MEPS HC-197I:
Appendix to MEPS 2017 Event Files
HC-197A - HC-197H
August 2019

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

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A. Data Use Agreement

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

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

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

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

3. No one will attempt to link this data set with individually identifiable records from any data sets other than the Medical Expenditure Panel Survey or the National Health Interview Survey. Furthermore, linkage of the Medical Expenditure Panel Survey and the National Health Interview Survey may not occur outside the AHRQ Data Center, NCHS Research Data Center (RDC) or the U.S. Census RDC network.

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

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

B. Background

1.0 Household Component

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

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

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

2.0 Medical Provider Component

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

3.0   Survey Management and Data Collection

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

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

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

C. Technical and Programming Information

1.0   General Information

This documentation describes the MEPS Public Use Release HC-197I, which is the Appendix to MEPS releases HC-197A through HC-197H. This release contains two data files, both of which are provided in ASCII (with related SAS, SPSS, and Stata programming statements and data user information) and SAS versions: 1) the condition-event link file; and 2) the prescribed medicines-event link file.

This documentation offers a brief overview of the content and structure of the files and the accompanying codebook. It contains the following sections:

> Data File Information
> Merging/Linking MEPS Data Files
> Sample SAS Jobs for Linking
> Sample STATA Jobs for Linking

For more information on MEPS HC survey design see T. Ezzati-Rice, et al., 1998-2007 and S. Cohen, 1996. For information on the MEPS MPC design, see S. Cohen, 1998. These reports, along with a copy of the survey instruments used to collect the information on this file, are available on the [MEPS website](#).

2.0   Data File Information

This public use data set consists of two data files containing variables for linkage of the MEPS 2017 event-level data files. File 1, the H197IF1 or CLNK file, is used for linking the MEPS Conditions file with the MEPS event files; File 2, the H197IF2 or RXLK file, is used for linking the MEPS prescribed medicines event file with other MEPS event files.

The CLNK file contains 6 variables and has a logical record length of 59 with an additional 2-byte carriage return/line feed at the end of each record. The RXLK file contains 6 variables and has a logical record length of 59 with an additional 2-byte carriage return/line feed at the end of each record.

2.1   Codebook Format

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

Identifier	Description
Name	Variable name (maximum of 8 characters)
Description	Variable descriptor (maximum 40 characters)
Format	Number of bytes
Type	Type of data: numeric (indicated by NUM) or character (indicated by CHAR)

Start	Beginning column position of variable in record
End	Ending column position of variable in record

2.2 Variable Naming and Source

In general, variable names reflect the content of the variable, with an 8 character limitation. All variables contained on Files 1 and 2 were derived from the CAPI.

2.3 Contents of File 1: Condition-Event Link File (CLNK)

File 1 (H197IF1) or the CLNK file, contains the variables needed to link each record on the MEPS 2017 Conditions file, HC-199, with one or more records on the MEPS 2017 event files, HC-197A, and HC-197D through HC-197H. Section 3.0 contains additional information on completing this linkage.

The 8-character variable DUPERSID uniquely identifies each person represented on the file. There may be more than one record on the CLNK file for a specific DUPERSID value.

CONDIDX is the ID that uniquely identifies each condition for a person and corresponds to a unique record on the MEPS 2017 Conditions file, HC-199. There may be more than one record on the CLNK file for a specific CONDIDX value.

EVNTIDX is the 12-digit number that uniquely identifies each event for a person and corresponds to a unique record on one of the MEPS 2017 event files, HC-197B through HC-197H. (EVNTIDX is not included on the 2017 Prescribed Medicines event file, HC-197A; rather, on this file the variable for linking with EVNTIDX on the CLNK file is LINKIDX.) There may be more than one record on the CLNK file for a specific EVNTIDX value.

CLNKIDX is the 24-digit number that uniquely identifies each record on the CLNK file and is the combination of CONDIDX + EVNTIDX. There is just one record on this file for each value of CLNKIDX, i.e., each unique combination of CONDIDX + EVNTIDX.

The variable EVENTYPE indicates the type of event record identified by EVNTIDX, and has the following values:

    1 = MVIS – office-based medical provider visit event contained on MEPS release HC-197G
    2 = OPAT – outpatient department visit event contained on MEPS release HC-197F
    3 = EROM – emergency room visit event contained on MEPS release HC-197E
    4 = STAZ – inpatient hospital stay event contained on MEPS release HC-197D
    7 = HVIS – home health visit event contained on MEPS release HC-197H
    8 = PMED – prescribed medicines event contained on MEPS release HC-197A

PANEL is a constructed variable used to specify the panel number for the interview in which the condition was reported. PANEL will indicate either Panel 21 or Panel 22.

2.4   **Contents of File 2: Prescribed Medicines-Event Link File (RXLK)**

File 2 (H197IF2) or the RXLK file, contains the variables needed to link each record on the MEPS 2017 Prescribed Medicines file, HC-197A, with one or more records on the MEPS 2017 event files, HC-197B and HC-197D through HC-197G. Section 3.0 contains additional information on completing this linkage.

The 8-character variable DUPERSID uniquely identifies each person represented on the file. There may be more than one record on the RXLK file for a specific DUPERSID value.

EVNTIDX is the 12-digit number that uniquely identifies each event for a person and corresponds to a unique record on one of the MEPS 2017 event files, HC-197B through HC-197G. There may be more than one record on the RXLK file for a specific EVNTIDX value.

LINKIDX is the 12-digit number that identifies the record(s) on the prescribed medicines file, HC-197A that link to an event record. There may be more than one record on the RXLK file for a specific LINKIDX value, and there may be more than one record on the HC-197A file for a specific LINKIDX value.

RXLKIDX is the 24-digit number that uniquely identifies each record on the RXLK file, and is the combination of EVNTIDX + LINKIDX. There is just one record on this file for each value of RXLKIDX, i.e., each unique combination of EVNTIDX + LINKIDX.

The variable EVENTYPE indicates the type of event record identified by EVNTIDX, and has the following values:

   1 = MVIS – office-based medical provider visit event contained on MEPS release HC-197G
   2 = OPAT – outpatient department visit event contained on MEPS release HC-197F
   3 = EROM – emergency room visit event contained on MEPS release HC-197E
   4 = STAZ – inpatient hospital stay event contained on MEPS release HC-197D
   5 = DVIS – dental visit event contained on MEPS release HC-197B

For 1996-2004, records for purchases of insulin and diabetic supplies in a round were included in the Other Medical Expenses event files. Beginning with the 2005 file, these records are not included in the Other Medical Expenses file because the expenditures have always been included in the Prescribed Medicines file. As a consequence, there are no records in this file where the variable EVENTYPE = 6, the value used in 1996-2004 to identify OMED type of event record.

PANEL is a constructed variable used to specify the panel number for the interview in which the condition was reported. PANEL will indicate either Panel 21 or Panel 22.

2.5   **Medical Conditions Coding Changes**

Beginning FY16, condition names are no longer coded to procedure codes, and ICD9PROX has been dropped from the conditions file. Also beginning in FY16, ICD-9-CM codes are no longer used and the variable ICD9CODX has been dropped from the conditions file. Medical conditions now are coded to ICD-10-CM codes (ICD10CDX). For more information on ICD-10-CM codes, see the HC-199 documentation.

3.0 Merging/Linking MEPS Data Files

This section provides information on using each of the two HC-197I files, RXLK and CLNK, to link with the files contained in MEPS releases HC-199 and HC-197A, HC-197B, and HC-197D through HC-197H. The linking procedure is described using several examples of deriving MEPS-based estimates. Also included in this section are several caveats related to using the RXLK and CLNK files.

3.1 Example A: Using the CLNK (HC-197IF1) and RXLK (HC-197IF2) Files with the Medical Conditions File (HC-199), the Prescribed Medicines and Office-Based Medical Provider Visits Event Files (HC-197A and HC-197G)

This example calculates the total expenditures for prescribed medicines associated with office-based medical provider visits for asthma, using these files: the Conditions file (HC-199), the CLNK file (HC-197IF1), the office-based medical provider visit event file (HC-197G), the RXLK file (HC-197IF2), and the prescribed medicines event file (HC-197A). It includes the following major steps:

1. From the HC-199 file, select only records with condition coded as asthma.

2. Use the CLNK file to obtain unique record IDs of events which are linked to each of the selected asthma condition records.

3. From the HC-197G file, select only records for non-telephone office-based medical provider visits for persons with a positive weight.

4. Using the selected record IDs obtained from the CLNK file, with the selected HC-197G records, identify only those visits which were for asthma.

5. Use the RXLK file with the selected visit records which were for asthma to obtain unique record IDs of prescribed medicine records from file HC-197A linked to those visits.

6. Using these record IDs, obtain the linked records from the HC-197A file and calculate the weighted mean of the expenditure variable.

Attachment 1 contains a copy of the SAS job for this example.
Attachment 2 contains a copy of the STATA job for this example.

**3.2   Example B: Using the CLNK File (HC-197IF1) with the Medical Conditions
            File (HC-199) and the Prescribed Medicines Event File (HC-197A)**

This example calculates the total expenditure for prescribed medicines associated with asthma, using the Conditions file (HC-199), the CLNK file (HC-197IF1) and the prescribed medicines event file (HC-197A). It includes the following major steps:

1.   From the HC-199 file, select only records with condition coded as asthma.

2.   Use the CLNK file to obtain unique record IDs of events which are linked to each of the asthma condition records.

3.   Using these record IDs, obtain linked records from the HC-197A file and calculate the weighted mean of the expenditure variable.

Attachment 1 contains a copy of the SAS job for this example.
Attachment 2 contains a copy of the STATA job for this example.

**3.3   Example C: Using the CLNK File (HC-197IF1) with the Medical Conditions
            File (HC-199) and Office-Based Medical Provider Visits Event File (HC-197G)**

This example calculates the total expenditures for office-based medical provider visits associated with asthma, using the Conditions file (HC-199), the CLNK file (HC-197IF1) and the office-based medical provider visits event file (HC-197G). It includes the following major steps:

1.   From the HC-199 file, select only records with condition coded as asthma.

2.   Use the CLNK file to obtain unique record IDs of events which are linked to each of the asthma condition records.

3.   From the HC-197G file, select only records for non-telephone office-based medical provider visits for persons with a positive weight.

4.   Using the selected record IDs obtained from the CLNK file, with the selected HC-197G records, identify only those visits which were for asthma and calculate the weighted mean of the expenditure variable.

Attachment 1 contains a copy of the SAS job for this example.
Attachment 2 contains a copy of the STATA job for this example.

3.4   Limitations/Caveats of the CLNK File

When using the CLNK file, analysts should keep in mind that (1) conditions are self-reported and (2) there may be multiple conditions associated with an event. Users should also note that not all events link to the Conditions file.

3.5　　　　　Limitations/Caveats of the RXLK File

When using the RXLK file, analysts should keep in mind that one event record can link to more than one prescribed medicine record. Conversely, a prescribed medicine record may link to more than one event record in the same event file and/or more than one event record in other event files. When this occurs, it is up to the analyst to determine how the prescribed medicine expenditures should be allocated among those medical events.

3.6　　　　　National Health Interview Survey

Data from this file can be used alone or in conjunction with other files for different analytic purposes. Each MEPS panel can also be linked back to the previous years' National Health Interview Survey public use data files. For information on obtaining MEPS/NHIS link files please see the [MEPS](#) website.

3.7　　　　　Using MEPS Data for Trend Analysis

MEPS began in 1996, and the utility of the survey for analyzing health care trends expands with each additional year of data; however, there are a variety of methodological and statistical considerations when examining trends over time using MEPS. Tests of statistical significance should be conducted to assess the likelihood that observed trends may be attributable to sampling variation. The length of time being analyzed should also 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 MEPS survey methodology. For example, as a result of improved methods for collecting priority conditions data implemented in 2007, prevalence measures prior to 2007 are not comparable to those from 2007 and beyond for many conditions. Users should refer to the documentation for the conditions file (HC-199) for details.

With respect to methodological considerations, in 2013 MEPS introduced an effort to obtain more complete information about health care utilization from MEPS respondents with full implementation in early 2014. This effort likely resulted in improved data quality and a reduction in underreporting in 2014, but could have some modest impact on analyses involving trends in utilization across years.

Changes to the MEPS survey instrument should also be considered when analyzing trends. Thus, the note on the title page of this document is repeated here:

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

There are also statistical factors to consider in interpreting trend analyses. Looking at changes over longer periods of time can provide a more complete picture of underlying trends. Analysts may wish to consider using techniques to smooth or stabilize analyses of trends using MEPS data such as comparing pooled time periods (e.g. 1996-97 versus 2011-12), working with moving

averages or using modeling techniques with several consecutive years of MEPS data to test the fit of specified patterns over time. Finally, researchers should be aware of the impact of multiple comparisons on Type I error. Without making appropriate allowance for multiple comparisons, undertaking numerous statistical significance tests of trends increases the likelihood of concluding that a change has taken place when one has not.

3.8 Longitudinal Analysis

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

For more details or to download the data files, please see Longitudinal Data Files at the AHRQ website.

Attachment 1:

Sample SAS Jobs for Linking Example

```
NOTE: Copyright (c) 2016 by SAS Institute Inc., Cary, NC, USA.
NOTE: SAS (r) Proprietary Software 9.4 (TS1M6)

NOTE: This session is executing on the X64_10PRO  platform.


NOTE: SAS initialization used:
      real time             0.60 seconds
      cpu time              0.34 seconds


NOTE: AUTOEXEC processing beginning; file is C:\Program Files\SAS\SASMISC\autoexec_9464.sas.


NOTE: AUTOEXEC processing completed.

1
2
3
4
5
6
7
8
9          ods rtf file = 'sampleA.rtf' BODYTITLE;
NOTE: Writing RTF Body file: sampleA.rtf
10
11         ods noproctitle;
12
13         OPTIONS LS=132 PS=59;
14
15         %let yr=17;
16         %let evntnum=197;   /* BE SURE TO UPDTE FOR CURRENT FY */
17         %let condnum=199;   /* BE SURE TO UPDTE FOR CURRENT FY */
18
19         TITLE1 "HC-&evntnum.I";
20         TITLE2 "Sample SAS Job for Example A";
21
22         LIBNAME IN IN "C:\Data";
NOTE: Libref IN was successfully assigned as follows:
      Engine:        V9
      Physical Name: C:\Data
23
24
25
26         ****************************************************************************************************
27         * Calculate the expenditures for prescribed medicines associated with medical visits for asthma.
28         ***************************************************************************************************;
```

```
29
30          PROC FORMAT;
31             VALUE EVENTYPE
32                  1 = "1 MVIS"
33                  2 = "2 OPAT"
34                  3 = "3 EROM"
35                  4 = "4 STAZ"
36                  5 = "5 DVIS"
37                  6 = "6 OMED"
38                  7 = "7 HVIS"
39                  8 = "8 PMED";
NOTE: Format EVENTYPE has been output.
40
41          RUN;

NOTE: PROCEDURE FORMAT used (Total process time):
      real time           0.02 seconds
      cpu time            0.01 seconds


42
43          *------------------------------------------------------------------------------------
44          * Get condition records coded as asthma.
45          *-----------------------------------------------------------------------------------;
46          DATA ASCONDS;
47             SET IN.H&condnum (KEEP=CONDIDX ICD10CDX);
48             IF ICD10CDX = 'J45';
49
50          RUN;

NOTE: There were 112630 observations read from the data set IN.H199.
NOTE: The data set WORK.ASCONDS has 2100 observations and 2 variables.
NOTE: Compressing data set WORK.ASCONDS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: DATA statement used (Total process time):
      real time           0.69 seconds
      cpu time            0.06 seconds


51
52          *------------------------------------------------------------------------------------
53          * Get the events linked to each of the asthma condition records.
54          *-----------------------------------------------------------------------------------;
55          PROC SORT DATA=ASCONDS; BY CONDIDX; RUN;

NOTE: There were 2100 observations read from the data set WORK.ASCONDS.
NOTE: SAS sort was used.
NOTE: The data set WORK.ASCONDS has 2100 observations and 2 variables.
NOTE: Compressing data set WORK.ASCONDS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


56
57          proc print data=asconds (obs=50);
```

```
58            title3 "sample print of work.asconds - sorted by condidx";
59            title4 "COND (H&condnum) records where ICD10CDX = 'J45'";
60         run;
```

NOTE: There were 50 observations read from the data set WORK.ASCONDS.
NOTE: The PROCEDURE PRINT printed page 1.
NOTE: PROCEDURE PRINT used (Total process time):
      real time   0.03 seconds
      cpu time   0.03 seconds


```
61
62         PROC SORT DATA=IN.H&evntnum.IF1 OUT=CLNK; BY CONDIDX; RUN;
```

NOTE: There were 375173 observations read from the data set IN.H197IF1.
NOTE: SAS threaded sort was used.
NOTE: The data set WORK.CLNK has 375173 observations and 6 variables.
NOTE: Compressing data set WORK.CLNK increased size by 5.31 percent.
      Compressed is 436 pages; un-compressed would require 414 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time   1.28 seconds
      cpu time   0.23 seconds


```
63
64         DATA ASCLNKS;
65           MERGE CLNK   (IN=INCLNK   KEEP=CONDIDX EVNTIDX EVENTYPE)
66                 ASCONDS(IN=INASCOND KEEP=CONDIDX);
67           BY CONDIDX;
68           IF INCLNK & INASCOND;
69         RUN;
```

NOTE: There were 375173 observations read from the data set WORK.CLNK.
NOTE: There were 2100 observations read from the data set WORK.ASCONDS.
NOTE: The data set WORK.ASCLNKS has 6756 observations and 3 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 50.00 percent.
      Compressed is 6 pages; un-compressed would require 4 pages.
NOTE: DATA statement used (Total process time):
      real time   0.09 seconds
      cpu time   0.07 seconds


```
70
71         proc report data=asclnks(obs=75) nowd headskip;
72            define condidx  /'CONDIDX' order;
73            define evntidx  /'EVNTIDX';
74            define eventype /'EVENTYPE';
75            break after condidx / skip;
76            format eventype eventype.;
77            title3 "sample print of work.asclnks - sorted by condidx";
78            title4 "events linked to asthma condition records";
79         run;
```

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 75 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE REPORT printed pages 2-3.
NOTE: PROCEDURE REPORT used (Total process time):

```
      real time            0.02 seconds
      cpu time             0.01 seconds


80
81          PROC SORT DATA=ASCLNKS; BY EVNTIDX; RUN;

NOTE: There were 6756 observations read from the data set WORK.ASCLNKS.
NOTE: SAS sort was used.
NOTE: The data set WORK.ASCLNKS has 6756 observations and 3 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 50.00 percent.
      Compressed is 6 pages; un-compressed would require 4 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time            0.01 seconds
      cpu time             0.00 seconds


82
83          proc print data=asclnks (obs=50);
84            format eventype eventype.;
85            title3 "sample print of work.asclnks - sorted by evntidx";
86          run;

NOTE: There were 50 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE PRINT printed page 4.
NOTE: PROCEDURE PRINT used (Total process time):
      real time            0.00 seconds
      cpu time             0.00 seconds


87
88          DATA ASCLNKS;
89            SET ASCLNKS (KEEP=EVNTIDX EVENTYPE);
90            BY EVNTIDX;
91            IF FIRST.EVNTIDX;
92          RUN;

NOTE: There were 6756 observations read from the data set WORK.ASCLNKS.
NOTE: The data set WORK.ASCLNKS has 6744 observations and 2 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 33.33 percent.
      Compressed is 4 pages; un-compressed would require 3 pages.
NOTE: DATA statement used (Total process time):
      real time            0.00 seconds
      cpu time             0.01 seconds


93
94          proc print data=asclnks (obs=50);
95            title3 "sample print of unique evntidxs from work.asclnks";
96            format eventype eventype.;
97          run;

NOTE: There were 50 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE PRINT printed page 5.
NOTE: PROCEDURE PRINT used (Total process time):
      real time            0.00 seconds
      cpu time             0.00 seconds
```

```
98
99          *---------------------------------------------------------------------------------------------
100         * Get non-telephone office based visits (i.e. MVIS events) for persons with positive weights.
101         *--------------------------------------------------------------------------------------------;
102         DATA MVIS;
103           SET IN.H&evntnum.G (KEEP=EVNTIDX PERWT&yr.F SEETLKPV);
104           IF PERWT&yr.F > 0 & SEETLKPV NE 2;
105         RUN;
```

NOTE: There were 170491 observations read from the data set IN.H197G.
NOTE: The data set WORK.MVIS has 166896 observations and 3 variables.
NOTE: Compressing data set WORK.MVIS increased size by 13.41 percent.
      Compressed is 93 pages; un-compressed would require 82 pages.
NOTE: DATA statement used (Total process time):
      real time   1.02 seconds
      cpu time   0.04 seconds

```
106
107         PROC SORT DATA=MVIS; BY EVNTIDX; RUN;
```

NOTE: There were 166896 observations read from the data set WORK.MVIS.
NOTE: SAS threaded sort was used.
NOTE: The data set WORK.MVIS has 166896 observations and 3 variables.
NOTE: Compressing data set WORK.MVIS increased size by 13.41 percent.
      Compressed is 93 pages; un-compressed would require 82 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time   0.07 seconds
      cpu time   0.10 seconds

```
108
109         *---------------------------------------------------------------------------------------------
110         * Identify MVIS events which were for asthma.
111         *--------------------------------------------------------------------------------------------;
112         DATA ASMVIS;
113           MERGE ASCLNKS (IN=INASCLNK)
114                 MVIS     (IN=INMVIS KEEP=EVNTIDX);
115           BY EVNTIDX;
116           IF INASCLNK & INMVIS;
117         RUN;
```

NOTE: There were 6744 observations read from the data set WORK.ASCLNKS.
NOTE: There were 166896 observations read from the data set WORK.MVIS.
NOTE: The data set WORK.ASMVIS has 1680 observations and 2 variables.
NOTE: Compressing data set WORK.ASMVIS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: DATA statement used (Total process time):
      real time   0.04 seconds
      cpu time   0.04 seconds

```
118
119         proc print data=asmvis (obs=50);
120           format eventype eventype.;
```

```
121          title3 "sample print of work.asmvis";
122          title4 "unique evntidxs from work.asclnks that are non-telephone MVIS (HC-&evntnum.G) events";
123       run;
```

NOTE: There were 50 observations read from the data set WORK.ASMVIS.
NOTE: The PROCEDURE PRINT printed page 6.
NOTE: PROCEDURE PRINT used (Total process time):
      real time   0.00 seconds
      cpu time   0.01 seconds

```
124
125       *--------------------------------------------------------------------------------
126       * Get PMED IDs linked to the MVIS events which were for asthma.
127       *-------------------------------------------------------------------------------;
128       PROC SORT DATA=IN.H&evntnum.IF2 OUT=RXLK; BY EVNTIDX; RUN;
```

NOTE: There were 53568 observations read from the data set IN.H197IF2.
NOTE: SAS sort was used.
NOTE: The data set WORK.RXLK has 53568 observations and 6 variables.
NOTE: Compressing data set WORK.RXLK increased size by 6.67 percent.
      Compressed is 64 pages; un-compressed would require 60 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time   0.11 seconds
      cpu time   0.03 seconds

```
129
130       proc report data=rxlk (obs=140 keep=evntidx linkidx eventype) nowd headskip;
131          define evntidx  /'EVNTIDX' order;
132          define linkidx  /'LINKIDX';
133          define eventype /'EVENTYPE';
134          break after evntidx / skip;
135          format eventype eventype.;
136       title3 "sample print of work.rxlk - sorted by evntidx";
137       title4 "Rx+event link file records (HC-&evntnum.IF2)";
138       run;
```

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 140 observations read from the data set WORK.RXLK.
NOTE: The PROCEDURE REPORT printed pages 7-10.
NOTE: PROCEDURE REPORT used (Total process time):
      real time   0.01 seconds
      cpu time   0.01 seconds

```
139
140       DATA PMEDIDS;
141         MERGE RXLK  (IN=INRXLK KEEP=EVNTIDX LINKIDX EVENTYPE)
142               ASMVIS(IN=INASMVIS KEEP=EVNTIDX);
143         BY EVNTIDX;
144         IF INRXLK & INASMVIS;
145       RUN;
```

NOTE: There were 53568 observations read from the data set WORK.RXLK.
NOTE: There were 1680 observations read from the data set WORK.ASMVIS.
NOTE: The data set WORK.PMEDIDS has 1418 observations and 3 variables.

```
NOTE: Compressing data set WORK.PMEDIDS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: DATA statement used (Total process time):
      real time           0.02 seconds
      cpu time            0.01 seconds


146
147         proc report data=pmedids (obs=50) nowd headskip;
148             define evntidx  /'EVNTIDX' order;
149             define linkidx  /'LINKIDX';
150             define eventype /'EVENTYPE';
151             break after evntidx / skip;
152             format eventype eventype.;
153             title3 "sample print of work.pmedids - sorted by evntidx";
154             title4 "work.rxlk records for evntidxs in work.asmvis";
155         run;

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 50 observations read from the data set WORK.PMEDIDS.
NOTE: The PROCEDURE REPORT printed pages 11-12.
NOTE: PROCEDURE REPORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


156
157         PROC SORT DATA=PMEDIDS; BY LINKIDX; RUN;

NOTE: There were 1418 observations read from the data set WORK.PMEDIDS.
NOTE: SAS sort was used.
NOTE: The data set WORK.PMEDIDS has 1418 observations and 3 variables.
NOTE: Compressing data set WORK.PMEDIDS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


158
159         proc print data=pmedids (obs=50);
160             format eventype eventype.;
161             title3 "sample print of work.pmedids - sorted by linkidx";
162         run;

NOTE: There were 50 observations read from the data set WORK.PMEDIDS.
NOTE: The PROCEDURE PRINT printed page 13.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      cpu time            0.01 seconds


163
164         DATA PMEDIDS;
165             SET PMEDIDS (KEEP=LINKIDX);
166             BY LINKIDX;
167             IF FIRST.LINKIDX;
```

```
168        RUN;

NOTE: Compression was disabled for data set WORK.PMEDIDS because compression overhead would increase the size of the data set.
NOTE: There were 1418 observations read from the data set WORK.PMEDIDS.
NOTE: The data set WORK.PMEDIDS has 1371 observations and 1 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


169
170        proc print data=pmedids (obs=50);
171          title3 "sample print of unique linkidxs in work.pmedids";
172        run;

NOTE: There were 50 observations read from the data set WORK.PMEDIDS.
NOTE: The PROCEDURE PRINT printed page 14.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


173
174        *------------------------------------------------------------------------------------------
175        * Get PMED records linked to MVIS events which were for asthma.
176        *------------------------------------------------------------------------------------------;
177        PROC SORT DATA=IN.H&evntnum.A OUT=PMED; BY LINKIDX; RUN;

NOTE: There were 310487 observations read from the data set IN.H197A.
NOTE: SAS threaded sort was used.
NOTE: The data set WORK.PMED has 310487 observations and 13 variables.
NOTE: Compressing data set WORK.PMED decreased size by 20.07 percent.
      Compressed is 669 pages; un-compressed would require 837 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           1.03 seconds
      cpu time            0.68 seconds


178
179        DATA MVPMEDS;
180          MERGE PMED (KEEP=LINKIDX RXRECIDX  RXXP&yr.X PERWT&yr.F RXNAME)
181                PMEDIDS (IN=A);
182          BY LINKIDX;
183          IF A;
184        RUN;

NOTE: There were 310487 observations read from the data set WORK.PMED.
NOTE: There were 1371 observations read from the data set WORK.PMEDIDS.
NOTE: The data set WORK.MVPMEDS has 3534 observations and 5 variables.
NOTE: Compressing data set WORK.MVPMEDS decreased size by 16.67 percent.
      Compressed is 5 pages; un-compressed would require 6 pages.
NOTE: DATA statement used (Total process time):
      real time           0.09 seconds
      cpu time            0.09 seconds


185
```

```
186        proc report data=mvpmeds (obs=200) nowd;
187            column LINKIDX RXRECIDX RXNAME RXXP&yr.X PERWT&yr.F;
188            define linkidx   /'LINKIDX' order;
189            define rxrecidx  /'RXRECIDX';
190            define rxname    /'RXNAME';
191            define rxxp&yr.x   /'RXXP17X' display format=8.2;  /*Update year*/
192            define PERWT&yr.F /'PERWT17F' /*display format=8.2*/; /*Update year*/
193            break after linkidx / skip;
194            title3 "sample print of work.mvpmeds";
195            title4 "PMED (HC-&evntnum.A) records for unique linkidxs in work.pmedids";
196        run;
```

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 200 observations read from the data set WORK.MVPMEDS.
NOTE: The PROCEDURE REPORT printed pages 15-19.
NOTE: PROCEDURE REPORT used (Total process time):
      real time   0.02 seconds
      cpu time   0.03 seconds


```
197
198        PROC MEANS DATA=MVPMEDS N SUM;
199          VAR RXXP&yr.X;
200          TITLE3 "Total Rx expenditures associated with medical visits (excluding telephone) for asthma";
201        RUN;
```

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 3534 observations read from the data set WORK.MVPMEDS.
NOTE: The PROCEDURE MEANS printed page 20.
NOTE: PROCEDURE MEANS used (Total process time):
      real time   0.01 seconds
      cpu time   0.01 seconds


```
202
203        PROC MEANS DATA=MVPMEDS  N SUM;
204          VAR RXXP&yr.X;
205          WEIGHT PERWT&yr.F;
206          TITLE3 "Total Rx expenditures associated with medical visits (excluding telephone) for asthma";
207          TITLE5 "Weighted";
208        RUN;
```

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 3534 observations read from the data set WORK.MVPMEDS.
NOTE: The PROCEDURE MEANS printed page 21.
NOTE: PROCEDURE MEANS used (Total process time):
      real time   0.00 seconds
      cpu time   0.01 seconds


```
209
210        ods rtf close;
211
```

NOTE: SAS Institute Inc., SAS Campus Drive, Cary, NC USA 27513-2414
NOTE: The SAS System used:
      real time   5.67 seconds

Sample SAS Job for Example A
sample print of work.asconds - sorted by condidx
COND (H199) records where ICD10CDX = 'J45'

Obs	CONDIDX	ICD10CDX
1	100061010021	J45
2	100191020051	J45
3	100291010041	J45
4	100341010121	J45
5	100531020021	J45
6	100791010061	J45
7	100911030031	J45
8	100921020051	J45
9	101071010011	J45
10	101141010031	J45
11	101351010041	J45
12	101491010011	J45
13	101531050021	J45
14	101701050031	J45
15	101841020021	J45
16	101851010121	J45
17	101851030011	J45
18	101922020012	J45
19	102171020081	J45
20	102221030011	J45
21	102251010011	J45
22	102261040011	J45
23	102331010021	J45
24	102431010061	J45
25	102551010031	J45
26	102551020011	J45
27	102581040011	J45
28	102961010051	J45
29	102961030011	J45
30	103101010011	J45
31	103121030021	J45
32	103161010241	J45
33	103181020011	J45
34	103361010041	J45
35	103631010071	J45
36	103911010021	J45
37	103981020041	J45
38	104021010021	J45
39	104131010011	J45
40	104161010041	J45
41	104161050011	J45
42	104511020181	J45
43	104571010101	J45
44	104611030012	J45
45	104751020011	J45
46	104751030011	J45
47	105011010161	J45
48	105051010051	J45
49	105051020021	J45
50	105252010022	J45

A1-10   MEPS HC-197I

```
                          HC-197I
                Sample SAS Job for Example A
     sample print of work.asclnks - sorted by condidx
         events linked to asthma condition records
```

CONDIDX	EVNTIDX	EVENTYPE
100191020051	100191020351	1 MVIS
100191020051	100191020361	1 MVIS
100191020051	100191020471	8 PMED
100191020051	100191020591	1 MVIS
100191020051	100191020691	8 PMED
100191020051	100191020741	8 PMED
100191020051	100191029135	8 PMED
100191020051	100191029195	8 PMED
100191020051	100191029205	8 PMED
100191020051	100191029215	8 PMED
100291010041	100291011111	8 PMED
100341010121	100341010321	8 PMED
100341010121	100341010431	8 PMED
100341010121	100341019055	8 PMED
100531020021	100531020541	1 MVIS
100791010061	100791011981	1 MVIS
100791010061	100791019245	8 PMED
100791010061	100791019325	8 PMED
100921020051	100921029015	8 PMED
101071010011	101071010051	1 MVIS
101351010041	101351010621	1 MVIS
101351010041	101351010881	8 PMED
101351010041	101351010891	8 PMED
101351010041	101351011011	1 MVIS
101351010041	101351019075	8 PMED
101351010041	101351019085	8 PMED
101491010011	101491010221	1 MVIS
101491010011	101491010241	8 PMED
101491010011	101491010251	8 PMED
101491010011	101491010271	1 MVIS
101491010011	101491010301	8 PMED
101491010011	101491010311	8 PMED
101491010011	101491010321	8 PMED
101491010011	101491010331	1 MVIS
101491010011	101491019025	8 PMED
101491010011	101491019045	8 PMED
101491010011	101491019085	8 PMED
101491010011	101491019095	8 PMED
101531050021	101531050481	2 OPAT
101701050031	101701050061	1 MVIS
101701050031	101701050071	3 EROM
101701050031	101701050081	3 EROM
101701050031	101701059035	8 PMED
101701050031	101701059045	8 PMED
101841020021	101841029055	8 PMED
101841020021	101841029065	8 PMED
101841020021	101841029075	8 PMED
101841020021	101841029085	8 PMED
101851010121	101851010951	8 PMED
101851010121	101851019145	8 PMED
101922020012	101922029085	8 PMED
102221030011	102221030321	8 PMED
102221030011	102221030481	1 MVIS
102221030011	102221030491	1 MVIS
102221030011	102221039055	8 PMED
102221030011	102221039095	8 PMED
102261040011	102261040071	8 PMED
102331010021	102331010111	8 PMED
102331010021	102331010291	8 PMED
102331010021	102331010301	8 PMED
102331010021	102331010311	8 PMED
102331010021	102331010341	3 EROM
102331010021	102331010351	4 STAZ
102331010021	102331010361	1 MVIS
102331010021	102331019035	8 PMED
102331010021	102331019065	8 PMED
102331010021	102331019085	8 PMED
102331010021	102331019095	8 PMED
102431010061	102431010281	8 PMED
102431010061	102431010301	1 MVIS

CONDIDX	EVNTIDX	EVENTYPE
102431010061	102431010311	3 EROM
102431010061	102431010341	8 PMED
102431010061	102431010351	8 PMED
102431010061	102431010371	8 PMED
102431010061	102431010391	1 MVIS

```
                              HC-197I
                     Sample SAS Job for Example A
             sample print of work.asclnks - sorted by evntidx
```

Obs	CONDIDX	EVNTIDX	EVENTYPE
1	100191020051	100191020351	1 MVIS
2	100191020051	100191020361	1 MVIS
3	100191020051	100191020471	8 PMED
4	100191020051	100191020591	1 MVIS
5	100191020051	100191020691	8 PMED
6	100191020051	100191020741	8 PMED
7	100191020051	100191029135	8 PMED
8	100191020051	100191029195	8 PMED
9	100191020051	100191029205	8 PMED
10	100191020051	100191029215	8 PMED
11	100291010041	100291011111	8 PMED
12	100341010121	100341010321	8 PMED
13	100341010121	100341010431	8 PMED
14	100341010121	100341019055	8 PMED
15	100531020021	100531020541	1 MVIS
16	100791010061	100791011981	1 MVIS
17	100791010061	100791019245	8 PMED
18	100791010061	100791019325	8 PMED
19	100921020051	100921029015	8 PMED
20	101071010011	101071010051	1 MVIS
21	101351010041	101351010621	1 MVIS
22	101351010041	101351010881	8 PMED
23	101351010041	101351010891	8 PMED
24	101351010041	101351011011	1 MVIS
25	101351010041	101351019075	8 PMED
26	101351010041	101351019085	8 PMED
27	101491010011	101491010221	1 MVIS
28	101491010011	101491010241	8 PMED
29	101491010011	101491010251	8 PMED
30	101491010011	101491010271	1 MVIS
31	101491010011	101491010301	8 PMED
32	101491010011	101491010311	8 PMED
33	101491010011	101491010321	8 PMED
34	101491010011	101491010331	1 MVIS
35	101491010011	101491019025	8 PMED
36	101491010011	101491019045	8 PMED
37	101491010011	101491019085	8 PMED
38	101491010011	101491019095	8 PMED
39	101531050021	101531050481	2 OPAT
40	101701050031	101701050061	1 MVIS
41	101701050031	101701050071	3 EROM
42	101701050031	101701050081	3 EROM
43	101701050031	101701059035	8 PMED
44	101701050031	101701059045	8 PMED
45	101841020021	101841029055	8 PMED
46	101841020021	101841029065	8 PMED
47	101841020021	101841029075	8 PMED
48	101841020021	101841029085	8 PMED
49	101851010121	101851010951	8 PMED
50	101851010121	101851019145	8 PMED

```
                          HC-197I
                 Sample SAS Job for Example A
        sample print of unique evntidxs from work.asclnks
```

Obs	EVNTIDX	EVENTYPE
1	100191020351	1 MVIS
2	100191020361	1 MVIS
3	100191020471	8 PMED
4	100191020591	1 MVIS
5	100191020691	8 PMED
6	100191020741	8 PMED
7	100191029135	8 PMED
8	100191029195	8 PMED
9	100191029205	8 PMED
10	100191029215	8 PMED
11	100291011111	8 PMED
12	100341010321	8 PMED
13	100341010431	8 PMED
14	100341019055	8 PMED
15	100531020541	1 MVIS
16	100791011981	1 MVIS
17	100791019245	8 PMED
18	100791019325	8 PMED
19	100921029015	8 PMED
20	101071010051	1 MVIS
21	101351010621	1 MVIS
22	101351010881	8 PMED
23	101351010891	8 PMED
24	101351011011	1 MVIS
25	101351019075	8 PMED
26	101351019085	8 PMED
27	101491010221	1 MVIS
28	101491010241	8 PMED
29	101491010251	8 PMED
30	101491010271	1 MVIS
31	101491010301	8 PMED
32	101491010311	8 PMED
33	101491010321	8 PMED
34	101491010331	1 MVIS
35	101491019025	8 PMED
36	101491019045	8 PMED
37	101491019085	8 PMED
38	101491019095	8 PMED
39	101531050481	2 OPAT
40	101701050061	1 MVIS
41	101701050071	3 EROM
42	101701050081	3 EROM
43	101701059035	8 PMED
44	101701059045	8 PMED
45	101841029055	8 PMED
46	101841029065	8 PMED
47	101841029075	8 PMED
48	101841029085	8 PMED
49	101851010951	8 PMED
50	101851019145	8 PMED

HC-197I
Sample SAS Job for Example A
sample print of work.asmvis
unique evntidxs from work.asclnks that are non-telephone MVIS (HC-197G) events

Obs	EVNTIDX	EVENTYPE
1	100191020351	1 MVIS
2	100191020361	1 MVIS
3	100191020591	1 MVIS
4	100531020541	1 MVIS
5	100791011981	1 MVIS
6	101071010051	1 MVIS
7	101351010621	1 MVIS
8	101351011011	1 MVIS
9	101491010221	1 MVIS
10	101491010271	1 MVIS
11	101491010331	1 MVIS
12	101701050061	1 MVIS
13	102221030481	1 MVIS
14	102221030491	1 MVIS
15	102331010361	1 MVIS
16	102431010301	1 MVIS
17	102431010391	1 MVIS
18	103121030061	1 MVIS
19	103121030071	1 MVIS
20	103161011991	1 MVIS
21	103161012001	1 MVIS
22	103161012011	1 MVIS
23	103161012021	1 MVIS
24	103361010141	1 MVIS
25	105581030082	1 MVIS
26	105581030092	1 MVIS
27	105581030102	1 MVIS
28	105581030112	1 MVIS
29	105581030172	1 MVIS
30	105581030182	1 MVIS
31	105681010331	1 MVIS
32	105681010341	1 MVIS
33	105681010351	1 MVIS
34	105711040071	1 MVIS
35	105711040081	1 MVIS
36	105941010021	1 MVIS
37	106041040061	1 MVIS
38	106041040101	1 MVIS
39	106041040111	1 MVIS
40	106511020081	1 MVIS
41	106511020091	1 MVIS
42	106511020101	1 MVIS
43	107011010661	1 MVIS
44	107011010671	1 MVIS
45	107011010681	1 MVIS
46	107011010691	1 MVIS
47	107011010701	1 MVIS
48	107011010711	1 MVIS
49	107011011271	1 MVIS
50	107011011281	1 MVIS

HC-197I
Sample SAS Job for Example A
sample print of work.rxlk - sorted by evntidx
Rx+event link file records (HC-197IF2)

EVNTIDX	LINKIDX	EVENTYPE
100011010191	100011010211	1 MVIS
100011010261	100011019025	1 MVIS
100011010261	100011019035	1 MVIS
100011010261	100011019045	1 MVIS
100011010261	100011019055	1 MVIS
100011010271	100011019025	1 MVIS
100011010271	100011019035	1 MVIS
100011010271	100011019045	1 MVIS
100011010271	100011019055	1 MVIS
100011010341	100011019025	1 MVIS
100011010341	100011019035	1 MVIS
100011010341	100011019045	1 MVIS
100011010341	100011019055	1 MVIS
100011020091	100011020111	1 MVIS
100011030391	100011039015	1 MVIS
100011040201	100011040211	1 MVIS
100021010291	100021010461	1 MVIS
100021010291	100021010471	1 MVIS
100021010291	100021010481	1 MVIS
100021010291	100021010491	1 MVIS
100021010291	100021010511	1 MVIS
100021010301	100021010461	4 STAZ
100021010301	100021010481	4 STAZ
100021010301	100021010491	4 STAZ
100021010301	100021010511	4 STAZ
100021010301	100021010521	4 STAZ
100021010771	100021019015	1 MVIS
100021010771	100021019025	1 MVIS
100021010771	100021019035	1 MVIS
100021010771	100021019055	1 MVIS
100021010771	100021019065	1 MVIS
100021010771	100021019135	1 MVIS
100021010781	100021019015	1 MVIS
100021010781	100021019025	1 MVIS
100021010781	100021019035	1 MVIS
100021010781	100021019055	1 MVIS
100021010781	100021019065	1 MVIS
100021010781	100021019135	1 MVIS
100041010041	100041019015	1 MVIS
100041010041	100041019025	1 MVIS
100051020101	100051020191	5 DVIS
100051020101	100051020201	5 DVIS
100051030031	100051030041	1 MVIS
100051030031	100051030051	1 MVIS
100061010101	100061010181	1 MVIS
100061010151	100061010191	4 STAZ
100081040211	100081040251	1 MVIS
100081040211	100081040261	1 MVIS
100081050251	100081050291	1 MVIS
100081050251	100081050301	1 MVIS
100081050251	100081050311	1 MVIS
100081050251	100081050321	1 MVIS
100081060131	100081060181	1 MVIS
100081060131	100081060191	1 MVIS
100082020022	100082029015	2 OPAT
100082020022	100082029025	2 OPAT
100091020151	100091020191	4 STAZ
100091030091	100091030111	1 MVIS
100091030351	100091039015	1 MVIS
100091030361	100091039025	1 MVIS
100091040421	100091049015	1 MVIS
100091040451	100091049025	1 MVIS
100101010081	100101010101	1 MVIS
100141010301	100141010341	1 MVIS
100141010301	100141010351	1 MVIS
100141010331	100141010361	1 MVIS
100141010411	100141019045	1 MVIS
100191020281	100191020461	4 STAZ
100191020591	100191020661	1 MVIS
100191020811	100191029045	1 MVIS

EVNTIDX	LINKIDX	EVENTYPE
100191020811	100191029095	1 MVIS
100191020811	100191029105	1 MVIS
100191020841	100191029175	4 STAZ
100191020841	100191029185	4 STAZ
100221010081	100221019025	1 MVIS
100221010081	100221019035	1 MVIS
100221010091	100221019025	1 MVIS
100221010091	100221019035	1 MVIS
100221030061	100221039015	1 MVIS
100231010211	100231010271	1 MVIS
100231010211	100231010281	1 MVIS
100231010211	100231010291	1 MVIS
100231010211	100231010301	1 MVIS
100231010211	100231010311	1 MVIS
100231010221	100231010271	1 MVIS
100231010221	100231010281	1 MVIS
100231010221	100231010291	1 MVIS
100231010221	100231010301	1 MVIS
100231010221	100231010311	1 MVIS
100231010241	100231010311	1 MVIS
100231010241	100231010321	1 MVIS
100231010371	100231019015	1 MVIS
100231010371	100231019025	1 MVIS
100231010371	100231019035	1 MVIS
100231010371	100231019045	1 MVIS
100231010371	100231019065	1 MVIS
100231010371	100231019085	1 MVIS
100231020141	100231020191	1 MVIS
100231020141	100231020201	1 MVIS
100231020211	100231020271	1 MVIS
100231020211	100231020281	1 MVIS
100231020211	100231020291	1 MVIS
100231020211	100231020301	1 MVIS
100231020221	100231020271	1 MVIS
100231020221	100231020281	1 MVIS
100231020221	100231020291	1 MVIS
100231020221	100231020301	1 MVIS
100231020331	100231029015	1 MVIS
100231020331	100231029025	1 MVIS
100231020331	100231029055	1 MVIS
100231020331	100231029065	1 MVIS
100241010071	100241010081	1 MVIS
100241010071	100241010101	1 MVIS
100241010071	100241010111	1 MVIS
100241010071	100241010121	1 MVIS
100241020012	100241020022	4 STAZ
100241040021	100241040051	1 MVIS
100241040131	100241049045	4 STAZ
100241040131	100241049055	4 STAZ
100241040141	100241049025	3 EROM
100241040151	100241049025	3 EROM
100241040151	100241049035	3 EROM
100251010151	100251010161	1 MVIS
100251010151	100251010171	1 MVIS
100251010241	100251019015	1 MVIS
100251010241	100251019045	1 MVIS
100251020171	100251020181	1 MVIS
100251020171	100251020191	1 MVIS
100251020171	100251020201	1 MVIS
100251030121	100251030161	1 MVIS
100251030121	100251030171	1 MVIS
100251030121	100251030181	1 MVIS
100251030201	100251030211	1 MVIS
100251030201	100251030221	1 MVIS
100251030201	100251030231	1 MVIS
100271010441	100271010471	1 MVIS
100271010581	100271010641	1 MVIS
100271010581	100271010651	1 MVIS
100271010581	100271010661	1 MVIS
100271010581	100271010671	1 MVIS

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                        HC-197I
                Sample SAS Job for Example A
        sample print of work.pmedids - sorted by evntidx
         work.rxlk records for evntidxs in work.asmvis
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EVNTIDX	LINKIDX	EVENTYPE
100191020591	100191020661	1 MVIS
101701050061	101701059035	1 MVIS
101701050061	101701059045	1 MVIS
102221030491	102221039065	1 MVIS
102221030491	102221039085	1 MVIS
102331010361	102331019085	1 MVIS
102431010301	102431010341	1 MVIS
102431010301	102431010351	1 MVIS
102431010391	102431019125	1 MVIS
103121030061	103121030081	1 MVIS
103121030061	103121030091	1 MVIS
103121030071	103121030081	1 MVIS
103121030071	103121030091	1 MVIS
103161011991	103161012121	1 MVIS
103161011991	103161012161	1 MVIS
103161011991	103161012171	1 MVIS
103161011991	103161012181	1 MVIS
103161011991	103161012191	1 MVIS
103161011991	103161012201	1 MVIS
103161011991	103161012211	1 MVIS
103161011991	103161012221	1 MVIS
103161011991	103161012231	1 MVIS
103161011991	103161012241	1 MVIS
103161011991	103161012251	1 MVIS
103161011991	103161012261	1 MVIS
103161011991	103161012271	1 MVIS
103161011991	103161012281	1 MVIS
103361010141	103361010151	1 MVIS
105581030082	105581030132	1 MVIS
105581030082	105581030142	1 MVIS
105581030092	105581030132	1 MVIS
105581030182	105581039035	1 MVIS
105581030182	105581039045	1 MVIS
105681010331	105681010371	1 MVIS
105681010331	105681010381	1 MVIS
105681010331	105681010391	1 MVIS
105681010331	105681010401	1 MVIS
105681010331	105681010411	1 MVIS
105681010331	105681010421	1 MVIS
105711040071	105711040101	1 MVIS
105711040071	105711040111	1 MVIS
105711040081	105711040121	1 MVIS
105941010021	105941010051	1 MVIS
106041040101	106041040151	1 MVIS
106041040111	106041040151	1 MVIS
107431010671	107431010761	1 MVIS
107431010671	107431010771	1 MVIS
107431010671	107431010781	1 MVIS
107431010671	107431010791	1 MVIS
107491021811	107491029015	1 MVIS

Obs	EVNTIDX	LINKIDX	EVENTYPE
1	100191020591	100191020661	1 MVIS
2	101701050061	101701059035	1 MVIS
3	101701050061	101701059045	1 MVIS
4	102221030491	102221039065	1 MVIS
5	102221030491	102221039085	1 MVIS
6	102331010361	102331019085	1 MVIS
7	102431010301	102431010341	1 MVIS
8	102431010301	102431010351	1 MVIS
9	102431010391	102431019125	1 MVIS
10	103121030061	103121030081	1 MVIS
11	103121030071	103121030081	1 MVIS
12	103121030061	103121030091	1 MVIS
13	103121030071	103121030091	1 MVIS
14	103161011991	103161012121	1 MVIS
15	103161011991	103161012161	1 MVIS
16	103161011991	103161012171	1 MVIS
17	103161011991	103161012181	1 MVIS
18	103161011991	103161012191	1 MVIS
19	103161011991	103161012201	1 MVIS
20	103161011991	103161012211	1 MVIS
21	103161011991	103161012221	1 MVIS
22	103161011991	103161012231	1 MVIS
23	103161011991	103161012241	1 MVIS
24	103161011991	103161012251	1 MVIS
25	103161011991	103161012261	1 MVIS
26	103161011991	103161012271	1 MVIS
27	103161011991	103161012281	1 MVIS
28	103361010141	103361010151	1 MVIS
29	105581030082	105581030132	1 MVIS
30	105581030092	105581030132	1 MVIS
31	105581030082	105581030142	1 MVIS
32	105581030182	105581039035	1 MVIS
33	105581030182	105581039045	1 MVIS
34	105681010331	105681010371	1 MVIS
35	105681010331	105681010381	1 MVIS
36	105681010331	105681010391	1 MVIS
37	105681010331	105681010401	1 MVIS
38	105681010331	105681010411	1 MVIS
39	105681010331	105681010421	1 MVIS
40	105711040071	105711040101	1 MVIS
41	105711040071	105711040111	1 MVIS
42	105711040081	105711040121	1 MVIS
43	105941010021	105941010051	1 MVIS
44	106041040101	106041040151	1 MVIS
45	106041040111	106041040151	1 MVIS
46	107431010671	107431010761	1 MVIS
47	107431010671	107431010771	1 MVIS
48	107431010671	107431010781	1 MVIS
49	107431010671	107431010791	1 MVIS
50	107491021811	107491029015	1 MVIS

Obs	LINKIDX
1	100191020661
2	101701059035
3	101701059045
4	102221039065
5	102221039085
6	102331019085
7	102431010341
8	102431010351
9	102431019125
10	103121030081
11	103121030091
12	103161012121
13	103161012161
14	103161012171
15	103161012181
16	103161012191
17	103161012201
18	103161012211
19	103161012221
20	103161012231
21	103161012241
22	103161012251
23	103161012261
24	103161012271
25	103161012281
26	103361010151
27	105581030132
28	105581030142
29	105581039035
30	105581039045
31	105681010371
32	105681010381
33	105681010391
34	105681010401
35	105681010411
36	105681010421
37	105711040101
38	105711040111
39	105711040121
40	105941010051
41	106041040151
42	107431010761
43	107431010771
44	107431010781
45	107431010791
46	107491029015
47	107491029025
48	107491030371
49	107491030381
50	107491030391

HC-197I
Sample SAS Job for Example A
sample print of work.mvpmeds
PMED (HC-197A) records for unique linkidxs in work.pmedids

LINKIDX	RXRECIDX	RXNAME	RXXP17X	PERWT17F
100191020661	100191020661001	SPIRONO/HCTZ	113.56	12610.291787
100191020661	100191020661002	SPIRONO/HCTZ	113.56	12610.291787
101701059035	101701059035001	ALBUTEROL	30.28	10076.456586
101701059035	101701059035002	ALBUTEROL	30.28	10076.456586
101701059045	101701059045001	PREDNISOLONE	4.03	10076.456586
101701059045	101701059045002	PREDNISOLONE	2.42	10076.456586
102221039065	102221039065001	PREDNISOLONE	3.00	1294.754805
102221039065	102221039065002	PREDNISOLONE	3.00	1294.754805
102221039085	102221039085001	SMZ-TMP	61.92	1294.754805
102331019085	102331019085001	ADVAIR DISKU	459.84	12832.244835
102431010341	102431010341001	BENZONATATE	14.35	6949.202328
102431010351	102431010351001	VENTOLIN HFA	40.60	6949.202328
102431019125	102431019125001	DULERA	283.97	6949.202328
103121030081	103121030081001	PROVENTIL	148.40	3449.416528
103121030091	103121030091001	ADVAIR DISKU	363.12	3449.416528
103161012121	103161012121001	NOVOLOG	202.22	9564.297047
103161012121	103161012121002	NOVOLOG	101.11	9564.297047
103161012121	103161012121003	NOVOLOG	202.22	9564.297047
103161012121	103161012121004	NOVOLOG	202.22	9564.297047
103161012121	103161012121005	NOVOLOG	202.22	9564.297047
103161012121	103161012121006	NOVOLOG	505.54	9564.297047
103161012121	103161012121007	NOVOLOG	1516.62	9564.297047
103161012161	103161012161001	BUPROPION	27.07	9564.297047
103161012161	103161012161002	BUPROPION	27.07	9564.297047
103161012161	103161012161003	BUPROPION	27.07	9564.297047
103161012161	103161012161004	BUPROPION	28.00	9564.297047
103161012161	103161012161005	BUPROPION	28.00	9564.297047
103161012161	103161012161006	BUPROPION	28.00	9564.297047
103161012161	103161012161007	BUPROPION	28.00	9564.297047
103161012171	103161012171001	LEVOTHYROXIN	18.14	9564.297047
103161012171	103161012171002	LEVOTHYROXIN	18.14	9564.297047
103161012171	103161012171003	LEVOTHYROXIN	18.14	9564.297047
103161012171	103161012171004	LEVOTHYROXIN	18.14	9564.297047
103161012171	103161012171005	LEVOTHYROXIN	15.00	9564.297047
103161012171	103161012171006	LEVOTHYROXIN	15.00	9564.297047
103161012171	103161012171007	LEVOTHYROXIN	15.00	9564.297047
103161012181	103161012181001	MELOXICAM	4.85	9564.297047
103161012181	103161012181002	MELOXICAM	4.85	9564.297047
103161012181	103161012181003	MELOXICAM	4.85	9564.297047
103161012181	103161012181004	MELOXICAM	4.85	9564.297047
103161012181	103161012181005	MELOXICAM	5.02	9564.297047
103161012181	103161012181006	MELOXICAM	5.02	9564.297047
103161012181	103161012181007	MELOXICAM	5.02	9564.297047
103161012191	103161012191001	METOCLOPRAM	4.74	9564.297047
103161012191	103161012191002	METOCLOPRAM	4.74	9564.297047
103161012191	103161012191003	METOCLOPRAM	4.74	9564.297047
103161012191	103161012191004	METOCLOPRAM	4.78	9564.297047
103161012191	103161012191005	METOCLOPRAM	4.78	9564.297047
103161012191	103161012191006	METOCLOPRAM	4.78	9564.297047
103161012191	103161012191007	METOCLOPRAM	4.78	9564.297047
103161012201	103161012201001	MYRBETRIQ	47.67	9564.297047
103161012201	103161012201002	MYRBETRIQ	47.67	9564.297047
103161012201	103161012201003	MYRBETRIQ	47.67	9564.297047
103161012201	103161012201004	MYRBETRIQ	47.67	9564.297047
103161012201	103161012201005	MYRBETRIQ	42.00	9564.297047
103161012201	103161012201006	MYRBETRIQ	42.00	9564.297047
103161012201	103161012201007	MYRBETRIQ	42.00	9564.297047
103161012211	103161012211001	OMEGA-3	18.80	9564.297047
103161012211	103161012211002	OMEGA-3	18.80	9564.297047
103161012211	103161012211003	OMEGA-3	18.80	9564.297047
103161012211	103161012211004	OMEGA-3	18.80	9564.297047
103161012221	103161012221001	OMEPRAZOLE	7.71	9564.297047
103161012221	103161012221002	OMEPRAZOLE	7.71	9564.297047
103161012221	103161012221003	OMEPRAZOLE	7.71	9564.297047
103161012221	103161012221004	OMEPRAZOLE	7.71	9564.297047
103161012221	103161012221005	OMEPRAZOLE	6.30	9564.297047
103161012221	103161012221006	OMEPRAZOLE	6.30	9564.297047
103161012221	103161012221007	OMEPRAZOLE	6.30	9564.297047
103161012231	103161012231001	PIOGLITAZONE	11.08	9564.297047
103161012231	103161012231002	PIOGLITAZONE	11.08	9564.297047

LINKIDX	RXRECIDX	RXNAME	RXXP17X	PERWT17F
103161012231	103161012231003	PIOGLITAZONE	11.08	9564.297047
103161012231	103161012231004	PIOGLITAZONE	16.95	9564.297047
103161012231	103161012231005	PIOGLITAZONE	16.95	9564.297047
103161012231	103161012231006	PIOGLITAZONE	16.95	9564.297047
103161012231	103161012231007	PIOGLITAZONE	16.95	9564.297047
103161012241	103161012241001	ROPINIROLE	60.25	9564.297047
103161012241	103161012241002	ROPINIROLE	60.25	9564.297047
103161012241	103161012241003	ROPINIROLE	60.25	9564.297047
103161012241	103161012241004	ROPINIROLE	60.25	9564.297047
103161012241	103161012241005	ROPINIROLE	62.33	9564.297047
103161012241	103161012241006	ROPINIROLE	62.33	9564.297047
103161012241	103161012241007	ROPINIROLE	62.33	9564.297047
103161012251	103161012251001	VALSART/HCTZ	10.59	9564.297047
103161012251	103161012251002	VALSART/HCTZ	10.59	9564.297047
103161012251	103161012251003	VALSART/HCTZ	10.59	9564.297047
103161012251	103161012251004	VALSART/HCTZ	10.96	9564.297047
103161012251	103161012251005	VALSART/HCTZ	10.96	9564.297047
103161012251	103161012251006	VALSART/HCTZ	10.96	9564.297047
103161012251	103161012251007	VALSART/HCTZ	10.96	9564.297047
103161012261	103161012261001	DIAZEPAM	1.80	9564.297047
103161012261	103161012261002	DIAZEPAM	1.80	9564.297047
103161012261	103161012261003	DIAZEPAM	1.74	9564.297047
103161012261	103161012261004	DIAZEPAM	0.86	9564.297047
103161012261	103161012261005	DIAZEPAM	1.83	9564.297047
103161012261	103161012261006	DIAZEPAM	1.83	9564.297047
103161012261	103161012261007	DIAZEPAM	1.80	9564.297047
103161012271	103161012271001	LEVEMIR	80.18	9564.297047
103161012271	103161012271002	LEVEMIR	153.41	9564.297047
103161012271	103161012271003	LEVEMIR	153.41	9564.297047
103161012271	103161012271004	LEVEMIR	160.35	9564.297047
103161012271	103161012271005	LEVEMIR	767.04	9564.297047
103161012271	103161012271006	LEVEMIR	400.88	9564.297047
103161012271	103161012271007	LEVEMIR	1150.56	9564.297047
103161012281	103161012281001	NOVOLOG	202.22	9564.297047
103161012281	103161012281002	NOVOLOG	101.11	9564.297047
103161012281	103161012281003	NOVOLOG	202.22	9564.297047
103161012281	103161012281004	NOVOLOG	202.22	9564.297047
103161012281	103161012281005	NOVOLOG	202.22	9564.297047
103161012281	103161012281006	NOVOLOG	505.54	9564.297047
103161012281	103161012281007	NOVOLOG	1516.62	9564.297047
103361010151	103361010151001	VENTOLIN HFA	73.99	34392.768121
105581030132	105581030132001	ALBUTEROL	7.09	3365.379315
105581030132	105581030132002	ALBUTEROL	7.09	3365.379315
105581030142	105581030142001	ADVAIR DISKU	467.68	3365.379315
105581030142	105581030142002	ADVAIR DISKU	467.68	3365.379315
105581039035	105581039035001	INCRUSE ELPT	427.99	3365.379315
105581039035	105581039035002	INCRUSE ELPT	427.99	3365.379315
105581039035	105581039035003	INCRUSE ELPT	427.99	3365.379315
105581039045	105581039045001	SYMBICORT	280.05	3365.379315
105581039045	105581039045002	SYMBICORT	280.05	3365.379315
105581039045	105581039045003	SYMBICORT	280.05	3365.379315
105681010371	105681010371001	LORAZEPAM	72.24	6034.583354
105681010371	105681010371002	LORAZEPAM	72.24	6034.583354
105681010381	105681010381001	ESCITALOPRAM	21.33	6034.583354
105681010381	105681010381002	ESCITALOPRAM	21.33	6034.583354
105681010391	105681010391001	PANTOPRAZOLE	5.36	6034.583354
105681010391	105681010391002	PANTOPRAZOLE	5.36	6034.583354
105681010401	105681010401001	ROSUVASTATIN	14.34	6034.583354
105681010401	105681010401002	ROSUVASTATIN	14.34	6034.583354
105681010411	105681010411001	CARVEDILOL	29.99	6034.583354
105681010421	105681010421001	AZELASTINE	22.95	6034.583354
105681010421	105681010421002	AZELASTINE	22.95	6034.583354
105711040101	105711040101001	FLUOXETINE	293.97	45787.076167
105711040111	105711040111001	PREDNISONE	2.74	45787.076167
105711040121	105711040121001	AZITHROMYCIN	36.99	45787.076167
105941010051	105941010051001	ALBUTEROL	57.75	5629.258323
105941010051	105941010051002	ALBUTEROL	57.75	5629.258323
106041040151	106041040151001	BUDESONIDE	144.89	5306.708811
107431010761	107431010761001	LISINOPRIL	1.01	2780.991981
107431010761	107431010761002	LISINOPRIL	4.71	2780.991981
107431010771	107431010771001	ATORVASTATIN	16.74	2780.991981
107431010771	107431010771002	ATORVASTATIN	20.28	2780.991981
107431010781	107431010781001	JANUMET	1056.16	2780.991981
107431010781	107431010781002	JANUMET	1056.16	2780.991981
107431010791	107431010791001	LEVOTHYROXIN	4.30	2780.991981

LINKIDX	RXRECIDX	RXNAME	RXXP17X	PERWT17F
107431010791	107431010791002	LEVOTHYROXIN	4.30	2780.991981
107431010791	107431010791003	LEVOTHYROXIN	4.30	2780.991981
107431010791	107431010791004	LEVOTHYROXIN	4.30	2780.991981
107431010791	107431010791005	LEVOTHYROXIN	4.30	2780.991981
107431010791	107431010791006	LEVOTHYROXIN	12.90	2780.991981
107491029015	107491029015001	SYMBICORT	25.00	4099.072685
107491029015	107491029015002	SYMBICORT	25.00	4099.072685
107491029015	107491029015003	SYMBICORT	25.00	4099.072685
107491029015	107491029015004	SYMBICORT	25.00	4099.072685
107491029015	107491029015005	SYMBICORT	25.00	4099.072685
107491029025	107491029025001	MONTELUKAST	10.29	4099.072685
107491029025	107491029025002	MONTELUKAST	10.29	4099.072685
107491029025	107491029025003	MONTELUKAST	10.29	4099.072685
107491029025	107491029025004	MONTELUKAST	10.29	4099.072685
107491029025	107491029025005	MONTELUKAST	10.29	4099.072685
107491030371	107491030371001	MELOXICAM	0.85	5611.091120
107491030371	107491030371002	MELOXICAM	0.85	5611.091120
107491030371	107491030371003	MELOXICAM	0.85	5611.091120
107491030381	107491030381001	NITROGLYCER	23.02	5611.091120
107491030381	107491030381002	NITROGLYCER	23.02	5611.091120
107491030381	107491030381003	NITROGLYCER	23.02	5611.091120
107491030391	107491030391001	SIMVASTATIN	24.75	5611.091120
107491030391	107491030391002	SIMVASTATIN	24.75	5611.091120
107491030391	107491030391003	SIMVASTATIN	24.75	5611.091120
107491030401	107491030401001	ENALAPRIL	107.67	5611.091120
107491030401	107491030401002	ENALAPRIL	107.67	5611.091120
107491030401	107491030401003	ENALAPRIL	107.67	5611.091120
107491030411	107491030411001	PANTOPRAZOLE	367.20	5611.091120
107491030411	107491030411002	PANTOPRAZOLE	367.20	5611.091120
107491030411	107491030411003	PANTOPRAZOLE	367.20	5611.091120
107491030421	107491030421001	CLOPIDOGREL	15.98	5611.091120
107491030421	107491030421002	CLOPIDOGREL	15.98	5611.091120
107491030421	107491030421003	CLOPIDOGREL	15.98	5611.091120
107491030431	107491030431001	NIFEDIPINE	271.54	5611.091120
107491030431	107491030431002	NIFEDIPINE	271.54	5611.091120
107491030431	107491030431003	NIFEDIPINE	271.54	5611.091120
107491030441	107491030441001	PRED MILD	333.99	5611.091120
107491030441	107491030441002	PRED MILD	333.99	5611.091120
107491030441	107491030441003	PRED MILD	333.99	5611.091120
107491030451	107491030451001	LATANOPROST	17.10	5611.091120
107491030451	107491030451002	LATANOPROST	17.10	5611.091120
107491030451	107491030451003	LATANOPROST	17.10	5611.091120
107491030461	107491030461001	GABAPENTIN	8.20	5611.091120
107491030461	107491030461002	GABAPENTIN	8.20	5611.091120
107491030461	107491030461003	GABAPENTIN	8.20	5611.091120
107521021041	107521021041001	VENTOLIN HFA	79.99	9717.260179
107591019015	107591019015001	MINOCYCLINE	7.35	7769.028462
107591019025	107591019025001	VITAMIN D	16.57	7769.028462
107591019035	107591019035001	LYRICA	421.51	7769.028462
107591019035	107591019035002	LYRICA	421.51	7769.028462
107591019055	107591019055001	SIMVASTATIN	5.76	7769.028462
107591019055	107591019055002	SIMVASTATIN	7.44	7769.028462
107591019075	107591019075001	HYDROXYZ PAM	4.29	7769.028462
107591019075	107591019075002	HYDROXYZ PAM	12.87	7769.028462
107591019085	107591019085001	TOPIRAMATE	7.29	7769.028462

```
                              HC-197I
                     Sample SAS Job for Example A
Total Rx expenditures associated with medical visits (excluding telephone) for asthma

     Analysis Variable : RXXP17X SUM OF PAYMENTS RXSF17X-RXOU17X(IMPUTED)

                    ┌─────────────┬─────────────┐
                    │           N │         Sum │
                    ├─────────────┼─────────────┤
                    │        3534 │   444359.67 │
                    └─────────────┴─────────────┘
```

```
                              HC-197I
                    Sample SAS Job for Example A
    Total Rx expenditures associated with medical visits (excluding telephone) for asthma


                              Weighted


    Analysis Variable : RXXP17X SUM OF PAYMENTS RXSF17X-RXOU17X(IMPUTED)

                    ┌─────────────┬──────────────────┐
                    │        N    │            Sum   │
                    ├─────────────┼──────────────────┤
                    │     3534    │    3957130138    │
                    └─────────────┴──────────────────┘
```

```
NOTE: Copyright (c) 2016 by SAS Institute Inc., Cary, NC, USA.
NOTE: SAS (r) Proprietary Software 9.4 (TS1M6)

NOTE: This session is executing on the X64_10PRO  platform.


NOTE: SAS initialization used:
      real time             0.56 seconds
      cpu time              0.26 seconds


NOTE: AUTOEXEC processing beginning; file is C:\Program Files\SAS\SASMISC\autoexec_9464.sas.


NOTE: AUTOEXEC processing completed.

1
2
3
4
5
6
7
8
9
10        ods rtf file = 'sampleB.rtf' BODYTITLE;
NOTE: Writing RTF Body file: sampleB.rtf
11
12        ods noproctitle;
13
14        OPTIONS LS=132 PS=59;
15
16        %let yr=17;
17        %let evntnum=197;   /* BE SURE TO UPDTE FOR CURRENT FY */
18        %let condnum=199;   /* BE SURE TO UPDTE FOR CURRENT FY */
19
20        TITLE1 "HC-&evntnum.I";
21        TITLE2 "Sample SAS Job for Example B";
22
23        LIBNAME IN "C:\Data";
NOTE: Libref IN was successfully assigned as follows:
      Engine:        V9
      Physical Name: C:\Data
24
25        **********************************************************************************
26        * Calculate the expenditures for prescribed medicines associated with asthma.
27        **********************************************************************************;
28        PROC FORMAT;
```

```
29            VALUE EVENTYPE
30                1 = "1 MVIS"
31                2 = "2 OPAT"
32                3 = "3 EROM"
33                4 = "4 STAZ"
34                5 = "5 DVIS"
35                6 = "6 OMED"
36                7 = "7 HVIS"
37                8 = "8 PMED";
NOTE: Format EVENTYPE has been output.
38         RUN;

NOTE: PROCEDURE FORMAT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


39
40         *------------------------------------------------------------------------------------
41         * Get condition records coded as asthma.
42         *-----------------------------------------------------------------------------------;
43         DATA ASCONDS;
44           SET IN.H&condnum (KEEP=CONDIDX ICD10CDX);
45           IF ICD10CDX="J45";
46         RUN;

NOTE: There were 112630 observations read from the data set IN.H199.
NOTE: The data set WORK.ASCONDS has 2100 observations and 2 variables.
NOTE: Compressing data set WORK.ASCONDS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: DATA statement used (Total process time):
      real time           0.62 seconds
      cpu time            0.04 seconds


47
48         *--------------------------------------------------------------------------
49         * Get the events linked to each of the asthma condition records.
50         *-------------------------------------------------------------------------;
51         PROC SORT DATA=ASCONDS; BY CONDIDX; RUN;

NOTE: There were 2100 observations read from the data set WORK.ASCONDS.
NOTE: SAS sort was used.
NOTE: The data set WORK.ASCONDS has 2100 observations and 2 variables.
NOTE: Compressing data set WORK.ASCONDS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


52
53         proc print data=asconds (obs=50);
54           title3 "sample print of work.asconds - sorted by condidx";
55           title4 "COND (H&condnum) records where ICD10CDX=J45";
56         run;
```

A1-27   MEPS HC-197I

```
NOTE: There were 50 observations read from the data set WORK.ASCONDS.
NOTE: The PROCEDURE PRINT printed page 1.
NOTE: PROCEDURE PRINT used (Total process time):
      real time            0.04 seconds
      cpu time             0.03 seconds


57
58          PROC SORT DATA=IN.H&evntnum.IF1 OUT=CLNK; BY CONDIDX; RUN;

NOTE: There were 375173 observations read from the data set IN.H197IF1.
NOTE: SAS threaded sort was used.
NOTE: The data set WORK.CLNK has 375173 observations and 6 variables.
NOTE: Compressing data set WORK.CLNK increased size by 5.31 percent.
      Compressed is 436 pages; un-compressed would require 414 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time            0.81 seconds
      cpu time             0.17 seconds


59
60          DATA ASCLNKS;
61            MERGE CLNK   (IN=INCLNK   KEEP=CONDIDX EVNTIDX EVENTYPE)
62                  ASCONDS(IN=INASCOND KEEP=CONDIDX);
63            BY CONDIDX;
64            IF INCLNK & INASCOND;
65          RUN;

NOTE: There were 375173 observations read from the data set WORK.CLNK.
NOTE: There were 2100 observations read from the data set WORK.ASCONDS.
NOTE: The data set WORK.ASCLNKS has 6756 observations and 3 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 50.00 percent.
      Compressed is 6 pages; un-compressed would require 4 pages.
NOTE: DATA statement used (Total process time):
      real time            0.09 seconds
      cpu time             0.09 seconds


66
67          proc report data=asclnks (obs=75) nowd headskip;
68            define condidx  /'CONDIDX' order;
69            define EVNTIDX  /'EVNTIDX';
70            define EVENTYPE /'EVENTYPE';
71            break after condidx / skip;
72            format eventype eventype.;
73            title3 "sample print of work.asclnks - sorted by condidx";
74            title4 "events linked to asthma condition records";
75          run;

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 75 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE REPORT printed pages 2-3.
NOTE: PROCEDURE REPORT used (Total process time):
      real time            0.02 seconds
      cpu time             0.01 seconds
```

```
76
77          PROC SORT DATA=ASCLNKS; BY EVNTIDX; RUN;

NOTE: There were 6756 observations read from the data set WORK.ASCLNKS.
NOTE: SAS sort was used.
NOTE: The data set WORK.ASCLNKS has 6756 observations and 3 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 50.00 percent.
      Compressed is 6 pages; un-compressed would require 4 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds


78
79          proc print data=asclnks (obs=50);
80            format eventype eventype.;
81            title3 "sample print of work.asclnks - sorted by evntidx";
82          run;

NOTE: There were 50 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE PRINT printed page 4.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      cpu time            0.01 seconds


83
84          DATA ASCLNKS;
85            SET ASCLNKS (KEEP=EVNTIDX EVENTYPE);
86            BY EVNTIDX;
87            IF FIRST.EVNTIDX;
88          RUN;

NOTE: There were 6756 observations read from the data set WORK.ASCLNKS.
NOTE: The data set WORK.ASCLNKS has 6744 observations and 2 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 33.33 percent.
      Compressed is 4 pages; un-compressed would require 3 pages.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


89
90          proc print data=asclnks (obs=50);
91            format eventype eventype.;
92            title3 "sample print of unique evntidxs from work.asclnks";
93          run;

NOTE: There were 50 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE PRINT printed page 5.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      cpu time            0.01 seconds


94
95          *-----------------------------------------------------------------------------
```

```
96          * Get PMED records linked to asthma condition records.
97          *------------------------------------------------------------------------------;
98          PROC SORT DATA=IN.H&evntnum.A OUT=PMED; BY LINKIDX; RUN;
```

```
NOTE: There were 310487 observations read from the data set IN.H197A.
NOTE: SAS threaded sort was used.
NOTE: The data set WORK.PMED has 310487 observations and 13 variables.
NOTE: Compressing data set WORK.PMED decreased size by 20.07 percent.
      Compressed is 669 pages; un-compressed would require 837 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           1.59 seconds
      cpu time            0.32 seconds
```

```
99
100         DATA ASPMEDS;
101           MERGE PMED (KEEP=LINKIDX RXRECIDX RXNAME RXXP&yr.X  PERWT&yr.F)
102                 ASCLNKS (IN=INASCLNK KEEP=EVNTIDX RENAME=(EVNTIDX=LINKIDX));
103           BY LINKIDX;
104           IF INASCLNK & PERWT&yr.F>0;
105         RUN;
```

```
NOTE: There were 310487 observations read from the data set WORK.PMED.
NOTE: There were 6744 observations read from the data set WORK.ASCLNKS.
NOTE: The data set WORK.ASPMEDS has 10127 observations and 5 variables.
NOTE: Compressing data set WORK.ASPMEDS decreased size by 20.00 percent.
      Compressed is 12 pages; un-compressed would require 15 pages.
NOTE: DATA statement used (Total process time):
      real time           0.09 seconds
      cpu time            0.09 seconds
```

```
106
107         proc report data=aspmeds (obs=300) nowd headskip;
108         column LINKIDX RXRECIDX RXNAME RXXP&yr.X PERWT&yr.F;
109           define linkidx   / 'LINKIDX' order;
110           define rxrecidx  / 'RXRECIDX';
111           define rxname    / 'RXNAME';
112           define rxxp&yr.x  / 'RXXP17X' display format=8.2; /*update year*/
113           define perwt&yr.f / 'PERWT17F' /*display format=8.2*/; /*update year*/
114           break after linkidx / skip;
115           title3 "sample print of work.aspmeds";
116           title4 "PMED (HC-&evntnum.A) records which link to condition records coded as asthma";
117         run;
```

```
NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 300 observations read from the data set WORK.ASPMEDS.
NOTE: The PROCEDURE REPORT printed pages 6-14.
NOTE: PROCEDURE REPORT used (Total process time):
      real time           0.03 seconds
      cpu time            0.03 seconds
```

```
118
119         PROC MEANS DATA=ASPMEDS N SUM;
120           VAR RXXP&yr.X;
121           TITLE3 "Total Rx expenditures associated with asthma";
```

```
122        RUN;

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 10127 observations read from the data set WORK.ASPMEDS.
NOTE: The PROCEDURE MEANS printed page 15.
NOTE: PROCEDURE MEANS used (Total process time):
      real time            0.01 seconds
      cpu time             0.01 seconds


123
124        PROC MEANS DATA=ASPMEDS N SUM;
125          VAR RXXP&yr.X;
126          WEIGHT PERWT&yr.F;
127          TITLE3 "Total Rx expenditures associated with asthma";
128          TITLE5 "Weighted";
129        RUN;

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 10127 observations read from the data set WORK.ASPMEDS.
NOTE: The PROCEDURE MEANS printed page 16.
NOTE: PROCEDURE MEANS used (Total process time):
      real time            0.00 seconds
      cpu time             0.01 seconds


130
131        ods rtf close;
132

NOTE: SAS Institute Inc., SAS Campus Drive, Cary, NC USA 27513-2414
NOTE: The SAS System used:
      real time            4.27 seconds
      cpu time             1.28 seconds
```

HC-197I
Sample SAS Job for Example B
sample print of work.asconds - sorted by condidx
COND (H199) records where ICD10CDX=J45

Obs	CONDIDX	ICD10CDX
1	100061010021	J45
2	100191020051	J45
3	100291010041	J45
4	100341010121	J45
5	100531020021	J45
6	100791010061	J45
7	100911030031	J45
8	100921020051	J45
9	101071010011	J45
10	101141010031	J45
11	101351010041	J45
12	101491010011	J45
13	101531050021	J45
14	101701050031	J45
15	101841020021	J45
16	101851010121	J45
17	101851030011	J45
18	101922020012	J45
19	102171020081	J45
20	102221030011	J45
21	102251010011	J45
22	102261040011	J45
23	102331010021	J45
24	102431010061	J45
25	102551010031	J45
26	102551020011	J45
27	102581040011	J45
28	102961010051	J45
29	102961030011	J45
30	103101010011	J45
31	103121030021	J45
32	103161010241	J45
33	103181020011	J45
34	103361010041	J45
35	103631010071	J45
36	103911010021	J45
37	103981020041	J45
38	104021010021	J45
39	104131010011	J45
40	104161010041	J45
41	104161050011	J45
42	104511020181	J45
43	104571010101	J45
44	104611030012	J45
45	104751020011	J45
46	104751030011	J45
47	105011010161	J45
48	105051010051	J45
49	105051020021	J45
50	105252010022	J45

```
                    HC-197I
              Sample SAS Job for Example B
    sample print of work.asclnks - sorted by condidx
         events linked to asthma condition records
```

CONDIDX	EVNTIDX	EVENTYPE
100191020051	100191020351	1 MVIS
100191020051	100191020361	1 MVIS
100191020051	100191020471	8 PMED
100191020051	100191020591	1 MVIS
100191020051	100191020691	8 PMED
100191020051	100191020741	8 PMED
100191020051	100191029135	8 PMED
100191020051	100191029195	8 PMED
100191020051	100191029205	8 PMED
100191020051	100191029215	8 PMED
100291010041	100291011111	8 PMED
100341010121	100341010321	8 PMED
100341010121	100341010431	8 PMED
100341010121	100341019055	8 PMED
100531020021	100531020541	1 MVIS
100791010061	100791011981	1 MVIS
100791010061	100791019245	8 PMED
100791010061	100791019325	8 PMED
100921020051	100921029015	8 PMED
101071010011	101071010051	1 MVIS
101351010041	101351010621	1 MVIS
101351010041	101351010881	8 PMED
101351010041	101351010891	8 PMED
101351010041	101351011011	1 MVIS
101351010041	101351019075	8 PMED
101351010041	101351019085	8 PMED
101491010011	101491010221	1 MVIS
101491010011	101491010241	8 PMED
101491010011	101491010251	8 PMED
101491010011	101491010271	1 MVIS
101491010011	101491010301	8 PMED
101491010011	101491010311	8 PMED
101491010011	101491010321	8 PMED
101491010011	101491010331	1 MVIS
101491010011	101491019025	8 PMED
101491010011	101491019045	8 PMED
101491010011	101491019085	8 PMED
101491010011	101491019095	8 PMED
101531050021	101531050481	2 OPAT
101701050031	101701050061	1 MVIS
101701050031	101701050071	3 EROM
101701050031	101701050081	3 EROM
101701050031	101701059035	8 PMED
101701050031	101701059045	8 PMED
101841020021	101841029055	8 PMED
101841020021	101841029065	8 PMED
101841020021	101841029075	8 PMED
101841020021	101841029085	8 PMED
101851010121	101851010951	8 PMED
101851010121	101851019145	8 PMED
101922020012	101922029085	8 PMED
102221030011	102221030321	8 PMED
102221030011	102221030481	1 MVIS
102221030011	102221030491	1 MVIS
102221030011	102221039055	8 PMED
102221030011	102221039095	8 PMED
102261040011	102261040071	8 PMED
102331010021	102331010111	8 PMED
102331010021	102331010291	8 PMED
102331010021	102331010301	8 PMED
102331010021	102331010311	8 PMED
102331010021	102331010341	3 EROM
102331010021	102331010351	4 STAZ
102331010021	102331010361	1 MVIS
102331010021	102331019035	8 PMED
102331010021	102331019065	8 PMED
102331010021	102331019085	8 PMED
102331010021	102331019095	8 PMED
102431010061	102431010281	8 PMED
102431010061	102431010301	1 MVIS

CONDIDX	EVNTIDX	EVENTYPE
102431010061	102431010311	3 EROM
102431010061	102431010341	8 PMED
102431010061	102431010351	8 PMED
102431010061	102431010371	8 PMED
102431010061	102431010391	1 MVIS

```
                         HC-197I
                Sample SAS Job for Example B
        sample print of work.asclnks - sorted by evntidx
```

Obs	CONDIDX	EVNTIDX	EVENTYPE
1	100191020051	100191020351	1 MVIS
2	100191020051	100191020361	1 MVIS
3	100191020051	100191020471	8 PMED
4	100191020051	100191020591	1 MVIS
5	100191020051	100191020691	8 PMED
6	100191020051	100191020741	8 PMED
7	100191020051	100191029135	8 PMED
8	100191020051	100191029195	8 PMED
9	100191020051	100191029205	8 PMED
10	100191020051	100191029215	8 PMED
11	100291010041	100291011111	8 PMED
12	100341010121	100341010321	8 PMED
13	100341010121	100341010431	8 PMED
14	100341010121	100341019055	8 PMED
15	100531020021	100531020541	1 MVIS
16	100791010061	100791011981	1 MVIS
17	100791010061	100791019245	8 PMED
18	100791010061	100791019325	8 PMED
19	100921020051	100921029015	8 PMED
20	101071010011	101071010051	1 MVIS
21	101351010041	101351010621	1 MVIS
22	101351010041	101351010881	8 PMED
23	101351010041	101351010891	8 PMED
24	101351010041	101351011011	1 MVIS
25	101351010041	101351019075	8 PMED
26	101351010041	101351019085	8 PMED
27	101491010011	101491010221	1 MVIS
28	101491010011	101491010241	8 PMED
29	101491010011	101491010251	8 PMED
30	101491010011	101491010271	1 MVIS
31	101491010011	101491010301	8 PMED
32	101491010011	101491010311	8 PMED
33	101491010011	101491010321	8 PMED
34	101491010011	101491010331	1 MVIS
35	101491010011	101491019025	8 PMED
36	101491010011	101491019045	8 PMED
37	101491010011	101491019085	8 PMED
38	101491010011	101491019095	8 PMED
39	101531050021	101531050481	2 OPAT
40	101701050031	101701050061	1 MVIS
41	101701050031	101701050071	3 EROM
42	101701050031	101701050081	3 EROM
43	101701050031	101701059035	8 PMED
44	101701050031	101701059045	8 PMED
45	101841020021	101841029055	8 PMED
46	101841020021	101841029065	8 PMED
47	101841020021	101841029075	8 PMED
48	101841020021	101841029085	8 PMED
49	101851010121	101851010951	8 PMED
50	101851010121	101851019145	8 PMED

Obs	EVNTIDX	EVENTYPE
1	100191020351	1 MVIS
2	100191020361	1 MVIS
3	100191020471	8 PMED
4	100191020591	1 MVIS
5	100191020691	8 PMED
6	100191020741	8 PMED
7	100191029135	8 PMED
8	100191029195	8 PMED
9	100191029205	8 PMED
10	100191029215	8 PMED
11	100291011111	8 PMED
12	100341010321	8 PMED
13	100341010431	8 PMED
14	100341019055	8 PMED
15	100531020541	1 MVIS
16	100791011981	1 MVIS
17	100791019245	8 PMED
18	100791019325	8 PMED
19	100921029015	8 PMED
20	101071010051	1 MVIS
21	101351010621	1 MVIS
22	101351010881	8 PMED
23	101351010891	8 PMED
24	101351011011	1 MVIS
25	101351019075	8 PMED
26	101351019085	8 PMED
27	101491010221	1 MVIS
28	101491010241	8 PMED
29	101491010251	8 PMED
30	101491010271	1 MVIS
31	101491010301	8 PMED
32	101491010311	8 PMED
33	101491010321	8 PMED
34	101491010331	1 MVIS
35	101491019025	8 PMED
36	101491019045	8 PMED
37	101491019085	8 PMED
38	101491019095	8 PMED
39	101531050481	2 OPAT
40	101701050061	1 MVIS
41	101701050071	3 EROM
42	101701050081	3 EROM
43	101701059035	8 PMED
44	101701059045	8 PMED
45	101841029055	8 PMED
46	101841029065	8 PMED
47	101841029075	8 PMED
48	101841029085	8 PMED
49	101851010951	8 PMED
50	101851019145	8 PMED

HC-197I
Sample SAS Job for Example B
sample print of work.aspmeds
PMED (HC-197A) records which link to condition records coded as asthma

LINKIDX	RXRECIDX	RXNAME	RXXP17X	PERWT17F
100191020471	100191020471001	ADVAIR HFA	67.62	12610.291787
100191020691	100191020691001	PROAIR HFA	22.97	12610.291787
100191020691	100191020691002	PROAIR HFA	22.97	12610.291787
100191020741	100191020741001	ADVAIR HFA	67.62	12610.291787
100191020741	100191020741002	ADVAIR HFA	67.62	12610.291787
100191029135	100191029135001	ADVAIR HFA	67.62	12610.291787
100191029195	100191029195001	SPIRIVA	224.92	12610.291787
100191029205	100191029205001	PANTOPRAZOLE	317.37	12610.291787
100191029215	100191029215001	DIPHEN/ATROP	162.89	12610.291787
100291011111	100291011111001	PROAIR HFA	57.65	9813.275514
100341010321	100341010321001	BENZONATATE	7.31	1637.842933
100341010321	100341010321002	BENZONATATE	7.31	1637.842933
100341010321	100341010321003	BENZONATATE	7.31	1637.842933
100341010321	100341010321004	BENZONATATE	7.31	1637.842933
100341010321	100341010321005	BENZONATATE	7.31	1637.842933
100341010321	100341010321006	BENZONATATE	7.31	1637.842933
100341010321	100341010321007	BENZONATATE	7.31	1637.842933
100341010321	100341010321008	BENZONATATE	7.31	1637.842933
100341010431	100341010431001	BENZONATATE	7.31	1637.842933
100341010431	100341010431002	BENZONATATE	7.31	1637.842933
100341010431	100341010431003	BENZONATATE	7.31	1637.842933
100341019055	100341019055001	BENZONATATE	7.31	1637.842933
100341019055	100341019055002	BENZONATATE	7.31	1637.842933
100341019055	100341019055003	BENZONATATE	7.31	1637.842933
100341019055	100341019055004	BENZONATATE	7.31	1637.842933
100341019055	100341019055005	BENZONATATE	7.31	1637.842933
100791019245	100791019245001	ADVAIR HFA	897.68	13604.919828
100791019245	100791019245002	ADVAIR HFA	359.07	13604.919828
100791019325	100791019325001	VENTOLIN HFA	47.00	13604.919828
100791019325	100791019325002	VENTOLIN HFA	47.00	13604.919828
100791019325	100791019325003	VENTOLIN HFA	47.00	13604.919828
100791019325	100791019325004	VENTOLIN HFA	47.00	13604.919828
100791019325	100791019325005	VENTOLIN HFA	47.00	13604.919828
100921029015	100921029015001	METOPROL SUC	10.00	2938.414024
100921029015	100921029015002	METOPROL SUC	10.00	2938.414024
100921029015	100921029015003	METOPROL SUC	10.00	2938.414024
100921029015	100921029015004	METOPROL SUC	10.00	2938.414024
101351010881	101351010881001	ADVAIR DISKU	1035.18	41447.856666
101351010881	101351010881002	ADVAIR DISKU	1035.18	41447.856666
101351010891	101351010891001	SPIRIVA	1054.64	41447.856666
101351019075	101351019075001	ADVAIR DISKU	1035.18	41447.856666
101351019085	101351019085001	SPIRIVA	1054.64	41447.856666
101491010241	101491010241001	SINGULAIR	235.81	5783.763085
101491010241	101491010241002	SINGULAIR	235.81	5783.763085
101491010251	101491010251001	BREO ELLIPTA	326.07	5783.763085
101491010251	101491010251002	BREO ELLIPTA	326.07	5783.763085
101491010301	101491010301001	THEOPHYLLINE	20.00	5783.763085
101491010311	101491010311001	SINGULAIR	235.81	5783.763085
101491010321	101491010321001	BREO ELLIPTA	326.07	5783.763085
101491019025	101491019025001	ADVAIR HFA	460.69	5783.763085
101491019045	101491019045001	THEOPHYLLINE	20.00	5783.763085
101491019085	101491019085001	SINGULAIR	235.81	5783.763085
101491019095	101491019095001	BREO ELLIPTA	317.87	5783.763085
101701059035	101701059035001	ALBUTEROL	30.28	10076.456586
101701059035	101701059035002	ALBUTEROL	30.28	10076.456586
101701059045	101701059045001	PREDNISOLONE	4.03	10076.456586
101701059045	101701059045002	PREDNISOLONE	2.42	10076.456586
101841029055	101841029055001	RANITIDINE	23.66	2080.266527
101841029065	101841029065001	PREDNISONE	5.97	2080.266527
101841029075	101841029075001	MONTELUKAST	2.92	2080.266527
101841029085	101841029085001	SYMBICORT	266.98	2080.266527
101841029085	101841029085002	SYMBICORT	266.98	2080.266527
101841029085	101841029085003	SYMBICORT	266.98	2080.266527
101851010951	101851010951001	ALBUTEROL	12.07	7701.688713
101851010951	101851010951002	ALBUTEROL	6.04	7701.688713
101851019145	101851019145001	ALBUTEROL	3.08	7701.688713
101851019145	101851019145002	ALBUTEROL	3.08	7701.688713
101851019145	101851019145003	ALBUTEROL	3.08	7701.688713
101922029085	101922029085001	ALBUTEROL	115.49	6006.108476
101922029085	101922029085002	ALBUTEROL	115.49	6006.108476

LINKIDX	RXRECIDX	RXNAME	RXXP17X	PERWT17F
101922029085	101922029085003	ALBUTEROL	115.49	6006.108476
101922029085	101922029085004	ALBUTEROL	33.70	6006.108476
101922029085	101922029085005	ALBUTEROL	33.70	6006.108476
102221030321	102221030321001	QVAR	197.36	1294.754805
102221030321	102221030321002	QVAR	197.36	1294.754805
102221030321	102221030321003	QVAR	197.36	1294.754805
102221039055	102221039055001	QVAR	197.36	1294.754805
102221039055	102221039055002	QVAR	197.36	1294.754805
102221039095	102221039095001	ALBUTEROL	115.49	1294.754805
102221039095	102221039095002	ALBUTEROL	115.49	1294.754805
102221039095	102221039095003	ALBUTEROL	33.70	1294.754805
102261040071	102261040071001	PROVENTIL	131.10	9589.080589
102331010111	102331010111001	PROAIR HFA	57.82	12832.244835
102331010291	102331010291001	PROAIR HFA	57.82	12832.244835
102331010291	102331010291002	PROAIR HFA	57.82	12832.244835
102331010291	102331010291003	PROAIR HFA	57.82	12832.244835
102331010291	102331010291004	PROAIR HFA	57.82	12832.244835
102331010291	102331010291005	PROAIR HFA	57.82	12832.244835
102331010291	102331010291006	PROAIR HFA	57.82	12832.244835
102331010291	102331010291007	PROAIR HFA	57.82	12832.244835
102331010301	102331010301001	ADVAIR DISKU	459.84	12832.244835
102331010301	102331010301002	ADVAIR DISKU	459.84	12832.244835
102331010301	102331010301003	ADVAIR DISKU	459.84	12832.244835
102331010311	102331010311001	SYMBICORT	281.55	12832.244835
102331010311	102331010311002	SYMBICORT	281.55	12832.244835
102331010311	102331010311003	SYMBICORT	281.55	12832.244835
102331010311	102331010311004	SYMBICORT	281.55	12832.244835
102331010311	102331010311005	SYMBICORT	281.55	12832.244835
102331010311	102331010311006	SYMBICORT	281.55	12832.244835
102331010311	102331010311007	SYMBICORT	281.55	12832.244835
102331019035	102331019035001	PROAIR HFA	57.82	12832.244835
102331019035	102331019035002	PROAIR HFA	57.82	12832.244835
102331019035	102331019035003	PROAIR HFA	57.82	12832.244835
102331019035	102331019035004	PROAIR HFA	57.82	12832.244835
102331019035	102331019035005	PROAIR HFA	57.82	12832.244835
102331019035	102331019035006	PROAIR HFA	159.98	12832.244835
102331019065	102331019065001	SYMBICORT	281.55	12832.244835
102331019065	102331019065002	SYMBICORT	281.55	12832.244835
102331019065	102331019065003	SYMBICORT	281.55	12832.244835
102331019065	102331019065004	SYMBICORT	281.55	12832.244835
102331019065	102331019065005	SYMBICORT	281.55	12832.244835
102331019065	102331019065006	SYMBICORT	281.55	12832.244835
102331019085	102331019085001	ADVAIR DISKU	459.84	12832.244835
102331019095	102331019095001	PREDNISONE	10.00	12832.244835
102431010281	102431010281001	MONTELUKAST	5.76	6949.202328
102431010341	102431010341001	BENZONATATE	14.35	6949.202328
102431010351	102431010351001	VENTOLIN HFA	40.60	6949.202328
102431010371	102431010371001	MONTELUKAST	5.76	6949.202328
102431019125	102431019125001	DULERA	283.97	6949.202328
102551019095	102551019095001	APRI	35.49	7216.640275
102551019095	102551019095002	APRI	35.49	7216.640275
102551020071	102551020071001	PROAIR HFA	59.28	7079.585835
102551020071	102551020071002	PROAIR HFA	43.78	7079.585835
102551029045	102551029045001	PROAIR HFA	43.78	7079.585835
102551029045	102551029045002	PROAIR HFA	43.78	7079.585835
102581049015	102581049015001	ALBUTEROL	7.09	4349.668044
102581049015	102581049015002	ALBUTEROL	32.33	4349.668044
102961010041	102961010041001	ALBUTEROL	5.00	7724.869002
102961010041	102961010041002	ALBUTEROL	5.00	7724.869002
102961010041	102961010041003	ALBUTEROL	5.00	7724.869002
103121030081	103121030081001	PROVENTIL	148.40	3449.416528
103121030091	103121030091001	ADVAIR DISKU	363.12	3449.416528
103161011811	103161011811001	SYMBICORT	31.24	9564.297047
103161011811	103161011811002	SYMBICORT	30.88	9564.297047
103161011821	103161011821001	INCRUSE ELPT	322.11	9564.297047
103161011821	103161011821002	INCRUSE ELPT	322.11	9564.297047
103161019245	103161019245001	SYMBICORT	31.24	9564.297047
103161019245	103161019245002	SYMBICORT	31.24	9564.297047
103361010151	103361010151001	VENTOLIN HFA	73.99	34392.768121
103631010241	103631010241001	PROAIR HFA	56.21	14305.434137
103631019015	103631019015001	PROAIR HFA	56.21	14305.434137
103631019015	103631019015002	PROAIR HFA	56.21	14305.434137
103631019015	103631019015003	PROAIR HFA	56.21	14305.434137
103631019015	103631019015004	PROAIR HFA	56.21	14305.434137
103631019015	103631019015005	PROAIR HFA	56.21	14305.434137

LINKIDX	RXRECIDX	RXNAME	RXXP17X	PERWT17F
103911019095	103911019095001	PROAIR HFA	41.34	5068.646851
103911019095	103911019095002	PROAIR HFA	41.34	5068.646851
103911019105	103911019105001	MONTELUKAST	2.08	5068.646851
103981029105	103981029105001	FLOVENT DISK	277.18	4361.880498
104021010531	104021010531001	DULERA	583.40	9129.094696
104021010571	104021010571001	VENTOLIN HFA	40.60	9129.094696
104021010581	104021010581001	DULERA	583.40	9129.094696
104021019065	104021019065001	DULERA	583.40	9129.094696
104131019025	104131019025001	VENTOLIN HFA	79.99	6445.718632
104131019025	104131019025002	VENTOLIN HFA	79.99	6445.718632
104161010101	104161010101001	ALBUTEROL	4.55	3454.601780
104161010101	104161010101002	ALBUTEROL	4.55	3454.601780
104161050031	104161050031001	ALBUTEROL	5.00	2582.597458
104511021491	104511021491001	PROAIR HFA	56.01	18621.429058
104511021891	104511021891001	PROAIR HFA	56.01	18621.429058
104511029135	104511029135001	PROAIR HFA	56.03	18621.429058
104511029135	104511029135002	PROAIR HFA	56.03	18621.429058
104511029255	104511029255001	PROAIR HFA	56.03	18621.429058
104511029255	104511029255002	PROAIR HFA	56.03	18621.429058
104571019105	104571019105001	ALBUTEROL	3.93	7269.221224
104571019105	104571019105002	ALBUTEROL	3.93	7269.221224
104571019105	104571019105003	ALBUTEROL	3.93	7269.221224
104571019115	104571019115001	ALBUTEROL	3.93	7269.221224
104571019115	104571019115002	ALBUTEROL	3.93	7269.221224
104571019115	104571019115003	ALBUTEROL	3.93	7269.221224
104751030071	104751030071001	NASONEX	235.81	4832.728831
105011019125	105011019125001	ADVAIR DISKU	383.99	5245.687601
105011019185	105011019185001	MONTELUKAST	169.99	5245.687601
105011019185	105011019185002	MONTELUKAST	169.99	5245.687601
105571010681	105571010681001	BREO ELLIPTA	289.82	14841.220767
105571010761	105571010761001	MONTELUKAST	30.48	14841.220767
105571010851	105571010851001	FLOVENT HFA	351.80	14841.220767
105571019105	105571019105001	MONTELUKAST	30.48	14841.220767
105571019205	105571019205001	FLOVENT HFA	351.80	14841.220767
105581030062	105581030062001	PROAIR HFA	58.39	3365.379315
105581030072	105581030072001	ADVAIR DISKU	459.84	3365.379315
105581030132	105581030132001	ALBUTEROL	7.09	3365.379315
105581030132	105581030132002	ALBUTEROL	7.09	3365.379315
105581030142	105581030142001	ADVAIR DISKU	467.68	3365.379315
105581030142	105581030142002	ADVAIR DISKU	467.68	3365.379315
105581039015	105581039015001	VENTOLIN HFA	54.98	3365.379315
105581039015	105581039015002	VENTOLIN HFA	54.98	3365.379315
105581039015	105581039015003	VENTOLIN HFA	54.98	3365.379315
105581039035	105581039035001	INCRUSE ELPT	427.99	3365.379315
105581039035	105581039035002	INCRUSE ELPT	427.99	3365.379315
105581039035	105581039035003	INCRUSE ELPT	427.99	3365.379315
105581039045	105581039045001	SYMBICORT	280.05	3365.379315
105581039045	105581039045002	SYMBICORT	280.05	3365.379315
105581039045	105581039045003	SYMBICORT	280.05	3365.379315
105681019125	105681019125001	ISOSORB MONO	22.60	6034.583354
105711040101	105711040101001	FLUOXETINE	293.97	45787.076167
105711040111	105711040111001	PREDNISONE	2.74	45787.076167
105711040121	105711040121001	AZITHROMYCIN	36.99	45787.076167
105711049055	105711049055001	PROVENTIL	85.72	45787.076167
105711049065	105711049065001	MONONESSA	89.89	45787.076167
105841020051	105841020051001	ADVAIR DISKU	279.46	4175.361324
105841020071	105841020071001	ADVAIR DISKU	279.46	4175.361324
105841020081	105841020081001	ADVAIR DISKU	279.46	4175.361324
105841020091	105841020091001	VENTOLIN HFA	53.67	4175.361324
105941010051	105941010051001	ALBUTEROL	57.75	5629.258323
105941010051	105941010051002	ALBUTEROL	57.75	5629.258323
106041040151	106041040151001	BUDESONIDE	144.89	5306.708811
106181010381	106181010381001	FLOVENT HFA	262.52	13478.898506
106181010501	106181010501001	FLOVENT HFA	262.52	13478.898506
106181019125	106181019125001	FLOVENT HFA	262.52	13478.898506
106181019125	106181019125002	FLOVENT HFA	262.52	13478.898506
106311040121	106311040121001	VENTOLIN HFA	79.99	8377.716242
106491029075	106491029075001	VENTOLIN HFA	53.02	5072.378670
106491029085	106491029085001	MECLIZINE	11.89	5072.378670
106511020141	106511020141001	SPIRIVA	331.63	14263.107717
106511020181	106511020181001	SYMBICORT	223.29	14263.107717
106511029035	106511029035001	SPIRIVA	331.63	14263.107717
106511029035	106511029035002	SPIRIVA	331.63	14263.107717
106511029035	106511029035003	SPIRIVA	331.63	14263.107717
106511029035	106511029035004	SPIRIVA	331.63	14263.107717

LINKIDX	RXRECIDX	RXNAME	RXXP17X	PERWT17F
106831010111	106831010111001	PROAIR HFA	59.28	8930.314854
106861010441	106861010441001	Albuterol	3.42	12975.939327
106861010441	106861010441002	Albuterol	3.42	12975.939327
106861010441	106861010441003	Albuterol	3.42	12975.939327
106861010441	106861010441004	Allbuterol	3.42	12975.939327
106861010451	106861010451001	Breo Ellipta	267.74	12975.939327
106861010451	106861010451002	Breo Ellipta	267.74	12975.939327
106861010451	106861010451003	Breo Ellipta	267.74	12975.939327
106861010461	106861010461001	Incruse Ellipta	320.14	12975.939327
106861010461	106861010461002	Incruse Ellipta	320.14	12975.939327
106861010461	106861010461003	Incruse Ellipta	320.14	12975.939327
106861010571	106861010571001	Breo Ellipta	318.87	12975.939327
106861010571	106861010571002	Breo Ellipta	318.87	12975.939327
106861010571	106861010571003	Breo Ellipta	318.87	12975.939327
106861010571	106861010571004	Breo Ellipta	318.87	12975.939327
106861010571	106861010571005	Breo Ellipta 100	318.87	12975.939327
106861010571	106861010571006	Breo Ellipta	318.87	12975.939327
106861019015	106861019015001	Albuterol	76.03	12975.939327
106861019015	106861019015002	Albuterol	76.03	12975.939327
106861019015	106861019015003	Albuterol	76.03	12975.939327
107011029075	107011029075001	PROAIR HFA	59.35	2002.520954
107011029075	107011029075002	PROAIR HFA	59.35	2002.520954
107011029075	107011029075003	PROAIR HFA	59.35	2002.520954
107011029075	107011029075004	PROAIR HFA	59.35	2002.520954
107011029075	107011029075005	PROAIR HFA	59.35	2002.520954
107011029085	107011029085001	FLUTICASONE	3.71	2002.520954
107011029085	107011029085002	FLUTICASONE	3.71	2002.520954
107011029085	107011029085003	FLUTICASONE	3.71	2002.520954
107011029085	107011029085004	FLUTICASONE	3.71	2002.520954
107011029085	107011029085005	FLUTICASONE	3.71	2002.520954
107011029095	107011029095001	FLOVENT HFA	299.99	2002.520954
107011029095	107011029095002	FLOVENT HFA	299.99	2002.520954
107011029095	107011029095003	FLOVENT HFA	299.99	2002.520954
107011029095	107011029095004	FLOVENT HFA	299.99	2002.520954
107011029095	107011029095005	FLOVENT HFA	299.99	2002.520954
107011039045	107011039045001	PROAIR HFA	10.10	1507.078514
107431019165	107431019165001	XOPENEX HFA	70.02	2780.991981
107431019165	107431019165002	XOPENEX HFA	70.02	2780.991981
107431019165	107431019165003	XOPENEX HFA	70.02	2780.991981
107431019165	107431019165004	XOPENEX HFA	70.02	2780.991981
107431019165	107431019165005	XOPENEX HFA	70.02	2780.991981
107431019165	107431019165006	XOPENEX HFA	70.02	2780.991981
107491020041	107491020041001	SYMBICORT	25.00	4099.072685
107491020041	107491020041002	SYMBICORT	25.00	4099.072685
107491020041	107491020041003	SYMBICORT	25.00	4099.072685
107491020041	107491020041004	SYMBICORT	25.00	4099.072685
107491020051	107491020051001	MONTELUKAST	434.99	4099.072685
107491020061	107491020061001	SYMBICORT	323.35	4099.072685
107491020061	107491020061002	SYMBICORT	25.00	4099.072685
107491020061	107491020061003	SYMBICORT	25.00	4099.072685
107491020071	107491020071001	Montelukast	19.35	4099.072685
107491020071	107491020071002	Montelukast	19.35	4099.072685
107491020071	107491020071003	Montelukast	19.35	4099.072685
107491029015	107491029015001	SYMBICORT	25.00	4099.072685
107491029015	107491029015002	SYMBICORT	25.00	4099.072685
107491029015	107491029015003	SYMBICORT	25.00	4099.072685
107491029015	107491029015004	SYMBICORT	25.00	4099.072685
107491029015	107491029015005	SYMBICORT	25.00	4099.072685
107491029025	107491029025001	MONTELUKAST	10.29	4099.072685
107491029025	107491029025002	MONTELUKAST	10.29	4099.072685
107491029025	107491029025003	MONTELUKAST	10.29	4099.072685
107491029025	107491029025004	MONTELUKAST	10.29	4099.072685
107491029025	107491029025005	MONTELUKAST	10.29	4099.072685
107501030081	107501030081001	CARETOUCH	10.48	3099.730268
107501039025	107501039025001	LORATADINE	2.08	3099.730268
107501039045	107501039045001	CARETOUCH	10.48	3099.730268
107521021041	107521021041001	VENTOLIN HFA	79.99	9717.260179
107521029035	107521029035001	MONTELUKAST	21.44	9717.260179
107591019175	107591019175001	VIOS	69.98	7769.028462
107591019185	107591019185001	Bd Pen Needle Nano U/F 32g X 4 Mm	36.48	7769.028462
107861019035	107861019035001	MONTELUKAST	9.00	9570.914515
107861030351	107861030351001	PROAIR HFA	69.88	6798.587260
107861039065	107861039065001	PROAIR HFA	69.88	6798.587260
107861039065	107861039065002	PROAIR HFA	69.88	6798.587260
107861039065	107861039065003	PROAIR HFA	69.88	6798.587260

LINKIDX	RXRECIDX	RXNAME	RXXP17X	PERWT17F
107861039065	107861039065004	PROAIR HFA	69.88	6798.587260
107932020392	107932020392001	MONTELUKAST	30.48	11959.218173
108381010491	108381010491001	VENTOLIN HFA	52.02	2211.592444
108381010491	108381010491002	VENTOLIN HFA	52.02	2211.592444
108381010511	108381010511001	AMLODIPINE	6.20	2211.592444

```
                              HC-197I
                     Sample SAS Job for Example B
               Total Rx expenditures associated with asthma

       Analysis Variable : RXXP17X SUM OF PAYMENTS RXSF17X-RXOU17X(IMPUTED)


                       ┌─────────────┬──────────────────┐
                       │           N │              Sum │
                       ├─────────────┼──────────────────┤
                       │       10127 │       1603861.18 │
                       └─────────────┴──────────────────┘
```

```
                              HC-197I
                    Sample SAS Job for Example B
                Total Rx expenditures associated with asthma

                              Weighted

    Analysis Variable : RXXP17X SUM OF PAYMENTS RXSF17X-RXOU17X(IMPUTED)

                    ┌───────────────┬───────────────────┐
                    │             N │               Sum │
                    ├───────────────┼───────────────────┤
                    │         10127 │       16104142377 │
                    └───────────────┴───────────────────┘
```

```
NOTE: Copyright (c) 2016 by SAS Institute Inc., Cary, NC, USA.
NOTE: SAS (r) Proprietary Software 9.4 (TS1M6)

NOTE: This session is executing on the X64_10PRO  platform.



NOTE: SAS initialization used:
      real time           0.55 seconds
      cpu time            0.31 seconds


NOTE: AUTOEXEC processing beginning; file is C:\Program Files\SAS\SASMISC\autoexec_9464.sas.


NOTE: AUTOEXEC processing completed.

1
2
3
4
5
6
7
8          ods rtf file = 'sampleC.rtf' BODYTITLE;
NOTE: Writing RTF Body file: sampleC.rtf
9
10         ods noproctitle;
11
12         OPTIONS LS=132 PS=59;
13
14         %let yr=17;
15         %let evntnum=197;   /* BE SURE TO UPDTE FOR CURRENT FY */
16         %let condnum=199;   /* BE SURE TO UPDTE FOR CURRENT FY */
17
18         TITLE1 "HC-&evntnum.I";
19         TITLE2 "Sample SAS Job for Example C";
20
21         LIBNAME IN "C:\Data";
NOTE: Libref IN was successfully assigned as follows:
      Engine:        V9
      Physical Name: C:\Data
22
23         *********************************************************************************
24         *  Calculate the expenditures for medical visits associated with asthma.
25         *********************************************************************************;
26         PROC FORMAT;
27           VALUE EVENTYPE
28              1 = "1 MVIS"
```

```
29              2 = "2 OPAT"
30              3 = "3 EROM"
31              4 = "4 STAZ"
32              5 = "5 DVIS"
33              6 = "6 OMED"
34              7 = "7 HVIS"
35              8 = "8 PMED";
NOTE: Format EVENTYPE has been output.
36         RUN;

NOTE: PROCEDURE FORMAT used (Total process time):
      real time            0.01 seconds
      cpu time             0.01 seconds


37
38         *--------------------------------------------------------------------------------
39         * Get conditions records coded as asthma.
40         *-------------------------------------------------------------------------------;
41         DATA ASCONDS;
42           SET IN.H&condnum (KEEP=CONDIDX ICD10CDX);
43           IF ICD10CDX="J45";
44         RUN;

NOTE: There were 112630 observations read from the data set IN.H199.
NOTE: The data set WORK.ASCONDS has 2100 observations and 2 variables.
NOTE: Compressing data set WORK.ASCONDS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: DATA statement used (Total process time):
      real time            0.02 seconds
      cpu time             0.03 seconds


45
46         *--------------------------------------------------------------------------------
47         * Get the events linked to each of the asthma condition records.
48         *-------------------------------------------------------------------------------;
49         PROC SORT DATA=ASCONDS; BY CONDIDX; RUN;

NOTE: There were 2100 observations read from the data set WORK.ASCONDS.
NOTE: SAS sort was used.
NOTE: The data set WORK.ASCONDS has 2100 observations and 2 variables.
NOTE: Compressing data set WORK.ASCONDS increased size by 100.00 percent.
      Compressed is 2 pages; un-compressed would require 1 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time            0.00 seconds
      cpu time             0.01 seconds


50
51         proc print data=asconds (obs=50);
52           title3 "sample print of work.asconds - sorted by condidx";
53           title4 "COND (H&condnum) records where ICD10CDX=J45";
54         run;

NOTE: There were 50 observations read from the data set WORK.ASCONDS.
NOTE: The PROCEDURE PRINT printed page 1.
```

```
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.04 seconds
      cpu time            0.04 seconds


55
56          PROC SORT DATA=IN.H&evntnum.IF1 OUT=CLNK; BY CONDIDX; RUN;

NOTE: There were 375173 observations read from the data set IN.H197IF1.
NOTE: SAS threaded sort was used.
NOTE: The data set WORK.CLNK has 375173 observations and 6 variables.
NOTE: Compressing data set WORK.CLNK increased size by 5.31 percent.
      Compressed is 436 pages; un-compressed would require 414 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.20 seconds
      cpu time            0.34 seconds


57
58          DATA ASCLNKS;
59            MERGE CLNK   (IN=INCLNK   KEEP=CONDIDX EVNTIDX EVENTYPE)
60                  ASCONDS(IN=INASCOND KEEP=CONDIDX);
61            BY CONDIDX;
62            IF INCLNK & INASCOND;
63          RUN;

NOTE: There were 375173 observations read from the data set WORK.CLNK.
NOTE: There were 2100 observations read from the data set WORK.ASCONDS.
NOTE: The data set WORK.ASCLNKS has 6756 observations and 3 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 50.00 percent.
      Compressed is 6 pages; un-compressed would require 4 pages.
NOTE: DATA statement used (Total process time):
      real time           0.09 seconds
      cpu time            0.09 seconds


64
65          proc report data=asclnks (obs=75)nowd headskip;
66            define condidx / 'CONDIDX' order;
67            define evntidx / 'EVNTIDX';
68            define eventype / 'EVENTYPE';
69            break after condidx / skip;
70            format eventype eventype.;
71            title3 "sample print of work.asclnks - sorted by condidx";
72            title4 "events linked to asthma condition records";
73          run;

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 75 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE REPORT printed pages 2-3.
NOTE: PROCEDURE REPORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


74
75          PROC SORT DATA=ASCLNKS; BY EVNTIDX; RUN;
```

```
NOTE: There were 6756 observations read from the data set WORK.ASCLNKS.
NOTE: SAS sort was used.
NOTE: The data set WORK.ASCLNKS has 6756 observations and 3 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 50.00 percent.
      Compressed is 6 pages; un-compressed would require 4 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.00 seconds
      cpu time            0.01 seconds


76
77          proc print data=asclnks (obs=50);
78            format eventype eventype.;
79            title3 "sample print of work.asclnks - sorted by evntidx";
80          run;

NOTE: There were 50 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE PRINT printed page 4.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


81
82          DATA ASCLNKS;
83            SET ASCLNKS (KEEP=EVNTIDX EVENTYPE);
84            BY EVNTIDX;
85            IF FIRST.EVNTIDX;
86          RUN;

NOTE: There were 6756 observations read from the data set WORK.ASCLNKS.
NOTE: The data set WORK.ASCLNKS has 6744 observations and 2 variables.
NOTE: Compressing data set WORK.ASCLNKS increased size by 33.33 percent.
      Compressed is 4 pages; un-compressed would require 3 pages.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.01 seconds


87
88          proc print data=asclnks (obs=50);
89            format eventype eventype.;
90            title3 "sample print of unique evntidxs from work.asclnks";
91          run;

NOTE: There were 50 observations read from the data set WORK.ASCLNKS.
NOTE: The PROCEDURE PRINT printed page 5.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


92
93          *-----------------------------------------------------------------------------------------
94          * Get non-telephone office based visits (i.e. MVIS events) for persons with positive weights.
95          *----------------------------------------------------------------------------------------;
```

A1-47   MEPS HC-197I

```
96          DATA MVIS;
97            SET IN.H&evntnum.G (KEEP=EVNTIDX PERWT&yr.F SEETLKPV OBXP&yr.X);
98            IF PERWT&yr.F > 0 & SEETLKPV NE 2;
99          RUN;

NOTE: There were 170491 observations read from the data set IN.H197G.
NOTE: The data set WORK.MVIS has 166896 observations and 4 variables.
NOTE: Compressing data set WORK.MVIS increased size by 6.80 percent.
      Compressed is 110 pages; un-compressed would require 103 pages.
NOTE: DATA statement used (Total process time):
      real time           0.84 seconds
      cpu time            0.14 seconds


100
101        PROC SORT DATA=MVIS; BY EVNTIDX; RUN;

NOTE: There were 166896 observations read from the data set WORK.MVIS.
NOTE: SAS threaded sort was used.
NOTE: The data set WORK.MVIS has 166896 observations and 4 variables.
NOTE: Compressing data set WORK.MVIS increased size by 6.80 percent.
      Compressed is 110 pages; un-compressed would require 103 pages.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.15 seconds
      cpu time            0.21 seconds


102
103        *--------------------------------------------------------------------------------
104        * Identify MVIS events which were for asthma.
105        *-------------------------------------------------------------------------------;
106        DATA ASMVIS;
107          MERGE ASCLNKS (IN=INASCLNK)
108                MVIS    (IN=INMVIS);
109          BY EVNTIDX;
110          IF INASCLNK & INMVIS;
111        RUN;

NOTE: There were 6744 observations read from the data set WORK.ASCLNKS.
NOTE: There were 166896 observations read from the data set WORK.MVIS.
NOTE: The data set WORK.ASMVIS has 1680 observations and 5 variables.
NOTE: Compressing data set WORK.ASMVIS increased size by 50.00 percent.
      Compressed is 3 pages; un-compressed would require 2 pages.
NOTE: DATA statement used (Total process time):
      real time           0.05 seconds
      cpu time            0.06 seconds


112
113        proc print data=asmvis (obs=50);
114          format eventype eventype.;
115          title3 "sample print of work.asmvis";
116          title4 "unique evntidxs from work.asclnks that are non-telephone MVIS (HC-&evntnum.G) events";
117        run;

NOTE: There were 50 observations read from the data set WORK.ASMVIS.
NOTE: The PROCEDURE PRINT printed page 6.
```

```
NOTE: PROCEDURE PRINT used (Total process time):
      real time             0.00 seconds
      cpu time              0.00 seconds


118
119          PROC MEANS DATA=ASMVIS N SUM;
120            VAR OBXP&yr.X;
121            TITLE3 "Total medical visit expenditures (excluding telephone) associated with asthma";
122          RUN;

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 1680 observations read from the data set WORK.ASMVIS.
NOTE: The PROCEDURE MEANS printed page 7.
NOTE: PROCEDURE MEANS used (Total process time):
      real time             0.01 seconds
      cpu time              0.03 seconds


123
124          PROC MEANS DATA=ASMVIS N SUM;
125            VAR OBXP&yr.X;
126            WEIGHT PERWT&yr.F;
127            TITLE3 "Total medical visit expenditures (excluding telephone) associated with asthma";
128            TITLE5 "Weighted";
129          RUN;

NOTE: Multiple concurrent threads will be used to summarize data.
NOTE: There were 1680 observations read from the data set WORK.ASMVIS.
NOTE: The PROCEDURE MEANS printed page 8.
NOTE: PROCEDURE MEANS used (Total process time):
      real time             0.01 seconds
      cpu time              0.01 seconds


130
131          ods rtf close;
132
133


NOTE: SAS Institute Inc., SAS Campus Drive, Cary, NC USA 27513-2414
NOTE: The SAS System used:
      real time             2.32 seconds
      cpu time              1.46 seconds
```

```
                          HC-197I
                Sample SAS Job for Example C
     sample print of work.asconds - sorted by condidx
           COND (H199) records where ICD10CDX=J45
```

Obs	CONDIDX	ICD10CDX
1	100061010021	J45
2	100191020051	J45
3	100291010041	J45
4	100341010121	J45
5	100531020021	J45
6	100791010061	J45
7	100911030031	J45
8	100921020051	J45
9	101071010011	J45
10	101141010031	J45
11	101351010041	J45
12	101491010011	J45
13	101531050021	J45
14	101701050031	J45
15	101841020021	J45
16	101851010121	J45
17	101851030011	J45
18	101922020012	J45
19	102171020081	J45
20	102221030011	J45
21	102251010011	J45
22	102261040011	J45
23	102331010021	J45
24	102431010061	J45
25	102551010031	J45
26	102551020011	J45
27	102581040011	J45
28	102961010051	J45
29	102961030011	J45
30	103101010011	J45
31	103121030021	J45
32	103161010241	J45
33	103181020011	J45
34	103361010041	J45
35	103631010071	J45
36	103911010021	J45
37	103981020041	J45
38	104021010021	J45
39	104131010011	J45
40	104161010041	J45
41	104161050011	J45
42	104511020181	J45
43	104571010101	J45
44	104611030012	J45
45	104751020011	J45
46	104751030011	J45
47	105011010161	J45
48	105051010051	J45
49	105051020021	J45
50	105252010022	J45

```
                    HC-197I
             Sample SAS Job for Example C
    sample print of work.asclnks - sorted by condidx
        events linked to asthma condition records
```

CONDIDX	EVNTIDX	EVENTYPE
100191020051	100191020351	1 MVIS
100191020051	100191020361	1 MVIS
100191020051	100191020471	8 PMED
100191020051	100191020591	1 MVIS
100191020051	100191020691	8 PMED
100191020051	100191020741	8 PMED
100191020051	100191029135	8 PMED
100191020051	100191029195	8 PMED
100191020051	100191029205	8 PMED
100191020051	100191029215	8 PMED
100291010041	100291011111	8 PMED
100341010121	100341010321	8 PMED
100341010121	100341010431	8 PMED
100341010121	100341019055	8 PMED
100531020021	100531020541	1 MVIS
100791010061	100791011981	1 MVIS
100791010061	100791019245	8 PMED
100791010061	100791019325	8 PMED
100921020051	100921029015	8 PMED
101071010011	101071010051	1 MVIS
101351010041	101351010621	1 MVIS
101351010041	101351010881	8 PMED
101351010041	101351010891	8 PMED
101351010041	101351011011	1 MVIS
101351010041	101351019075	8 PMED
101351010041	101351019085	8 PMED
101491010011	101491010221	1 MVIS
101491010011	101491010241	8 PMED
101491010011	101491010251	8 PMED
101491010011	101491010271	1 MVIS
101491010011	101491010301	8 PMED
101491010011	101491010311	8 PMED
101491010011	101491010321	8 PMED
101491010011	101491010331	1 MVIS
101491010011	101491019025	8 PMED
101491010011	101491019045	8 PMED
101491010011	101491019085	8 PMED
101491010011	101491019095	8 PMED
101531050021	101531050481	2 OPAT
101701050031	101701050061	1 MVIS
101701050031	101701050071	3 EROM
101701050031	101701050081	3 EROM
101701050031	101701059035	8 PMED
101701050031	101701059045	8 PMED
101841020021	101841029055	8 PMED
101841020021	101841029065	8 PMED
101841020021	101841029075	8 PMED
101841020021	101841029085	8 PMED
101851010121	101851010951	8 PMED
101851010121	101851019145	8 PMED
101922020012	101922029085	8 PMED
102221030011	102221030321	8 PMED
102221030011	102221030481	1 MVIS
102221030011	102221030491	1 MVIS
102221030011	102221039055	8 PMED
102221030011	102221039095	8 PMED
102261040011	102261040071	8 PMED
102331010021	102331010111	8 PMED
102331010021	102331010291	8 PMED
102331010021	102331010301	8 PMED
102331010021	102331010311	8 PMED
102331010021	102331010341	3 EROM
102331010021	102331010351	4 STAZ
102331010021	102331010361	1 MVIS
102331010021	102331019035	8 PMED
102331010021	102331019065	8 PMED
102331010021	102331019085	8 PMED
102331010021	102331019095	8 PMED
102431010061	102431010281	8 PMED
102431010061	102431010301	1 MVIS

CONDIDX	EVNTIDX	EVENTYPE
102431010061	102431010311	3 EROM
102431010061	102431010341	8 PMED
102431010061	102431010351	8 PMED
102431010061	102431010371	8 PMED
102431010061	102431010391	1 MVIS

Obs	CONDIDX	EVNTIDX	EVENTYPE
1	100191020051	100191020351	1 MVIS
2	100191020051	100191020361	1 MVIS
3	100191020051	100191020471	8 PMED
4	100191020051	100191020591	1 MVIS
5	100191020051	100191020691	8 PMED
6	100191020051	100191020741	8 PMED
7	100191020051	100191029135	8 PMED
8	100191020051	100191029195	8 PMED
9	100191020051	100191029205	8 PMED
10	100191020051	100191029215	8 PMED
11	100291010041	100291011111	8 PMED
12	100341010121	100341010321	8 PMED
13	100341010121	100341010431	8 PMED
14	100341010121	100341019055	8 PMED
15	100531020021	100531020541	1 MVIS
16	100791010061	100791011981	1 MVIS
17	100791010061	100791019245	8 PMED
18	100791010061	100791019325	8 PMED
19	100921020051	100921029015	8 PMED
20	101071010011	101071010051	1 MVIS
21	101351010041	101351010621	1 MVIS
22	101351010041	101351010881	8 PMED
23	101351010041	101351010891	8 PMED
24	101351010041	101351011011	1 MVIS
25	101351010041	101351019075	8 PMED
26	101351010041	101351019085	8 PMED
27	101491010011	101491010221	1 MVIS
28	101491010011	101491010241	8 PMED
29	101491010011	101491010251	8 PMED
30	101491010011	101491010271	1 MVIS
31	101491010011	101491010301	8 PMED
32	101491010011	101491010311	8 PMED
33	101491010011	101491010321	8 PMED
34	101491010011	101491010331	1 MVIS
35	101491010011	101491019025	8 PMED
36	101491010011	101491019045	8 PMED
37	101491010011	101491019085	8 PMED
38	101491010011	101491019095	8 PMED
39	101531050021	101531050481	2 OPAT
40	101701050031	101701050061	1 MVIS
41	101701050031	101701050071	3 EROM
42	101701050031	101701050081	3 EROM
43	101701050031	101701059035	8 PMED
44	101701050031	101701059045	8 PMED
45	101841020021	101841029055	8 PMED
46	101841020021	101841029065	8 PMED
47	101841020021	101841029075	8 PMED
48	101841020021	101841029085	8 PMED
49	101851010121	101851010951	8 PMED
50	101851010121	101851019145	8 PMED

Obs	EVNTIDX	EVENTYPE
1	100191020351	1 MVIS
2	100191020361	1 MVIS
3	100191020471	8 PMED
4	100191020591	1 MVIS
5	100191020691	8 PMED
6	100191020741	8 PMED
7	100191029135	8 PMED
8	100191029195	8 PMED
9	100191029205	8 PMED
10	100191029215	8 PMED
11	100291011111	8 PMED
12	100341010321	8 PMED
13	100341010431	8 PMED
14	100341019055	8 PMED
15	100531020541	1 MVIS
16	100791011981	1 MVIS
17	100791019245	8 PMED
18	100791019325	8 PMED
19	100921029015	8 PMED
20	101071010051	1 MVIS
21	101351010621	1 MVIS
22	101351010881	8 PMED
23	101351010891	8 PMED
24	101351011011	1 MVIS
25	101351019075	8 PMED
26	101351019085	8 PMED
27	101491010221	1 MVIS
28	101491010241	8 PMED
29	101491010251	8 PMED
30	101491010271	1 MVIS
31	101491010301	8 PMED
32	101491010311	8 PMED
33	101491010321	8 PMED
34	101491010331	1 MVIS
35	101491019025	8 PMED
36	101491019045	8 PMED
37	101491019085	8 PMED
38	101491019095	8 PMED
39	101531050481	2 OPAT
40	101701050061	1 MVIS
41	101701050071	3 EROM
42	101701050081	3 EROM
43	101701059035	8 PMED
44	101701059045	8 PMED
45	101841029055	8 PMED
46	101841029065	8 PMED
47	101841029075	8 PMED
48	101841029085	8 PMED
49	101851010951	8 PMED
50	101851019145	8 PMED

Sample SAS Job for Example C
sample print of work.asmvis
unique evntidxs from work.asclnks that are non-telephone MVIS (HC-197G) events

Obs	EVNTIDX	EVENTYPE	SEETLKPV	OBXP17X	PERWT17F
1	100191020351	1 MVIS	1	141.13	12610.29
2	100191020361	1 MVIS	1	102.92	12610.29
3	100191020591	1 MVIS	1	102.92	12610.29
4	100531020541	1 MVIS	1	179.22	41947.37
5	100791011981	1 MVIS	1	135.00	13604.92
6	101071010051	1 MVIS	-1	103.58	13532.21
7	101351010621	1 MVIS	1	412.66	41447.86
8	101351011011	1 MVIS	-1	232.33	41447.86
9	101491010221	1 MVIS	1	106.00	5783.76
10	101491010271	1 MVIS	1	573.98	5783.76
11	101491010331	1 MVIS	-1	573.98	5783.76
12	101701050061	1 MVIS	-1	280.53	10076.46
13	102221030481	1 MVIS	-1	110.97	1294.75
14	102221030491	1 MVIS	-1	646.82	1294.75
15	102331010361	1 MVIS	-1	256.10	12832.24
16	102431010301	1 MVIS	1	109.53	6949.20
17	102431010391	1 MVIS	-1	189.12	6949.20
18	103121030061	1 MVIS	1	75.93	3449.42
19	103121030071	1 MVIS	1	26.81	3449.42
20	103161011991	1 MVIS	1	69.63	9564.30
21	103161012001	1 MVIS	1	69.63	9564.30
22	103161012011	1 MVIS	1	69.63	9564.30
23	103161012021	1 MVIS	1	69.63	9564.30
24	103361010141	1 MVIS	1	13.39	34392.77
25	105581030082	1 MVIS	1	200.17	3365.38
26	105581030092	1 MVIS	1	195.44	3365.38
27	105581030102	1 MVIS	1	29.99	3365.38
28	105581030112	1 MVIS	1	29.99	3365.38
29	105581030172	1 MVIS	-1	161.01	3365.38
30	105581030182	1 MVIS	-1	85.71	3365.38
31	105681010331	1 MVIS	1	107.04	6034.58
32	105681010341	1 MVIS	1	214.12	6034.58
33	105681010351	1 MVIS	1	107.04	6034.58
34	105711040071	1 MVIS	1	261.66	45787.08
35	105711040081	1 MVIS	1	261.66	45787.08
36	105941010021	1 MVIS	1	555.22	5629.26
37	106041040061	1 MVIS	1	82.58	5306.71
38	106041040101	1 MVIS	1	126.60	5306.71
39	106041040111	1 MVIS	1	82.58	5306.71
40	106511020081	1 MVIS	1	127.96	14263.11
41	106511020091	1 MVIS	1	127.96	14263.11
42	106511020101	1 MVIS	1	127.96	14263.11
43	107011010661	1 MVIS	1	179.49	1528.91
44	107011010671	1 MVIS	1	184.31	1528.91
45	107011010681	1 MVIS	1	184.31	1528.91
46	107011010691	1 MVIS	1	184.31	1528.91
47	107011010701	1 MVIS	1	16.47	1528.91
48	107011010711	1 MVIS	1	184.31	1528.91
49	107011011271	1 MVIS	-1	214.69	1528.91
50	107011011281	1 MVIS	-1	1842.45	1528.91

Analysis Variable : OBXP17X SUM OF OBSF17X - OBOT17X (IMPUTED)

N	Sum
1680	332895.26

```
                               HC-197I
                    Sample SAS Job for Example C
   Total medical visit expenditures (excluding telephone) associated with asthma

                               Weighted


      Analysis Variable : OBXP17X SUM OF OBSF17X - OBOT17X (IMPUTED)

                   |        N  |         Sum  |
                   |      1680  |  3342409949  |
```

Attachment 2:

Sample STATA Jobs for Linking Example

```
---------------------------------------------------------------------------------------------------
    name:  <unnamed>
     log:  C:\Program Files\STATA\MEPSdofileA.log
 log type:  text
 opened on:  18 Jul 2019, 13:55:12

.
. /* BE SURE TO UPDATE VALUES FOR CURRENT FY */
. local yr=17

. local evntnum=197

. local condnum=199

.
.
. *-----------------------------------------------------------------------------
. * Get condition records coded as asthma.
. *----------------------------------------------------------------------------;
.
. use "C:\Program Files\STATA\H`condnum'.dta", clear

.
. keep if ICD10CDX =="J45"
(110,530 observations deleted)

.
. keep CONDIDX ICD10CDX

.
. *-----------------------------------------------------------------------------
. * Get the events linked to each of the asthma condition records.
. *----------------------------------------------------------------------------;
.
. sort CONDIDX

. /* sample print of work.asconds - sorted by condidx;
>       COND (H&condnum) records where ICD10CDX = 'J45'*/
. list if _n<=50, separator(0)

.
. export excel " C:\Program Files \STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
.
. save "C:\Program Files\STATA\ASCONDS.dta", replace
file C:\Program Files\STATA\ASCONDS.dta saved

.
.
. use "C:\Program Files\STATA\H`evntnum'IF1.dta", clear

.
. sort CONDIDX

.
. label define eventype1 1  "1 MVIS"

. label define eventype1 2  "2 OPAT", add

. label define eventype1 3  "3 EROM", add

. label define eventype1 4  "4 STAZ", add

. label define eventype1 5  "5 DVIS", add

. label define eventype1 6  "6 OMED", add

. label define eventype1 7  "7 HVIS", add

. label define eventype1 8  "8 PMED", add

.
. label values EVENTYPE eventype1
```

```
.
. save "C:\Program Files\STATA\CLNK.dta", replace
file C:\Program Files\STATA\CLNK.dta saved

.
. keep CONDIDX EVNTIDX EVENTYPE

.
. merge m:m CONDIDX using "C:\Program Files\STATA\ASCONDS.dta", keepusing(CONDIDX) nogene
> rate keep(match)

    Result              # of obs.
    -----------------------------------------
    not matched               0
    matched               6,756
    -----------------------------------------
.
. save "C:\Program Files\STATA\ASCLNKS.dta", replace
file C:\Program Files\STATA\ASCLNKS.dta saved

.
. label variable CONDIDX "condidx"

. label variable EVNTIDX "evntidx"

. label variable EVENTYPE "eventype"

.
. /* sample print of work.asclnks - sorted by condidx;
>    events linked to asthma condition records */
. list CONDIDX EVNTIDX EVENTYPE if _n<=75, sepby(CONDIDX) noobs
.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. sort EVNTIDX

.
. /* sample print of work.asclnks - sorted by evntidx */
. list if _n<=50, separator(0)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. keep EVNTIDX EVENTYPE

.
. gen first=0

. by EVNTIDX, sort: replace first=1 if _n==1
(6,744 real changes made)

.
. keep if first==1
(12 observations deleted)

.
. drop first

.
. save "C:\Program Files\STATA\ASCLNKS.dta", replace
file C:\Program Files\STATA\ASCLNKS.dta saved

.
. /* sample print of unique evntidxs from work.asclnks */
. list if _n<=50, separator(0)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
.

. *----------------------------------------------------------------------------------------
```

```
. * Get non-telephone office based visits (i.e. MVIS events) for persons with positive weights.
. *---------------------------------------------------------------------------------------;
.
. use "C:\Program Files\STATA\H`evntnum'G.dta", clear

.
. keep EVNTIDX PERWT`yr'F SEETLKPV

. keep if PERWT`yr'F > 0 & SEETLKPV != 2
(3,595 observations deleted)

.
. save "C:\Program Files\STATA\MVIS.dta", replace
file C:\Program Files\STATA\MVIS.dta saved

.
. sort EVNTIDX

.
. *--------------------------------------------------------------------------------------
. * Identify MVIS events which were for asthma.
. *-------------------------------------------------------------------------------------
.
. keep EVNTIDX

.
. merge m:m EVNTIDX using "C:\Program Files\STATA\ASCLNKS.dta", nogenerate keep(match)

    Result                   # of obs.
    -----------------------------------------
    not matched                      0
    matched                      1,680
    -----------------------------------------
. save "C:\Program Files\STATA\ASMVIS.dta", replace
file C:\Program Files\STATA\ASMVIS.dta saved

.
. /* sample print of work.asmvis;
>   unique EVNTIDXS from work.asclnks that are non-telephone MVIS (HC-197G) events */
. list if _n<=50, separator(0)
.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. *-----------------------------------------------------------------------------------
. * Get PMED IDs linked to the MVIS events which were for asthma.
. *-----------------------------------------------------------------------------------;
.
. use "C:\Program Files\STATA\H`evntnum'IF2.dta", clear

. sort EVNTIDX

. save "C:\Program Files\STATA\RXLK.dta", replace
file C:\Program Files\STATA\RXLK.dta saved

.
. keep EVNTIDX LINKIDX EVENTYPE

.
. label define eventype1 1  "1 MVIS"

. label define eventype1 2  "2 OPAT", add

. label define eventype1 3  "3 EROM", add

. label define eventype1 4  "4 STAZ", add

. label define eventype1 5  "5 DVIS", add

. label define eventype1 6  "6 OMED", add

. label define eventype1 7  "7 HVIS", add

. label define eventype1 8  "8 PMED", add

.
```

. label values EVENTYPE eventype1

. label variable LINKIDX "linkidx"

.
. /* sample print of work.rxlk - sorted by evntidx;
>   Rx+event link file records (HC-197IF2) */
. list EVNTIDX LINKIDX EVENTYPE if _n<=140, sepby(EVNTIDX) noobs
.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. merge m:m EVNTIDX using "C:\Program Files\STATA\ASMVIS.dta", keepusing(EVNTIDX) nogener
> ate keep(match)
(label eventype1 already defined)

    Result   # of obs.
    ----
    not matched   0
    matched   1,418

. save "C:\Program Files\STATA\PMEDIDS.dta", replace
file C:\Program Files\STATA\PMEDIDS.dta saved

.
. /* sample print of work.pmedids - sorted by evntidx;
>   work.rxlk records for evntidxs in work.asmvis */
. list EVNTIDX LINKIDX EVENTYPE if _n<=50, sepby(EVNTIDX) noobs

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. sort LINKIDX

.
. /* sample print of work.pmedids - sorted by linkidx */
. list if _n<=50, separator(0)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. keep LINKIDX

.
. gen first=0

. by LINKIDX, sort: replace first=1 if _n==1
(1,371 real changes made)

.
. keep if first==1
(47 observations deleted)

.
. drop first

.
. save "C:\Program Files\STATA\PMEDIDS.dta", replace
file C:\Program Files\STATA\PMEDIDS.dta saved

.
. /* sample print of unique linkidxs in work.pmedids */
. list if _n<=50, separator(0)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. *--
. * Get PMED records linked to MVIS events which were for asthma.

```
. *-------------------------------------------------------------------------------;
.
. use "C:\Program Files\STATA\H`evntnum'A.dta", clear

. sort LINKIDX

. *save "C:\Program Files\STATA\PMED.dta", replace
.
. keep LINKIDX RXRECIDX  RXXP`yr'X PERWT`yr'F RXNAME

.
. merge m:m LINKIDX using "C:\Program Files\STATA\PMEDIDS.dta", nogenerate keep(match usi
> ng)

    Result             # of obs.
    -----------------------------------------
    not matched                0
    matched                3,534
    -----------------------------------------

. save "C:\Program Files\STATA\MVPMEDS.dta", replace
file C:\Program Files\STATA\MVPMEDS.dta saved

.
. sort LINKIDX

.
. label variable RXRECIDX "rxrecidx"

. label variable RXNAME "rxname"

. label variable RXXP`yr'X "rxxp17x"

. label variable PERWT`yr'F "perwt17f"

.
. /* sample print of work.mvpmeds;
>       PMED (HC-197A) records for unique linkidxs in work.pmedids */
. list LINKIDX RXRECIDX RXNAME RXXP`yr'X PERWT`yr'F if _n<=200, sepby(LINKIDX) noobs

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. /* Total Rx expenditures associated with medical visits (excluding telephone) for asthma */
. tabstat RXXP`yr'X, stat(n sum) format(%15.2fc)
.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. /* Total Rx expenditures associated with medical visits (excluding telephone) for asthma;
>    Weighted */
. tabstat RXXP`yr'X[w=PERWT`yr'F], stat(n sum) format(%15.2fc)
(analytic weights assumed)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
.
.
end of do-file

. exit, clear
```

```
-------------------------------------------------------------------------------------------------
      name:  <unnamed>
       log:  C:\Program Files\STATA\MEPSdofileB.log
  log type:  text
 opened on:  18 Jul 2019, 13:55:35

.
. /* BE SURE TO UPDATE VALUES FOR CURRENT FY */
. local yr=17

. local evntnum=197

. local condnum=199

.
.
. *------------------------------------------------------------------------------
. * Get condition records coded as asthma.
. *----------------------------------------------------------------------------;
.
. use "C:\Program Files\STATA\H`condnum'.dta", clear

.
. keep if ICD10CDX =="J45"
(110,530 observations deleted)

.
. keep CONDIDX ICD10CDX

.
. *------------------------------------------------------------------------------
. * Get the events linked to each of the asthma condition records.
. *----------------------------------------------------------------------------;
.
. sort CONDIDX

. /* sample print of work.asconds - sorted by condidx;
>         COND (H&condnum) records where ICD10CDX = 'J45'*/
. list if _n<=50, separator(0)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. save "C:\Program Files\STATA\ASCONDS.dta", replace
file C:\Program Files\STATA\ASCONDS.dta saved

.
.
. use "C:\Program Files\STATA\H`evntnum'IF1.dta", clear

.
. sort CONDIDX

.
. label define eventype1 1  "1 MVIS"

. label define eventype1 2  "2 OPAT", add

. label define eventype1 3  "3 EROM", add

. label define eventype1 4  "4 STAZ", add

. label define eventype1 5  "5 DVIS", add

. label define eventype1 6  "6 OMED", add

. label define eventype1 7  "7 HVIS", add

. label define eventype1 8  "8 PMED", add

.
. label values EVENTYPE eventype1

.
```

```
. save "C:\Program Files\STATA\CLNK.dta", replace
file C:\Program Files\STATA\CLNK.dta saved

.
. keep CONDIDX EVNTIDX EVENTYPE

.
. merge m:m CONDIDX using "C:\Program Files\STATA\ASCONDS.dta", keepusing(CONDIDX) nogene
> rate keep(match)

    Result              # of obs.
    -----------------------------------------
    not matched              0
    matched              6,756
    -----------------------------------------
.
. save "C:\Program Files\STATA\ASCLNKS.dta", replace
file C:\Program Files\STATA\ASCLNKS.dta saved

.
. label variable CONDIDX "condidx"

. label variable EVNTIDX "evntidx"

. label variable EVENTYPE "eventype"

.
. /* sample print of work.asclnks - sorted by condidx;
>    events linked to asthma condition records */
. list CONDIDX EVNTIDX EVENTYPE if _n<=75, sepby(CONDIDX) noobs

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. sort EVNTIDX

.
. /* sample print of work.asclnks - sorted by evntidx */
. list if _n<=50, separator(0)
.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. keep EVNTIDX EVENTYPE

.
. gen first=0

. by EVNTIDX, sort: replace first=1 if _n==1
(6,744 real changes made)

.
. keep if first==1
(12 observations deleted)

.
. drop first

.
. /* sample print of unique evntidxs from work.asclnks */
. list if _n<=50, separator(0)
.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. rename EVNTIDX LINKIDX

.
. save "C:\Program Files\STATA\ASCLNKS.dta", replace
file C:\Program Files\STATA\ASCLNKS.dta saved

.
. *-------------------------------------------------------------------------------------
```

```
. * Get PMED records linked to MVIS events which were for asthma.
. *--------------------------------------------------------------------------------------;
.
. use "C:\Program Files\STATA\H`evntnum'A.dta", clear

. sort LINKIDX

. *save "C:\Program Files\STATA\PMED.dta", replace
.
. keep LINKIDX RXRECIDX  RXXP`yr'X PERWT`yr'F RXNAME

.
. merge m:m LINKIDX using "C:\Program Files\STATA\ASCLNKS.dta", nogenerate keep(match)

    Result              # of obs.
    -----------------------------------------
    not matched                 0
    matched                10,303
    -----------------------------------------
.
. keep if PERWT`yr'F > 0
(176 observations deleted)

.
. save "C:\Program Files\STATA\ASPMEDS.dta", replace
file C:\Program Files\STATA\ASPMEDS.dta saved

.
. sort LINKIDX

.
. label variable RXRECIDX "rxrecidx"

. label variable RXNAME "rxname"

. label variable RXXP`yr'X "rxxp17x"

. label variable PERWT`yr'F "perwt17f"

.
. /* sample print of work.aspmeds;
>       PMED (HC197A) records which link to condition records coded as asthma */
. list LINKIDX RXRECIDX RXNAME RXXP`yr'X PERWT`yr'F if _n<=300, sepby(LINKIDX) noobs

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. /* Total Rx expenditures associated with asthma */
. tabstat RXXP`yr'X, stat(n sum) format(%15.2fc)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. /* Total Rx expenditures associated with asthma
>   Weighted */
. tabstat RXXP`yr'X[w=PERWT`yr'F], stat(n sum) format(%15.2fc)
(analytic weights assumed)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
end of do-file

. exit, clear
```

```
    name:  <unnamed>
     log:  C:\Program Files\STATA\MEPSdofileC.log
 log type:  text
 opened on:  18 Jul 2019, 13:57:39
```
.
. /* BE SURE TO UPDATE VALUES FOR CURRENT FY */
. local yr=17

. local evntnum=197

. local condnum=199

.
.
. *--
. * Get condition records coded as asthma.
. *--;
.
. use "C:\Program Files\STATA\H`condnum'.dta", clear

.
. keep if ICD10CDX =="J45"
(110,530 observations deleted)

.
. keep CONDIDX ICD10CDX

.
. *--
. * Get the events linked to each of the asthma condition records.
. *--;
.
. sort CONDIDX

. /* sample print of work.asconds - sorted by condidx;
>   COND (H&condnum) records where ICD10CDX = 'J45'*/
. list if _n<=50, separator(0)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. save "C:\Program Files\STATA\ASCONDS.dta", replace
file C:\Program Files\STATA\ASCONDS.dta saved

.
.
. use "C:\Program Files\STATA\H`evntnum'IF1.dta", clear

.
. sort CONDIDX

.
. label define eventype1 1 "1 MVIS"

. label define eventype1 2 "2 OPAT", add

. label define eventype1 3 "3 EROM", add

. label define eventype1 4 "4 STAZ", add

. label define eventype1 5 "5 DVIS", add

. label define eventype1 6 "6 OMED", add

. label define eventype1 7 "7 HVIS", add

. label define eventype1 8 "8 PMED", add

.
. label values EVENTYPE eventype1

.

```
. save "C:\Program Files\STATA\CLNK.dta", replace
file C:\Program Files\STATA\CLNK.dta saved

.
. keep CONDIDX EVNTIDX EVENTYPE

.
. merge m:m CONDIDX using "C:\Program Files\STATA\ASCONDS.dta", keepusing(CONDIDX) nogene
> rate keep(match)

    Result              # of obs.
    -----------------------------------------
    not matched                 0
    matched                 6,756
    -----------------------------------------
.
. save "C:\Program Files\STATA\ASCLNKS.dta", replace
file C:\Program Files\STATA\ASCLNKS.dta saved

.
. label variable CONDIDX "condidx"

. label variable EVNTIDX "evntidx"

. label variable EVENTYPE "eventype"

.
. /* sample print of work.asclnks - sorted by condidx;
>    events linked to asthma condition records */
. list CONDIDX EVNTIDX EVENTYPE if _n<=75, sepby(CONDIDX) noobs
.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. sort EVNTIDX

.
. /* sample print of work.asclnks - sorted by evntidx */
. list if _n<=50, separator(0)

.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. keep EVNTIDX EVENTYPE

.
. gen first=0

. by EVNTIDX, sort: replace first=1 if _n==1
(6,744 real changes made)

.
. keep if first==1
(12 observations deleted)

.
. drop first

.
. save "C:\Program Files\STATA\ASCLNKS.dta", replace
file C:\Program Files\STATA\ASCLNKS.dta saved

.
. /* sample print of unique evntidxs from work.asclnks */
. list if _n<=50, separator(0)
.
. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.
. *-------------------------------------------------------------------------------------
. * Get non-telephone office based visits (i.e. MVIS events) for persons with positive weights.
. *-------------------------------------------------------------------------------------;
.
```

```
. use "C:\Program Files\STATA\H`evntnum'G.dta", clear

.

. keep EVNTIDX PERWT`yr'F SEETLKPV OBXP`yr'X

. keep if PERWT`yr'F > 0 & SEETLKPV != 2
(3,595 observations deleted)

.

. save "C:\Program Files\STATA\MVIS.dta", replace
file C:\Program Files\STATA\MVIS.dta saved

.

. sort EVNTIDX

.

. *-------------------------------------------------------------------------------------
. * Identify MVIS events which were for asthma.
. *-------------------------------------------------------------------------------------
.

. *keep EVNTIDX
.

. merge m:m EVNTIDX using "C:\Program Files\STATA\ASCLNKS.dta", nogenerate keep(match)

    Result              # of obs.
    -----------------------------------------
    not matched               0
    matched               1,680
    -----------------------------------------

. save "C:\Program Files\STATA\ASMVIS.dta", replace
file C:\Program Files\STATA\ASMVIS.dta saved

.

. /* sample print of work.asmvis;
>   unique evntidxs from work.asclnks that are non-telephone MVIS (HC197G) events */
. list EVNTIDX EVENTYPE SEETLKPV OBXP`yr'X PERWT`yr'F if _n<=50, separator(0)
.

. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.

.

. /* Total medical visit expenditures (excluding telephone) associated with asthma */
. tabstat OBXP`yr'X, stat(n sum) format(%15.2fc)

.

. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.

. /* Total medical visit expenditures (excluding telephone) associated with asthma;
>   Weighted */
. tabstat OBXP`yr'X[w=PERWT`yr'F], stat(n sum) format(%15.2fc)
(analytic weights assumed)

.

. export excel "C:\Program Files\STATA\a1.xlsx", replace firstrow(variables)
file C:\Program Files\STATA\a1.xlsx saved

.

end of do-file

. exit, clear
```

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