MEPS HC-033C:
1999 Other Medical Expenses

May 2002

Agency for Healthcare Research and Quality
Center for Cost and Financing Studies

Table of Contents

A. Data Use Agreement

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

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

1. No one is to use the data in this data set in any way except for statistical reporting and analysis.

2. If the identity of any person or establishment should be discovered inadvertently, then (a) no use will be made of this knowledge, (b) the Director, Office of Management, AHRQ will be advised of this incident, (c) the information that would identify any individual or establishment will be safeguarded or destroyed, as requested by AHRQ, and (d) no one else will be informed of the discovered identity.

3. No one will attempt to link this data set with individually identifiable records from any data sets other than the Medical Expenditure Panel Survey or the National Health Interview Survey.

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 18 U.S.C. 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

The Medical Expenditure Panel Survey (MEPS) provides nationally representative estimates of health care use, expenditures, sources of payment, and insurance coverage for the U.S. civilian noninstitutionalized population. MEPS is cosponsored by the Agency for Healthcare Research and Quality (AHRQ) and the National Center for Health Statistics (NCHS).

MEPS is a family of three surveys. The Household Component (HC) is the core survey and forms the basis for the Medical Provider Component (MPC) and part of the Insurance Component (IC). Together these surveys yield comprehensive data that provide national estimates of the level and distribution of health care use and expenditures, support health services research, and can be used to assess health care policy implications.

MEPS is the third in a series of national probability surveys conducted by AHRQ on the financing and use of medical care in the United States. The National Medical Care Expenditure Survey (NMCES) was conducted in 1977, and the National Medical Expenditure Survey (NMES) was conducted in 1987. Since 1996, MEPS has continued this series with design enhancements and efficiencies that provide a more current data resource to capture the changing dynamics of the health care delivery and insurance system.

The design efficiencies incorporated into MEPS are in accordance with the Department of Health and Human Services (DHHS) Survey Integration Plan of June 1995, which focused on consolidating DHHS surveys, achieving cost efficiencies, reducing respondent burden, and enhancing analytical capacities. To advance these goals, MEPS includes linkage with the National Health Interview Survey (NHIS)–a survey conducted by NCHS from which the sample for the MEPS HC is drawn--and enhanced longitudinal data collection for core survey components. The MEPS HC augments NHIS by selecting a sample of NHIS respondents, collecting additional data on their health care expenditures, and linking these data with additional information collected from the respondents' medical providers, employers, and insurance providers.

1.0 Household Component

The MEPS HC, a nationally representative survey of the U.S. civilian noninstitutionalized population, collects medical expenditure data at both the person and household levels. The HC collects detailed data on demographic characteristics, health conditions, health status, use of medical care services, charges and payments, access to care, satisfaction with care, health insurance coverage, income, and employment.

The HC uses an overlapping panel design in which data are collected through a preliminary contact followed by a series of five rounds of interviews over a 2½year period. Using computer-assisted personal interviewing (CAPI) technology, data on medical expenditures and use for 2 calendar years are collected from each household. This series of data collection rounds is launched each subsequent year on a new sample of households to provide overlapping panels of survey data and, when combined with other ongoing panels, will provide continuous and current estimates of health care expenditures.

The sampling frame for the MEPS HC is drawn from respondents to NHIS. NHIS provides a nationally representative sample of the U.S. civilian noninstitutionalized population, with oversampling of Hispanics and blacks.

2.0 Medical Provider Component

The MEPS MPC supplements and/or replaces information on medical care events reported in the MEPS HC by contacting medical providers and pharmacies identified by household respondents. The MPC sample includes all home health agencies and pharmacies reported by HC respondents. Office-based physicians, hospitals, and hospital physicians are also included in the MPC but may be subsampled at various rates, depending on burden and resources, in certain years.

Data are collected on medical and financial characteristics of medical and pharmacy events reported by HC respondents. The MPC is conducted through telephone interviews and record abstraction.

3.0 Insurance Component

The MEPS IC collects data on health insurance plans obtained through private and public-sector employers. Data obtained in the IC include the number and types of private insurance plans offered, benefits associated with these plans, premiums, contributions by employers and employees, and employer characteristics.

Establishments participating in the MEPS IC are selected through three sampling frames:

- A list of employers or other insurance providers identified by MEPS HC respondents who report having private health insurance at the Round 1 interview.
- A Bureau of the Census list frame of private-sector business establishments.
- The Census of Governments from the Bureau of the Census.

To provide an integrated picture of health insurance, data collected from the first sampling frame (employers and other insurance providers identified by MEPS HC respondents) are linked back to data provided by those respondents. Data collected from the two Census Bureau sampling frames are used to produce annual national and State estimates of the supply and cost of private health insurance available to American workers and to evaluate policy issues pertaining to health insurance. National estimates of employer contributions to group health insurance from the MEPS IC are used in the computation of Gross Domestic Product (GDP) by the Bureau of Economic Analysis.

The MEPS IC is an annual panel survey. Data are collected from the selected organizations through a prescreening telephone interview, a mailed questionnaire, and a telephone follow-up for nonrespondents.

4.0 Survey Management

MEPS data are collected under the authority of the Public Health Service Act. They are edited and

published in accordance with the confidentiality provisions of this act and the Privacy Act. NCHS provides consultation and technical assistance.

As soon as data collection and editing are completed, the MEPS survey data are released to the public in staged releases of summary reports, microdata files, and compendiums of tables. Data are also released through MEPSnet, an online interactive tool developed to give users the ability to statistically analyze MEPS data in real time. Summary reports and compendiums of tables are released as printed documents and electronic files. Microdata files are released on CD-ROM and/or as electronic files.

Printed documents and selected public use file data on CD-ROMs are available through the AHRQ Publications Clearinghouse. Write or call:

AHRQ Publications Clearinghouse
Attn: (publication number)
P.O. Box 8547
Silver Spring, MD 20907
800-358-9295
410-381-3150 (callers outside the United States only)
888-586-6340 (toll-free TDD service; hearing impaired only)

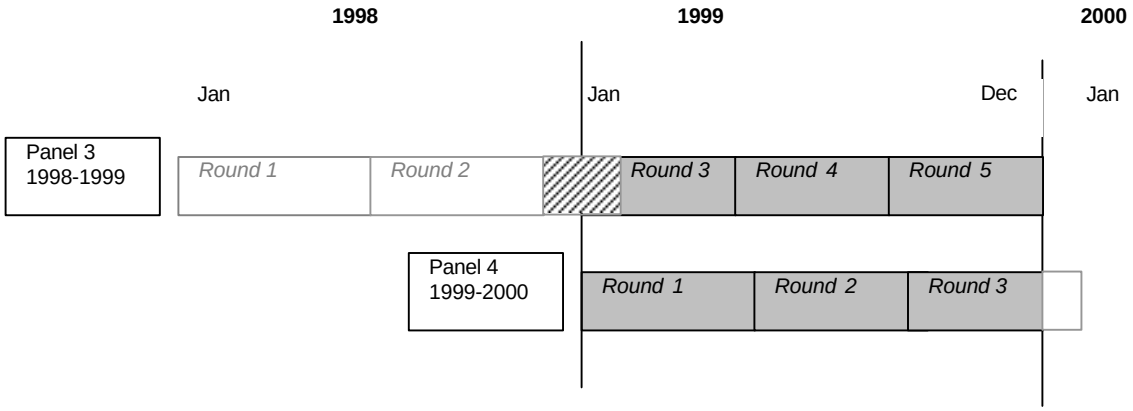
Be sure to specify the AHRQ number of the document or CD-ROM you are requesting. Selected electronic files are available through the Internet on the MEPS Web site: http://www.meps.ahrq.gov/

Additional information on MEPS is available from the MEPS project manager or the MEPS public use data manager at the Center for Cost and Financing Studies, Agency for Healthcare Research and Quality.

C. Technical and Programming Information

1.0 General Information

This documentation describes one in a series of public use event files from the 1999 Medical Expenditure Panel Survey (MEPS) Household Component (HC). Released as an ASCII data file and a SAS transport file, the 1999 Other Medical Expenses (OME) public use event file provides information on the purchases of and expenditures for visual aids, medical equipment, supplies and other medical items for a nationally representative sample of the civilian noninstitutionalized population of the United States. Data from the OME event file can be used to make estimates of the utilization and expenditures associated with medical items for calendar year 1999. As illustrated below, this file consists of MEPS survey data obtained in the 1999 portion of Round 3 (Round 2 for some cases), and Rounds 4 and 5 for Panel 3, as well as Rounds 1, 2, and the 1999 portion of Round 3 for Panel 4 (i.e., the rounds for the MEPS panels covering calendar year 1999).



NOTE: Typically for MEPS panels, MEPS Round 2 data collection ends in the first year of a panel and Round 3 data collection begins in the first year of the panel and crosses the year boundary into the second year of the panel. The crosshatched area in the above figure signifies that Round 2 data collection for approximately one quarter of the Panel 3 households began in 1998, the first year of the panel, but ended in 1999. For those households, all of the Round 3 data collection occurred in 1999. For the other three quarters of Panel 3 households, Round 2 data collection followed the typical pattern and began and ended in 1998. For those households, Panel 3 Round 3 data collection took place during both the first and second years of the panel, as is typically done for Round 3.

The OME event file contains one record for each type of medical item reported as being purchased or otherwise obtained by the household respondent during the specified reference period. It should be noted that reference periods for reporting expenditures varies by type of medical item obtained. Expenditure data for visual aides, insulin, and diabetic supplies and equipment are collected during Rounds 3, 4, and 5 of Panel 3 and Rounds 1, 2 and 3 of Panel 4. Therefore, for these items, each round is a reference period. Expenditure data for other medical items, which include orthopedic items, hearing devices, medical equipment, disposable supplies, ambulance services, bathroom aides, and home alterations are collected only in Rounds 5 (Panel 3) and 3 (Panel 4); for these items, the reference period is the entire year.

The purchase of medical equipment, supplies, and other medical items are based entirely on household reports. They were not included in the Medical Provider Component (MPC); therefore, all expenditure and payment data on the OME event file are reported by the household.

Data from this event file can be merged with other 1999 MEPS HC data files for the purpose of appending person-level data, such as demographic characteristics or health insurance coverage, to each OME record.

This file can be used to construct summary variables of expenditures, sources of payment, and related aspects of the purchase of medical items. Aggregate annual person-level information on expenditures for other medical equipment is provided on the MEPS 1999 Full Year Person Level Expenditure File where each record represents a MEPS sampled person.

Data users/analysts should be aware of the limitations of the OME event file. These limitations include the following:

a) A record can represent one or more purchases of an item or service during a reference period. For example, if a respondent reported spending $400 for glasses and/or contact lenses in Round 2, it is unknown if the person purchased one or more pair of glasses and/or contact lenses during that round. Similarly, if $800 were spent for ambulance services, it is not known if the respondent used an ambulance once or more than once in 1999;

b) Although data users/analysts can link conditions to the current file using DUPSERID, the specific condition requiring the purchase of medical items or services, cannot be identified. For example, if a person reported having asthma, a head injury, and a heart attack, and also reported requiring the purchase of ambulance service, it is not known which condition(s) required the use of an ambulance.

c) Expenditure data for insulin and diabetic supplies are not included on this file, but are included on the 1999 Prescribed Medicines File. All records for insulin and diabetic supplies on this file have value of -1 INAPPLICABLE for all expenditure (i.e., charge and payment) variables.

This documentation offers an overview of the types and levels of data provided and the content and structure of the files and the codebook. It contains the following sections:

Data File Information
Sample Weights and Variance Estimation Variables
Strategies for Estimation
Merging/Linking MEPS Data Files
References
Definitions
Variable - Source Crosswalk

For more information on MEPS HC survey design, see S. Cohen, 1997; J. Cohen, 1997; and S. Cohen, 1996. A copy of the MEPS HC survey instrument used to collect the information on the OME event file is available in the *Survey Instrument* section of the MEPS web site at the following address: <http://www.meps.ahrq.gov>.

2.0 Data File Information

The 1999 OME public use data set consists of one event level data file. The file contains characteristics associated with the OME event and imputed expenditure data. For data users/analysts wanting to impute expenditures, pre-imputed data are available through the CCFS Data Center. Please visit the CCFS Data Center website for details: <http://www.meps.ahrq.gov>.
The data user/analyst is forewarned that the imputation of expenditures will necessitate a sizable commitment of resources: financial; staff; and time.

The OME public use data set contains 6,079 other medical expenditure records; of these records, 5,963 are associated with persons having a positive person-level weight (PERWT99F). These files include records for all household survey respondents who resided in eligible responding households and reported purchasing or otherwise obtaining at least one type of medical item, such as medical equipment, glasses, hearing devices, etc., during calendar year 1999. Some household respondents may have reported obtaining more than one type of medical item and, therefore, have several records on this file. Likewise, respondents who did not report obtaining a medical item in 1999 have no records on this file. These data were collected during the 1999 portion of Round 3 (Round 2 for some cases), and Rounds 4 and 5 for Panel 3, as well as Rounds 1, 2, and the 1999 portion of Round 3 for Panel 4 of the MEPS HC. The persons represented on this file had to meet either (a) or (b) below:

> a) Be classified as a key in-scope person who responded for his or her entire period of 1999 eligibility (i.e., persons with a positive 1999 full-year person-level sampling weight (PERWT99F > 0)), or
>
> b) Be classified as either an eligible non-key person or an eligible out-of-scope person who responded for his or her entire period of 1999 eligibility, and belonged to a family (i.e., all persons with the same value for FAMID) in which all eligible family members responded for their entire period of 1999 eligibility, and at least one family member had a positive 1999 full-year person weight (i.e., eligible non-key or eligible out-of-scope persons who are members of a family all of whose members have a positive 1999 full-year family-level weight (WTFAM99 >0)).

Please refer to Attachment 1 for definitions of keyness, in-scope, and eligibility.

Each record includes the following: type of medical item obtained; flat fee information; imputed sources of payment; total payment and total charge for the medical item; and a full-year person-level weight.

Data from this file can be merged with the MEPS 1999 Full Year Population Characteristics File using the unique person identifier, DUPERSID, to append person level information, such as

demographic or health insurance characteristics, to each record. See Section 5.0, "Merging/Linking MEPS Data Files" or the MEPS 1999 Appendix File for details on how to merge/link MEPS data files. Although conditions can be linked to the OME event file, data users/analysts should note that specific conditions requiring the purchase of medical items or services, such as ambulance service, cannot be identified for records on this file.

Panel 3 cases (PANEL99=3 on the MEPS 1999 Full Year Population Characteristics File) can also be linked back to the 1999 MEPS HC public use data files. However, data users/analysts should be aware that, at this time, no weight is being provided to facilitate two-year analysis of Panel 3 data.

2.1 Codebook Structure

For each variable on the OME event file, both weighted and unweighted frequencies are provided in the codebook (file H32CCB.PDF), located on the MEPS web site: <http:\\www.meps.ahrq.gov>. The codebook and data file sequence list variables in the following order:

Unique person identifiers
Unique other medical expenses identifiers
Other survey administration variables
Type of other medical expenses
Imputed expenditure variables
Weight and variance estimation variables

2.2 Reserved Codes

The following reserved code values are used:

Value	Definition
-1 INAPPLICABLE	Question was not asked due to skip pattern.
-7 REFUSED	Question was asked and respondent refused to answer question.
-8 DK	Question was asked and respondent did not know answer.
-9 NOT ASCERTAINED	Interviewer did not record the data.

Generally, values of -1, -7, -8, and -9 have not been edited on this file. The values of -1 and -9 can be edited by the data users/analysts by following the skip patterns in the HC survey questionnaire (located on the MEPS web site: <http:\\www.meps.ahrq.gov>).

2.3 Codebook Format

The OME codebook describes an ASCII data set (although the data are also being provided in a SAS transport file). The following codebook items are provided for each variable:

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

2.4 Variable Source and Naming Conventions

In general, variable names reflect the content of the variable, with an 8-character limitation. All imputed/edited variables end with an "X."

2.4.1 Variable-Source Crosswalk

Variables were derived from the HC survey questionnaire. 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 which are derived from CAPI or assigned in sampling are so indicated as "Capi derived" or "Assigned in sampling," respectively;

(2) variables which come from one or more specific questions have those questionnaire sections and question numbers indicated in the "Source" column; questionnaire sections are identified as

EV – Event Roster section
FF – Flat Fee section
CP – Charge Payment section

(3) variables constructed from multiple questions using complex algorithms are labeled "Constructed" in the "Source" column; and

(4) variables which have been edited or imputed are so indicated.

2.4.2 Expenditure and Sources of Payment Variables

The expenditure and sources of payment variable names follow a standard naming convention. They are 7 characters in length with the last one being an "X" indicating they are fully edited and imputed.

The total sum of payments variables, 12 source of payment variables, and the total charge variables are named consistently in the following way:

The first two characters indicate the type of event:

IP - inpatient stay	OB - office-based visit
ER - emergency room visit	OP - outpatient visit
HH - home health visit	DV - dental visit
OM - other medical equipment	RX - prescribed medicine

In the case of the source of payment variables, the third and fourth characters indicate:

SF - self or family	OF - other Federal Government	XP - sum of payments
MR - Medicare	SL - State/local government	
MD - Medicaid	WC – Worker's Compensation	
PV - private insurance	OT - other insurance	
VA - Veterans	OR - other private	
CH - CHAMPUS/CHAMPVA	OU - other public	

The fifth and sixth characters indicate the year (99).

The seventh character indicates whether or not the variable was edited/imputed (ends with "X").

Example: OMSF99X is the edited/imputed amount paid by self or family for 1999 other medical equipment and expenditures.

2.5 File 1 Contents

2.5.1 Survey Administration and ID Variables

2.5.1.1 Person Identifiers (DUID, PID, DUPERSID)

The dwelling unit ID (DUID) is a 5-digit random number assigned after the case was sampled for MEPS. The 3-digit person number (PID) uniquely identifies each person within the dwelling unit. The 8-character variable DUPERSID uniquely identifies each person represented on the file and is the combination of the variables DUID and PID. For detailed information on dwelling units and families, please refer to the documentation for the 1999 Full Year Population Characteristics File or to definitions listed in Attachment 1.

2.5.1.2 Record Identifiers (EVNTIDX, FFEEIDX)

EVNTIDX uniquely identifies each other medical expense event (i.e. each record on the OME file) and is the variable required to link other medical expenditures to data files containing details on conditions and/or prescribed medicines (MEPS 1999 Medical Condition File and MEPS 1999 Prescribed Medicines File, respectively). For details on linking, see Section 5.0, "Merging/Linking MEPS Data Files" or the MEPS 1999 Appendix File.

FFEEIDX is a constructed variable which uniquely identifies a flat fee group, that is, all events that were part of a flat fee payment situation. For example, a charge for crutches following outpatient foot surgery is typically covered in a flat fee arrangement where the visit and the medical equipment are covered under one flat fee dollar amount. These events would be in different files (Outpatient Visits and Other Medical Expenses) but would have the same value for FFEEIDX. FFEEIDX identifies a flat fee payment situation that was identified using information from the Household Component. Please note that FFEEIDX should be used to link all MEPS event files (excluding prescribed medicines) in order to determine the full set of events that are part of a flat fee group.

2.5.1.3 Round Indicators (EVENTRN)

EVENTRN indicates the round in which the 6,079 other medical expenses were first reported. For most types of other medical expenditures on this file, data were collected only in Round 5 for Panel 3 and Round 3 for Panel 4; each record represents a summary of expenditures for items purchased or otherwise obtained for 1999. There are two exceptions:

a) Expenditure data for the purchase of glasses and/or contact lenses were collected in Rounds 3 (Round 2 for some cases), 4, and 5 for Panel 3 and Rounds 1, 2, and 3 for Panel 4. For vision items purchased in Round 3 for Panel 4 it could not be determined if the purchases occurred in 1999 or 2000. Therefore, records with expenses reported in Rounds 3 were only included if more than half of the person's reference period for the round was in 1999.

b) Respondents were asked whether or not they obtained insulin or diabetic supplies/equipment in Rounds 3 (Round 2 for some cases), 4, and 5 for Panel 3 and Rounds 1, 2, and 3 for Panel 4. The reported purchases of these medical items are included on this file while the actual expenditures for insulin and diabetic supplies/equipment are not included. Rather, these expenditures are included on the 1999 Prescribed Medicines file. All records for insulin and diabetic supplies on this file have a value of –1 INAPPLICABLE for all each expenditure (i.e., charge and payment) variable.

2.5.2 Type of Other Medical Expenses (OMTYPEX, OMTYPE, OMOTHOX, OMOTHOX, OMOTHOS)

Other medical expenditures (OMTYPE) include glasses or contact lenses, insulin, diabetic equipment/supplies, ambulance services, orthopedic items, hearing devices, prosthesis, bathroom aids,

medical equipment, disposable supplies, and alterations/modifications (to homes). When the interviewer did not how to categorize types of medical item expenditure, these items were specified in the variable OMOTHOS (OMTYPE other specify). As a part of the editing process, other medical expenditures identified in OMOTHOS have been edited to appropriate OMTYPE categories. The edited (OMTYPEX, OMOTHOX) and unedited (OMTYPE, OMOTHOS) versions of both of these variables are included on this file.

2.5.3 Flat Fee Variables

2.5.3.1 Definition of Flat Fee Payments

A flat fee is the fixed dollar amount a person is charged for a package of services provided during a defined period of time. A flat fee group is the set of medical services that are covered under the same flat fee payment situation. The flat fee groups represented on the OME file includes flat fee groups where at least one of the health care events, as reported by the HC respondent, occurred during 1999. By definition, a flat fee group can span multiple years. Furthermore, a single person can have multiple flat fee groups.

Fourteen (14) variables on the OME file describe a flat fee payment situation and the number of other medical events that are part of a flat fee group.

2.5.3.2 Flat Fee Variable Descriptions

2.5.3.2.1 Flat Fee ID (FFEEIDX)

As noted earlier in the Section 2.5.1.2 "Record Identifiers," the variable FFEEIDX can be used to uniquely identify all 1999 MEPS events (excluding the prescribed medicines file) that are part of the same flat fee group because FFEEIDX is the same value on all of the MEPS event files. For the other medical expenditures that are not part of a flat fee payment situation, the flat fee variables described below are all set to –1 INAPPLICABLE.

2.5.3.2.2 Flat Fee Type (FFOMTYPE)

FFOMTYPE indicates whether the 1999 other medical expenditure is the "stem" or "leaf" of a flat fee group. A stem (records with FFOMTYPE = 1) is the initial medical service (event) which is followed by other medical expense events that are covered under the same flat fee payment. The leaves of the flat fee group (records with FFOMTYPE = 2) are those medical events that are tied back to the initial medical event (the stem) in the flat fee group. These "leaf" records have their expenditure variables set to zero.

2.5.3.2.3 Counts of Flat Fee Events that Cross Years (FFBEF99, FFTOT00)

As described in Section 2.5.3.1, a flat fee payment situation covers multiple events and the multiple events could span multiple years. For situations where the medical item was obtained in 1999 as part of a group of events, and some of the events occurred before or after 1999, counts of the known

events are provided on the other medical expenditure record. Variables that indicate events occurring before or after 1999 are the following:

FFBEF99 – total number of pre-1999 events in the same flat fee group as the medical item that was obtained in 1999. This count would not include the medical item obtained in 1999.

FFTOT00 – indicates whether or not there are 2000 medical events, including the purchase of the medical item, in the same flat fee group as the medical item obtained in 1999.

2.5.3.3 Caveats of Flat Fee Groups

Data users/analysts should note that flat fee payment situations are not common on the OME file. There are only 14 records that are identified as being part of a flat fee payment group.

In general, every flat fee group should have an initial visit (stem) and at least one subsequent visit (leaf). There are some situations where this is not true. For some of these flat fee groups, the initial visit reported occurred in 1999, but the remaining visits that were part of this flat fee group occurred in 2000. In this case, the 1999 flat fee group represented on this file would consist of one event the "stem." The 2000 “leaf” events that are part of this flat fee group are not represented on the file. Similarly, the household respondent may have reported a flat fee group where the initial visit began in 1998 but subsequent visits occurred during 1999. In this case, the initial visit would not be represented on the file. This 1999 flat fee group would then only consist of one or more leaf records and no stem.

2.5.4 Expenditure Data

2.5.4.1 Definition of Expenditures

Expenditures on this file refer to what is paid for the medical item. More specifically, expenditures in MEPS are defined as the sum of payments for each medical item that was obtained, including out of pocket payments and payments made by private insurance, Medicaid, Medicare and other sources. The definition of expenditures used in MEPS differs slightly from its predecessors: 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 1990's due to the increasingly common practice of discounting. Measuring expenditures as the sum of payments incorporates discounts in the MEPS expenditure estimates. Another general change from the two prior surveys is that 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 payments associated with those classifications. While charge data are provided on this file, data user/analysts should use caution when working with this data because a charge does not typically represent actual dollars exchanged for services or the resource costs of those services, nor are they directly comparable to the expenditures defined in the 1987 NMES (for details on expenditure definitions, see Monheit et al, 1999).

2.5.4.2 Data Editing and Imputation Methodologies of Expenditure Variables

The general methodology used for editing and imputing expenditure data is described below. Neither the dental events nor other medical expenditures (such as glasses, contact lenses, and hearing devices) were included in the MPC. Therefore, although the general procedures remain the same, for dental and other medical expenditures, editing and imputation methodologies were applied only to household-reported data. Specific methodologies for editing and imputing other medical expenses follow.

2.5.4.2.1 General Data Editing Methodology

Logical edits were used to resolve internal inconsistencies and other problems in the HC survey-reported data. The edits were designed to preserve partial payment data from households and providers, and to identify actual and potential sources of payment for each household-reported event. In general, these edits accounted for 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. These edits produced a complete vector of expenditures for some events, and provided the starting point for imputing missing expenditures in the remaining events.

2.5.4.2.2 General Hot-Deck Imputation

A weighted sequential hot-deck procedure was used to impute for missing expenditures as well as total charge. The procedure uses survey data from respondents to correct for missing non-respondent data, while preserving the respondents' weighted distribution in the imputation process. Classification variables vary by event type in the hot-deck imputations, but total charge and insurance coverage are key variables in all of the imputations. Separate imputations were performed for nine categories of medical provider care: inpatient hospital stays, outpatient hospital department visits, emergency room visits, visits to physicians, visits to non-physician providers, dental services, home health care by certified providers, home health care by paid independents, and other medical expenses. After the imputations were finished, visits to physician and non-physician providers were combined into a single medical provider file. The two categories of home care also were combined into a single home health file.

2.5.4.2.3 Other Medical Expenses Data Editing and Imputation

Expenditures on other medical equipment and services were developed in a sequence of logical edits and imputations. The household edits were used to correct obvious errors in the reporting of expenditures, and to identify actual and potential sources of payments. Some of the edits were global (i.e., applied to all events). Others were hierarchical and mutually exclusive.

Logical edits also were used to sort each event into a specific category for the imputations. Events with complete expenditures were flagged as potential donors for the hot-deck imputations, while events with missing expenditure data were assigned to various recipient categories. Each event was

assigned to a recipient category based on its pattern of missing data. For example, an event with a known total charge but no expenditures information was assigned to one category, while an event with a known total charge and some expenditures information was assigned to a different category. Similarly, events without a known total charge were assigned to various recipient categories based on the amount of missing data.

The logical edits produced nine recipient categories for events with missing data. Eight of the categories were for events with a common pattern of missing data and a primary payer other than Medicaid. These events were imputed separately because persons on Medicaid rarely know the provider's charge for services or the amount paid the state Medicaid program. As a result, the total charge for Medicaid-covered services was imputed and discounted to reflect the amount that a state program might pay for the care.

Separate hot-deck imputations were used to impute for missing data in each of the other eight recipient categories. The donor pool included "free events" because in some instances, providers are not paid for their services. These events represent charity care, bad debt, provider failure to bill, and third party payer restrictions on reimbursement in certain circumstances. If free events were excluded from the donor pool, total expenditures would be over-counted because the cost of free care would be implicitly included in paid events and explicitly included in events that should have been treated as free from provider. Whenever possible missing data were imputed from donors with the same other medical expenditure type, age (<45 and 45 and older), and region.

2.5.4.3 Capitation Imputation

Health maintenance organizations (HMOs) receive time-based (capitation) payments to cover their members' cost of health care. Services provided by HMOs are referred to as "capitated events" in the MEPS expenditure imputations. They are singled out for special treatment because the payments received by HMOs are not tied directly to individual events and services. That is, per person per month payments to an HMO, as opposed to fee-for-service reimbursement for health care, pose a problem in the estimation of health care costs because MEPS uses event-level payments for service as its measure of expenditures. Capitated events are sent through there own imputation procedure.

2.5.4.4 Imputation Flag Variable (IMPFLAG)

Unlike prior data releases, only one imputation flag was created for 1999 event files. This flag is a six-category variable that indicates if the event contains complete Household Component (HC) or Medical Provider Component (MPC) data, was fully or partially imputed, or was imputed in the capitated imputation process. Following is how the new imputation flag is coded; the categories are mutually exclusive.

IMPFLAG=0 (not eligible for imputation)
IMPFLAG=1 (complete HHC data)
IMPFLAG=2 (complete MPC data)
IMPFLAG=3 (fully imputed)
IMPFLAG=4 (partially imputed)
IMPFLAG=5 (capitation imputation)

2.5.4.5 Flat Fee Expenditures

The approach used to count expenditures for flat fees was to place the expenditure on the first visit of the flat fee group. The remaining visits have zero payments. Thus, if the first visit in the flat fee group occurred prior to 1999, all of the events that occurred in 1999 will have zero payments. Conversely, if the first event in the flat fee group occurred at the end of 1999, the total expenditure for the entire flat fee group will be on that event, regardless of the number of events it covered after 1999.

2.5.4.6 Zero Expenditures

Some respondents reported obtaining medical items where the payments were zero. This could occur for several reasons including (1) item or service was free, (2) bad debt was incurred, or (3) the item was covered under a flat fee arrangement beginning in an earlier year.

2.5.4.7 Sources of Payment

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

1. Out of pocket by user (self) or family
2. Medicare
3. Medicaid
4. Private Insurance
5. Veteran's Administration, excluding CHAMPVA
6. CHAMPUS or CHAMPVA
7. Other Federal sources - includes Indian Health Service, Military Treatment Facilities, and other care by the Federal government
8. Other State and Local Source - includes community and neighborhood clinics, State and local health departments, and State programs other than Medicaid.

9. Worker's Compensation
10. Other Unclassified Sources - includes sources such as automobile, homeowner's, liability, and other miscellaneous or unknown sources.

Two additional sources of payment variables were created to classify payments for particular persons that appear inconsistent due to differences between survey questions on health insurance coverage and sources of payment for medical events. These variables include:

11. Other Private - any type of private insurance payments reported for persons not reported to have any private health insurance coverage during the year as defined in MEPS; and

12. Other Public - Medicaid payments reported for persons who were not reported to be enrolled in the Medicaid program at any time during the year.
Though relatively small in magnitude, data users/analysts should exercise caution when interpreting the expenditures associated with these two additional sources of payment. While these payments stem from apparent inconsistent responses to health insurance and source of payment questions in the survey, some of these inconsistencies may 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 sampled 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 "other private." Some of the "other public" payments may stem from confusion between Medicaid and other state and local programs or may be persons who were not enrolled in Medicaid, but were presumed eligible by a provider who ultimately received payments from the program.

2.5.4.8 Other Medical Expenses Variables (OMSF99X-OMTC99X)

Other medical expenditure data were obtained only through the Household Component Survey. For cases with missing expenditure data, other medical expenses were imputed using the procedures described above. However, please note that expenditure data for insulin and diabetic supplies are not included on this file, but are included on the 1999 Prescribed Medicines File. Missing expenditure data associated with these records were not imputed. Charge and Payment variables in these cases carry a value of –1 INAPPLICABLE.

OMSF99X - OMOT99X are the 12 sources of payment, OMXP99X is the sum of the 12 sources of payment variables, and OMTC99X is the total charge for the medical item. The 12 sources of payment are: self/family, Medicare, Medicaid, private insurance, Veterans Administration, CHAMPUS/CHAMPVA, other federal, state/local governments, Workman's Compensation, other private insurance, other public insurance, and other insurance.

2.5.4.9 Rounding

Expenditure variables on this file have been rounded to the nearest penny. Person level expenditure information released on the MEPS 1999 Person Level Expenditure File will be rounded to the nearest dollar. It should be noted that using the MEPS event files to create person level totals will yield slightly different totals than that found on the person level expenditure file. These differences are due

to rounding only. Moreover, in some instances, the number of persons having expenditures on the event files for a particular source of payment may differ from the number of persons with expenditures on the person level expenditure file for that source of payment. This difference is also an artifact of rounding only. Please see the MEPS 1999 Appendix File for details on rounding differences.

3.0 Sample Weight (PERWT99F)

3.1 Overview

There is a single full year person-level weight (PERWT99F) assigned to each record for each key, in-scope person who responded to MEPS for the full period of time that he or she was in-scope during 1999.

A key person either was a member of an NHIS household at the time of the NHIS interview, or became a member of such a household after being out-of-scope at the time of the NHIS (examples of the latter situation include newborns and persons returning from military service, an institution, or living outside the United States). A person is in-scope whenever he or she is a member of the civilian noninstitutionalized portion of the U.S. population.

3.2 Details on Person Weights Construction

The person-level weight PERWT99F was developed in three stages. A person level weight for Panel 4 was created, including both an adjustment for nonresponse over time and poststratification, controlling to Current Population Survey (CPS) population estimates based on five variables. Variables used in the establishment of person-level poststratification control figures included: census region (Northeast, Midwest, South, West); MSA status (MSA, non-MSA); race/ethnicity (Hispanic, black but non-Hispanic, and other); sex; and age. Then a person level weight for Panel 3 was created, again including an adjustment for nonresponse over time and poststratification, again controlling to CPS population estimates based on the same five variables. When poverty status information derived from income variables became available, a 1999 composite weight was formed from the Panel 3 and Panel 4 weights by multiplying the Panel weights by .5. Then a final poststratification was done on this composite weight variable, including poverty status (below poverty, from 100 to 125 percent of poverty, from 125 to 200 percent of poverty, from 200 to 400 percent of poverty, at least 400 percent of poverty) as well as the original five poststratification variables in the establishment of control totals.

3.2.1 MEPS Panel 3 Weight

The person level weight for MEPS Panel 3 was developed using the 1998 full year weight for an individual as a "base" weight for survey participants present in 1998. For key, in-scope respondents who joined a RU some time in 1999 after being out of scope in 1998, the 1998 family weight associated with the family the person joined served as a "base" weight. The weighting process included an adjustment for nonresponse over Rounds 4 and 5 as well as poststratification to population control figures for December 1999. These control figures were derived by scaling back

the population totals obtained from the March 1999 CPS to reflect the December, 1999 CPS estimated population distribution across age and sex categories as of December, 1999. Variables used in the establishment of person level poststratification control figures included: census region (Northeast, Midwest, South, West); MSA status (MSA, non-MSA); race/ethnicity (Hispanic, black but non-Hispanic, and other); sex, and age. Overall, the weighted population estimate for the civilian, noninstitutionalized population on December 31, 1999 is 273,003,778. Key, responding persons not in-scope on December 31, 1999 but in-scope earlier in the year retained, as their final Panel 3 weight, the weight after the nonresponse adjustment.

3.2.2 MEPS Panel 4 Weight

The person level weight for MEPS Panel 4 was developed using the MEPS Round 1 person-level weight as a 'base" weight. For key, in-scope respondents who joined a RU after Round 1, the Round 1 family weight served as a "base" weight. The weighting process included an adjustment for nonresponse over Round 2 and the 1999 portion of Round 3 as well as poststratification to the same population control figures for December 1999 used for the MEPS Panel 3 weights. The same five variables employed for Panel 3 poststratification (census region, MSA status, race/ethnicity, sex, and age) were used for Panel 4 poststratification. Similarly, for Panel 4, key, responding persons not in-scope on December 31, 1999 but in-scope earlier in the year retained, as their final Panel 4 weight, the weight after the nonresponse adjustment.

Note that the MEPS round 1 weights (for both panels with one exception as noted below) incorporated the following components: the original household probability of selection for the NHIS; ratio-adjustment to NHIS-based national population estimates at the household (occupied dwelling unit) level; adjustment for nonresponse at the dwelling unit level for Round 1; and poststratification to figures at the family and person level obtained from the March 1999 CPS data base.

3.2.3 The Final Weight for 1999

Variables used in the establishment of person level poststratification control figures included: poverty status (below poverty, from 100 to 125 percent of poverty, from 125 to 200 percent of poverty, from 200 to 400 percent of poverty, at least 400 percent of poverty); census region (Northeast, Midwest, South, West); MSA status (MSA, non-MSA); race/ethnicity (Hispanic, black but non-Hispanic, and other); sex, and age. Overall, the weighted population estimate for the civilian, noninstitutionalized population for December 31, 1999 is 273,003,778 (PERWT99F>0 and INSC1231=1). The inclusion of key, in-scope persons who were not in-scope on December 31, 1999 brings the estimated total number of persons represented by the MEPS respondents over the course of the year up to 276,410,767 (PERWT99F>0). The weighting process included poststratification to population totals obtained from the 1996 MEPS Nursing Home Component for the number of individuals admitted to nursing homes. For the 1999 full year file an additional poststratification was done to population totals obtained from the 1998 Medicare Current Beneficiary Survey (MCBS) for the number of deaths among Medicare beneficiaries experienced in the 1999 MEPS.

3.2.4 Coverage

The target population for MEPS in this file is the 1999 U.S. civilian, noninstitutionalized population. However, the MEPS sampled households are a subsample of the NHIS households interviewed in 1998 (Panel 3) and 1999 (Panel 4). New households created after the NHIS interviews for the respective Panels and consisting exclusively of persons who entered the target population after 1998 (Panel 3) or after 1999 (Panel 4) are not covered by MEPS. These would include families consisting solely of: immigrants; persons leaving the military; U.S. citizens returning from residence in another country; and persons leaving institutions. It should be noted that this set of uncovered persons constitutes only a tiny proportion of the MEPS target population

4.0 Strategies for Estimation

This file is constructed for efficient estimation of utilization, expenditure, and sources of payment for other medical expenditures and to allow for estimates of number of persons who obtained medical items in 1999.

4.1 Variables with Missing Values

It is essential that the analyst examine all variables for the presence of negative values used to represent missing values. For continuous or discrete variables, where means or totals may be taken, it may be necessary to set minus values to values appropriate to the analytic needs. That is, the analyst should either impute a value or set the value to one that will be interpreted as missing by the computing language used. For categorical and dichotomous variables, the analyst may want to consider whether to recode or impute a value for cases with negative values or whether to exclude or include such cases in the numerator and/or denominator when calculating proportions.

Methodologies used for the editing/imputation of expenditure variables (e.g. sources of payment, flat fee, and zero expenditures) are described in Section 2.5.4.

4.2 Basic Estimates of Utilization, Expenditure and Sources of Payment

While the examples described below illustrate the use of event level data in constructing person level total expenditures, these estimates can also be derived from the person level expenditure file unless the characteristic of interest is event specific.

In order to produce national estimates related to other medical expense utilization, expenditure and sources of payment, the value in each record contributing to the estimates must be multiplied by the weight (PERWT99F) contained on that record.

Example 1

For example, the total number of other medical expense events for “GLASSES OR CONTACT LENSES” (OMTYPEX=1), for the civilian non-institutionalized population of the U.S. in 1999 is estimated as the sum of the weight (PERWT99F) across all other medical expense event records with OMTYPEX=1. That is,

$$\sum W_j = 47{,}507{,}983 \text{ for all records with } OMTYPEX_j = 1 \qquad (1)$$

Example 2

Subsetting to records based on characteristics of interest expands the scope of potential estimates. For example, the estimate for the mean out-of-pocket payment on "GLASSES OR CONTACT LENSES" (for those who had such expense greater than 0) should be calculated as the weighted mean of amount paid by self/family. That is,

$$(\sum W_j X_j)/(\sum W_j) = \$132.35 \qquad (2)$$

where

$\sum W_j = 46{,}695{,}641$ and $X_j = OMSF99X_j$

for all records with $OMTYPEX_j = 1$ and $OMXP99X_j > 0$

This gives $132.35 as the estimated mean amount of out-of-pocket payment of expenditures associated with "GLASSES OR CONTACT LENSES" events and 46,695,641 as an estimate of the total number of such other medical expense events with expenditure. Both of these estimates are for the civilian non-institutionalized population of the U.S. in 1999.

Example 3

Another example would be to estimate the average proportion of total expenditures (where event expense is greater than 0) paid by private insurance per "GLASSES OR CONTACT LENSES" event. This should be calculated as the weighted mean of the proportion of the total "GLASSES OR CONTACT LENSES" expense paid by private insurance at the other medical expense event level. That is,

$$(\sum W_j Y_j)/(\sum W_j) = 0.1607 \qquad (3)$$

where

$\sum W_j = 46{,}695{,}641$ and $Y_j = OMPV99X_j / OMXP99X_j$

for all records with $OMTYPEX_j = 1$ and $OMXP99X_j > 0$

This gives 0.1607 as the estimated mean proportion of total expenditures paid by private insurance for "GLASSES OR CONTACT LENSES" events with expenditure for the civilian non-institutionalized population of the U.S. in 1999.

4.3 Estimates of the Number of Persons with Other Medical Expense Events

When calculating an estimate of the total number of persons with other medical expense events, users can use a person-level file or this event file. However, this event file must be used when the measure of interest is defined at the event level. For example, to estimate the number of persons in the civilian

non-institutionalized population of the U.S. with a medical expense for ambulance service in 1999, this event file must be used. This would be estimated as

$$\sum W_i X_i \quad \text{across all unique persons i on this file} \qquad (4)$$

where

W_i is the sampling weight (PERWT99F) for person i

and

$X_i = 1$ if $OMTYPEX_j = 4$ for any other medical expense record of person i.

$= 0$ otherwise

4.4 Person-Based Ratio Estimates

4.4.1 Person-Based Ratio Estimates Relative to Persons with Other Medical Expense Events

This file may be used to derive person-based ratio estimates. However, when calculating ratio estimates where the denominator is persons, care should be taken to properly define and estimate the unit of analysis up to person level. For example, the mean expense for persons with other medical expense events is estimated as,

$$(\sum W_i Z_i)/(\sum W_i) \quad \text{across all unique persons i on this file} \qquad (5)$$

where

W_i is the sampling weight (PERWT99F) for person i

and

$Z_i = \sum OMXP99X_j$ across all other medical expense events for person i.

4.4.2 Person-Based Ratio Estimates Relative to the Entire Population

If the ratio relates to the entire population, this file cannot be used to calculate the denominator, as only those persons with at least one other medical expense event are represented on this data file. In this case the person level file, which has data for all sampled persons, must be used to estimate the total number of persons (i.e. those with use and those without use). For example, to estimate the proportion of civilian non-institutionalized population of the U.S. with at least one other medical expense event for ambulance services received in 1999, the numerator would be derived from data on this event file, and the denominator would be derived from data on the person-level file. That is,

$$(\sum W_i Z_i)/(\sum W_i) \quad \text{across all unique persons i on the MEPS HC-0xx file} \qquad (6)$$

where

W_i is the sampling weight (PERWT99F) for person i

and

$Z_i = 1$ if $OMTYPEX_j = 4$ for any other medical expense record of person i.

$= 0$ otherwise.

4.5 Sampling Weights for Merging Previous Releases of MEPS Household Data with this Event File

There have been several previous releases of MEPS Household Survey public use data. Unless a variable name common to several files is provided, the sampling weights contained on these data files are file-specific. The file-specific weights reflect minor adjustments to eligibility and response indicators due to birth, death, or institutionalization among respondents.

For estimates from a MEPS data file that do not require merging with variables from other MEPS data files, the sampling weight(s) provided on that data file are the appropriate weight(s). When merging a MEPS Household data file to another, the major analytical variable (i.e. the dependent variable) determines the correct sampling weight to use.

4.6 Variance Estimation

To obtain estimates of variability (such as the standard error of sample estimates or corresponding confidence intervals) for estimates based on MEPS survey data, one needs to take into account the complex sample design of MEPS. Various approaches can be used to develop such estimates of variance including use of the Taylor series or various replication methodologies. Replicate weights have not been developed for the MEPS 1999 data. Variables needed to implement a Taylor series estimation approach are provided in the file and are described in the paragraph below.

Using a Taylor Series approach, variance estimation strata and the variance estimation PSUs within these strata must be specified. The corresponding variables on the MEPS full year utilization database are VARSTR99 and VARPSU99, respectively. Specifying a "with replacement" design in a computer software package such as SUDAAN (Shah, 1996) should provide standard errors appropriate for assessing the variability of MEPS survey estimates. It should be noted that the number of degrees of freedom associated with estimates of variability indicated by such a package may not appropriately reflect the actual number available. For MEPS sample estimates for characteristics generally distributed throughout the country (and thus the sample PSUs), there are over 100 degrees of freedom associated with the corresponding estimates of variance. The following illustrates these concepts using two examples from Section 4.2.

Examples 2 and 3 from Section 4.2

Using a Taylor Series approach, specifying VARSTR99 and VARPSU99 as the variance estimation strata and PSUs (within these strata) respectively and specifying a Awith replacement@ design in a computer software package SUDAAN will yield standard error estimates of $2.50 and 0.0075 for the estimated mean of out-of-pocket payment and the estimated mean proportion of total expenditures paid by private insurance respectively.

5.0 Merging/Linking MEPS Data Files

5.1 Merging a Person-Level File to the Other Medical Expenses File

Data from the MEPS 1999 OME event file can be used alone or in conjunction with other files. Merging characteristics of interest from other MEPS files (e.g., 1999 Full Year Population Characteristics File or 1999 Full Year Person Level Expenditure File) expands the scope of potential estimates. For example, to estimate the expenditures for medical equipment, visual aids, etc. for persons with specific demographic characteristics (such as age, race, and sex), population characteristics from a person-level file need to be merged onto the OME event file. This procedure is shown below. The MEPS 1999 Appendix File provides examples of how to merge other MEPS files.

1. Create data set PERSX by sorting the 1999 Full Year Population Characteristics File, by the person identifier, DUPERSID. Keep only variables to be merged onto the Other Medical Expenses file and DUPERSID.

2. Create data set OMEXP by sorting the Other Medical Expenses file by person identifier, DUPERSID.

3. Create final data set NEWOME by merging these two files by DUPERSID, keeping only records on the dental file.

The following is an example of SAS code, which completes these steps:

```
PROC SORT DATA=1999 Full Year Population Characteristics File
(KEEP=DUPERSID AGE SEX EDUC)      OUT=PERSX;
   BY DUPERSID;
RUN;

PROC SORT DATA=OMEXP;
   BY DUPERSID;
RUN;

DATA NEWOME;
   MERGE OMEXP (IN=A) PERSX(IN=B);
   BY DUPERSID;
   IF A;
RUN;
```

5.2 Linking the MEPS 1999 Other Medical Expenses File to the MEPS 1999 Medical Conditions File and/or the MEPS 1999 Prescribed Medicines File

Because of survey design issues, data users/analysts must keep the limitations and/or caveats in mind when linking different files. Those limitations/caveats are listed below. For detailed linking examples, including SAS code, data users/analysts should refer to the MEPS 1999 Appendix File.

5.2.1 Limitations/Caveats of RXLK (the Prescribed Medicine Link File)

The RXLK file provides a link from the MEPS event files to the prescribed medicine records on the 1999 Prescribed Medicine Event File. When using RXLK, data users/analysts should keep in mind that one other medical expense can link to more than one prescribed medicine record. Conversely, a prescribed medicine event may link to more than one other medical expense. When this occurs, it is up to the data user/analyst to determine how the prescribed medicine expenditures should be allocated among those other medical expenses.

5.2.2 Limitations/Caveats of CLNK (the Medical Conditions File)

The CLNK provides a link from the MEPS event files to the Medical Conditions File. When using the CLNK, data users/analysts should keep in mind that (1) conditions are self-reported and (2) there may be multiple conditions associated with another medical expense. Data users/analyst should also note that not all other medical expenses link to the condition file.

Reference

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Monheit, A.C., Wilson, R., and Arnett, III, R.H. (Editors). Informing American Health Care Policy. (1999). Jossey-Bass Inc., San Francisco.

Shah, B.V., Barnwell, B.G., Bieler, G.S., Boyle, K.E., Folsom, R.E., Lavange, L., Wheeless, S.C., and Williams, R. (1996). *Technical Manual: Statistical Methods and Algorithms Used in SUDAAN Release 7.0,* Research Triangle Park, NC: Research Triangle Institute.

Attachment 1

Definitions

Dwelling Units, Reporting Units, Families, and Persons - The definitions of Dwelling Units (DUs) and Group Quarters in the MEPS Household Survey are generally consistent with the definitions employed for the National Health Interview Survey. The dwelling unit ID (DUID) is a five-digit random ID number assigned after the case was sampled for MEPS. The person number (PID) uniquely identifies all persons within the dwelling unit. The variable DUPERSID is the combination of the variables DUID and PID.

A Reporting Unit (RU) is a person or group of persons in the sampled dwelling unit who are related by blood, marriage, adoption or other family association, and who are to be interviewed as a group in MEPS. Thus, the RU serves chiefly as a family-based "survey operations" unit rather than an analytic unit. Regardless of the legal status of their association, two persons living together as a "family" unit were treated as a single reporting unit if they chose to be so identified.

Unmarried college students under 24 years of age who usually live in the sampled household, but were living away from home and going to school at the time of the Round 1 MEPS interview, were treated as a Reporting Unit separate from that of their parents for the purpose of data collection. These variables can be found on MEPS person level files.

In-Scope - A person was classified as in-scope (INSCOPE) if he or she was a member of the U.S. civilian, non-institutionalized population at some time during the Round 1 interview. This variable can be found on MEPS person level files.

Keyness - The term "keyness" is related to an individual's chance of being included in MEPS. A person is key if that person is appropriately linked to the set of NHIS sampled households designated for inclusion in MEPS. Specifically, a key person either was a member of an NHIS household at the time of the NHIS interview, or became a member of such a household after being out-of-scope prior to joining that household (examples of the latter situation include newborns and persons returning from military service, an institution, or living outside the United States).

A non-key person is one whose chance of selection for the NHIS (and MEPS) was associated with a household eligible but not sampled for the NHIS, who happened to have become a member of a MEPS reporting unit by the time of the MEPS Round 1 interview. MEPS data, (e.g., utilization and income) were collected for the period of time a non-key person was part of the sampled unit to permit family level analyses. However, non-key persons who leave a sample household would not be recontacted for subsequent interviews. Non-key individuals are not part of the target sample used to obtain person level national estimates.

It should be pointed out that a person may be key even though not part of the civilian, non-institutionalized portion of the U.S population. For example, a person in the military may be living with his or her civilian spouse and children in a household sampled for the NHIS. The person in the military would be considered a key person for MEPS. However, such a person would not receive

a person-level sample weight so long as he or she was in the military. All key persons who participated in the first round of a MEPS panel received a person level sample weight except those who were in the military. The variable indicating "keyness" is KEYNESS. This variable can be found on MEPS person level files.

Eligibility - The eligibility of a person for MEPS pertains to whether or not data were to be collected for that person. All key, in-scope persons of a sampled RU were eligible for data collection. The only non-key persons eligible for data collection were those who happened to be living in the same RU as one or more key persons, and their eligibility continued only for the time that they were living with a key person. The only out-of-scope persons eligible for data collection were those who were living with key in-scope persons, again only for the time they were living with a key person. Only military persons meet this description. A person was considered eligible if they were eligible at any time during Round 1. The variable indicating "eligibility" is ELIGRND1, where 1 is coded for persons eligible for data collection for at least a portion of the Round 1 reference period, and 2 is coded for persons not eligible for data collection at any time during the first round reference period. This variable can be found on MEPS person level files.

Imputation -The term is used to describe the use of predictive models to adjust for missing data items, based on data available on the same (or similar) cases. Hot-deck imputation creates a data set with complete data for all nonrespondent cases, often by substituting the data from a respondent case that resembles the nonrespondent on certain known variables.

D. Variable-Source Crosswalk

Survey Administration and ID Variables

Variable	Description	Source
DUID	Dwelling unit ID	Assigned in sampling
PID	Person number	Assigned in sampling
DUPERSID	Sample person ID (DUID + PID)	Assigned in sampling
EVNTIDX	Event ID	Assigned in Sampling
EVENTRN	Event round number	CAPI derived
FFEEIDX	Flat fee ID	Constructed

OME Event Characteristics

Variable	Description	Source
OMTYPEX	Other medical expense type – edited	EV03 (edited)
OMTYPE	Other medical expense type	EV03
OMOTHOX	OMTYPE other specify – edited	EV03A (edited)
OMOTHOS	OMTYPE other specify	EV03A

Flat Fee Variables

Variable	Description	Source
FFOMTYPE	Flat Fee Bundle	Constructed
FFBEF99	Total # of events in flat fee before 1999	FF05
FFTOT00	Total # of events in flat fee after 1999	FF10

Imputed Expenditure Variables

Variable	Description	Source
OMSF99X	Amount paid, family (Imputed)	CP11 (Edited/Imputed)
OMMR99X	Amount paid, Medicare (Imputed)	CPO7 (Edited/Imputed)
OMMD99X	Amount paid, Medicaid (Imputed)	CPO7 (Edited/Imputed)
OMPV99X	Amount paid, private insurance(Imputed)	CPO7 (Edited/Imputed)
OMVA99X	Amount paid, Veterans (Imputed)	CPO7 (Edited/Imputed)
OMCH99X	Amount paid, CHAMPUS/CHAMPVA (Imputed)	CPO7 (Edited/Imputed)
OMOF99X	Amount paid, other federal (Imputed)	CPO7 (Edited/Imputed)
OMSL99X	Amount paid, state and local gov't (Imputed)	CPO7 (Edited/Imputed)
OMWC99X	Amount paid, worker's comp (Imputed)	CPO7 (Edited/Imputed)
OMOR99X	Amount paid, other private (Imputed)	Constructed
OMOU99X	Amount paid, other public (Imputed)	Constructed
OMOT99X	Amount paid, other insurance (Imputed)	Constructed
OMXP99X	Sum of payments OMSF99X–OMOT99X (Imputed)	Constructed
OMTC99X	Household reported total charge (Imputed)	CP09 (Edited/Imputed)
IMPFLAG	Imputation Status	Constructed

Weights

Variable	Description	Source
PERWT99F	Final person level weight, 1999	Constructed
VARSTR99	Variance estimation stratum, 1999	Constructed
VARPSU99	Variance estimation PSU, 1999	Constructed