed |
| PUBAT23X | Cov by Public - R5/3 Until 12/31/23                       | Constructed |
| VERFLG31 | PID Gained Covg Thru Verification R3/1                    | Constructed |
| VERFLG42 | PID Gained Covg Thru Verification R4/2                    | Constructed |
| VERFLG23 | PID Gained Covg Thru Verification in R5/R3 Until 12/31/23 | Constructed |
| INS31X   | Insured - R3/1 Int Date (Ed)                              | Constructed |
| INS42X   | Insured - R4/2 Int Date (Ed)                              | Constructed |
| INS53X   | Insured 12-31/R3 Int Date (Ed)                            | Constructed |
| INS23X   | Insured - 12/31/23 (Ed)                                   | Constructed |
| INSAT31X | Insured Any Time in R3/1                                  | Constructed |
| INSAT42X | Insured Any Time in R4/2                                  | Constructed |
| INSAT53X | Insured Any Time in R5/3                                  | Constructed |
| INSAT23X | Insured Any Time in R5/R3 until 12/31/23                  | Constructed |

## DENTAL AND PRESCRIPTION DRUG PRIVATE INSURANCE VARIABLES

| Variable     | Description                              | Source      |
|--------------|--|-------------|
| DENTIN31_M23 | Dental Insurance- Any Time in RD 3/1     | Constructed |
| DENTIN42_M23 | Dental Insurance- Any Time in RD 4/2     | Constructed |
| DENTIN53_M23 | Dental Insurance- Any Time in RD 5/3     | Constructed |
| DNTINS31_M23 | Dental Ins - Any Time In Rd 3/1 in 2023  | Constructed |
| DNTINS23_M23 | Dentl Ins-Any Time in R5/R3 Til 12/31/23 | Constructed |
| PMEDIN31     | PMED Ins - Any Time in Rd 3/1            | Constructed |
| PMEDIN42     | PMEDINS - Any Time in Rd 4/2             | Constructed |
| PMEDIN53     | PMEDINS - Any Time in Rd 5/3             | Constructed |
| PMDINS31     | Pmed Ins - RD 3/1 in 2023                | Constructed |
| PMDINS23     | Pmed Ins - R5/R3 until 12/31/23          | Constructed |

## MEDICAL DEBT VARIABLES

| Variable | Description                             | Source |
|----------|---|--------|
| PROBPY42 | Family Having Prob Paying Medical Bills | HX770  |
| CRFMPY42 | Family Med Bills Being Paid Over Time   | HX780  |
| PYUNBL42 | Unable to Pay Family Medical Bills      | HX790  |

## THIRD PARTY PAYER VARIABLES - PUBLIC USE

| Variable | Description                                | Source      |
|----------|--|-------------|
| PMEDUP31 | Has Usual 3rd Party Payer for Pmeds - R3/1 | Constructed |
| PMEDUP42 | Has Usual 3rd Party Payer for Pmeds - R4/2 | Constructed |
| PMEDUP53 | Has Usual 3rd Party Payer for Pmeds - R5/3 | Constructed |
| PMEDPY31 | Usual 3rd Party Payer for Pmeds - R3/1     | Constructed |
| PMEDPY42 | Usual 3rd Party Payer for Pmeds - R4/2     | Constructed |
| PMEDPY53 | Usual 3rd Party Payer for Pmeds - R5/3     | Constructed |

## PERSON-LEVEL UTILIZATION VARIABLES - PUBLIC USE

| Variable | Description                                   | Source      |
|----------|---|-------------|
| OBTOTV23 | # Office-Based Provider Visits 2023           | Constructed |
| OBDRV23  | # Office-Based Physician Visits 2023          | Constructed |
| OPTOTV23 | # Outpatient Dept Provider Visits 2023        | Constructed |
| OPDRV23  | # Outpatient Dept Physician Visits 2023       | Constructed |
| ERTOT23  | # Emergency Room Visits 2023                  | Constructed |
| IPDIS23  | # Hospital Discharges 2023                    | Constructed |
| IPNGTD23 | # Nights in Hosp for Discharges 2023          | Constructed |
| DVTOT23  | # Dental Care Visits 2023                     | Constructed |
| HHTOTD23 | # Home Health Provider Days 2023              | Constructed |
| HHAGD23  | # Agency Home Health Provider Days 2023       | Constructed |
| HHINDD23 | # Non-Agency Home Hlth Providr Days 2023      | Constructed |
| HHINFD23 | # Informal Home Hlth Provider Days 2023       | Constructed |
| RXTOT23  | # Prescribed Medicines including Refills 2023 | Constructed |

## WEIGHTS VARIABLES - PUBLIC USE

| Variable | Description                               | Source      |
|----------|---|-------------|
| PERWT23F | Final Person Weight, 2023                 | Constructed |
| FAMWT23F | Final Family Weight, 2023                 | Constructed |
| FAMWT23C | Pov Adj Family Weight-CPS Fam on 12/31/23 | Constructed |
| SAQWT23F | Final SAQ Person Weight, 2023             | Constructed |
| VARSTR   | Variance Estimation Stratum, 2023         | Constructed |
| VARPSU   | Variance Estimation PSU, 2023             | Constructed |



# Appendix 1

## MEPS Industry Codes Condensing Rules

### MEPS Industry Codes Condensing Rules, FY 2010 thru FY 2022 & FY 2023 and Subsequent Files

| Condensed<br>industry code | 2007 Census<br>industry code range | 2017 Census<br>industry code range | Description                               |
|----------------------------|------------------------------------|------------------------------------|---|
| 1                          | 0170 - 0290                        | 0170-0290                          | Natural Resources                         |
| 2                          | 0370 - 0490                        | 0370-0490                          | Mining                                    |
| 3                          | 0770                               | 0770                               | Construction                              |
| 4                          | 1070 - 3990                        | 1070-3990                          | Manufacturing                             |
| 5                          | 4070 - 4590,<br>4670 - 5790        | 4070-4590,<br>4670-5790            | Wholesale and Retail<br>Trade             |
| 6                          | 0570 - 0690,<br>6070 - 6390        | 0570-0690,<br>6070-6390            | Transportation and Utilities              |
| 7                          | 6470 - 6780                        | 6470-6780                          | Information                               |
| 8                          | 6870 - 7190                        | 6870-7190                          | Financial Activities                      |
| 9                          | 7270 - 7790                        | 7270-7790                          | Professional and Business<br>Services     |
| 10                         | 7860 - 8470                        | 7860-8470                          | Education, Health, and<br>Social Services |
| 11                         | 8560 - 8690                        | 8561-8690                          | Leisure and Hospitality                   |
| 12                         | 8770 - 9290                        | 8770-9290                          | Other Services                            |
| 13                         | 9370 - 9590                        | 9370-9590                          | Public Administration                     |
| 14                         | 9890                               | 9890                               | Military                                  |
| 15                         | 9990                               | 9990                               | Unclassifiable Industry                   |

MEPS uses the 4-digit Census occupation and industry coding systems developed for the Current Population Survey and the American Community Survey.

Through FY 2022, Census used the 2007 4-digit Census industry codes for MEPS. Starting in FY 2023, Census began using the 2017 4-digit Census industry codes for MEPS.

Descriptions of the 4-digit Census industry codes (all years) and their cross-walk to North American Industry Classification System (NAICS) can be found at the [U.S. Census Bureau website](#).

See [Census IO Index](#) for more information on the Census coding systems used by MEPS.

## Appendix 2

### MEPS Occupation Codes Condensing Rules

**MEPS Occupation Codes Condensing Rules,  
FY 2010 thru FY 2022  
& FY 2023 and Subsequent Files**

| Condensed<br>occupation<br>code | 2010 Census<br>occupation code<br>range | 2018 Census<br>occupation code range | Description  |
|---------------------------------|---|--------------------------------------|--|
| 1                               | 0010 - 0950                             | 0010-0960                            | Management, Business, and<br>Financial Operations Occupations  |
| 2                               | 1005 - 3540                             | 1005-3550                            | Professional and Related<br>Occupations                        |
| 3                               | 3600 - 4650                             | 3601-4655                            | Service Occupations  |
| 4                               | 4700 - 4965                             | 4700-4965                            | Sales and Related Occupations                                  |
| 5                               | 5000 - 5940                             | 5000-5940                            | Office and Administrative Support<br>Occupations               |
| 6                               | 6005 - 6130                             | 6005-6130                            | Farming, Fishing, and Forestry<br>Occupations                  |
| 7                               | 6200 - 7630                             | 6200-7640                            | Construction, Extraction, and<br>Maintenance Occupations       |
| 8                               | 7700 - 9750                             | 7700-9760                            | Production, Transportation, and<br>Material Moving Occupations |
| 9                               | 9840                                    | 9840                                 | Military Specific Occupations                                  |
| 10                              | 9920                                    | 9920                                 | Not in Labor Force   |
| 11                              | 9990                                    | 9990                                 | Unclassifiable Occupation                                      |

MEPS uses the 4-digit Census occupation and industry coding systems developed for the Current Population Survey and the American Community Survey.

Through FY 2022, Census used the 2010 4-digit Census occupation codes for MEPS. Starting in FY 2023, Census began using the 2018 4-digit Census occupation codes for MEPS.

Descriptions of the 4-digit Census occupation codes and their cross-walk to Standard Occupational Classification (SOC) system can be found at the [U.S. Census Bureau website](https://www.census.gov/occ/soc/).

See the [Census IO Index](#) for more information on the Census coding systems used by MEPS.

## Appendix 3

### Summary of Utilization and Expenditure Variables by Health Service Category

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| Health Service Category   | Utilization Variable(s) | Expenditure Variable(s) <sup>1</sup> |
|---|-------------------------|--------------------------------------|
| <i>All Health Services</i>                                      | --                      | TOT***23                             |
| Total Office Based Visits (Physician + Non-physician + Unknown) | OBTOTV23                | OBV***23                             |
| Office Based Visits to Physicians                               | OBDRV23                 | OBD***23                             |
| Total Outpatient Visits (Physician + Non-physician + Unknown)   | OPTOTV23                | --                                   |
| Sum of Facility and SBD Expenses                                | --                      | OPT***23                             |
| Facility Expense  | --                      | OPF***23                             |
| SBD Expense   | --                      | OPD***23                             |
| Outpatient Visits to Physicians                                 | OPDRV23                 | --                                   |
| Facility Expense  | --                      | OPV***23                             |
| SBD Expense   | --                      | OPS***23                             |
| Total Emergency Room Visits                                     | ERTOT23                 | --                                   |
| Sum of Facility and SBD Expenses                                | --                      | ERT***23                             |
| Facility Expense  | --                      | ERF***23                             |
| SBD Expense   | --                      | ERD***23                             |
| Total Inpatient Stays   | IPDIS23,<br>IPNGTD23    | --                                   |
| Sum of Facility and SBD Expenses                                | --                      | IPT***23                             |
| Facility Expense  | --                      | IPF***23                             |
| SBD Expense   | --                      | IPD***23                             |
| Total Prescription Medicines                                    | RXTOT23                 | RX***23                              |
| Total Dental Visits   | DVTOT23                 | DVT***23                             |
| Total Home Health Care  | HHTOTD23                | --                                   |
| Agency Sponsored  | HHAGD23                 | HHA***23                             |
| Paid Independent Providers                                      | HHINDD23                | HHN***23                             |

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<sup>1</sup> See key at end of table for specific categories for \*\*\*.

| Health Service Category              | Utilization Variable(s) | Expenditure Variable(s) <sup>1</sup> |
|--------------------------------------|-------------------------|--------------------------------------|
| Informal                             | HHINFD23                | --                                   |
| Vision Aids                          | --                      | VIS***23                             |
| Other Medical Supplies and Equipment | --                      | OTH***23                             |

KEY: To complete variable name, replace \*\*\* with a particular source of payment category as identified in the following tables:

|                                     |     |
|-------------------------------------|-----|
| Source of Payment Category          | *** |
| Total payments (sum of all sources) | EXP |
| Out of Pocket                       | SLF |
| Medicare                            | MCR |
| Medicaid                            | MCD |
| Private Insurance                   | PRV |
| Veteran's Administration/CHAMPVA    | VA  |
| TRICARE                             | TRI |
| Other Federal Sources               | OFD |
| Other State and Local Sources       | STL |
| Workers' Compensation               | WCP |
| Other Unclassified Sources          | OSR |

|  |     |
|--|-----|
| Collapsed Source of Payment Category                                 | *** |
| Private and TRICARE  | PTR |
| Other Federal, Other State and Local, and Other Unclassified Sources | OTH |
| Total charges <sup>2</sup>   | TCH |

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<sup>2</sup> No charge variables on file for prescription medicines.