

Medicare Current Beneficiary Survey  
CY 1999 Access to Care

Public Use File Documentation

Introduction

The accompanying public use file is the ninth in a series of annual data releases relating to Medicare beneficiaries' access to care. The file consists of selected interview data from the ongoing Medicare Current Beneficiary Survey (MCBS), which were collected during Round 25 (September through December of 1999) or earlier rounds for some variables, for individuals in the continuing sample. These data are augmented with Medicare claims and administrative data for calendar year (CY) 1999.

**Purposes of the Survey**

The MCBS is a continuous, multi-purpose panel survey of a representative sample of the Medicare population, including both aged and disabled enrollees. The study is sponsored by the Centers for Medicare and Medicaid Services (CMS). CMS's primary mission is administering the Medicare program and assisting the States in administering the Medicaid program. The MCBS is designed to support the agency's functions by providing data necessary for policymakers to develop needed program enhancements.

Analysis of the National Health Accounts (current and projected national and personal health care expenditures) shows that in recent years there has been some slowing in the growth in health care expenditures. The decade from 1980 to 1990 experienced an average annual rate in the growth of national health expenditures of almost 11 percent. The average annual rate over the period of 1990 to 1998 slowed to 6.4 percent. However, health care spending continues to outpace the overall economy (as measured by the gross domestic product), which grows at an average rate of about 5 percent during the same time.

In addition, the share of the nation's total health care bill funded by the Federal, State and local governments through the Medicare and the Medicaid programs rose rapidly during the early part of this decade, from almost 27 percent in 1990 to 33.7 percent in 1998.

These trends, along with CMS's concerns about the quality of care beneficiaries are receiving, support the need for the collection of a wide variety of health related data. The MCBS is designed to aid in CMS's administration, monitoring, and evaluation of the Medicare and Medicaid programs. MCBS data enables CMS to do the following: monitor the impact, especially financial, of changes in the Medicare program on the beneficiary population and on the trust funds; develop reliable and current information on the use and cost of services not covered by Medicare (such as prescription drugs and long term care); develop reliable and current information on the sources of payment for costs of covered services not reimbursed by Medicare and of noncovered services; and analyze factors which are not available from claims or other administrative records but are thought to affect use and mix of services.

The MCBS primarily focuses on economic and beneficiary issues; in particular, health care use, expenditures and factors that affect use of care and the beneficiary's ability to pay. As a part of this focus, the MCBS collects a variety of information about demographic characteristics, health status and functioning, access to care, insurance coverage, financial resources, and potential family support. The longitudinal design of the MCBS allows analysis of the effects of changes in these factors on patterns of use over time.

## **The Design of the MCBS**

CMS conducts the MCBS through a data collection contractor.

In its initial design, the MCBS was to serve as a traditional longitudinal survey of the Medicare population. There was no predetermined limit to the duration of time a beneficiary, once selected to participate, was to remain in the sample.

Fieldwork for Round 1 began in September 1991 and was completed in December 1991. Subsequent rounds, involving the re-interviewing of the same sample persons or appropriate proxy respondents, begin

every four months. Interviews are conducted regardless of whether the sample person resides at home or in a long term care facility, using the questionnaire version (discussed later) appropriate to the setting.

Repeated Interviews. The MCBS is a longitudinal panel survey. Sample persons are interviewed three times a year over several years to form a continuous profile of each individual's personal health care experience. The MCBS is thus uniquely capable of tracing changes in coverage and other personal circumstances, and observing processes that occur over time, such as people leaving their homes and taking up residence in long term care facilities, or spending down their assets for medical care until they become eligible for Medicaid.

Sample. Respondents for the MCBS were sampled from the Medicare enrollment file to be representative of the Medicare population as a whole and by the following age groups: under 45, 45 to 64, 65 to 69, 70 to 74, 75 to 79, 80 to 84, and 85 and over. Because of interest in their special health care needs, the oldest old (85 and over) and the disabled (64 and under) were oversampled to permit more detailed analysis of these subpopulations. The sample size was designed to yield about 12,000 completed cases annually.

The sample was drawn from 107 primary sampling units (PSUs) or major geographic areas chosen to represent the nation, including the District of Columbia and Puerto Rico, with a second stage of initially 1,163 geographic clusters (later expanded to 1,366 in Round 4, 1,412 in Round 7, 1,443 in Round 10, 1,448 in Round 13, 1,468 in Round 16, 1,487 in Round 19, 1,507 in Round 22, and 1,519 in Round 25) randomly drawn within those PSUs. The sample was annually supplemented during the September through December interview periods (that is, Rounds 4, 7, 10, 13, 16, 19, 22, and 25) to account for attrition (deaths, disenrollments, refusals, etc.) and newly enrolled persons.

The set of beneficiaries reported on in the 1999 Access to Care File consists of a random cross-section of all beneficiaries who were enrolled in one or both parts of the Medicare program as of January 1, 1999 and were alive and enrolled at the time of interview during the 1999 fall round (September - December). Their names were drawn through the use of a fairly complex selection algorithm that involves five different panels.

The initial large panel of 15,411 beneficiaries was fielded in the fall of 1991. Smaller supplemental panels were added in the fall of 1992 and 1993. These supplementary panels afforded a chance of selection to beneficiaries who became entitled to either part A or Part B benefits during 1991 and 1992 in addition to maintaining adequate sample sizes in the face of death and sample attrition. At the time that the first panel was fielded, no definite decision had been made on how many years to interview sample beneficiaries.

In 1993, a decision was made phase out the 1991, 1992 and 1993 Panels after no more than 6 years of interviews and to limit future panels to four years of interviews. This meant that the new sample to be selected for 1994 had to be designed like the 1991 Panel so that it could eventually replace it, rather than being narrowly focused as the 1992 and 1993 Panels were.

At the same time, a decision was made to increase the overall sample size in terms of interviews per year in order to allow the simultaneous interviewing of 4 panels, each starting with about 6,400 sample beneficiaries. In Round 10 (September-December 1994), we began implementation of the rotating panel process with the 1994 Panel. This group consisted of 6,390 beneficiaries, including a sample of those who became entitled during 1993 or on January 1, 1994. The following four bullets describe panel composition each year thereafter.

- In Round 13 (September-December 1995), we selected our second rotating panel, consisting of 6,349 beneficiaries, including a sample of those who became entitled during 1994 or on January 1, 1995. Like the first rotating panel (Round 10), all subsequent panels are designed to be representative of the continuing sample, for which it is designed to help ultimately replace.
- In Round 16 (September-December 1996), we selected our third rotating panel, consisting of 6,506 beneficiaries. Since HMO enrollees were not over sampled in the original MCBS sample design, the number of HMO enrollees included in the MCBS was small (about 1,249 in Round 13) relative to the analytic need. Only very large differences between HMO and FFS populations could be detected with respect to access, satisfaction, and health status. The sample was not large enough to examine specific subgroups of the managed care population, such as the very old, the disabled, or the chronically ill. Although the number of HMO respondents will eventually increase due to natural increases in this group in the Medicare population, the best time to learn more about Medicare's managed care program is while it is still evolving and amenable to change. As a result, an ORD/HMO special (one round only) supplement was added in Round 16, which expanded the total survey population by an additional 2,799 beneficiaries. 1,490 interviews were attempted in South California and South Florida combined. These additional interviews were distributed across these areas in such a way as to produce equal numbers of completed interviews in the total sample, among Medicare beneficiaries in HMOs with risk contracts and in fee for service, in each of the two areas. In addition, 1,309 interviews were attempted with beneficiaries enrolled under risk contracts only, and were spread over the remaining primary sampling units outside South California and South Florida, using the same criteria for selection as were employed for the existing sample.
- In Round 19 (September-December 1997), the rotating panel design was fully implemented with the selection of our fourth rotating panel, consisting of 6,599 beneficiaries. Again, the ORD/HMO special one round supplement was used to expand the total survey population by an additional 2,536 interviews. Approximately 2,089 interviews were attempted in Arizona and Philadelphia combined. The same methodology was used in selecting the special supplement as was employed in Round 16. Of the beneficiaries enrolled under risk contracts only -- outside of the two target areas, 447 interviews were conducted.
- In Round 22 (September-December 1998), the fifth rotating panel was selected, consisting of 6,450 beneficiaries. Again, the ORD/HMO special one round supplement was used to expand the total survey population by an additional 5,162 interviews. Approximately 3,909 interviews were attempted in Denver, Minneapolis, and South Florida combined. The same methodology was used

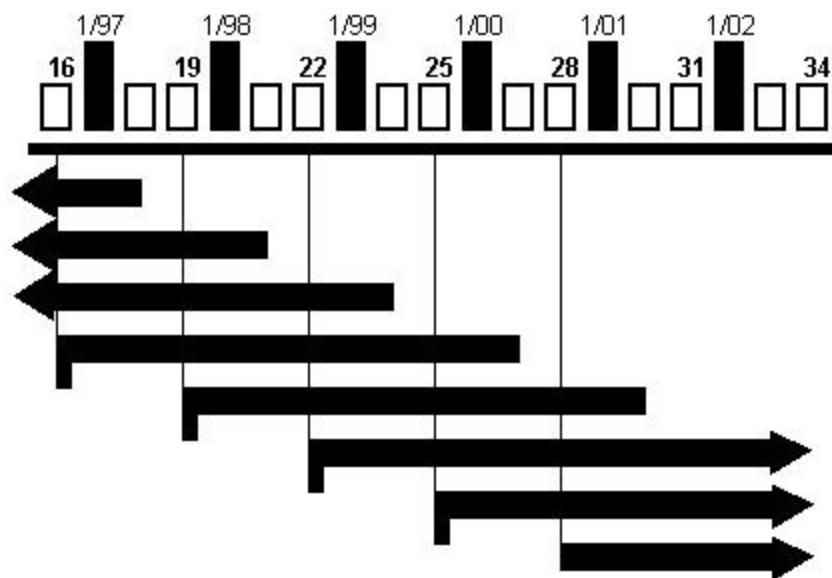
in selecting the special supplement as was employed in Round 19. Of the beneficiaries enrolled under risk contracts only -- outside of the three target areas, 1,253 interviews were attempted.

- In Round 25 (September-December 1999), the sixth rotating panel was selected, consisting of 6,085 beneficiaries. Again, the HMO special one round supplement was used to expand the total survey population by an additional 1,000 interviews. In contrast to past HMO supplements, there were no target area studies conducted. The sample draw was spread across the Country to increase the statistical reliability of this sub-population. The same methodology was used in selecting the special supplement, of beneficiaries enrolled under risk contracts, as was employed in past rounds.

A rotating panel will be followed for 12 interviews. There are four panels active at any one time, and each panel has approximately 4,000 active sample persons. New panels will be introduced each year in the fall round and the panel being replaced will be retired the following summer.

Because of the overlap between the new panel and the retiring panel, the number of interviews we conduct in the September--December (Fall) round increases from 12,000 to 16,000. Figure I.1, while not drawn to scale, gives a visual display of the overlap that occurs during the simultaneous fielding of four panels in the fall round, and the ORD/HMO special one round supplement.

**Figure I.1: Rotating Panel Overlap and ORD/HMO Special One Round Supplement**



The retiring panel (about 4,000 individuals) has abbreviated questionnaires administered beginning in the January to April round and, if necessary, May to August (summer) round to complete the collection of medical events occurring in the previous calendar year. These sample persons were then rotated out of the study. These individuals participated a maximum of four years (that is, a baseline interview, three complete

years of utilization and expenditure data, and up to two interviews to “close out” events due to late arriving paperwork).

Each Fall round, under the rotating panel design, a new panel will be introduced and each Summer round a panel will be retired. Thus, a new panel was introduced in Round 25 and approximately 4,000 of the ongoing sample will be retired from the study by Round 27. This rotating panel sample design allows for both the eventual termination of participation in the study for individuals and for the completion of about 12,000 interviews for an ongoing study population.

As noted earlier, Figure I.1 shows the overlap that occurs during the simultaneous fielding of four panels in the fall round. It also shows the inclusion of a special-purpose one-time (that is, from the participant’s viewpoint) supplemental sample that was added to the regular MCBS sample for the Round 25 interview period only. This supplement, consisting of 1,279 sample persons, yielded 1,096 completed Round 25 cases to increase the precision of the national risk HMO estimates. The analyses of additional respondents will permit statistically valid representation of this important Medicare managed care population.

The addition of more respondents in managed care increases the precision of national estimates of Medicare managed care enrollees and comparisons to fee-for-service enrollees. To achieve the precision desired, the MCBS needed an effective national managed care sample of about 2,500. A description of how to use the weights for the regular and HMO supplemental samples is included in Section 3, “Notes on Using the Data.”

Table I.1 shows the number of Round 25 respondents by oldest age attained in 1999. Differential sampling rates were used to obtain such large samples of the disabled and the oldest old.

<b>Table I.1</b> Number of completes at Round 25 by age category	
Oldest age attained in 1999	Number of completes at Round 25
Total	17,936
Under 45	1,296
45 to 64	1,507
65 to 69	2,981
70 to 74	3,490
75 to 79	3,170
80 to 84	2,897
85 and older	2,595

Complex Sample Design. In order to maximize the precision of statistics, the sample was concentrated in about 1500 ZIP code clusters within 107 Metropolitan Statistical Areas and clusters of nonmetropolitan counties. Although this clustering increases the sample size that can be afforded

for a given budget, the precision is not as good as would be expected from a simple random sample of the same size (were such a sampling procedure feasible).

The differential sampling also has the effect of degrading precision compared to a simple random sample of the same size. Standard statistical packages, such as SAS, SPSS, S, and BMDP are not designed to control for both the clustering and for the differential sampling and will give seriously incorrect standard errors, confidence intervals and p-values. Two packages that will give correct estimates of precision and significance are WESVAR7 and SUDAAN7. See Section 5 for information on how to use these packages.

**Nonresponse Bias** Knowing that cumulative attrition can become very serious in a panel survey, a concerted effort is constantly made to keep response rates high at each round. After conducting 10 rounds of interviewing, approximately 67 percent of the survivors in the 1991 through 1995 Panels were still responding. (The other 33 percent dropped out of the survey after providing anywhere from 0 to 9 interviews.) See Table I.2 for a complete breakdown of cumulative response rates by panel for Rounds 16 through 25.

**Table I.2 Cumulative Response Rates for Each Panel Through Ten Rounds of Data Collection**

Cumulative Response Rates for Medicare Current Beneficiary Survey by Round									
	1991 Panel Response Rate (n=15,411)	1992 Panel Response Rate (n=2,410)	1993 Panel Response Rate (n=2,449)	1994 Panel Response Rate (n=6,390)	1995 Panel Response Rate (n=6,349)	1996 Panel Response Rate (n=6,506)	1997 Panel Response Rate (n=6,599)	1998 Panel Response Rate (n=6,450)	1999 Panel Response Rate (n=6,085)
Round 16	62.0%	65.2%	66.7%	70.0%	74.1%	83.4%			
Round 17	61.9%	64.6%	66.2%	69.2%	72.8%	79.2%			
Round 18	61.8%	64.6%	66.1%	68.4%	71.7%	77.3%			
Round 19				67.5%	70.6%	75.8%	83.6%		
Round 20				67.2%	69.8%	74.3%	79.2%		
Round 21				67.1%	69.4%	73.1%	77.1%		
Round 22					68.7%	71.9%	75.3%	83.3%	
Round 23					68.2%	71.1%	73.9%	78.7%	
Round 24					68.2%	70.0%	72.7%	76.0%	
Round 25						69.4%	71.6%	73.9%	84.8%

Although average cumulative nonresponse rates in this range are nontrivial; steps have been and continue to be taken to reduce the risk of nonresponse bias. First, at each round, data from administrative records and from prior rounds are used to contrast new nonrespondents with the continuing sample. Where systematic differences are noted, the survey sampling weights are adjusted to remove the bias. For this reason, it is critical that the survey sampling weights be used in all analyses. (This variable is called R25CWGT on the RIC X record format.)

Longitudinal Analyses. In addition to cross-sectional analyses of the Medicare population as of the fall of 1999, this PUF may be linked to PUFs from preceding years to enable longitudinal analyses. Special survey sampling weights are provided for the analysis of different time periods. Table I.3 shows the different possible periods that may be analyzed after linkage along with the panels involved, sample sizes, and the appropriate weight. (It should be noted that the longitudinal files are not appropriate for doing certain types of analyses, such as mortality, disenrollment or characteristics of nonrespondents. If an analyst is interested specifically in analyzing such topics using the MCBS, they will need additional data.)

**Table I.3** Possible longitudinal analyses using CY 1999 Access to Care

Period	Targeted last possible “accretion” (that is, new entitlement) date	Earliest possible loss of entitlement	Rounds Interviewed	Sample Size	Weight
Fall 1996 to fall 1999	1/1/96	Fall 99	R16, R19, R22, R25	3,604	R253BWGT
Fall 1996 to fall 1999	1/1/97	Fall 99	R19, R22, R25	7,508	R252BWGT
Fall 1996 to fall 1999	1/1/98	Fall 99	R22, R25	11,681	R25NRWGT

The Community Interview. Sample persons in the community (or appropriate proxy respondents) are interviewed using computer-assisted personal interviewing (CAPI) survey instruments installed on notebook-size portable computers. The CAPI program automatically guides the interviewer through the questions, records the answers, and compares them to edit specifications, thereby increasing the output of timely, clear, and high quality data. CAPI guides the interviewer through complex skip patterns and inserts follow-up questions where certain data were missing from the previous round’s interview. When the interview is completed, CAPI allows the interviewer to transmit the data by telephone to the home office computer.

These interviews yield a series of complementary data over time for each sample person on utilization of health services, medical care expenditures, health insurance coverage, sources of payment (public and private, including out-of-pocket payments), health status and functioning, and a variety of demographic and behavioral information (such as income, assets, living arrangements, family supports, and quality of life). Additionally, an access to care supplement is asked once a year in the September--December round.

An effort is made to interview the sampled person directly, but in case this person is unable to answer the questions, he or she is asked to designate a proxy respondent, usually a family member or close acquaintance. In Round 25, roughly 11 percent of the community interviews were done with proxies.



The Facility Interview. The MCBS conducts interviews for persons in long-term care facilities using a similar, but shortened instrument. A long-term care facility is defined as having three or more beds and providing long-term care services throughout the facility or in a separately identifiable unit. Types of facilities currently participating in the survey include nursing homes, retirement homes, domiciliary or personal care facilities, distinct long-term units in a hospital complex, mental health facilities and centers, assisted and foster care homes, and institutions for the mentally retarded and developmentally disabled.

If an institutionalized person returns to the community, a community interview is conducted. If he or she spent part of the reference period in the community and part in an institution, a separate interview is conducted for each period of time. Because of this, a beneficiary can be followed in and out of facilities, and a continuous record is maintained regardless of the location of the respondent.

The initial contact for the institutional interview is always with the facility administrator. Interviews are then conducted with the staff designated by the director as the most appropriate to answer each section of the questionnaire. It was decided early in the design of the study not to attempt interviews with the sample person or family members. The facility interview does not include attitudinal or other subjective items. The facility instruments include:

- (1) The Facility Screener - This instrument gathers information on the facility to determine the facility type. It is asked during the initial interview;
- (2) The Baseline Questionnaire - Gathers information on the health status, insurance coverage, residence history, and demographic items on supplemental sample beneficiaries in a facility setting and new admissions from the continuing sample. Selected information from this questionnaire is updated annually for continuing sample persons using an abbreviated version, The Facility Component Supplement to the Core Questionnaire; and
- (3) The Facility Core Questionnaire - Collects information on facility utilization, charge and payment information. This questionnaire is asked in every round but the initial one.

Data Linkage. MCBS interview data have been augmented with selected individual person-level administrative data (for example, buy-in status for Medicaid and Medicare capitation payments for managed care plan membership) and fee-for-service claims for Medicare-covered services. The addition of these data greatly enhances the analytic power of the survey-reported data alone. This results in a database which combines data that can only be obtained from personal interviews (survey data) with Medicare administrative data and Medicare claims data. All personal identifying information is removed to ensure confidentiality.

## **Design of the Access to Care Public Use File**

The Access to Care Public Use File is designed to provide early release of MCBS data related to Medicare beneficiaries' access to care. Rapid release of access data is achieved by omitting survey reported utilization and expenditure data. The claims information, while limited to program payments for covered services, third party payments for some Medicare secondary payer situations, and potential beneficiary liability, allows significant analysis of the impact of program changes on the beneficiary. This process eliminates the need for imputation of missing cost and payment variables and bypasses the reconciliation of the utilization and expenditure data collected in the survey with Medicare claims data.

The content of the Access to Care Public Use File is governed by its central focus. In addition to questions from the access supplement concerning access to care, satisfaction with care and usual source of care, the file contains demographic and health insurance data and data on health status and functioning. To facilitate analysis, the information collected in the survey is augmented with data on the use and program cost of Medicare services from Medicare claims data.

## **Contents of this Documentation**

The rest of this manual contains detailed information about this public use file and specific background information intended to make the data more understandable. The sections are described below.

Section 1: Technical description of the public use file specifications and the structure of the public use file. It also provides a brief description and count of each of the record types in this file.

Section 2: Codebook of the file variables. This codebook is organized by record type and contains the question number (for data collected in the survey), and variable name, description and location in the record. Codes or possible values and value labels are also supplied. Frequencies for most variables (those with fewer than 120 distinct values) are also included in the codebook, as are notes concerning when variables are inapplicable (that is, questions were not asked due to skip patterns in the CAPI program). An index of variables is also included at the end of the codebook.

Variables in the CMS bill records are documented slightly differently. Record layouts are provided and are cross-walked to CMS data dictionary names. The data dictionary supplies a full explanation of all the variables and their various values.

Section 3: Notes on how individual variables were collected.

Section 4: Hard copy versions of the questionnaires used in Round 25. The questionnaires have been annotated with variable names to associate the questions with the codebook.

Section 5: A general description of the MCBS sample design, estimation procedures and projections. A brief discussion of response rates is also included. This section concludes with a comparison of the MCBS projections to CMS control figures.

## References

Centers for Medicare and Medicaid Services, Office of the Actuary, unpublished 1998 data from the National Health Accounts.

## Medicare Current Beneficiary Survey CY 1999 Access to Care

### Public Use File Structure

#### File specifications

The MCBS Calendar Year 1999 Access to Care PUF consists of a series of 52 separate datasets or files. Twenty-six of these datasets contain data on the MCBS sample persons; these files are the data files. The other 26 datasets contain SAS7 code (SAS input statements, formats and labels) to facilitate the use of the data files by users who use SAS. These are the README files.

CMS releases the data for use with either mainframe or personal computer setting. Figure 1.1 shows file specifications such as file names, record counts, and the associated README file names.

#### Summary of the Data

The 26 data files represent completed Round 25 interviews with a sample of 17,936 Medicare beneficiaries, and supplemental information from CMS's Medicare files. Of these cases, 16,670 beneficiaries had community interviews and 1,266 beneficiaries had facility interviews.

#### Using the Data

All datasets are standard “flat” files to allow for processing with a wide variety of operating systems and programming languages. The datasets can be divided into two subject matter groups, files related to MCBS survey data with related Medicare administrative variables and files related to Medicare bill data.

There are 19 data files containing survey data and related summary administrative variables. For each of these files there is a “README” file which includes a SAS INPUT statement, a PROC FORMAT to interpret the coded fields, LABELs which provide more information about the variable than would be possible in an 8-character name, and a FORMAT statement which associates the code interpretations with the appropriate variables.

## Section 1: File Structure

<b>Figure 1.1: File organization</b>		
File name	Records Counts	
MCBS.readme.rick		
MCBS.readme.rica2		
MCBS.readme.ric1		
MCBS.readme.ric2		
MCBS.readme.ric2f		
MCBS.readme.ric2h		
MCBS.readme.ric3		
MCBS.readme.ric4		
MCBS.readme.ric5		
MCBS.readme.ric6		
MCBS.readme.ric7		
MCBS.readme.ric8		
MCBS.readme.rich		
MCBS.readme.ricbk		
MCBS.readme.ricbn		
MCBS.readme.ricx		
MCBS.readme.ricw1		
MCBS.readme.ricw2		
MCBS.readme.ricw3		
MCBS.rick	17,936	
MCBS.rica2	17,936	
MCBS.ric1	17,936	
MCBS.ric2	16,670	
MCBS.ric2f	1,266	
MCBS.ric2h	11,718	
MCBS.ric3	16,670	
MCBS.ric4	17,936	
MCBS.ric5	16,670	
MCBS.ric6	1,267	
MCBS.ric7	1,267	
MCBS.ric8	17,936	
MCBS.rich	3,661	
MCBS.ricbk	4,351	
MCBS.ricbn	14,155	
MCBS.ricx	17,936	
MCBS.ricx2	16,840	
MCBS.ricx3	16,840	
MCBS.ricx4	16,840	
access99.readme.inp		
access99.readme.snf		
access99.readme.hsp		
access99.readme.hha		
access99.readme.otp		
access99.readme.phy		
access99.readme.dme		
access99.billrec.inp	4,855	
access99.billrec.snf	1,171	
access99.billrec.hsp	335	
access99.billrec.hha	4,386	
access99.billrec.otp	51,204	
access99.billrec.phy	506,051	
access99.billrec.dme	36,672	

As an illustration of the structure of the README files, Figure 1.2 is a copy of the README file for the Survey Enumeration record, RIC5.

**Figure 1.2: Text of a Typical README file**  
(MCBS.README.RIC5 Illustrated)

```

INPUT  @1    RIC      $1.
        @2    FILEYR   $2.
        @4    BASEID   $8.
        @12   D_HHTOT   2.
        @14   D_HHREL   2.
        @16   D_HHUNRL  2.
        @18   D_HHCOMP  2.
        @20   D_HHLT50  2.
        @22   D_HHGE50  2.;

PROC FORMAT;
VALUE HHCDFMT . = 'INAPPLICABLE'
              -8 = 'DONT KNOW'
              1 = 'NO ONE'
              2 = 'SPOUSE ONLY'
              3 = 'SPOUSE & OTHERS'
              4 = 'CHILDREN ONLY'
              5 = 'CHILDREN & OTHERS'
              6 = 'OTHERS ONLY'
              7 = 'NON RELATIVE';

VALUE PEOPLE 0 = 'NO ONE'
              1 = 'ONE PERSON'
              2 = 'TWO PEOPLE'
              .
              .
              .
              22 = 'TWENTY TWO PEOPLE';

VALUE $FIYRFMT . = 'MISSING'
              '98' = 'FILEYR' ;

VALUE $RICFMT . = 'MISSING'
              '5' = 'RIC' ;

VALUE $BASEID ' ' = 'MISSING'
              '00000000' - '99999999' = 'RECORD IDENTIFICATION #';

COMMENT USE THIS TO SET LABELS ON THIS FILE;

LABEL
      RIC      = 'RIC CODE FOR SURVEY ENUMERATION CODE'
      FILEYR   = 'YY REFERENCE YEAR OF RECORD'
      BASEID   = 'UNIQUE IDENTIFICATION NUMBER'
      D_HHTOT  = 'TOTAL NUMBER OF PEOPLE IN HH'
      D_HHREL  = 'NO. IN HH RELATED TO SP (INCLUDING SP)'
      D_HHUNRL = 'TOTAL NO. PEOPLE IN HH UNRELATED TO SP'
      D_HHCOMP = 'HOUSEHOLD COMPOSITION CODE'
      D_HHLT50 = 'NUMBER IN HH UNDER 50 (MAY INCLUDE SP)'
      D_HHGE50 = 'NO. IN HH 50 AND OVER (MAY INCLUDE SP)';

FORMAT  RIC      $RICFMT.
        FILEYR   $FIYRFMT
        BASEID   $BASEID
        D_HHTOT  PEOPLE.
        D_HHREL  PEOPLE.
        D_HHUNRL PEOPLE.
        D_HHCOMP HHCDFMT.
        D_HHLT50 PEOPLE.
        D_HHGE50 PEOPLE;

```

### Structure of the MCBS public use file(s)

As mentioned above, the data files can be divided into two subject matter groups: files containing survey data with related Medicare administrative variables and files containing Medicare bill data.

There are 19 data files in the survey and administrative summary data group:

- Key
- Administrative Identification
- Survey Identification
- Survey Health Status and Functioning (Community only)
- Survey Health Status and Functioning (Facility only)
- Survey Health Status and Functioning (Helper)
- Survey Access to Care
- Survey Health Insurance
- Survey Enumeration
- Survey Facility Residence History
- Survey Facility Identification
- Survey Interview
- Survey HMO Supplement
- Survey BK Supplement (Beneficiary Knowledge)
- Survey BN Supplement (Beneficiary Information Needs)
- Survey Cross-Sectional Weights
- Survey Longitudinal Weights (for individuals from the Round 16 Panel who completed Round 16, Round 19, Round 22, and Round 25 interviews)
- Survey Longitudinal Weights (for individuals from the Round 16 or Round 19 panel who completed Round 19, Round 22, and Round 25 interviews)
- Survey Longitudinal Weights (for individuals from the Round 16, Round 19, or Round 22 panel who completed Round 22 and Round 25 interviews)

There are seven types of Medicare bill records in the detailed utilization portion of the file:

- Inpatient hospital
- Skilled nursing facility
- Hospice
- Home health
- Outpatient
- Physician/supplier (Part B)

## Section 1: File Structure

- Durable medical equipment

The bill records represent services provided during calendar year 1999 and processed by CMS in conjunction with our administrative functions. To facilitate analysis, the Administrative Identification record contains a summary of the utilization that these bills present in detail.

Figure 1.3 The number of records present on each of the data files for community and facility sample respondents

Data files	Community respondents	Facility respondents
RIC K - Key record	1 per respondent	1 per respondent
RIC A - Administrative Identification	1 per respondent	1 per respondent
RIC 1 - Survey Identification	1 per respondent	1 per respondent
RIC 2 - Survey Health Status and Functioning (community)	1 per respondent	none
RIC 2f - Survey Health Status and Functioning (facility)	none	1 per respondent
RIC 2h - Survey Health Status and Functioning (helper)	1, several, or none per respondent	none
RIC 3 - Survey Access to Care	1 per respondent	none
RIC 4 - Survey Health Insurance	1 per respondent	1 per respondent
RIC 5 - Survey Enumeration	1 per respondent	none
RIC 6 - Survey Facility Residence History	none	1 per respondent
RIC 7 - Survey Facility Identification	none	1 per respondent
RIC 8 - Survey Interview	1 per respondent	1 per respondent
RIC H - Survey HMO Supplement	1 per respondent	1 per respondent
RIC BK - Survey Supplement (Beneficiary Knowledge)	1 per respondent	none
RIC BN - Survey Supplement (Beneficiary Information Needs)	1 per respondent	none
RIC X - Survey Cross-sectional Weights	1 per respondent	1 per respondent
RIC X4 - Survey R16/19/22/25 Longitudinal Weights	1 per respondent	1 per respondent
RIC X3 - Survey R19/22/25 Longitudinal Weights	1 per respondent	1 per respondent
RIC X2 - Survey R22/25 Longitudinal Weights	1 per respondent	1 per respondent
Hospital bills *	1, several, or none per respondent	
Skilled nursing facility bills *	1, several, or none per respondent	
Hospice bills *	1, several, or none per respondent	
Home health bills *	1, several, or none per respondent	
Outpatient bills *	1, several, or none per respondent	
Physician/supplier bills *	1, several, or none per respondent	
Durable medical equipment bills *	1, several, or none per respondent	

\* *These bills are summarized in the Administrative Identification record (RIC A), but are provided for more detailed analysis. If the sample person used Medicare benefits, there will be one or many bills, of one or many types, depending on what types of services were used. If the sample person used no Medicare benefits of a certain type, there will be no bills of that type. If the sample person used no*

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## Section 1: File Structure

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*Medicare benefits at all, there will be no bills. The RIC A summary provides information about how many services of each type will be found in the bill record files.*

All MCBS public use records begin with the same three variables: a record identification code (RIC), the version of the RIC (VERSION) and a unique number that identifies the person who was sampled (BASEID). These elements serve to identify the type of record and to provide a link to other types of records. To obtain complete survey information for an individual, an analyst must link together records for that individual from the various data files using the variable BASEID. In Round 25, none of the sample people has a record on every data file. The above Figure 1.3 provides an overview of the presence of data records on the various data files for community and facility respondents.

The tables that follow Figure 1.3 describe all of the types of records in this release. Table 1.A describes the survey and administrative records; Table 1.B describes the bill records.

**Table 1.A – File Overviews**Survey and Administrative Summary Data Files

---

**File: KEY**

RIC: K

Number of Records: 17,936 - 1 for each person who completed an interview

Description: The BASEID key identifies the person interviewed. It is an 8-digit element, consisting of a unique, randomly assigned 7-digit number concatenated with a single-digit checkdigit.

In addition to the BASEID, the KEY file contains the type of interview conducted and other variables for classifying the beneficiary.

**File: ADMINISTRATIVE IDENTIFICATION**

RIC: A

Number of records: 17,936 - 1 for each person who completed an interview

Description: The ADMINISTRATIVE IDENTIFICATION file contains information about the sample person from administrative records maintained by the Health Care Financing Administration. It contains basic demographic information (date of birth, sex), insurance information (Medicare entitlement, Medicaid eligibility, HMO enrollment), and summarizes the sample person's Medicare utilization for 1999.

**Table 1.A – File Overviews**Survey and Administrative Summary Data Files

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**File: SURVEY IDENTIFICATION**

RIC: 1

Number of records: 17,936 - 1 for each person who completed an interview

Description: The SURVEY IDENTIFICATION file contains demographic information collected in the survey. To some extent, it parallels the demographic information provided in the ADMINISTRATIVE IDENTIFICATION file (date of birth and sex, for example). Demographic information that is not available in the CMS records, such as education, income and military service, are also present.

**File: SURVEY HEALTH STATUS AND FUNCTIONING**

RIC: 2 and 2F

Number of Records: 16,670 and 1,266 respectively - 1 for each person who completed an interview

Description: The SURVEY HEALTH STATUS AND FUNCTIONING file contains information about the sample person's health, including: self-reported height and weight, a self-assessment of vision and hearing, use of preventive measures such as immunizations and mammograms, avoidable risk factors such as smoking, and a history of medical conditions. Standard measures - activities of daily living (ADLs) and instrumental activities of daily living (IADLs) - also appear in this file.

NOTE: Part of the process of converting the facility instrument from a paper and pencil format to a Computer Assisted Personal Interviewing (CAPI) format in 1997 was to adapt applicable questions from the facility instrument to the Resident Assessment Instrument (RAI) format. As a result of the format changes and question adaptations to the facility instrument, the RIC 2 was divided into two separate RICs (RIC 2 and RIC 2F). Those beneficiaries residing in the community have been recorded in the RIC 2. Beneficiaries residing in the facility environment have been recorded in the RIC 2F. Further discussion on the RAI and CAPI conversion and its impact on the RIC 2 can be found in Section 3: Notes on Using the Data.

RIC: 2H

**Table 1.A – File Overviews**

**Survey and Administrative Summary Data Files**

Number of Records: 11,718

Description: The SURVEY HEALTH STATUS AND FUNCTIONING (Helper) file contains information about those persons responsible for assisting respondents in performing their activities of daily living (ADLs) and/or instrumental activities of daily living (IADLs). The number of helpers, the helper's relationship to the respondent, and the types of ADLs and IADLs the helper assists the respondent in performing are contained in this file.

NOTE: The number of records reflects the number of persons identified as assisting the survey respondent in performing various ADLs and IADLs. Therefore, it is possible to have one, several, or no records per respondent.

**File: SURVEY ACCESS TO CARE**

RIC: 3

Number of Records: 16,670 - 1 for each community person who completed an interview

Description: The ACCESS TO CARE file contains information from the Access to Care and Satisfaction with Care sections of the questionnaire. Sample people were asked general questions about their use of all types of medical services in 1999 and about their usual source of medical care. This file also contains the sample people's assessment of the quality of the medical care that they are receiving.

**File: SURVEY HEALTH INSURANCE**

RIC: 4

**Table 1.A – File Overviews****Survey and Administrative Summary Data Files**

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Number of Records: 17,936 - 1 for each person who completed an interview

Description: The SURVEY HEALTH INSURANCE file summarizes current health insurance information provided by the sample people.

NOTE: One derived variable, the summary insurance indicator, D\_SUMINS, indicates the variety and number of current policies reported by the sample person. Medicaid coverage and details of other types of coverage are also included. To limit the size of the RIC 4 record, only 5 private health insurance policies are detailed. For individuals in the sample that had more than 5 private health insurance policies, the total in the summary indicator is correct, but the number of plans detailed is less than the total. After a comparison of two MCBS files revealed a deviation in the number of health insurance policies held by the survey population, the editing procedures in the Access to Care RIC 4 were changed to include only those health insurance plans that the survey participant is currently enrolled with.

**File: SURVEY ENUMERATION**

RIC: 5

Number of Records: 16,670 - 1 for each person who completed a community interview

Description: The ENUMERATION file contains information about the sample person's household. It reflects the size of the household, and the age and relationship of the people in it.

**File: SURVEY FACILITY RESIDENCE HISTORY**

RIC: 6

**Table 1.A – File Overviews****Survey and Administrative Summary Data Files**

---

Number of Records: 1,267 - 1 for each person who completed a facility interview

Description: The FACILITY RESIDENCE HISTORY file summarizes the sample person's stay(s) in the facility, providing information about the admission and some limited information about the sample person's living arrangement prior to admission.

NOTE: In converting the MCBS Facility questionnaire to CAPI, full advantage was taken of the work done by the Agency for Health Care Policy and Research in its development of the CAPI protocol for the National Nursing Home Expenditure Survey (NNHES). The NNHES closely resembles the MCBS facility questionnaire in design and content. Adaptation was done carefully to insure both the continuity of the MCBS data and their comparability with NNHES. Consequently, both the RIC 6 and RIC 7 were modified. A more complete discussion of these modifications can be found in Section 3: Notes on Using the Data.

**File: SURVEY FACILITY IDENTIFICATION**

RIC: 7

Number of Records: 1,267 - 1 for each sample person interviewed in a facility

Description: The FACILITY IDENTIFICATION file provides general characteristics of the institutions, most of the information from the facility screener. In several cases, more than one sample person resided in the same facility. In these cases the RIC 7 records are redundant (containing all of the same information), and differ only in the BASEID.

**File: SURVEY INTERVIEW**

RIC: 8

Number of Records: 17,936 - 1 for each person who completed an interview

**Table 1.A – File Overviews****Survey and Administrative Summary Data Files**

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Description: The SURVEY INTERVIEW file summarizes the characteristics of the interview, including type of questionnaire, duration, and whether or not the interview was conducted with a proxy respondent.

**File: SURVEY HMO SUPPLEMENT**

RIC: H

Number of Records: 3,661 - 1 for each sample person

Description: The HMO SUPPLEMENT file augments information from the Access to Care and Satisfaction with Care sections of the questionnaire. Sample people who were currently enrolled in a State licensed HMO at the time of the interview were asked general questions about their health plans, to include access to and satisfaction with medical services in 1999. This file also contains the sample people's assessment of the quality of the medical care that they are receiving, types of additional coverage offered, and any out of pocket costs associated with the health plan.

**File: SURVEY BK SUPPLEMENT (Beneficiary Knowledge)**

RIC: BK

Number of Records: 4,351 - 1 for each sample person

**Table 1.A – File Overviews**

**Survey and Administrative Summary Data Files**

**Description:** The BK Supplement provides the opportunity to quantify many of CMS's Strategic Plan objectives. Specifically, to involve the beneficiaries in defining their health care needs by aggregating and using data for continuous policy and process improvement, to assess outreach by the Medicare program and general knowledge of the Medicare program (services and health care choices) by the beneficiaries.

**NOTE:** The BK Supplement was conducted in the January through April 2000 interview period. As a result, there is a discrepancy in the number of records. The MCBS fielded a one time follow-back supplement to the continuing panels (1996, 1997, and 1998). As a result, it was determined to only include those respondents who were selected to participate in 1999 Panel. Therefore, this record count variance reflects the absence of all continuing panels, the HMO “one time only” supplement, and natural attrition.

**File: SURVEY BN SUPPLEMENT (Beneficiary Information Needs)**

**RIC:** BN

**Number of Records:** 14,155 - 1 for each sample person

**Description:** The BN Supplement (much like the BK Supplement) provides the opportunity to quantify many of CMS's Strategic Plan objectives. Specifically, to obtain an understanding as to how beneficiaries receive information about their benefits and about developments in the Medicare program.

**NOTE:** The BN Supplement was conducted in the May through August 2000 interview period. As a result, there is a discrepancy in the number of records. This record count variance is attributed to the absence of the HMO “one time only” supplement, the retiring of a panel, and natural attrition.

**File: SURVEY CROSS-SECTIONAL WEIGHTS**

**RIC:** X

**Number of Records:** 17,936 - 1 for each sample person

**Description:** The CROSS-SECTIONAL WEIGHTS file provides cross-sectional weights,



**Table 1.A – File Overviews****Survey and Administrative Summary Data Files**

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including general-purpose weights and a series of replicate weights.

**File: SURVEY R16/19/22/25 LONGITUDINAL WEIGHTS**

RIC: X4

Number of Records: 16,840 - 1 non-zero weight for each individual from the 16 sample who completed Round 16, Round 19, Round 22, and Round 25 interviews (3,604); missing value (“.”) for all others (13,236).

Description: The LONGITUDINAL WEIGHTS file provides longitudinal weights, including general-purpose weights and a series of replicate weights.

NOTE: The missing 1,096 records (RIC X4, X3, and X2) constitute a one time over sample of HMO enrolled Medicare beneficiaries.

**File: SURVEY R19/22/25 LONGITUDINAL WEIGHTS**

RIC: X3

Number of Records: 16,840 - 1 non-zero weight for each individual from the Round 16 or Round 19 samples who completed Round 19, Round 22, and Round 25 interviews (7,508); missing value (“.”) for all others (9,332).

Description: The LONGITUDINAL WEIGHTS file provides longitudinal weights, including general-purpose weights and a series of replicate weights.

**File: SURVEY R22/25 LONGITUDINAL WEIGHTS**

RIC: X2

Number of Records: 16,840 - 1 non-zero weight for each individual from the Round 16, Round 19, or Round 22 samples who completed Round 22 and Round 25 interviews (11,681); missing value (“.”) for all others (5,159).

**Table 1.A – File Overviews****Survey and Administrative Summary Data Files**

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Description: The LONGITUDINAL WEIGHTS file provides longitudinal weights, including general-purpose weights and a series of replicate weights.

**Table 1.B – File Overviews**  
Medicare Utilization Summary Files

**File: HOSPITAL BILLS**

RIC: INP

Number of Records: 4,855

Description: Inpatient hospital bills for the MCBS population. These include bills from short stay general hospitals, and long-term hospitals such as psychiatric and TB hospitals. Different provider types are distinguishable. Generally, there is one bill for each stay. Some hospitals, particularly the long-term facilities, may bill on a cyclical basis and several bills may constitute a single hospitalization.

**File: SKILLED NURSING FACILITY BILLS**

RIC: SNF

Number of Records: 1,271

Description: Skilled-nursing facility bills for the MCBS population. These include Christian Science facilities and other skilled nursing facilities. Different provider types are distinguishable. Generally, several bills constitute a period of institutionalization.

**File: HOSPICE BILLS**

RIC: HSP

Number of Records: 335

Description: Hospice bills for the MCBS population. Billing practices vary by provider in that some hospices bill on a cycle (e.g. monthly) so that several bills constitute a period of hospice care; others submit a series of “final” bills.

**File: HOME HEALTH BILLS**

**Table 1.B – File Overviews**  
**Medicare Utilization Summary Files**

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RIC: HHA

Number of Records: 4,386

Description: Home health bills for the MCBS population. Home health agencies generally bill on a cycle, e.g., monthly.

**File: OUTPATIENT BILLS**

RIC: OTP

Number of Records: 51,204

Description: Outpatient hospital bills for the MCBS population. These bills are generally for Part B services that are delivered through the outpatient department of a hospital (traditionally, a Part A provider).

**File: PHYSICIAN/SUPPLIER BILLS**

RIC: PHY

Number of Records: 506,051

Description: Medicare Part B (physician, other practitioners, and suppliers other than DME-- see RIC M below for DME) claims for the MCBS population. These records reflect services such as doctor visits, laboratory tests, X-rays and other types of radiological tests, surgeries, and inoculations.

**File: DURABLE MEDICAL EQUIPMENT BILLS**

**Table 1.B – File Overviews****Medicare Utilization Summary Files**

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RIC: DME

Number of Records: 36,672

Description: Medicare DME Part B claims for the MCBS population. These records reflect claims for DME rentals and purchases.

# Medicare Current Beneficiary Survey CY 1999 Access to Care

## Codebook

This public use release consists of two parts: 1) a summary segment, which contains all of the survey information and summary data from CMS's administrative and claims files, and 2) a bill segment, which contains itemized bill records from CMS's National Claims History (NCH) database.

The first part of this section includes frequency tables for all of the variables in the summary segment. The second part of this section documents the variables (without frequencies) in the bill detail records.

### SUMMARY SEGMENT

#### **Using the tables**

The following tables list the variables in each of the records, give their physical location in the record, list their possible values and relate them to the questionnaires or to source CMS files.

The first part of the Medicare Current Beneficiary Survey public use file (that is, the survey and CMS summary data) is made up of 19 different types of records. The name of the record type being described is identified by name on the second line. The RIC or record identification code with the record type being described is shown on the third line on the right of the page under the page number. This will enable more rapid access to particular parts of the codebook.

Variable - This column contains the variable names that we have associated with the SAS version of our data files. Since SAS limits variable names to 8 characters, these names are not always immediately meaningful. You can change them to more informative names, but the names in the tables were used to annotate the copies of the questionnaires.

Certain conventions apply to the SAS variable names. All variables that are preceded by the characters "D\_", such as D\_SMPTYP are derived variables. The variables did not come directly from the survey data, but compiled from several survey variables. Variables preceded by the characters "H\_" come from CMS source files.

Col (Column) - This column locates the variable physically in the record.

Len (Length) - This column describes the length of the field of the variable.

Fmt (Format) Name - This column identifies the format name associated with the variable in the SAS README file for this variable's RIC.

Frequency - This column shows unweighted frequency counts of values or recodes for each variable.

Ques # - The column headed “Ques #” contains a reference to the questionnaire for direct variables, or to the source of derived variables. For example, the “Ques #” entry that accompanies the variable ERVISIT in the Access to Care record is “AC1.” The first question in the Access to Care portion of the community questionnaire is the one referenced.

Table 2.1 lists the abbreviations that may appear in this column when a section of the questionnaire is referenced.

This column will be blank for variables that relate to neither the questionnaire nor to CMS source files. These variables, such as the record identification code (variable name is RIC), are usually ones that we created to manage the data and the file.

Ty (Type) - This column identifies the type of variable, that is, numeric (N) or character (C).

Label (Variable label and codes) - In the first line under this column, you will find an explanation of the variable which describes it more explicitly than would be possible in only 8 letters. These labels are available in README files, if you wish to use them in creating SAS data sets.

For coded variables all of the possible values of the variable appear in lines beneath that explanation. Associated with each possible value (in the column labeled “Frequency”) is a count of the number of times that the variable had that value, and, under the column labeled “Label,” a short format expanding on the coded value. Formats are also available in the README files.

Certain conventions were used in coding all variables to distinguish between questions that beneficiaries would not, or could not, answer, and questions that were not asked. These conventional codes are: “.” or “-1” if the question was not applicable; “-7” if the respondent refused to answer; “-8” if the respondent didn’t know the answer; and “-9” if the answer could not be ascertained from the response. With derived variables, a “ ” (blank) or “.” mean that the variable could not be derived because one or more of the component parts was not available.

Many questions were posed to elicit simple “Yes” or “No” answers, or to limit responses to one choice from a list of categories. In these cases, the responses are “Yes” or “No,” or one of the codes from the list. In other questions, the respondent was given a list of items to choose from, and all of the responses were recorded. In these cases, each of the responses is coded “Indicated” or “Not indicated.”

If a beneficiary responded with an answer that was not on the list of possible choices, it was recorded verbatim. All of the verbatim responses were reviewed and categorized. New codes were

added to the original list of options to accommodate narratives that appeared frequently. For this reason, the list of possible values for some variables may not exactly match the questionnaire.

Inapplicable - Each variable is followed by a statement that describes when a question was not asked, resulting in a missing variable. Questions were not asked when the response to a prior question or other information gathered earlier in the interview, would make them inappropriate. For example, if the sample person said he has never smoked (community component, question HS16), he would not be asked if he smokes now (question HS17).

The codebook for the various survey and summary RICs is followed by a Variable Name Index that lists sequentially all variables in the codebook, source of information, pertinent RIC, and page within the codebook.

Table 2.1: Abbreviations Used to Identify Sections of the Questionnaires

Community Baseline Questionnaire

IN	Introduction
EN	Enumeration
HI	Health Insurance
AC	Access to Care
HS	Health Status and Functioning
SC	Satisfaction with Care
US	Usual Source of Care
DI	Demographics/Income
BK	Beneficiary Knowledge
BN	Beneficiary Needs
CL	Closing

Facility Questionnaire (Screener)

FAVERIF, FA, FB

Facility Baseline Questionnaire

RH	Residence History
BQ	Background History
IN	Health Insurance
HA	Health Status and Functioning

BILL DETAIL SEGMENT



## **Using the tables**

The tables in the bill detail section describe the Medicare utilization files included on the public use file. There are two sets of tables; they must be considered together in order to interpret the data in this segment.

# FILE DESCRIPTIONS FOR MEDICARE CLAIMS - These record layouts correspond to the seven Medicare utilization files on the public use file(s). The inpatient hospital and SNF bill files are described in the same record layout even though they are in separate datasets.

NCH No. - The number associated with each variable in the public use file bill records and CMS's Data Dictionary (discussed below). The NCH No. can be used to crosswalk from the bill record to the more detailed description in the dictionary.

Variable - The name we have assigned to the data element (variable). Names may be up to eight characters long and are mnemonic. The variable name links the record layout to the remainder of the bill detail documentation. This name is also the name that we have supplied in the "README" SAS INPUT statement and labels.

Type - The format of the data element, or variable. Singly occurring data fields may be numeric, character or packed-decimal.

Group items may appear more than once, depending on the information that is present in the bill. For example, if several surgical procedures were reported on the bill, each of them would appear as a separate group item. One surgical procedure would translate to a single group item. A counter shows how many of each trailer type are present. For example, the number of ICD-9-CM procedure code groups present on the claim would be indicated by the counter PROCCNT.

Length - The number of bytes physically occupied by the variable in the record.

Format - How the data should be interpreted. For example, date fields may be read as eight characters, interpreted as CCYYMMDD (two-digit century, followed by two-digit year of the century, followed by two-digit month, followed by the two-digit day of the month).

Description - A more complete explanation of what the variable contains. These descriptions can be assigned to variables with the SAS LABEL code that is provided in the "README" file.

# DATA DICTIONARY - These tables are maintained by CMS to describe their internal records. They contain standard definitions of the variables in this file and values for all coded variables. Some of the variables referenced in this dictionary do not appear in this file. We have deleted some fields to protect the privacy of those who are participating in the survey.

**Note:** CMS has released a new version of the Medicare claims. This new version (H) incorporates federally mandated changes to the structure and content of the Medicare claims found in version G. It is important to look closely at the different readme files for each of the claim records before attempting to merge the Medicare claims data with MCBS data.

## **Medicare Current Beneficiary Survey**

### **CY 1999 Access to Care**

#### **Notes on Using the Data**

In an undertaking of this nature and magnitude, there are bound to be questions about how terms are defined operationally and how field procedures affect the data collection process. We have included this section to address those questions.

This section is a collection of information about various data fields present in this public use release. We have not attempted to present information on every survey data field; rather, we concentrated our efforts on data fields where we have something useful to introduce. We start with information which is relevant across the board (global information). We follow that with specific information on individual data fields, presented in the same sequence as the data fields appear in the codebook.

#### **Global Information**

##### Missing Values

Various negative values are used to indicate missing data. For instance, for survey-collected data, a value of -1 indicates that the variable is inapplicable. A variable is generally inapplicable because the question is not appropriate, for example, a question about hysterectomy when the respondent is a male. In this file, the value -1 has been replaced with SAS7 standard missing values (“ ” or blank for character and “.” for numeric). Other missing value codes used in the survey (-7 for “refused,” -8 for “don’t know,” and -9 for “not ascertained”) were not changed.

##### Dates

The CMS derived date of birth and death include century indicators and are in the format CCYYMMDD (2-digit century, 2-digit year, 2-digit month and 2-digit day). Due to the manner in which the responses were given, these dates must be evaluated in parts because one or more of the parts may be missing. For example, a vague response about a particular date (such as, “I know it was in June of last year, but I’m not sure of the exact day”) would be coded “199906-8” (A19” for the century, “99” for the year, “06” for June, and the code “-8” for “Don’t know” for the day).

### Narratives

Respondents were asked a number of open-ended questions. The respondents answered these questions in their own words, and interviewers recorded the responses verbatim. The interviewer was prohibited from paraphrasing or summarizing the respondents' answers. However, this public use release does not contain narratives. Instead, we have supplied codes that summarize the answer. Often there will be more than one code because the answer included several specific topics.

### **Specific variables - Key Record (RIC K)**

There are 17,936 key records, one for each individual who completed an interview (16,670 community interviews **INTERVU**="C" and 1,266 facility interviews **INTERVU**="F").

The facility interview was conducted whenever the sample person was residing in a facility: 1) that contains three or more beds, 2) that is classified by the administrator as providing long-term care, and 3) whose physical structure allows long-term care residents of the facility to be separately identified from those of the institution as a whole. This broad definition allows analysis beyond traditional views of long-term care, that is, nursing home and related care homes having three or more beds and providing either skilled nursing, or rehabilitative or personal care (other than supervision). Analysts can narrow or extend the focus of their studies of facility care by using information from the Survey Facility Identification Record. This record is present for each sample person for whom a facility questionnaire was administered.

Some sample people had more than one interview in this round. This release is a mix of people who joined the survey in: Round 16 (**D\_SMPTYP**="96"), Round 19 (**D\_SMPTYP**="97"), Round 22 (**D\_SMPTYP**="98"), and Round 25 (**D\_SMPTYP**="99"). Interviews are conducted for the continuing panels (that is, the Round 16, Round 19, and Round 22 panels) in as many settings as necessary, to create a seamless view of the entire round. Only one interview--facility or community--conducted with the new (Round 25) panel, depending on the situation in which we locate them. In the total group of 17,936 respondents with a Round 25 interview, the great majority had one, and only one, interview.

To avoid duplication of data, the records in this file represent only the last interview in Round 25: 16,670 community and 1,266 facility interviews.

This record contains a special-purpose variable, **SURVIVE**. The Round 25 MCBS data are not suited for making estimates of the "ever enrolled" 1999 Medicare population because the sample does not include beneficiaries new to Medicare in 1999 nor those who died during the year prior to the fall round. For the same reason, point-in-time estimates are also inappropriate. However, an

### Section 3: Notes on Using the Data

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adjustment has been done to account for persons newly enrolled on January 1, 1999. It is appropriate, therefore, to use the Round 25 data to approximate the “always enrolled” 1999 Medicare population, that is, those beneficiaries who were alive and enrolled on or before January 1, 1999 and were still alive and enrolled on January 1, 2000. We estimate this population at 36.7 million beneficiaries. This group can be separated from the entire group of Round 25 interviews by selecting only beneficiaries who were enrolled before 1999 and survived until 2000 (**SURVIVE**=“Y”).

#### Administrative Identification Record (RIC A)

Except as noted otherwise, the variables in this record were derived from CMS's Medicare enrollment database. History records were searched to establish the beneficiary's status (for example, age, age, residence, and type of beneficiary) as of December 31, 1999.

Four variables relating to the sample person's age are provided. Date of birth as reported by the respondent during the initial interview is recorded in the RIC 1 - Survey Identification record (**D\_DOB**). Legal date of birth from the Medicare - Social Security Administration records is recorded in the Administrative Identification Record (**H\_DOB**). Note that starting with the 1996 data, this is the SSA legal date of birth, which is the first day of the birth month, unless the sample person was born on the first of the month, in which case the legal birth date is the first day of the previous month. The variable **H\_AGE** represents the sample person's legal age as of December 31, 1999. The variable **H\_STRAT** groups the sample persons by **H\_AGE**. The variables **H\_DOB**, **H\_AGE**, and **H\_STRAT** appear in the Administrative Identification record.

Because of privacy issues several variables were changed or deleted from the public use file (PUF) version of the 1997 RIC A. These changes were continued in the 1998 file, and all subsequent years. The (**H\_DOB**) date of birth change to legal date of birth was mentioned above. The date of death (**H\_DOD**) has been changed to the last day of the death month. The **H\_CENSUS** census region code has been deleted from the PUF version. The hospice periods (**H\_HSBEG1 - 4** and **H\_HSEND1 - 4**) and the latest End Stage Renal Disease (ESRD) period dates (**H\_ESRBEG** and **H\_ESREND**) have been eliminated from the PUF version.

In Calendar Year 1999, approximately 5.4 million “Person Years” (the sum of enrollees per month for CY 1999 divided by twelve) or 13 percent of the Medicare population had their Part B and/or Part A premiums paid by a State agency (for the entire year an estimated 6.0 million persons ever-enrolled had their premium paid for at least one month). This process, called State buy-in, is tracked by CMS and is used as a general proxy for Medicaid participation. The variables that describe this participation (**H\_MCSW** and **H\_MCDE01 - H\_MCDE12**) were derived through a match with CMS's enrollment database. The variable **H\_MCSW** can be used when only an indication that the enrollee was a “buy-in” at some time during 1999 is needed for analysis. The

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### Section 3: Notes on Using the Data

monthly variables **H\_MCDE01 - H\_MCDE12** can be used for analyzing Medicaid eligibility at specific points in time.

Membership in Medicare managed care plans has been increasing faster than the overall Medicare population. During 1999 managed care enrollees increased from 6.6 million in January to 7.0 million in December. As of the mid-point of the calendar year, July 1, approximately 6.9 million or 17.6 percent of the Medicare population received Medicare benefits through coordinated care organizations such as an HMO, which contracts directly with CMS to provide those services. Some of the beneficiaries in the MCBS sample belong to such organizations. The variables that describe this membership (**H\_GHPSW** and **H\_PLTP01 - H\_PLTP12**) were derived through a match with CMS's enrollment database. The variable **H\_GHPSW** can be used when only an indication that the enrollee was a member of a Medicare managed care plan at some time during 1999 is needed for analysis. The monthly variables **H\_PLTP01 - H\_PLTP12** can be used for analyzing membership at specific points in time.

#### Utilization Summary

For easier comparison of groups of people by the number and cost of medical services they have received, the Administrative Identification Record also includes a summary of all Medicare bills and claims for calendar year 1999, as received and processed by CMS through July 2000. (See the variables in the Administrative Identification Record from **H\_LATDCH** to the end). In response to heightened privacy awareness, individual bill records are not supplied as part of the public use release. Researchers who wish to study individual Medicare bills in detail (i.e., the HOSPITAL BILL, the SNF BILL, the HOSPICE BILL, the HOME HEALTH BILL, the OUTPATIENT BILL, the PHYSICIAN/SUPPLIER BILL and the DURABLE MEDICAL EQUIPMENT BILL), will need to obtain the analytic release of the RIC A.

The utilization summary represents services rendered and reimbursed under fee-for-service in calendar year 1999. If a beneficiary used no Medicare services at all or was a member of a coordinated or managed care plan (such as a risk HMO) that does not submit claims to a fiscal intermediary or carrier, all program payment summary variables will be empty. If the beneficiary used no services of a particular type (for example, inpatient hospitalization), the variables relating to those benefits will be empty. Empty variables are zero-filled, except as noted in the next paragraphs.

The variables pertaining to deductibles: **H\_LATLOS**, the Part A deductible, **H\_INPDED**; Part B deductible, **H\_PTBDDED**, and the blood pints deductible, **H\_BLDDED**, have been eliminated. This information was not consistently available from CMS's present files. An approximation can be derived from the individual bill records.

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### Section 3: Notes on Using the Data

The variables pertaining to special coverage (lifetime reserve days, **H\_LRDAY**, and psychiatric days, **H\_PSYDAY**) have been eliminated. They had been blank in previous releases of Access to Care data, as they did not offer a useful history of utilization.

#### Utilization summary

Adjustment bills Initial claims submitted by fiscal intermediaries and carriers for services rendered and paid for by Medicare may be modified by later transactions that result in additional submittal of information relevant to payment or utilization for a given event. There are two types of Part A (institutional) adjustment transactions: credit-debit pairs, and cancel-only credit transactions. Both types of transactions cancel out a bill that was processed earlier (the credit bill exactly matches the earlier bill, which can be viewed as an initial debit). The difference between them lies in how (or if) a new debit transaction is applied to show the correct utilization. If the adjustment consists of a credit-debit pair, the new debit is applied immediately because it is submitted as the “debit” half of the pair. If the adjustment is a cancel-only transaction, the debit may be processed at a later date through a separate bill. In some cases, as when the original bill was completely in error, the cancel-only transaction simply serves to “erase” a mistake, and no new debit would be submitted. For this file, the adjustment processing removes the original debit and the credit which cancels it out, leaving only the final, corrected debit.

[NOTE: A few rare cases of credit bills with no prior debit may be in this file; these records can be dropped from analysis because they are, in effect, canceling out something of which CMS has no record.]

For Part B claims, we summarized only accepted claims (process code is “A”), or adjusted claims if the adjustment concerned money (process code either “R” or “S” and allowed charges greater than \$0). If the claim disposition code (DISPCD) was “03” or “63” (indicating a credit), both the credit and the matching debit were deleted.

Individual fields After adjustments were processed, the bills were summarized following the rules set forth below.

#### **Inpatient hospital bills**

Utilization is summarized by admissions, days, charges, covered charges, reimbursement amount, coinsurance days, and coinsurance amount. Admissions (**H\_INPSTY**) were totaled by sorting the bills in chronological order, and counting the first admission in each sequence. Total covered days (**H\_INPDAY**) were summed from **COVDAY** in the bill. Total coinsurance days (**H\_INPCDY**) were summed from **COINDAY**. Total bill charges and non-covered charges were selected from the revenue center trailer coded “0001”; total charges were summed as **H\_INPCHG** and covered charges (total charges less non-covered charges) were summed as **H\_INPCCH**.

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### Section 3: Notes on Using the Data

Coinsurance amounts (**H\_INPCAM**) were summed from **COINAMTA** in the bill. Reimbursement (**H\_INPRMB**) is the sum of **PROVPAY**, organ acquisition costs (if any) and “pass through” amounts. Organ acquisition costs were accumulated from revenue center trailers when the second and third positions of the code were “81”. Pass through amounts were calculated by multiplying covered days (**COVDAY** in the bill record) by the pass through per diem (**PTDIEM** in the bill record).

#### Skilled nursing facility

Utilization is summarized by admissions, days, charges, covered charges, reimbursement amount, coinsurance days and coinsurance amount. Admissions (**H\_SNFSTY**) were totaled by sorting the bills in chronological order, and counting the first admission in each sequence. Total covered days (**H\_SNFDAY**) were summed from **COVDAY** in the bill. Total coinsurance days (**H\_SNFCDY**) were summed from **COINDAY**. Total bill charges and non-covered charges were selected from the revenue center trailer coded “0001”; total charges were summed as **H\_SNFCHG** and covered charges (total charges less non-covered charges) were summed as **H\_SNFCCH**. Total coinsurance amounts (**H\_SNFCAM**) were summed from **COINAMTA** in the bill. Total reimbursement (**H\_SNFRMB**) is the sum of **PROVPAY**.

#### Home Health

Utilization is summarized by visits, visit charges, and other (that is, nonvisit) charges. If the second and third positions of the revenue center code were 42, 43, 44, 47, 55, 56, 57, or 58, then the units in the trailer (visits) were added to total visits (**H\_HHAVST**) and the charges were accumulated as total covered visit charges (**H\_HHACCH**). If the revenue center codes did not indicate visits, the charges were accumulated as other HHA charges (**H\_HHACHO**). Total home health reimbursement (**H\_HHARMB**) was summed from the variable **PROVPAY**.

#### Hospice

Utilization is summarized by days, covered charges and reimbursement amount. Covered hospice days (**H\_HSDAYS**) were summed from the bill variable **COVDAY**. Covered charges were selected from the revenue center trailer coded “0001” and summed as **H\_HSTCHG**. Total hospice reimbursement (**H\_HSREIM**) was summed from the variable **PROVPAY**.

#### Outpatient

Utilization is summarized by bills, covered charges and reimbursement amount. Total bills were counted as **H\_OUTBIL**. Total covered charges were selected from the revenue center trailer coded “0001” and summed as **H\_OUTCHG**. Total outpatient reimbursement (**H\_OUTRMB**) was summed from the variable **PROVPAY**.



**Part B (Carrier) claims**

Utilization is summarized by number of claims, number of line items, submitted and allowed charges, reimbursement, office visits and office visit charges. All claims and individual line items (there can be up to 13 per claim) were counted and summed as (**H\_PMTCLM**) and (**H\_PMTLIN**). Submitted charges and allowed charges (**H\_PMTTCH**) and (**H\_PMTCHG**) were summed from **SUBCRG** and **ALLOWCRG** in the bill. Total reimbursement for Part B claims (**H\_PMTRMB**) was summed from the variable **PAYAMT** in the bill.

Office visits and their charges are summed with other services (described above) and as separate categories (**H\_PMTVST** and **H\_PMTCHO**). We summed office visits and office visit charges separately for two reasons. An office visit is a universally understood measure of service use and access to medical care. It also is an accurate measure of levels of service use across separate groups, unlike charge or payment figures which vary depending on the services that have been performed. Office visits are identified by HCPCS codes in the series 90000-90090 and 99201-99215 in the Part B line item trailer group(s).

**Survey Identification Record (RIC 1)**“Initial interview” variables

Some questions are asked only in the initial interview for an individual and are not asked again during subsequent sessions because the responses are not likely to change. Such questions include “Have you ever served in the armed forces?” and “What is the highest grade of school you ever completed?” Similarly, once the sample person has told us that he or she has a chronic condition (such as diabetes), the interviewer will not ask “Have you ever been told you have diabetes?” in a subsequent interview. For this reason, the answers to these questions are missing from Round 25 for people from the 1996, 1997, and 1998 panels. To maximize the usefulness of this public use release as a cross-sectional file, we have back filled this information from the initial interviews, for persons joining the survey in the 1996, 1997, and 1998 panels. Variables that have been reproduced this way are annotated “Initial interview” in this section.

When the complete date of birth was entered (**D\_DOB**), the CAPI program automatically calculated the person’s age, which was then verified with the respondent. In spite of this validation, the date of birth given by the respondent (**D\_DOB**) does not always agree with the Medicare record date of birth (**H\_DOB**). In these cases, the sample person was asked again, in the next interview, to provide a date of birth. Some recording errors have been identified this way, but in most cases beneficiaries provided the same date of birth both times they were asked. In some cases, proxies

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### Section 3: Notes on Using the Data

indicated that no one was exactly sure of the correct date of birth. In general, it is recommended that the variable **H\_DOB** be used for analyses, since the CMS date of birth was used to select and stratify the sample. (Initial interview variable)

The VA disability rating (**D\_VARATE**) is a percentage and is expressed in multiples of ten; it refers to disabilities that are officially recognized by the government as service-related. (Initial interview variable)

Race categories (**D\_RACE**) are recorded as interpreted by the respondent. Categories were not suggested by the interviewer, nor did the interviewer try to explain or define any of the groups. Ethnic groups such as Irish or Cuban were not recorded. (Initial interview variable)

Hispanic (**D\_ETHNIC**) includes persons of Mexican, Puerto Rican, Cuban Central or South American or other Spanish culture or origin, regardless of race. Again, these answers are recorded as interpreted by the respondent. (Initial interview variable)

**SPCHNLNM**: Respondents were asked to report all living children, whether stepchildren, natural or adopted children. (Initial interview variable)

**SPHIGRAD**: Education does not include education or training received in vocational, trade or business schools outside of the regular school system. This variable only includes years the sample person actually finished. If the sample person had earned a GED, the response was coded “high school--4th year”. If the sample person said he or she earned a college degree in fewer than 4 years, the response was coded “college and graduate school--4 years”. If the sample person attended school in a foreign country, in an ungraded school, under a tutor or under special circumstances, the nearest equivalent or the number of years of attendance was coded. (Initial interview variable)

**INCOME**: Income represents the best source or estimate of income during 1998. Round 24 represents the most detailed information for 1998 and is used when available. For individuals not completing Round 24 (that is, continuing panel people unavailable for that round and the Round 25 rotating panel), the most recent information available was used. It should be noted that INCOME includes all sources, such as pension, Social Security and retirement benefits, for the sample person and spouse. In some cases the respondent would not, or could not, provide specific information but did say the income was below \$25,000 (or, conversely, \$25,000 or more).

In Round 25 some Ainitial interview≡ questions (which were previously viewed as not likely to change) were carried over to subsequent sessions, because the responses were likely to change. The respondent was allowed to define marital status categories (**SPMARSTA**); there was no requirement for a legal arrangement (for example, separated). The answers to these questions are present in Round 25 for people from the 1996, 1997, 1998, and 1999 panels.

### Survey Health Status and Functioning Record (RIC 2 and RIC 2F)

Part of the process of converting the facility instrument from a paper and pencil format to a Computer Assisted Personal Interviewing (CAPI) format was to adapt applicable questions from the facility instrument to the Resident Assessment Instrument (RAI) format. The RAI requires a Medicare and Medicaid certified long term care facility to conduct a comprehensive standardized assessment of the resident's functional capacity and health status within 10 days of admission. In addition, a RAI must be completed once a year or whenever a resident's health status changes. By adapting the applicable MCBS questions, interviewers can extract data regarding a resident's health status and functioning directly from the RAI.

Note: Due to the number of variables that were altered in the facility instrument, resulting from the CAPI conversion, a separate RIC (2F) was created. As a result, RIC 2 includes only the community population. The RIC 2F was created for the sample population responding to the health status and functioning section of the facility instrument.

The answers in the health status and functioning section of the questionnaire are a reflection of the respondent's opinion, not a professional medical opinion.

Limitations on activities and social life (**HELMTACT**) reflect the sample person's experience over the preceding month, even if that experience was atypical.

In the height measurement **HEIGHTIN**, fractions of an inch have been rounded: those one half inch or more were rounded up to the next whole inch, those less than one half inch were rounded down. (Initial interview variable)

In the weight measurement (**WEIGHT**), fractions of a pound have been rounded: those one half pound or more were rounded up to the next whole pound, those less than one half pound were rounded down. (Initial interview variable)

The sample person was asked to recall or estimate, not to measure or weigh himself or herself.

**HYSTEREC**: "Hysterectomy" includes partial hysterectomies. (Initial interview variable)

If the sample person had not received a flu shot last winter, the SP was asked why. The list of variables in **HS14A** are "CODE ALL THAT APPLY". Similarly, if the sample person had no history of receiving a shot for pneumonia, the SP was asked why. The list of variables in **HS15A** are "CODE ALL THAT APPLY".

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### Section 3: Notes on Using the Data

Use of other forms of tobacco, such as chewing tobacco, are not relevant to the “smoking” questions (**EVERSMOK** and **SMOKNOW**). Trying a cigarette once or twice was not considered “smoking,” but any period of regular smoking, no matter how brief or long ago, was considered smoking. “Now” meant within the current month or so and not necessarily whether the sample person had a cigarette, cigar, or pipe tobacco on the day of the interview. Even the use of a very small amount at the present time qualified as a “yes.” Stopping temporarily (as for a cold) qualified as a “yes.” (**EVERSMOK** is an initial interview variable)

The answers about difficulty with various tasks (**DIFSTOOP**, **DIFLIFT**, **DIFREACH**, **DIFWRITE**, **DIFWALK**) reflect whether or not the sample person usually had and anticipates continued trouble with these tasks, even if a short-term injury made them temporarily difficult.

The questions about various conditions (**OCARTERY**, **OCHBP**, **OCMYOCAR**, **OCCHD**, **OCOTHART**, **OCSTROKE**, **OCCSKIN**, **OCCANCER**, **OCCLUNG**, **OCCOLON**, **OCCBREST**, **OCCUTER**, **OCCOROST**, **OCCCERVX**, **OCCBLAD**, **OCCOVARY**, **OCCSTOM**, **OCCKIDNY**, **OCCBRAIN**, **OCCTHROA**, **OCCBACK**, **OCCHEAD**, **OCCFONEC**, **OCCOTHER**, **OCDIABTS**, **OCARTHHR**, **OCARTH**, **OCAARM**, **OCAFEET**, **OCABACK**, **OCANECK**, **OCAALOVR**, **OCAOTHER**, **OCMENTAL**, **OCALZHMR**, **OCPSYCH**, **OCOSTEOP**, **OCBRKHIP**, **OCPARKIN**, **OCEMPHYS**, **OCPPARAL** and **OCAMPUTE**) were coded if the sample person had at some time been diagnosed with the conditions, even if the condition had been corrected by time or treatment. The condition must have been diagnosed by a physician, and not by the sample person. Misdiagnosed conditions were not included. If the respondent was not sure about the definition of a condition, the interviewer offered no advice or information, but recorded the respondent’s answer, verbatim. (Initial interview variables)

#### IADLs and ADLs

“Difficulty” in these questions has a qualified meaning. Only difficulties associated with a health or physical problem were considered. If a sample person only performed an activity with help from another person (including just needing to have the other person present while performing the activity), or did not perform the activity at all, then that person was deemed to have difficulty with the activity.

Help from another person includes a range of helping behaviors. The concept encompasses personal assistance in physically doing the activity, instruction, supervision, and “standby” help.

These questions were asked in the present tense; the difficulty may have been temporary or may be chronic. Vague or ambiguous answers, such as “Sometimes I have difficulty,” were coded “yes.”

### Section 3: Notes on Using the Data

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**PRBTELE:** Using the telephone includes the overall complex behavior of obtaining a phone number, dialing the number, talking and listening, and answering the telephone.

The distinction between light housework (**PRBLHWK**) and heavy housework (**PRBHHWK**) was made clear by examples. Washing dishes, straightening up and light cleaning represent light housework; scrubbing floors and washing windows represent heavy housework. The interviewer was not permitted to interpret the answer in light of the degree of cleanliness of the dwelling.

**PRBMEAL:** “Preparing meals” includes the overall complex behavior of cutting up, mixing and cooking food. The amount of food prepared is not relevant, so long as it would be sufficient to sustain a person over time. Reheating food prepared by someone else does not qualify as “preparing meals”.

**PRBSHOP:** Shopping for personal items means going to the store, selecting the items and getting them home. Having someone accompany the sample person would qualify as help from another person.

**PRBBILS:** Managing money refers to the overall complex process of paying bills, handling simple cash transactions, and generally keeping track of money coming in and money going out. It does not include managing investments, preparing tax forms, or handling other financial activities for which members of the general population often seek professional advice.

**HPPDBATH:** Those who have difficulty bathing or showering without help met at least one of the following criteria:

- someone else washes at least one part of the body;
- someone else helps the person get in or out of the tub or shower, or helps get water for a sponge bath;
- someone else gives verbal instruction, supervision, or stand-by help;
- the person uses special equipment such as hand rails or a seat in the shower stall;
- the person never bathes at all (a highly unlikely possibility); or,
- the person receives no help, uses no special equipment or aids, but acknowledges having difficulty.

**HPPDDRES:** Dressing is the overall complex behavior of getting clothes from closets and drawers and then putting the clothes on. Tying shoelaces is not considered part of dressing, but putting on socks or hose is. Special dressing equipment includes items such as button hooks, zipper pulls, long-handled shoe horns, tools for reaching, and any clothing made especially for accommodating a person’s limitations in dressing, such as Velcro fasteners or snaps.

### Section 3: Notes on Using the Data

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**HPPDEAT:** A person eats without help if he or she can get food from the plate into the mouth. A person who does not ingest food by mouth (that is, is fed by tube or intravenously) is not considered to eat at all. Special eating equipment includes such items as a special spoon that guides food into the mouth, a forked knife, a plate guard, or a hand splint.

**HPPDCHAR:** Getting in and out of chairs includes getting into and out of wheelchairs. If the sample person holds onto walls or furniture for support, he or she is considered to receive “help from special equipment or aids,” since the general population does not use such objects in getting in and out of chairs. Special equipment includes mechanical lift chairs and railings.

**HPPDWALK:** Walking means using one’s legs for locomotion without the help of another person or special equipment or aids such as a cane, walker or crutches. Leaning on another person, having someone stand nearby in case help is needed, and using walls or furniture for support all count as receiving help. Orthopedic shoes and braces are special equipment.

**HPPDTOIL:** Using the toilet is the overall complex behavior of going to the bathroom for bowel and bladder function, transferring on and off the toilet, cleaning after elimination, and arranging clothes. Elimination itself, and consequently incontinence, are not included in this activity, but were asked as a separate question, discussed next.

**LOSTURIN:** “More than once a week” was coded if the sample person could not control urination at all. Leaking urine, especially when the person laughs, strains or coughs, does not qualify as incontinence.

### Survey Health Status and Functioning Helper Record (RIC 2H)

Although the data contained in this RIC has historically been collected, starting in 1992, it was not match-up until the 1999 Access to Care file. Recognizing that this RIC would be of use as a time series, the RIC 2H is being generated for all prior years. This file contains information about those persons responsible for assisting respondents in performing their activities of daily living (ADLs) and/or instrumental activities of daily living (IADLs). The number of helpers, the helper’s relationship to the respondent, and the types of ADLs and IADLs the helper assists the respondent in performing are all contained in this file.

NOTE: The number of records reflects the number of persons identified as assisting the survey respondent in performing various ADLs and IADLs. Therefore, it is possible to have one, several, or no records per respondent.

### Survey Access to Care Record (RIC 3)

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**Definitions applied to medical providers**

Doctor - Medical doctors (M.D.) and doctors of osteopathy (D.O.). Chiropractors, nurses, technicians, optometrists, podiatrists, physician's assistants, physical therapists, psychologists, mental health counselors and social workers are not included. Generic specialties shown in parenthesis following one of the specialties were coded as the specialty. For example, if the respondent mentioned a "heart" doctor, cardiology was coded. Generic answers not listed were not converted to specialties.

Doctor's office or group practice - an office maintained by a doctor or a group of doctors practicing together; generally, the patient makes an appointment to see a particular physician.

Doctor's clinic - a group of doctors who have organized their practice in a clinic setting and work cooperatively; generally, patients either come in without an appointment or make an appointment and see whatever doctor is available.

HMO - An organization that provides a full range of health care coverage in exchange for a fixed fee.

Neighborhood/family health center - A non-hospital facility which provides diagnostic and treatment services, frequently maintained by government agencies or private organizations.

Free-standing surgical center - A facility performing minor surgical procedures on an outpatient basis, and not physically connected to a hospital.

Rural health clinic - provides outpatient services, routine diagnostic services for individuals residing in an area that is not urbanized and is designated as a health staff shortage area or an area with a shortage of personal health services. These services are provided for a nominal copayment and deductible.

Company clinic - A company doctor's office or clinic that is operated principally for the employees (and sometimes their dependents).

Other clinic - a non-hospital facility such as a drug abuse clinic, a "free" clinic, a family planning clinic or military base clinic.

Walk-in urgent center - a facility not affiliated with a nearby hospital, offering services for acute conditions. Typically, people are seen without appointments.

### Section 3: Notes on Using the Data

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Home (doctor comes to sample person's home) - home is anywhere the sample person is staying; it may be his or her home, the home of a friend, a hotel room, etc.

Hospital emergency room - means the emergency room of a hospital. "Urgent care" centers are not included. (NOTE: All hospital emergency room visits were included, even if the sample person went there for a "non-emergency" condition such as a cold, flu or intestinal disorder.)

Hospital outpatient department - unit of a hospital, or a facility connected with a hospital, providing health and medical services to individuals who receive services from the hospital but do not require hospitalization.

#### Differences in the questionnaire sequence for the continuing and supplemental panel

It should be noted in using data in this section that the questionnaire sequence on access to care for supplemental panel persons differs from that for continuing panel persons and may lead to apparent differences in expected number of responses to questions in the access to care codebook section. For example, continuing panel persons indicating use of emergency room (and later, outpatient hospital) care in the utilization section of the core questionnaire are asked, after the conclusion of questions on utilization in that section, appropriate access to care questions about the visit (AC3-AC6). The CAPI program then reverts back to the next utilization section in the core questionnaire. Questions AC1 and AC2 are not later asked of these people.

The supplemental panel people, on the other hand, are not asked the core questions during their initial interview and go through the entire sequence of access to care questions. Thus, the number of persons responding to AC3 on whether or not they had an appointment (ERAPPT) is greater than those who responded to question AC1 on whether they had gone to a hospital emergency room for medical care during the reference period (ERVISIT).

#### Open-ended questions

Respondents were asked a number of open-ended questions (reasons for dissatisfaction with care, kinds of problems experienced in getting health care, etc.). The respondents answered these questions in their own words, and interviewers recorded the responses verbatim. The interviewer was prohibited from paraphrasing or summarizing the respondents' answer.

This file contains no verbatim responses. We have supplied, instead, codes that summarize the answer. Often there will be more than one code because the answer included several specific topics.

#### Other variables

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### Section 3: Notes on Using the Data

The questions about satisfaction with care represent the respondent's general opinion of all medical care received in the year preceding the interview.

**MCDRNSEE:** If a respondent mentioned any health problem that was not cared for, it was recorded without discrimination; the respondent might have referred to a small ache or pain, or to a serious illness or symptom.

**USMCCHEK:** The distinction in question US12 is between the doctor or doctor's office and the sample person or family. For example, if the check usually goes to the daughter, the answer would be coded "to the sample person."

**USFINDMC:** "Ever tried to find a doctor ..." refers to some type of active search. It does not refer to simply thinking or talking about it.

**USHOWLNG:** If the sample person had an actual visit with the doctor listed in **USUALDOC** by the time of the interview, "less than one year" was coded.

#### Survey Health Insurance Record (RIC 4)

To help the respondent answer the questions about Medicaid, the interviewers used the name of the Medicaid program in the state where the sample person was living.

A health insurance plan is one that covers any part of hospital bills, doctor bills, or surgeon bills. It does not include any of the following:

- Public plans, including Medicare and Medicaid, mentioned elsewhere in the questionnaire.
- Disability insurance which pays only on the basis of the number of days missed from work.
- Veterans' benefits.
- "Income maintenance" insurance that pays a fixed amount of money to persons both in and out of the hospital or "Extra Cash" policies. These plans pay a specified amount of cash for each day or week that a person is hospitalized, and the cash payment is not related in any way to the person's hospital or medical bills.
- Workers' Compensation.
- Any insurance plans that are specifically for contact lenses or glasses only. Any insurance plans or maintenance plans for hearing aids only.
- Army Health Plan and plans with similar names (e.g., CHAMPUS, CHAMPVA, Air Force Health Plan).
- Dread disease plans that are limited to certain illnesses or diseases such as cancer, stroke or heart attacks.

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### Section 3: Notes on Using the Data

- Policies that cover students only during the hours they are in school, such as accident plans offered in elementary or secondary schools.
- Care received through research programs such as the National Institutes of Health.

**D\_PHREL1 - D\_PHREL5:** The “Policy Holder or “Main insured person” is the member of the group or union or the employee of the company that provides the insurance plans. It would also be the name on the policy, if the respondent had it available.

**D\_ANAMT1 - D\_ANAMT5:** A premium amount was recorded even if the sample person did not directly pay the premium (if, for example, a son or daughter paid the premium). Premium amounts have been annualized, even though the sample person may not have held the policy for the full 12 months.

#### Survey Enumeration Record (RIC 5)

A household is defined as the group of individuals either related or unrelated who live together and share one kitchen facility. This may be one person living alone, a head of household and relatives only, or may include head of household, relatives, boarders and any other non-related individual living in the same dwelling unit.

Household membership includes all persons who currently live at the household or who normally live there but are away temporarily. Unmarried students away at school, family members away receiving medical care, etc., are included. Visitors in the household who will be returning to a different home at the end of the visit are not included.

Generally, if there was any question about the composition of the household, the respondent’s perception was accepted.

Because the date of birth or exact relationship of a household member was sometimes unknown (perhaps because a proxy provided the information), the sum of the variables “number related”/”number not related” (**D\_HHREL/D\_HHUNREL**) or “number under 50”/”number 50 or older” (**D\_HHLT50/D\_HHGE50**) may not equal the total number of people in the household (**D\_HHTOT**).

#### Survey Facility Residence History (RIC 6)

In converting the MCBS Facility questionnaire to CAPI in Round 19 (fall/1997), full advantage was taken of the work done by the Agency for Health Care Policy and Research in its development of the CAPI protocol for the National Nursing Home Expenditure Survey (NNHES)

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### Section 3: Notes on Using the Data

and that of the Federally mandated Minimum Data Set (MDS). To increase interview efficiency and decrease small business burden, the facility instrument was adapted to match the MDS content. Much of the design of the MCBS facility instrument was modeled after the NNHES. Adaptation was done carefully to insure both the continuity of the MCBS data and their comparability with NNHES.

As a result of converting the facility instrument to CAPI, the variable **ORIGADMN** was added to represent the first admission date into a facility/home of beneficiary while participating in the MCBS. Previously, all that was reported was the date first admitted to the most recent facility/home, **ADMIN**. The variable **ADMIN** still represents the most recent admission date.

#### Survey Facility Identification Record (RIC 7)

As mentioned above in the RIC 6 (Survey Facility Residence History) notes, advantage was taken of the work done by the AHCPR CAPI development for the NNHES. Although the adaptation was done to insure continuity with the MCBS instrument, changes to this record occurred in Round 19. The following is a breakdown of those changes.

Additional responses were added to the following two variables:

- **FACOWNED** (other specify)
- **FACDIOS** (Adult foster care / group home mentally ill) and (Senior center P. A. C. E.)

Variables that are no longer collected:

- Levels of care provided by facility (**PROVLEVL**, **LEVISKIL**, **LEVLINTR**, **LEVLOTH1**, **LEVLOTS1**, **LEVLOTH2**, **LEVLOTS2**, **LEVLOTH3**, and **LEVLOTS3**)
- Primary groups served by the facility (**PRIMDEAF**, **PRIMBLND**, **PRIMUWED**, **PRIMABUS**, **PRIMORPH**, **PRIMMDEF**, **PRIMMENT**, **PRIMMIMR**, **PRIMGERI**, **PRIMNEUR**, **PRIMOTHR**, **PRIMOS**, and **PRIMGRP**)
- Facility provided services (**ROOMCARE**, **SUPRVMED**, **FHLPBATH**, **FHLPDRES**, **FHLPSHOP**, **FHLPWALK**, **FHLPEAT**, **FHLPNURS**)
- Number of ICF beds only **MCDICFN**
- Reason for no rates **NORATE**

Variables that were added to the record:

- Number of beds in a facility of a particular certification (**MCAREBED**, **MCAIDBED**, **MANDMBED**, **MNORMBED**, **ICFMRBED**, **OTLTCBED**, and **NLTCBEDS**)

The value of variables representing “number of beds” (**FACTLTBED** and **FACTOBED**) will be missing when either there were no beds of that type in the facility, or the question was skipped.

**Survey Interview Description Record (RIC 8)**

This record was added in the 1992 MCBS Access to Care public use release. Most of the material in it was included in the Survey Identification record in the 1991 MCBS Access to Care public use release.

**Multiple Interviews**

Some sample people had more than one interview in this round. To avoid duplication of data, the information in this file represents the last interview conducted with the sample person in Round 25. The variable **INTERVU** indicates which type of interview was conducted. Please see the description of the KEY Record (RIC K) earlier in this section for a more detailed description of multiple interviews and of this variable.

**Proxy rules**

Wherever possible, the community interviews were conducted directly with the sample person. In most cases, the sample person was able to respond to the interview unassisted. In a few cases, the sample person was assisted with the interview by a friend or relative, and in some cases the sample person was too ill or otherwise incapacitated to be interviewed. The variables **PROXY**, **D\_PROXR**, **RRECHLP** and **D\_IHLPR** provide information about who was interviewed, and how those respondents are related to the sample person.

People who were too ill, or who could not complete the community interview for other reasons were asked to designate a proxy, someone very knowledgeable about the sample person's health and living habits. In many cases, the proxy was a close relative such as the spouse, a son or daughter. In other cases, the proxy was a non-relative like a close friend or care giver. The variable **PROXY** indicates whether or not a community interview was conducted with a proxy respondent, and the variable **D\_PROXR** indicates the relationship of the proxy to the sample person. (Since all facility interviews are conducted with proxy respondents, this variable is "missing" for facility cases.)

If the sample person appeared confused or disoriented at the time of the interview, and no proxy could be identified, the interviewer was instructed to complete the questionnaire as well as possible. If the interviewer felt that the respondent was not able to supply reasonably accurate data, this perception was recorded in the interviewer remarks questionnaire and appears in this record as the variable **RINFOSAT**.

"Proxy needed -- language problem" was given as a reason for the use of a proxy in 112 cases. More often, language problems were addressed without the use of a proxy. Interpreters were

### Section 3: Notes on Using the Data

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used in some cases, and Spanish-language versions of the questionnaires were used by bilingual interviewers when the respondent preferred to be interviewed in Spanish. There are both English and Spanish versions of the CAPI survey instrument; the variable **LANG** indicates which version was used.

Proxy respondents were always used in nursing homes, homes for the mentally retarded, and psychiatric hospitals. Sample persons were interviewed directly in prisons when that was permitted. The need for a proxy when interviewing respondents in other institutions was evaluated on a case-by-case basis.

In long-term care facilities, the proxy respondents were members of the staff at the facility identified by the administrator. Usually, more than one respondent was used; for example, a nurse may have answered the questions about health status and functioning, while someone in the business office handled questions about financial arrangements.

#### Other variables

Several questionnaires are administered in the facility interview: a personal baseline for individuals in the supplemental sample found to reside in a nursing facility and for new admissions to a facility from the continuing sample; the core and supplement questionnaires for the continuing sample. The facility screener was administered in every case. Please see Section 4 for copies of all of the instruments and for a more detailed description of when each is administered.

Two variables are supplied to further characterize the interview: **LENGTH** contains the length of the interview, in minutes, and **RESTART** indicates whether or not the interview was interrupted. Community interviews are sometimes interrupted to accommodate the respondent's schedule or for other reasons. We did not calculate the duration of the community interview if the interview was interrupted. Facility interviews are conducted with several instruments and often involve a number of respondents. Since nearly all of the facility interviews are interrupted and total duration is difficult to capture (and interpret), **LENGTH** and **RESTART** are always missing for facility interviews.

#### **Survey HMO Supplement Record (RIC H)**

This record was added to the 1996 MCBS Access to Care public use release as a result of growing interest on the coverage and service provided by Medicare HMOs to Medicare beneficiaries. The questions in this record were asked only if the sample person was currently enrolled in a Medicare HMO.

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### Section 3: Notes on Using the Data

**D\_ANHMO:** Applicable for sample people with premiums. The premiums have been annualized regardless of the length of time the sample person actively held the policy.

#### **Survey CMS Beneficiary Knowledge Supplement (RIC BK)**

Note: This supplement was conducted during the January through April 2000 interview period, as opposed to the September through December interview period (with the rest of the Access to Care file). As a result of collecting this information during the following interview period, a reduction in sample size occurs. This reduction is due to: the absence of the annual HMO over sample (which are included in the survey only during the September through December interview period); the retiring of the 1996 rotating panel (after completing the September through December interview); and natural attrition.

This supplement is annually fielded during the January through April interview period. Due to an initiative by several CMS components to create a baseline for assessing achievements in CMS's Strategic Plan, the RIC PR (now known as RIC BK) was included for the first time in the 1997 Access to Care file. Use of the MCBS provides the opportunity to quantify and establish baseline measures for many of the Strategic Plan objectives, specifically, involve the beneficiaries in defining their health care needs by aggregating and using data for continuous policy and process improvement, assess outreach and information to the beneficiaries on programs, services and health care choices. Also, the MCBS can provide information on health promotion and preventive techniques from the core instrument. The supplement can be broken into four separate focus areas. These four areas are as follows:

- Information Medicare beneficiaries seem to want (such as what medical services Medicare covers and does not cover; finding or choosing a doctor or other health care provider; availability and benefits of health maintenance organizations; supplemental insurance; and how much they need to pay for a particular medical service covered by Medicare);
- Sources from which beneficiaries want to receive information on the broad topics identified in the first focus area;
- Modes of media through which beneficiaries want to receive information on the broad topics identified in the first focus area; and
- General satisfaction on the understandability of Medicare.

#### **Survey CMS Beneficiary Information Needs Supplement (RIC BN)**

Note: This supplement was conducted during the May through August 2000 interview period, as opposed to the September through December interview period (with the rest of the Access to Care file). As a result of collecting this information during this latter interview period, a reduction in

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### Section 3: Notes on Using the Data

sample size occurs. This reduction is due to: the absence of the annual HMO over sample (which are included in the survey only during the September through December interview period); the retiring of the 1996 rotating panel (after completing the September through December interview); and natural attrition.

This supplement was included for the first time in the 1998 Access to Care file, with plans for fielding annually (during the May through August interview period). Although associated with the BK supplement, the BN supplement was developed to identify how beneficiaries receive information, about their Medicare benefits and changes in the Medicare program. This supplement enables the assessment of current outreach and information campaigns directed toward Medicare beneficiaries.

The supplement can be broken into three separate focus areas, they are as follows:

- How much do beneficiaries already know about their Medicare benefits.
- Who / where do beneficiaries go for information about the Medicare program.
- What dissemination medium is preferred for receiving information about the Medicare program.

#### Survey Cross-sectional Weights Record (RIC X)

Cross-sectional and three sets of longitudinal weights are provided. Cross-sectional weights apply to the entire file of 17,936 people (1996, 1997, 1998, 1999 panels and annual HMO “one-round” supplement). These cross-sectional weights can be used for making estimates of the population enrolled for Medicare for the whole of 1999.

As noted in the Introduction, the inclusion of a special-purpose one-time supplemental sample with the regular MCBS sample for the September through December interview period increases the precision of national estimates of Medicare managed care enrollees and comparisons to fee-for-service enrollees. For analyses involving Medicare managed care and comparisons of managed care and fee-for-service, we recommend the use of the entire file, including the continuing sample (1996, 1997, 1998 rotating panels), the regular Round 25 supplemental panel (1999 rotating panel), and the annual HMO “one-round” supplement. Each person’s experience should be multiplied by the corresponding cross-section weight, **R25CWGT**, for estimating population parameters based on the full sample, and replicate weights, **R25CS001** through **R25CS100**, when making estimates of sampling error.

For cross-sectional analyses based on the classical view of the MCBS stratified at the national level by seven broad age intervals, we suggest adjusting the cross-sectional and replicate weights by the variable, **FACTOR**. Fee-for-service respondents outside of the high penetration market areas have a **FACTOR** value of 1.0. Thus, they contribute the same weight under either the combined or the classical MCBS view. The respondents in the one-time supplement have **FACTOR**

### Section 3: Notes on Using the Data

values = 0. Multiplying the weights by the corresponding **FACTORs** results in a zero weight, which effectively excludes them from the analysis. Thus, they make no contribution under the classical view. Their weights, therefore, must be spread among the corresponding groups in the ongoing sample, that is, to the high penetration market area managed care group, to the high penetration market area fee-for-service group, and to the remaining managed care group. Sample persons in these groups will have **FACTORs** greater than 1.0. Table 3.1 demonstrates the effect the spreading of the experience of the oversample to the remaining ongoing sample under the classic view.

To enable SUDAAN (Professional Software for SURvey DATA ANalysis for Multi-stage Sample Designs) users to compute population estimates and the associated variance estimates, two variables have been included in this record, SUDSTRAT AND SUDUNIT. Please see Section 6 for a further discussion about weights and estimation using these files.

**Table 3.1** Comparison of unweighted sample size and weighted population by area and type of coverage (weighted numbers to follow)

	<u>Classical</u>		<u>Oversampled</u>	
	Unweighted	Weighted	Unweighted	Weighted
National				
Risk	2,634	6,082,905	3,665	5,945,134
FFS	14,206	30,680,285	14,271	30,708,488
Total	16,840	36,763,190	17,936	36,653,622

### Survey Longitudinal Weights Records (RIC X4, X3, X2)

The first set of non-zero longitudinal weights (RIC X4) applies to 3,604 individuals from the Round 16 rotating panel who appeared in the CY 1996 (Round 16), CY 1997 (Round 19), CY 1998 (Round 22), and CY 1999 (Round 25) Access to Care releases (the weights for the remaining 13,236 individuals are zero). This set of weights can be used to subset the population in the study from the sixth year of the survey and their experience for making comparisons of that subpopulation between 1996 and 1999. This can be accomplished by match-merging the RIC K and the RIC X4 by BASEID and keeping all records with a non-zero weight in the RIC X4.

The second set of non-zero longitudinal weights (RIC X3) applies to 7,508 individuals (Round 16, and Round 19 rotating panel persons) who appeared in the CY 1997 (Round 19), CY 1998 (Round 22), and CY 1999 (Round 25) Access to Care releases (the weights for the remaining 9,332 individuals are zero). This set of weights can be used to subset the continuing sample and



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### Section 3: Notes on Using the Data

their experience for making comparisons of that subpopulation between 1997 and 1999. This can be accomplished by match-merging the RIC K and the RIC Y by BASEID and keeping all records with a non-zero weight in the RIC X3.

The third set of non-zero longitudinal weights (RIC X2) applies to 11,681 individuals (Round 16, Round 19, and Round 22 rotating panel persons) who appeared in the CY 1998 (Round 22), and CY 1999 (Round 25) Access to care releases (the weights for the remaining 5,159 individuals are zero). This set of weights can be used to subset the continuing sample and their experience for making comparisons of that subpopulation between the 1998 and 1999 populations. This can be accomplished by match-merging the RIC K and the RIC Y by BASEID and keeping all records with a non-zero weight in the RIC X2.

To enable SUDAAN (Professional Software for SURvey DATA ANalysis for Multi-stage Sample Designs) users to compute population estimates and the associated variance estimates, two variables have been included in these records, SUDSTRAT and SUDUNIT. Please see Section 5 for a further discussion about weights and estimation using these files.

It should be noted that this file and these longitudinal weights are not appropriate for doing mortality studies, an area of considerable interest. This file does not include those who may have died during calendar year 1999 prior to the fall interview. Analysts interested in this topic are encouraged to use the annual Cost and Use files which target the ever-enrolled population.

#### Claims Records (DME, HHA, HSP, INP, OTP, PHY, SNF)

The following rules were used to select bill and claims records for this file.

- Inpatient bills were included if the **discharge or “through” date** fell on or after January 1, 1999 and on or before December 31, 1999.
- Skilled nursing facility bills were included if the **admission or “from” date** fell on or after January 1, 1999 and on or before December 31, 1999.
- Home health agency and outpatient facility bills were included if the **“through” date** fell on or after January 1, 1999 and on or before December 31, 1999.
- Hospice bills were included if the **admission or “from” date** fell on or after January 1, 1999 and on or before December 31, 1999.
- Physician or supplier claims were included if the **latest “service thru” date** fell on or after January 1, 1999 and on or before December 31, 1999.
- Durable medical equipment (DME) claims were included if the **latest “service thru” date** fell on or after January 1, 1999 and on or before December 31, 1999.

### **Section 3: Notes on Using the Data**

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A total of 5,203 (about 29.0 percent) of the sample people did not use Medicare reimbursed services in a fee-for-service setting in 1999; consequently, there are no bill records for them in this file. These individuals may have used no services at all, services only in a managed care plan, or services provided by a payer other than Medicare. For the other 12,733 individuals in the sample, we have captured bills meeting the date criteria, processed and made available by CMS through July 2000.

## Medicare Current Beneficiary Survey CY 1999 Access to Care

### Questionnaires

This section contains copies of the community and facility questionnaires that were administered during Round 25 of the Medicare Current Beneficiary Survey. Round 25 is the eighth annual update of information on Medicare beneficiaries' access to care. The questionnaires are similar in content and sequence of events; however, they differ in how they are administered. Of special note, beginning in 1997 data collected in RIC BK (formerly known as RIC PR): Beneficiary Knowledge Supplement was added to the Access to Care file. The BK data was collected in the January-April round. In addition to the RIC BK supplement, the RIC BN: Beneficiary Information Needs supplement was added to the Access file. This data was collected during the May-August round, it too is straightforward and easy to add to the Access file.

Because the questionnaires are conducted using CAPI, the questionnaires actually exist only as a computer program, and it is impossible to replicate it exactly in hard copy. The version represented here lists the questions, verbatim, and shows the skip patterns. It also displays instructions to the programmers (enclosed in boxes), to the program, and to the interviewer. Although these instructions would be hidden from the respondent, they have been retained in this copy because they are important for understanding the flow of the questionnaire and for establishing logical links between questions.

Questions in all of the questionnaires are preceded by a number, which is cross-referred to variables in the codebook (Section 2). Since more than one variable may be collected in response to one question, each question has also been annotated with all of the variable names associated with it. Variable names are also indexed in the codebook.

### **Community Component**

The community component is conducted in the home of the respondent.

#### Components of the Community Questionnaire

The community instrument consists of the following components:

- Initial interview questionnaire
- Core questionnaire
- Supplement to the core questionnaire
- Interviewer remarks questionnaire

### Initial interview questionnaire

This baseline questionnaire is used for the first interview when a sample person is added to the survey, that is, Round 16 for the 1996 panel, Round 19 for the 1997 panel, Round 22 for the 1998 panel, Round 25 for the 1999 panel, etc. In the initial interview, we collect information about the national origin, age, education and income of the sample person. The interviewer also verifies the sample person's address and telephone number and obtains the names and addresses of people who might be willing to serve as proxy respondents. The interviewer also uses this opportunity to acquaint the respondent with the intent of the survey and to familiarize him or her with the MCBS calendar, and to emphasize the importance of keeping accurate records of medical care and expenses.

In subsequent interviews, some of the information collected in the initial interview will need to be updated. For example, the sample person's designation of his or her race is not likely to change, and will not be asked about again. On the other hand, the sample person's address or telephone number may change, so this information is verified in every interview, and updated when necessary.

### Core questionnaire (community)

**NOTE: This release does not include any cost or utilization information from the core questionnaire.**

The core questionnaire is the major component of the community instrument. The questions focus on the use of medical services and the resulting costs, and are asked in essentially the same way each and every time the sample person is interviewed (after the first time). In each interview, the sample person is asked about new encounters, and to complete any partial information that was collected in the last interview. For example, the sample person may mention a doctor visit during the "utilization" part of the interview. In the "cost" section, the interviewer will ask if the sample person has any receipts or statements from the visit. If the answer is "yes", the interviewer will record information about costs from the statements, but if the answer is "no," the question will be stored until the next interview.

In Round 25, only persons in the longitudinal sample (that is, 1996, 1997, and 1998 panels) were interviewed with this questionnaire.

### Supplement to the core questionnaire (community)

Supplemental questions are added to the core questionnaire to gather information about specific topics. The Round 25 supplement focuses on health status and access to care. It includes questions about the sample persons' general health (including standard measures such as IADLs and ADLs), their sources of medical care, and their satisfaction with that care.

**Interviewer remarks questionnaire**

This questionnaire is completed by the interviewer after every interview with the sample person. The interviewer is asked to evaluate the sample person's ability to respond to the questionnaire and to provide some information about the interview (for example, if proxy answered the questionnaire, the interviewer provides reasons why the proxy was necessary). The interviewer is also encouraged to provide comments that will assist the interviewer in remembering unique facts about the sample person, such as hearing or vision impairments, or that the sample person cannot read.

**Facility Questionnaire**

Prior to the CAPI conversion, the facility questionnaire was conducted conventionally (using pen and paper). Interviews are conducted in the facility where the respondent is residing at the time of the interview. Information is obtained from facility records; therefore, the beneficiary is never interviewed directly. It was decided early in the design of the MCBS not to attempt interviews with sample persons in facilities, or with their family members. For that reason, the facility questionnaires do not ask about attitudes or other subjective items.

If an institutionalized person returns to the community, a community interview is conducted. If the sample person spent part of the reference period in the community and part in an institution, then a separate interview is conducted for each period of time. In this way, a beneficiary is followed in and out of facilities and a continuous record is maintained regardless of the location of the respondent.

The CY 1999 Access to Care release is intended to serve as a "snapshot" of the sample person at one point in time during Round 25. For this reason, we have selected the latest interview in the round to represent the entire round whenever the sample person was encountered in more than one setting in Round 25.

**Components of the Facility Questionnaire**

The facility instrument consists of the following components:

- Facility eligibility screener
- Initial (baseline) questionnaire
- Core questionnaire
- Supplement to the core questionnaire

**Facility eligibility screener**

This questionnaire gathers information about the facility to determine the facility type. The initial interview is conducted with the facility administrator. All other interviews are conducted with the staff designated by the director. A facility screener is administered upon the sample person's admission to a new facility, and once a year thereafter (in Rounds 16, 19, 22, and 25) to capture any changes in the facility's size or composition. The screener is not administered if the sample person simply re-enters the same facility.

**Initial (baseline) questionnaire (facility)**

This questionnaire gathers information on the health status, insurance coverage, residence history and demographics of the sample person. This questionnaire is administered the first time the sample person is admitted to a facility.

**Core questionnaire (facility)**

This questionnaire parallels the core questionnaire for the community, collecting information about use of medical services and their associated costs, including the facility cost. Like its community counterpart, this questionnaire is administered in each and every interview after the first one, as long as the sample person continues to reside in the facility.

**Supplement to the core questionnaire (facility)**

This questionnaire is asked once a year (in Rounds 16, 19, 22, and 25) to update our information about the sample person's health status. It includes questions about the sample person's general health (including standard measures such as IADLs and ADLs), but excludes the questions about access and the subjective questions about satisfaction with care.

Table 5.1 - Components of the Community Questionnaire

NOTE: This release contains information from only those sections marked with an arrow (→).

→	UPD	Name/Address Update
→	IN	Introduction
→	ENS*	Enumeration
→	EN	Enumeration
→	HIS*	Health Insurance Summary
→	HI	Health Insurance
	UTS*	Utilization Summary
	DU	Dental Utilization and Events
	ER	Emergency Room Utilization and Events
	IP	Inpatient Hospital Utilization and Events
	OP	Outpatient Hospital Utilization and Events
	IU	Institutional Utilization
	HHS*	Home Health Utilization Summary
	HH	Home Health Utilization and Events
	MP	Medical Provider Utilization and Events
	OM	Other Medical Expenses Utilization
	PMS*	Prescribed Medicine Summary
	PM	Prescribed Medicine Utilization
	ST	Charge Questions (Statement Series)
	NS	Charge Questions (No Statement Series)
	CPS*	Charge/Payment Summary
→	AC	Provider Probes/Access to Care
→	HS	Health Status and Functioning
→	SC	Satisfaction with Care
→	US	Usual Source of Care
→	DI	Demographics/Income (For Supplemental Sample People Only)
→	CL	Closing Materials
→	IR	Interviewer Remarks
→	MC	Managed Care
→	BK	Beneficiary Knowledge Supplement
→	BN	Beneficiary Information Needs Supplement

\* Summary sections - Updates and corrections are collected through the summaries. The respondent is handed a hard copy summary of information gathered in previous interviews, and is asked to verify the material. Changes are recorded if the respondent notices information that is not accurate.

Table 5.2 - Components of the Facility Questionnaire

NOTE: This release contains information from only those sections marked with an arrow (→).

Facility Eligibility Screener

→ FQ Facility questions

Initial interview (facility)

→ A Demographic/Income  
→ B Residence History  
→ C Health Status and Functioning  
→ D Health Insurance  
L Tracing and Closing

Core questionnaire (facility)

→ A Residence History  
B Provider Probes  
C Medicine Summary  
D Inpatient Hospital Stays  
E Medical Charges  
F Tracing and Closing

Supplement to the core (facility)

→ C Health Status and Functioning  
→ D Health Insurance



## **Medicare Current Beneficiary Survey**

### **CY 1999 Access to Care**

#### **Sample Design and Guidelines for Preparing Statistics**

This section opens with a description of the population covered by the 1999 Access to Care release and a comparison of this “view” with others that are frequently used for analyzing the Medicare program. Next the targeted population is discussed in terms of the sampling strata. This is followed by a general discussion of the selection of the original and supplemental samples. Next appears a description of primary sampling units (PSU) and clusters of zip codes within PSU. Following is a general review of person level response rates, completed interviews by age strata, and selected item nonresponse rates. Guidelines for preparing population estimates using full sample weights and variance estimates using replicate weights are then reviewed.

#### **Medicare population covered by the 1999 public use data**

The calendar year 1999 MCBS public use data are focused on Medicare beneficiaries residing in the United States or Puerto Rico who were enrolled in one or both parts of the program throughout calendar 1999. This “always enrolled” population includes individuals enrolled on January 1, 1999 who remained enrolled through the end of December. Excluded are the following categories of Medicare enrollees:

- 1) residents of foreign countries and U.S. possessions and territories other than Puerto Rico;
- 2) persons who became enrolled after January 1, 1999; and
- 3) persons who disenrolled or died prior to the end of December 1999.

NOTE: A small number of sample people 169 included in this file died during 1999 subsequent to their Round 25 interview and are a subset of group 3) above. A discussion of how to subset this file to get the “always enrolled” population is included in Section 3, “Notes on Using the Data,” under ‘Specific Variables - Key Record (RIC K).’

The “always enrolled” population concept was used for the CY 1991 through CY 1998 MCBS Access to Care releases for operational considerations, and is carried forth into this release for the same reasons. While it differs from other views of the Medicare population commonly generated from CMS files or encountered in CMS publications such as “ever enrolled” or “mid-point enrollment,” the concept of “always enrolled” is consistent with the familiar concept of being exposed or “at risk” for using services for the entire 12-month period.

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## Section 5: Sample Design and Estimation

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Table 5.1 shows data from CMS's 5-percent HISKEW file (health insurance skeleton write-off), which contains selected demographic and coverage information on a 5-percent sample of Medicare enrollees. Data for the targeted population are arrayed by age, gender, race using these three views: persons “ever-enrolled,” persons enrolled as of the “mid-point of the year” (July 1), and persons “always enrolled.” We have included these relationships to allow users to compare the population represented by this release to the more frequently used views of the Medicare population.

(It should be noted that the other series of files produced from the MCBS, known as Cost and Use, contains data composed to represent the ever-enrolled population to better capture total Medicare and other expenditures for a given year. A discussion of how the ever-enrolled population was composed for a given period to capture total utilization (covered and noncovered) and expenditures (Medicare and other) for that period is presented in the documentation for the 1998 file for that series.)

## Section 5: Sample Design and Estimation

**Table 5.1** 1999 Medicare population, by gender, race and age

Gender	Race	Age	Always Enrolled	July 1 Midpoint	Ever Enrolled
Total			36,749,800	38,781,300	40,744,060
Males	Black	0-44	172,240	184,020	193,700
		45-64	287,240	307,060	326,120
		65-69	283,220	321,020	352,300
		70-74	268,400	275,640	283,160
		75-79	196,960	204,440	212,600
		80-84	109,760	115,160	121,720
		85+	86,660	93,180	100,860
	Non-black	0-44	705,780	752,400	793,340
		45-64	1,539,040	1,646,980	1,750,880
		65-69	3,159,000	3,548,780	3,891,040
		70-74	3,476,280	3,542,520	3,613,200
		75-79	2,735,900	2,815,580	2,902,040
		80-84	1,626,240	1,700,440	1,780,080
		85+	1,098,580	1,191,120	1,294,620
Females	Black	0-44	116,540	125,540	134,040
		45-64	265,080	286,020	303,480
		65-69	373,020	417,620	454,260
		70-74	397,580	405,520	413,320
		75-79	330,760	339,120	347,620
		80-84	218,740	226,600	234,780
		85+	239,340	254,260	270,020
	Non-black	0-44	491,540	527,340	560,100
		45-64	1,169,000	1,256,320	1,340,320
		65-69	3,630,800	4,066,360	4,446,980
		70-74	4,370,580	4,424,880	4,481,220
		75-79	3,907,080	3,981,940	4,059,000
		80-84	2,741,060	2,826,720	2,922,660
		85+	2,753,380	2,944,720	3,160,600
Female total			21,004,500	22,082,960	23,128,400
Male total			15,745,300	16,698,340	17,615,660
Black total			3,345,540	3,555,200	3,747,980
Non-black total			33,404,260	35,226,100	36,996,080

Based on March 2000 HISKEW files, inflated to 100 percent. "Always Enrolled" data are estimated .

**Targeted population and sampling strata**

The targeted population for Round 1 of the MCBS consisted of persons enrolled in one or both parts of the Medicare program, that is, Part A (Hospital Insurance) or Part B (Supplementary Medical Insurance) as of January 1, 1991, and whose address on the Medicare files was in one of the 50 states, the District of Columbia, or Puerto Rico. Correspondingly, for Rounds 4, 7, 10, 13, 16, 19, 22, and 25 the targeted populations included those individuals enrolled as of January 1, 1992,<sup>1</sup> 1993,<sup>2</sup> 1994,<sup>3</sup> 1995, 1996, 1997, 1998, and 1999 respectively.

The targeted universe is divided into seven sampling strata based on age as of December 31, 1999. The age categories are: 0 to 44, 45 to 64, 65 to 69, 70 to 74, 75 to 79, 80 to 84, and 85 or older. The goal of the sample design is to obtain complete annual data on health care use of both Medicare covered as well as noncovered services and the associated costs by source of payment on 12,000 beneficiaries per year, with 2,000 for each of the elderly strata and 1,000 for each of the disabled strata. See Table 5.2.

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**Table 5.2** Targeted number of MCBS sample persons with complete annual utilization and expenditure data by sampling stratum

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Age group	Target
Total	12,000
0 - 44	1,000
45 - 64	1,000
65 - 69	2,000
70 - 74	2,000
75 - 79	2,000
80 - 84	2,000
85 +	2,000

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(Note: Due to the switch to a rotating panel design described earlier in the Introduction, it was necessary to interview roughly 16,000 sample persons in the fall rounds 1994 - 1999 (Rounds 10, 13, 16, 19, 22, and 25) in order to meet the targets for complete annual utilization and expenditure data for 1994 through 1999. This overlapping of panels will continue indefinitely under the rotating panel design for each fall interview session. See Table 5.3 for actual number of Round 25 completes by age stratum.)

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## Section 5: Sample Design and Estimation

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In response to a request from CMS / Office of Strategic Planning (OSP), formerly Research and Demonstration (ORD), the Round 25 MCBS sample includes a special one-time supplement of beneficiaries in risk HMO health plans. This special OSP/HMO supplement targets beneficiaries nationally who are enrolled in risk HMO plans. Target sample sizes for the special supplement were 1,000 risk HMO completes.

Beneficiaries for the original sample (Round 1), the first supplement (Round 4), and the second supplement (Round 7) were selected from the standard 5-percent sample of CMS's Enrollment Data Base (EDB). The decision to select the MCBS sample from within the standard 5-percent CMS sample was based mostly on considerations of convenience. The 5-percent sample has been used for many research projects involving the Medicare population, and data files have been constructed to allow access to the claims for this group.

The development of the National Claims History File makes the claims data generally available for the entire population, not just those individuals included in the standard sample. In addition, for some PSU areas, the number of beneficiaries within the standard 5-percent sample is relatively small and the list of potential sample people can become exhausted. As a result, beginning in Round 10, samples are being drawn from 5-percent samples other than the standard 5-percent sample.

The MCBS sample is designed to be nearly self-weighting within the age strata. A systematic sampling scheme with random starts is employed. The use of random starts provides justification for the variance calculations used in the WESVAR procedures described later in this section.

### Sample selection

A sample of 15,411 beneficiaries was selected in 1991 for Round 1 of the MCBS. This initial sample was representative of beneficiaries who were entitled on January 1, 1991. Round 1 interviews started in September of 1991, and participating beneficiaries have been re-interviewed roughly every four months for up to a maximum of six years (i.e., until they were scheduled to exit the MCBS sample under the rotating panel design described in the Introduction).

A supplemental sample of 2,410 beneficiaries was added to the sample in 1992 for Round 4. The 1992 supplemental sample was primarily designed to include newly enrolled beneficiaries (i.e., beneficiaries who were enrolled during the period February 1991 through January 1992 (see Endnote1)), but also included previously enrolled beneficiaries to compensate for losses in the original sample due to the cumulative effects of deaths, emigration, and nonresponse. The 1992 Access to Care questions were administered in September through December 1992 as part of the Round 4 interview for the continuing sample, and as part of the initial interview for the supplemental sample.

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In 1993 an additional supplemental sample of 2,449 beneficiaries was added to the sample for Round 7. Like the 1992 supplemental sample, the 1993 supplemental sample was intended primarily to include newly enrolled beneficiaries (i.e., beneficiaries who were enrolled during the period February 1992 through December 1992), as well as previously enrolled beneficiaries (i.e., beneficiaries who were enrolled on or before January 1, 1992) to maintain the desired sample size. The 1993 Access to Care questions were administered in September through December 1993 as part of the Round 7 interview for the continuing sample, and as part of the initial interview of the 1993 supplemental sample.

The MCBS rotating panel design became operational in 1994. Under the rotating panel design, a nationally representative sample is selected for each Fall interviewing round to replace beneficiaries who are scheduled to exit the study in the preceding Spring round. In 1994, a supplemental sample of 6,390 beneficiaries was added to the MCBS sample for Round 10. The 1994 supplemental sample included newly enrolled beneficiaries (i.e., beneficiaries who were enrolled during the period January 1993 through December 1993) as well as previously enrolled beneficiaries (i.e., beneficiaries who were enrolled on or before December 1992). The 1994 Access to Care questions were administered in September through December 1994 as part of the Round 10 interview for the continuing sample, and as part of the initial interview of the 1994 supplemental sample.

In 1995, a supplemental sample of 6,349 beneficiaries was added to the sample for Round 13. The 1995 supplemental sample included newly enrolled beneficiaries (i.e., beneficiaries who were enrolled during the period January 1994 through January 1995) as well as previously enrolled beneficiaries (i.e., beneficiaries who were enrolled on or before December 1993). The 1995 Access to Care questions were administered in September through December 1995 as part of the Round 13 interview for the continuing sample, and as part of the initial interview of the 1995 supplemental sample.

In 1996, a supplemental sample of 6,506 beneficiaries was added to the sample for Round 16. The 1996 supplemental sample included newly enrolled beneficiaries (i.e., beneficiaries who were enrolled during the period February 1995 through January 1996) as well as previously enrolled beneficiaries (i.e., beneficiaries who were enrolled on or before January 1995). In addition to the 6,506 beneficiaries selected for the “regular” supplement, an additional 2,799 beneficiaries were selected for a one-time ORD/HMO special supplement. These 2,799 beneficiaries included 1,490 in risk HMO or FFS plans in selected target areas of South California and South Florida and 1,309 beneficiaries in risk HMO plans outside of the targeted areas. The 1996 Access to Care questions were administered in September through December 1996 as part of the Round 16 interview for the continuing sample, and as part of the initial interview for the 1996 supplemental samples. In addition to questions on access to care, satisfaction with care, and health status, the Round 16 supplement included questions specific to managed care issues.

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In 1997, a supplemental sample of 6,599 beneficiaries was added to the sample for Round 19. The 1997 supplemental sample included newly enrolled beneficiaries (i.e., beneficiaries who were enrolled during the period February 1996 through January 1997) as well as previously enrolled beneficiaries (i.e., beneficiaries who were enrolled on or before January 1996). In addition to the 6,599 beneficiaries selected for the “regular” supplement, an additional 2,536 beneficiaries were selected for a one-time ORD/HMO special supplement. These 2,536 beneficiaries included 2,089 in risk HMO and FFS plans in selected targeted areas of Arizona and Philadelphia and 447 beneficiaries in risk HMO plans outside of the targeted areas. The 1997 Access to Care questions were administered in September through December 1997 as part of the Round 19 interview for the continuing sample, and as part of the initial interview for the 1997 supplemental samples. In addition to questions on access to care, satisfaction with care and health status, the Round 19 supplement included questions specific to managed care issues.

In 1998, a supplemental sample of 6,450 beneficiaries was added to the sample for Round 22. The 1998 supplemental MCBS sample included newly enrolled beneficiaries (i.e., beneficiaries who were enrolled during the period February 1997 through January 1998) as well as previously enrolled beneficiaries (i.e., beneficiaries who were enrolled on or before January 1997). In addition to the 6,450 beneficiaries selected for the “regular” supplement, an additional 5,162 beneficiaries were selected for a one-time ORD/HMO special supplement. These 5,162 beneficiaries included 3,909 beneficiaries in risk HMO and FFS plans in selected targeted areas of Denver, Minneapolis, and South Florida and 1,253 beneficiaries in risk HMO plans outside of the targeted areas. The 1998 Access to Care questions were administered in September through December 1998 as part of the Round 22 interview for the continuing sample, and as part of the initial interview for the 1998 supplemental samples. In addition to questions on access to care, satisfaction with care, and health status, the Round 22 supplement included questions specific to managed care issues.

In 1999, a supplemental sample of 6,399 beneficiaries was added to the sample for Round 25. The 1999 supplemental MCBS sample included newly enrolled beneficiaries (i.e., beneficiaries who were enrolled during the period February 1998 through January 1999) as well as previously enrolled beneficiaries (i.e., beneficiaries who were enrolled on or before January 1998). In addition to the 6,399 beneficiaries selected for the “regular” supplement, an additional 1,279 beneficiaries were selected for a one-time national OSP/HMO special supplement in risk HMO plans. The 1999 Access to Care questions were administered in September through December 1999 as part of the Round 25 interview for the continuing sample, and as part of the initial interview for the 1999 supplemental samples. In addition to questions on access to care, satisfaction with care, and health status, the Round 25 supplement included questions specific to managed care issues.

### Primary Sampling Units

The MCBS sample is spread across 107 primary sampling units (PSUs) which are metropolitan areas and clusters of non-metropolitan counties. Within the PSUs, the initial sample was concentrated in 1,163 clusters of ZIP code areas (5 digits). With the introduction of the 1992 and 1993 supplements, the number of sample ZIP code clusters expanded to 1,366 and 1,412, respectively. The area covered by the 1994 supplement included 1,443 clusters. A supplemental sample of 5 new ZIP clusters was selected in 1995, bringing the total number of sample ZIP clusters to 1,448. For 1996, twenty new zip clusters were added, bringing the total to 1,468 clusters. For 1997, nineteen new clusters were added, bringing the total to 1,487 clusters; for 1998, twenty new clusters were added, bringing the total to 1,507 clusters; for 1999, twelve new clusters were added, bringing the total to 1,519 clusters.

All nine samples were selected from CMS's master file of beneficiaries enrolled in Medicare, using the beneficiary's address recorded in that file as of March of the year the individual was selected to be in the sample.

### **Response Rates**

By Round 25, 69 percent of the 1996 panel were still in a formal responding status (that is, either the SP was alive and still participating or had died after Round 16 but left behind a cooperative proxy for the collection of data on the last months of life) or had participated in the survey until death, leaving enough data to estimate the last months of life. For the 1997 and 1998 panels, the corresponding figures were 72 and 74 percent, respectively. The 1999 panel (Round 25) had an initial response rate of 85 percent.

There were 3,604 interviews successfully completed at Round 25 with still-living members of the 1996 panel. For brevity, we refer to these 3,604 interviews as "live completes." For the 1997 and 1998 panels there were 3,904 and 4,173 live Round 25 completes, respectively.

### **Completed interviews by sampling strata**

Table 5.3 lists the number of completed interviews for Round 25 for the continuing (Rounds 16, 19, and 22) and supplemental (Round 25) panels by age strata. Under the rotating panel design, the beneficiaries selected in Round 13 were released from the sample prior to Round 25.

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**Table 5.3** MCBS Round 25 completed interviews for the continuing and supplemental panels

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Age group	- Round 25 Completed Interviews -		Total
	Continuing	Supplemental	
Total	11,681	6,255	17,936
0 - 44	862	495	1,357
45 - 64	990	509	1,499
65 - 69	1,963	1,401	3,364
70 - 74	2,353	1,044	3,397
75 - 79	2,004	1,101	3,105
80 - 84	1,876	972	2,848
85 +	1,633	733	2,366

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### Item Nonresponse

As in any other survey, some respondents could not, or would not, supply answers to some questions. Item non-response rates are low in the CY 1999 Access to Care release, but the analyst still needs to be aware of the missing data and be cautious about patterns of nonresponse.

Some of the missing data is attributable to the fact that some of the community interviews and all of the facility interviews are conducted by proxy. In other words, the respondent had no knowledge of the information sought on the sample person. In other situations the respondent simply refused to answer. While no effort was made to specifically impute missing data for the Access to Care variables, where possible, much of the data not collected in the current round has been filled in through editing to earlier files or through the use of files that have been imputed.

Each user can decide how to handle the missing data. One simple approach is to delete records with missing data. The cumulative effect of deleting each record with any missing data can significantly reduce the data available for analysis. Another approach is to create an “unknown” or “missing” category within each variable distribution. This approach retains more observations than the first approach.

There are other more complicated alternatives for handling cases with missing data. One is to impute the missing data. This can be done fairly easily in such a way as to improve univariate tabulations, but techniques that retain correlation structure for multivariate analyses are extremely complex. For more discussion of imputation, the user is referred to Kalton and Kasprzyk (1986). An alternative is model-based estimation where a joint mechanism is hypothesized that underlies both the substantive data and the missing data structure. For a discussion of this technique, see Little and Rubin (1987).

**Preparing Statistics (Using the Full Sample Weights)**

Four sets of final “full sample” Round 25 weights have been provided for different types of statistics. (The term “full sample” is used to distinguish these weights from the replicate weights discussed in the next section). One set of weights is labeled **R25COWGT** (RIC X). **R25COWGT** is a cross-sectional weight and applies to both the continuing sample and to the supplemental sample, which was fielded for the first time in Round 25. This weight has been adjusted to include the ORD/HMO supplement and is intended for use in cross-sectional statistics involving Round 25 by itself. Each weight is greater than zero for all 17,936 beneficiaries on the file. **R25COWGT** should be used to make estimates of the levels of access to care for the Medicare population alive in the fall of 1999.

The second set of weights is labeled **R25NRWGT** (RIC X4). It is intended for use in longitudinal statistics involving continuing people from the 1996 panel who had Round 16, Round 19, Round 22, and Round 25 interviews. The longitudinal weight, **R25NRWGT**, does not apply to the Round 19, Round 22, and Round 25 panels. This weight should only be used when the CY 1996 (Round 16), CY 1997 (Round 19), CY 1998 (Round 22), and CY 1999 (Round 25) Access to Care releases have been merged together. Records must be merged at the beneficiary level, and only those beneficiaries who completed all four rounds (that is, have positive numeric **R25NRWGT**) should be included in the final file.

This weight can then be used to make estimates of changes in characteristics (say, health status) or attitudes (say, satisfaction with care) of a given subset of the population over the three year period. **R25NRWGT** is greater than zero only for continuing persons in the 1996 panel; it is inapplicable (“.”) for the Round 19, Round 22, and the Round 25 panels. There are 3,604 beneficiaries who completed Round 16, Round 19, Round 22, and Round 25 interviews; these beneficiaries are identified as **D\_SMPTYP=‘96’** (RIC K, Key Record).

The third set of weights is labeled **R252P** (RIC X3). These weights are intended for use in longitudinal statistics involving continuing sample people (from the 1996 and 1997 panels) who completed interviews in Round 19, Round 22, and Round 25. The longitudinal weight, **R252P**, does not apply to the Round 22 or Round 25 panel cases. This weight should only be used when the CY 1997 (Round 19), CY 1998 (Round 22), and CY 1999 (Round 25) Access to Care releases have been merged together. Records must be merged at the beneficiary level, and only those beneficiaries who completed all three interviews should be included in the final file.

This weight can then be used to make estimates of year-to-year changes from 1997 to 1999. **R252P** is greater than zero only for persons who completed Round 19, Round 22, and Round 25; it is inapplicable (“.”) for the Round 22 and Round 25 panels. There are 7,508 beneficiaries who completed Round 19, Round 22, and Round 25 interviews; these beneficiaries are identified as **D\_SMPTYP=‘96’** or **D\_SMPTYP=‘97’** (RIC K, Key record).

The fourth set of weights is labeled **R253P** (RIC X2). These weights are intended for use in longitudinal statistics involving continuing sample people (from the 1996, 1997, and the 1998 panels) who completed interviews in both Round 22 and Round 25. The longitudinal weight, **R253P**, does not apply to the Round 25 panel cases. This weight should only be used when the CY 1998 (Round 22) and CY 1999 (Round 25) Access to Care releases have been merged together. Records must be merged at the beneficiary level, and only those beneficiaries who completed both interviews should be included in the final file.

This weight can then be used to make estimates of year-to-year changes, such as the number of persons who went from being very satisfied with their care to being dissatisfied with their care. **R253P** is greater than zero only for persons who completed Round 22 and Round 25; it is inapplicable (“.”) for the Round 25 panel. There are 11,681 beneficiaries who completed both Round 22 and Round 25 interviews; these beneficiaries are identified as **D\_SMPTYP**=‘96’, **D\_SMPTYP**=‘97’, or **D\_SMPTYP**=‘98’ (RIC K, Key record).

Although it is possible to create some cross-sectional estimates using **R25NRWGT**, **R252P**, or **R253P** and create longitudinal estimates using **R25COWGT**, both of these actions are strongly discouraged. In general, estimates of the same population statistic produced using the two types of weights (that is, cross-sectional and longitudinal) will differ systematically. When **R25NRWGT**, **R252P**, or **R253P** are used for cross-sectional estimation, recently enrolled beneficiaries will not be represented. When **R25COWGT** is used for longitudinal estimation, positive weights will be given to cases without baseline data and the weights for long-term enrollees will be too small.

### **Variance Estimation (Using the Replicate Weights)**

In many statistical packages, including SAS, the procedures for calculating variances assume that the data were collected in a simple random sample. Procedures of this type are not appropriate for calculating the variance for statistics based upon a stratified, unequal-probability, multi-stage sample such as the MCBS.

The replicate weights associated with the MCBS data can be used to create estimated standard errors for MCBS variables. Just as there are four full sample weights for Round 25, one for cross-sectional analyses and three for longitudinal analyses, there are four corresponding sets of replicate weights.

The replicate cross-sectional weights are labeled **R25CO1** through **R25CO100** and may be found in the Cross-sectional Weights record (RIC X). The first set of replicate longitudinal weights is labeled **R25NR1** through **R25NR100** and may be found on the first Longitudinal Weights Record (RIC X4). The second set of replicate longitudinal weights is labeled **R252P1** through **R252P100**.

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## Section 5: Sample Design and Estimation

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and may be found on the second Longitudinal Weights Record (RIC X3). The third set of replicate longitudinal weights is labeled **R253P1** through **R253P100** and may be found on the third Longitudinal Weights Record (RIC X2).

These replicate weights should be used for variance estimation. The user has two options for using the replicate weights, and a third option that does not require replicate weights. The first option is to use a software package called WesVar that is available from Westat at no charge. The Version 2.12 program and user's guide can be downloaded from Westat's home page on the World Wide Web at: **WWW.WESTAT.COM**. Version 4 of WesVar can also be purchased directly from Westat. The newer version has additional features that are described in detail at the following web site: **WWW.WESTAT.COM/WESVAR**. Technical questions may be directed to David Ferraro at Westat, telephone 301.251.4261.

Identification of weight variable and variables for analysis can be done using the WesVar menus. To run WesVar with MCBS data and weights, the method should be specified as Fay's method with a factor of 0.3.

The second option is for the user to write a small custom program using a very simple algorithm. Let  $X_0$  be an estimate of a statistic of interest formed using one of the full sample weights. Let  $X_1$  through  $X_{100}$  be estimates (calculated by the user) of the exact same statistic of interest formed using the corresponding 100 replicate weights. The estimated variance of  $X_0$  is then simply:

$$Var(X_0) = \frac{2.04}{100} \sum_{i=1}^{100} (X_i - X_0)^2$$

The third option is for users who prefer to use alternate software such as SUDAAN7 (Professional Software for SURvey DATA ANalysis for Multi-stage Sample Designs) to compute population estimates and the associated variance estimates. Two variables, SUDSTRAT and SUDUNIT, have been included in the cross sectional and longitudinal weight records to allow use of SUDAAN.

An example of using SUDAAN statements to compute an estimate of the proportion of the Medicare population (excluding newly enrolled after January 1999) that had an inpatient stay in 1999 is shown below:

```
PROC CROSSTAB DATA=dsn FILETYPE=SAS DESIGN=WR;  
  NEST SUDSTRAT SUDUNIT / MISSUNIT;  
  WEIGHT R25COWGT;
```

```
SUBGROUP H_INPSW;  
LEVELS 2;  
PRINT NSUM ROWPER SEROW;
```

The data set dsn is the name of the file that contains the weights and statistics of interest. The variable H\_INPSW is an inpatient switch indicator from the RIC A. Note that variables specified in the NEST, WEIGHT, and SUBGROUP statements have to be numeric and that SUBGROUP must run between 1 and the number of levels with no gaps.

### **Consistency with Medicare Program Statistics and with CY 1991, CY 1992, CY 1993, CY 1994, CY 1995, CY 1996, CY 1997, CY 1998, and CY 1999 Access to Care releases**

In general, MCBS estimates are not consistent with Medicare program statistics such as tabulations of the HISKEW. There are several reasons for the inconsistencies. The most important reason is that the EDB, and hence the HISKEW, includes people who are no longer alive. This may occur where people have entitlement, say for Part A only, and receive no Social Security check. When field staff try to locate these beneficiaries for interviews, they establish the fact of these deaths. This over-reporting on the HISKEW files is expected to diminish somewhat due to recent efforts to modify CMS edit procedures that rejected records from SSA which had valid dates of death but other erroneous information and due to a recent replenishing of the EDB with SSA records to get nine-digit zip codes. Unrecorded deaths are still present on the EDB.

For cross-sectional estimates of the CY 1992 and CY 1993 Access to Care, special weighting procedures were used to force some MCBS estimates to agree with HISKEW tabulations. This was not the case for the CY 1991 release nor is it the case for CY 1994, CY 1995, CY 1996, CY 1997, CY 1998, or CY 1999.

Although revised 1992 weights have not been published, internal analyses indicate that the estimated mean reimbursement per enrollee in 1992 was slightly too low in all but the youngest age category. The estimate of mean total Medicare reimbursement amount in 1992 increased 0.25 percent from \$5,022 per beneficiary before reweighting to \$5,035 per beneficiary after reweighting. This downward bias was due to the presence of a relatively small number of individuals on the enrollment database who are listed as alive when in fact they are dead (primarily individuals not receiving social security benefits but deemed “insured” for purposes of Medicare at the beginning of the program). Consequently, the number of enrollees was estimated to be too large. This effect was concentrated in the 85+ age category since that is where most of the unrecorded deaths were detected during survey field operations. Results of internal analysis indicate that the estimated proportion of beneficiaries in the 85 + age group decreased from 9.6 percent to 9.0 percent after reweighting.

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Also, research has shown that MCBS estimates by Census Division (the nation is divided into nine of these areas) are subject to extremely high variance. Users are urged to collapse down to the standard four Census Regions for geographic analyses.

There was an error in the 1992 weighting that skewed sample estimates toward non-metropolitan characteristics. Results from the reweighting indicate that mean total 1992 Medicare reimbursement increased from \$4,238 to \$4,269 for non-metropolitan beneficiaries, but decreased from \$5,334 to \$5,303 for beneficiaries in metropolitan areas.

Finally, an error in sampling was discovered early in 1996 that resulted in the selection of 320 beneficiaries from ZIP clusters that are not in sampled PSUs. Of these missampled cases, 64 were sampled with the 1992 supplementary panel, 38 were sampled with the 1993 supplementary panel, 115 were sampled with the 1994 supplementary panel, and 103 were sampled with the 1995 supplementary panel. Most of these cases are located in Central Florida (92 cases) and Puerto Rico (181 cases). Missampled cases in the 1991-1993 panels were released at Round 16. Seven missampled cases in the 1992 panel remained in the sample at Round 16 but will be released at Round 19 when this panel rotates out of the sample.

Weighting procedures for the 1996 Access to Care releases included a special adjustment to correct for the missampling. Weights for the previous Access to Care releases have not been revised to reflect this correction. Although preliminary analysis indicates that the effect on overall estimates is small, estimates for Hispanics appear to be more affected by the sampling errors, and analysts are advised to use caution when interpreting results for this subgroup that are obtained from earlier Access to Care releases.

## References

- Kalton, G. and Kasprzyk, D. (1986), "The Treatment of Missing Survey Data," *Survey Methodology*, **12**, 1-16.
- Little, R.J.A. and Rubin, D.B. (1987), *Statistical Analysis with Missing Data*, New York: John Wiley and Sons.

### Notes

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1. Because people often are listed in the enrollment database before eligibility for Medicare benefits actually begins, the Round 4 supplement includes some beneficiaries who became eligible in February 1992 or later.

2. The primary goal of the survey is the dissemination of detailed calendar year utilization and expenditure data. Therefore, it was decided to delay sampling the January 1993 accretes to coincide with sampling for the balance of 1993 accretes. Since the target for the CY 1993 Access to Care file was all those enrolled for all of 1993, which includes the January 1993 accretes, a weighting adjustment was made so that the cross-sectional weights on that file do reflect the inclusion of this group.

3. The primary goal of the survey is the dissemination of detailed calendar year utilization and expenditure data. Therefore, it was decided to delay sampling the January 1994 accretes to coincide with sampling for the balance of 1994 accretes. Since the target for the CY 1994 Access to Care file was all those enrolled for all of 1994, which includes the January 1994 accretes, a weighting adjustment was made so that the cross-sectional weights on that file do reflect the inclusion of this group.

**Medicare Current Beneficiary Survey**  
CY 1999 Access to Care

File Changes

**Changes in This Year's File**

The MCBS Access to Care files from 1991 to 1999 have remained fairly similar in format and content. Although the Access series has been periodically tapped as a vehicle for special one-time supplements, by in large the core instrument experiences only minor adaptations. These adaptations come in the form of adding, rewording, or removing questions, in the attempt to enhance the original survey instrument. The 1999 Access to Care file has some changes that are briefly described here.

The most significant change to the 1999 Access to Care file is the creation of the RIC 2H. This RIC and the variables within it were added, to provide additional information about those persons responsible for assisting Medicare beneficiaries in performing their activities of daily living (ADLs) and/or instrumental activities of daily living (IADLs). This RIC identifies the number of helpers, each helper's relationship to the respondent, and the types of ADLs and IADLs the helper assists the respondent in performing.

In addition to the variables that were added to the MCBS in 1999 (Round 25), there are a number of variables which were added in 1997 (Round 19) and 1998 (Round 22) that were missed in the creation of the MCBS Access to Care files for those years. Provided below are the variables broken down by RIC, the round that each particular variable was introduced to the survey, a brief variable description, and special notes (where appropriate).

**RIC 1**

**JOBSTAT** – new in Round 19 – asked once a year – SP currently working at a job

**HISPORIG** – new in Round 22 – initial interview only – SP Hispanic or Latino origin – This replaces **D\_ETHNIC**



**RIC 2** – These variables were added in Round 25 and are asked once a year.

**PROSRMVD** – Indicates whether prostate is removed

**HAVEPROS** – SP told they have BPH/enlarged prostate

**RIC 2F** – These variables were added in Round 25.

**BLOODTST** – SP had

**DIGTEXAM** – SP had

**COMPHLTH** – SP had

**HELMTACT** – SP had

**FLUSHOT** – SP had

**PNEUSHOT** – SP had

**RIC 2H** – This RIC and these variables were added in Round 25 and are asked once a year, thereafter.

**HLPRROST** – Helper roster number

**HLPRRND** – Helper round number

**HLPRRESP** – Helper respondent number

**HLPRREL** – Relationship to SP

**HLPRREOS** – Relationship to SP – other specify

**HLPRINS** – Helper with health insurance decisions

**HLPRTELE** – Helper with using phone

**HLPRLHWK** – Helper with light housework

**HLPRHHWK** – Helper with heavy housework

**HLPRMEAL** – Helper with preparing meals

**HLPRSHOP** – Helper with shopping

**HLPRBILS** – Helper with managing money

**HLPRBATH** – Helper with bathing/showering

**HLPRDRES** – Helper with dressing

**HLPREAT** – Helper with eating

**HLPRCHAR** – Helper with getting in/out of chairs

**HLPRWALK** – Helper with walking

**HLPRTOIL** – Helper with using the toilet

**HLPRMOST** – Helper gives most help

**HLPRUSGO** – Helper usually goes with SP to doctor

**RIC 3** – The first three variables were added in Round 22. The fourth variable was added in Round 25. All are asked once a year.

**MDVCHVC1** – 1<sup>st</sup> code for why respondent did not see 1st choice Doctor

**MDVCHVC2** – 2<sup>nd</sup> code for why respondent did not see 1st choice Doctor

**MDVCHVC3** – 3<sup>rd</sup> code for why respondent did not see 1st choice Doctor

**PLACEMCP** – new in Round 25 - Is doctor/clinic associated with managed care plan

**RIC 4** – These variables are asked each round.

**MHMOCOST** – added in Round 19 – Does anyone else pay a portion of the MHMO cost?

**MHMOWHO** – added in Round 19 – Who pays the additional cost for MHMO?

**MCAIDHMO** – added in Round 22 – Is this a Medicaid HMO?

**CHOICHMO** – added in Round 22 – Does SP have a choice in joining a Medicaid HMO

**PUBRXCOV** – added in Round 25 – Public plan covers prescribed medicines

**MCDRXCOV** – added in Round 25 – Medicaid plan covers prescribed medicines

**PLANLETR** – added in Round 25 – Medicare supplemental/medigap plan letter

**RIC H** – These variables were added in Round 19 and are asked each round.

**MHMOCOST** – Does anyone else pay a portion of the MHMO cost?

**MHMOWHO** – Who pays the additional cost for MHMO?