

**MEPS HC-068:
Multum Lexicon Addendum Files to
MEPS Prescribed Medicines Files 1996-2013**

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A. Data Use Agreement

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

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

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

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

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

B. Background

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 non-institutionalized 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, also known as NMES-1) was conducted in 1977 and the National Medical Expenditure Survey (NMES-2) in 1987. Since 1996, MEPS continues 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 non-institutionalized 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 2 ½-year period. Using computer-assisted personal interviewing (CAPI) technology, data on medical expenditures and use for two 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 non-institutionalized 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, eligibility requirements, 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 Bureau of the Census.

To provide an integrated picture of health insurance, data collected from the first sampling frame (employers and insurance providers identified by MEPS HC respondents) are linked back to data provided by those respondents (1996-1999 only). Data 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 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 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 electronic files.

Additional information on MEPS is available from the MEPS project manager or the MEPS information coordinator at the:

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C. Technical Information

1.0 Data File Contents

This MEPS public use release contains the 18 Multum Lexicon Addendum files which correspond to the years 1996-2013. Each of these files (H68F1-H68F18) can be linked to the corresponding 1996-2013 MEPS Prescribed Medicines file (MEPS releases HC-010A through HC-160A). For example, File 1 of HC-068 (H68F1) can be linked to HC-010A, the 1996 MEPS Prescribed Medicines File, and so on. On all Multum Lexicon Addendum files, a record exists for each event on the respective MEPS Prescribed Medicines file. Each record on the Lexicon Multum Addendum files contains the following linking variables which allow the Multum Lexicon Addendum files to be linked to the MEPS Prescribed Medicines files: the MEPS sample person ID (DUPERSID) and the unique prescribed medicine identifier (RXRECIDX). Each record on the Multum Lexicon Addendum Files also includes the following Multum Lexicon variables:

RXDRGNAM - generic name of the drug most commonly used by prescribing physicians

PREGCAT - pregnancy category variable - identifies the FDA pregnancy category to which a particular drug has been assigned

TCn - therapeutic classification variable - assigns a drug to one or more therapeutic/chemical categories; can have up to three categories per drug

TCnSn - therapeutic sub-classification variable - assigns one or more sub-categories to a more general therapeutic class category given to a drug

TCnSn_n - therapeutic sub sub-classification variable - assigns one or more sub sub-categories to a more general therapeutic class category and sub-category given to a drug

Users should carefully review the data when conducting trend analyses or pooling years or panels because Multum's therapeutic classification may change from year to year. The Multum variables on each year of the MEPS Prescribed Medicines files reflect the most recent classification available in the year the MEPS Prescribed Medicines file was originally released. Since the release of the 1996 Prescribed Medicines files, changes in the Multum classification scheme have included the addition of new classes and subclasses and changes in the hierarchy of classes. Four examples follow:

1. In the 1996-2004 Prescribed Medicines files, antidiabetic drugs are a subclass of the hormone class, but in subsequent files, the antidiabetic subclass is part of a class of metabolic drugs.
2. In the 1996-2004 files, antihyperlipidemic agents are categorized as a class with a number of subclasses including HMG-COA reductase inhibitors (statins). In

subsequent files, antihyperlipidemic drugs are a subclass, and HMG-COA reductase inhibitors are a sub-subclass, in the metabolic class.

3. In the 1996-2004 files, the psychotherapeutic class comprises drugs from four subclasses: antidepressants, antipsychotics, anxiolytics/sedatives/hypnotics, and CNS stimulants. In subsequent files, the psychotherapeutic class comprises only antidepressants and antipsychotics.
4. In the 1996-2011 files, Tramadol is categorized as a “Miscellaneous Analgesic,” but in 2012 and later years it is coded as a “Narcotic Analgesic.”

Changes may occur between any years, so it is prudent to use the RXDRGNAM variables to create a consistent classification over time.

The TCn, TCnSn, TCnSn_n, and PREGCAT variables on the Multum Lexicon Addendum files are based on corrected linkages between the MEPS Prescribed Medicines files and the Cerner Multum files. The main problems with the previous linkages are described in the documentation for the 2015 Prescribed Medicines file. RXDRGNAM was not previously released on any files for 1996 through 2012.

For additional information on these and other Multum Lexicon variables, as well as the Multum Lexicon database itself, please refer to the following web site: <http://www.multum.com/Lexicon.htm>

Researchers using the Multum Lexicon variables are requested to cite Multum Lexicon as the data source.

2.0 File Record Layout

Following is the record layout for the Multum Lexicon Addendum Files.

Variable	Type	Label
DUPERSID	Character	ENCRYPTED PERSON ID (DUID + PID)
RXRECIDX	Character	UNIQUE Rx/PRESCRIBED MEDICINE IDENTIFIER
PREGCAT	Character	MULTUM PREGNANCY CATEGORY
RXDRGNAM	Character	MULTUM MEDICINE NAME (IMPUTED)
TC1	Numeric	MULTUM THERAPEUTIC CLASS #1
TC1S1	Numeric	MULTUM THERAPEUTIC SUB-CLASS #1 FOR TC1
TC1S1_1	Numeric	MULTUM THERAPEUT SUB-SUB-CLASS FOR TC1S1
TC1S1_2	Numeric	MULTUM THERAPEUT SUB-SUB-CLASS FOR TC1S1
TC1S2	Numeric	MULTUM THERAPEUTIC SUB-CLASS #2 FOR TC1
TC1S2_1	Numeric	MULTUM THERAPEUT SUB-SUB-CLASS FOR TC1S2
TC2	Numeric	MULTUM THERAPEUTIC CLASS #2
TC2S1	Numeric	MULTUM THERAPEUTIC SUB-CLASS #1 FOR TC2
TC2S1_1	Numeric	MULTUM THERAPEUT SUB-SUB-CLASS FOR TC2S1
TC2S2	Numeric	MULTUM THERAPEUTIC SUB-CLASS #2 FOR TC2
TC3	Numeric	MULTUM THERAPEUTIC CLASS #3
TC3S1	Numeric	MULTUM THERAPEUTIC SUB-CLASS #1 FOR TC3
TC3S1_1	Numeric	MULTUM THERAPEUTIC SUB-SUB-CLASS FOR TC3S1

3.0 SAS Example to Link Multum Lexicon Addendum File to MEPS Prescribed Medicines File

Note: this example shows how to link the 2003 Multum Lexicon Addendum File (H68F8) to the 2003 MEPS Prescribed Medicines File (H77A) and how to calculate the total and mean expenditures for each therapeutic class #1.

First sort the MEPS Prescribed Medicines and Multum Lexicon datasets by RXRECIDX, the MEPS unique prescribed medicine record identifier. **Be sure to remove the old therapeutic class variables (TCn) from the Prescribed Medicines file, to ensure that the corrected therapeutic class variables on the Multum Lexicon Addendum files are used in the merged file:**

```
PROC SORT DATA=H77A (DROP=PREGCAT TC1: TC2: TC3:) OUT=PMED;  
    BY RXRECIDX;  
RUN;
```

```
PROC SORT DATA=H68F8 (KEEP=RXRECIDX TC1 TC2 TC3) OUT=MULTUM;  
    BY RXRECIDX;  
RUN;
```

Next link the data by RXRECIDX and create formats:

```
DATA PMEDSUBTC1;  
    MERGE PMED MULTUM;  
    BY RXRECIDX;  
RUN;
```

```
PROC FORMAT;  
    VALUE TC1name  
    -9    = "Not ascertained"           "  
    1     = "Anti-infectives"          "  
    19    = "Antihyperlipidemic agents" "  
    20    = "Antineoplastics"          "  
    28    = "Biologicals"              "  
    40    = "Cardiovascular agents"    "  
    57    = "Central nervous system agents" "  
    81    = "Coagulation modifiers"    "  
    87    = "Gastrointestinal agents"  "  
    97    = "Hormones/hormone modifiers" "  
    105   = "Miscellaneous agents"     "  
    115   = "Nutritional products"     "  
    122   = "Respiratory agents"       "  
    133   = "Topical agents"           "  
    218   = "Alternative medicines"    "  
    242   = "Psychotherapeutic agents" "  
    254   = "Immunologic agents"      "  
    ;  
RUN;
```

Finally, produce the total and mean expenditures for each therapeutic class:

```
PROC SURVEYMEANS DATA= PMEDSUBTC1 SUM MEAN;  
  FORMAT TC1 TC1name.;;  
  STRATUM VARSTR;  
  CLUSTER VARPSU;  
  WEIGHT PERWT03F;  
  VAR RXXP03X;  
  DOMAIN TC1;  
RUN;
```

To change this example for other years, users should specify the appropriate MEPS Prescribed Medicines and Multum Lexicon datasets (e.g., HC010A contains the 1996 MEPS Prescribed Medicines data, H68F1 contains the 1996 Multum Lexicon Addendum data). Users should also specify the appropriate weight variable (e.g., WTDPER96 for 1996) and expenditure variable (RXXP96X for 1996). Users should not change the link variable, RXRECIDX, as this is the MEPS unique prescribed medicine record identifier for both the MEPS Prescribed Medicines files and the Multum Lexicon Addendum files in all years. Users should also not change the therapeutic classification variables (TC1, TC2, or TC3) as these have the same name in every year.

4.0 For Further Information

For any questions regarding the Multum Lexicon Addendum or any of the MEPS Public Use files, please contact the MEPS Project Director by email at mepsprojectdirector@ahrq.hhs.gov or by telephone at 301-427-1406. The Multum Lexicon Addendum files as well as MEPS public use data files can be downloaded free of charge from the MEPS web site at <http://www.meps.ahrq.gov>.

For information on the Multum Lexicon Database, please go to the following web site: <http://www.multum.com/Lexicon.htm>.