MCBS
Medicare Current Beneficiary Survey

2017 | DATA USER'S GUIDE: SURVEY FILE

Centers for Medicare & Medicaid Services (CMS)
Office of Enterprise Data and Analytics (OEDA)

Version Control Log

Date	Version	Revisions
06/21/2019	1.0	Initial version published.
08/28/2019	1.1	Correct Exhibit 4.1.2.
02/7/2020	1.2	Updated Exhibit 7.1.2 Cost Supplement Ever Enrolled Weights description.
09/24/2020	1.3	- Corrected the number of selected beneficiaries for the 2017 MCBS Panel in Exhibit 6.1 and Exhibit 6.4. - In section 7.1, corrected the number of 2017 Cost Supplement LDS segments and updated Cost Supplement Ever Enrolled Weights description in Exhibit 7.1.2. - In section 9.2.1, updated the variable name in the "Question #" example from ERVISIT to D_ERVIST. - Corrected the ADMNUTLS calendar year reference in section 10.5.3. - In section 10.6.3, described the issue identified with HLPRUSGO on the 2017 ASSIST segment. This segment was corrected and reissued accordingly. - Clarified the location of the six global disability questions on the NAGIDIS and VISHEAR segments in sections 10.26.3 and 10.35.3.

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LIST OF EXHIBITS

ACRONYM LIST

ACCESSCR	Access to Care segment
ACCSSMED	Access to Care, Medical Appointment segment
ACO	Accountable Care Organization
ACQ	Access to Care Questionnaire
ACS	American Community Survey
ADLs	Activities of Daily Living
ADMNUTLS	Administrative Utilization Summary
AGREESCL	Agreement Scale
ASSIST	Assistance segment
ATC	Access to Care
AVQ	Address Verification Questionnaire
BQ	Background Questionnaire
BRR	Balanced repeated replication (or Fay's method)
CAPI	Computer-Assisted Personal Interviewing
CATI	Computer-Assisted Telephone Interviewing
CAU	Cost and Use
CENWGTS	Continuously enrolled weights
CHRNCOND	Chronic Conditions segment
CHRNCDFL	FFS Chronic Condition Flag Records
CMS	Centers for Medicare & Medicaid Services
CSEVRWGT	Cost Supplement File Ever Enrolled weights
CSL2WGTS	Cost Supplement File Longitudinal weights (2-year)
CSL3WGTS	Cost Supplement File Longitudinal weights (3-year)
CPS	Charge Payment Summary
DEMO	Demographics segment
DIQ	Demographics and Income Questionnaire
DME	Durable Medical Equipment segment
DUA	Data Use Agreement
DUQ	Dental Utilization Questionnaire
ENS	Enumeration Summary Questionnaire
EOBs	Explanation of Benefit Statements
ERQ	Emergency Room Utilization Questionnaire
ERS	Economic Research Service
ESRD	End-stage renal disease
EVRWGTS	Ever enrolled population weights
EX	Expenditures Questionnaire
FACASMNT	Facility Assessments segment
FACCHAR	Facility Characteristics segment
FAE	Facility Events segment
FALLS	Falls
FFS	Fee-for-Service
FOODINS	Food Insecurity segment
FQ	Facility Questionnaire
GAD	Generalized Anxiety Disorder screening tool (GAD-2)
GENHLTH	General Health segment
HAQ	Housing Characteristics Questionnaire
HFQ	Health Status and Functioning Questionnaire
HHC	Health and Health Care of the Medicare Population

HHCHAR	Household Characteristics segment
HHQ	Home Health Utilization Questionnaire
HHS	Home Health Summary Questionnaire
HIPAA	Health Insurance Portability and Accountability Act
HIQ	Health Insurance Questionnaire
HIS	Health Insurance Summary Questionnaire
HISUMRY	Health Insurance Summary
HITLINE	Health Insurance Timeline segment
HMO	Health Maintenance Organization
HS	Health Status
IADLs	Instrumental Activities of Daily Living
IAQ	Income and Assets Questionnaire
ID	Identification
IN	Introduction Questionnaire
INCASSET	Income and Assets segment
INQ	Introduction Questionnaire
INTERV	Interview Characteristics segment
IPE	Inpatient Hospital Events segment
IPQ	Inpatient Hospital Utilization Questionnaire
IRB	Institutional Review Board
IRQ	Interviewer Remarks Questionnaire
IUE	Institutional Events segment
IUQ	Institutional Utilization Questionnaire
KNQ	Beneficiary Knowledge and Information Needs Questionnaire
LDS	Limited Data Set(s)
LEP	Limited English Proficiency
LNG2WGTS	Survey File longitudinal weights (2-year)
LNG3WGTS	Survey File longitudinal weights (3-year)
MA	Medicare Advantage
MAPLANQX	Medicare Advantage Plan Questions segment
MB	Medicare Beneficiary
MBQ	Mobility of Beneficiaries Questionnaire
MBSF	Master Beneficiary Summary File
MCBS	Medicare Current Beneficiary Survey
MCREPLNQ	Medicare Plan Beneficiary Knowledge segment
MDS	Minimum Data Set
MPE	Medical Provider Events segment
MPQ	Medical Provider Utilization Questionnaire
NAGIDIS	NAGI Disability segment
NHATS	National Health and Aging Trends Study
NICOALCO	Nicotine and Alcohol segment
NORC	NORC at the University of Chicago
NSQ	No-Statement Section Questionnaire
OASIS	Outcome and Assessment Information segment
OEDA	Office of Enterprise Data and Analytics
OM	Other Medical Expenses
OMB	Office of Management and Budget
OMQ	Other Medical Expenses Utilization Questionnaire
OPE	Outpatient Hospital Events segment
OPQ	Outpatient Utilization Questionnaire
PAQ	Patient Activation Questionnaire

PDP	Prescription Drug Plan
PHQ	Patient Health Questionnaire depression screening tool (PHQ-9)
PII	Personally Identifiable Information
PM	Prescription Medicine
PME	Prescribed Medicine Events segment
PMQ	Prescribed Medicine Questionnaire
PMS	Prescribed Medicine Summary
PPIC	Patient Perceptions of Integrated Care Questionnaire
PPO	Preferred Provider Organization
PREVCARE	Preventative Care segment
PS	Person Summary segment
PSQ	Post-Statement Charge Questionnaire
PSU	Primary Sampling Units
PNTACT	Patient Activation segment
PUF	Public Use File
PVQ	Preventive Care Questionnaire
RESTMLN	Residence Timeline segment
RH	Residence History
RIC	Record Identification Code
RUCA	Rural-Urban Commuting Area
RXMED	RX Satisfaction, Usage, and plan experiences
RXQ	Drug Coverage Questionnaire
SAS	Statistical Analysis System
SATWCARE	Satisfaction with Care segment
SCF	Sample Control File
SCQ	Satisfaction with Care Questionnaire
SNF	Skilled Nursing Facility
SS	Service Summary segment
SSN	Social Security Number
SSU	Secondary Sampling Units
STQ	Statement Section Questionnaire
US	Use of Health Services Questionnaire
USCARE	Usual Source of Care segment
USDA	U.S. Department of Agriculture
USQ	Usual Source of Care Questionnaire
USU	Ultimate Sampling Unit
VISHEAR	Vision and Hearing segment
VRDC	Virtual Research Data Center

1. INTRODUCTION

Medicare is the nation's health insurance program for persons 65 years and over and for persons younger than 65 years who have a qualifying disability. The Medicare Current Beneficiary Survey (MCBS) is a representative national sample of the Medicare population sponsored by the Centers for Medicare & Medicaid Services (CMS). The MCBS is designed to aid CMS in administering, monitoring, and evaluating Medicare programs. A leading source of information on Medicare and its impact on beneficiaries, the MCBS provides important information on beneficiaries that is not available in CMS administrative data and plays an essential role in monitoring and evaluating beneficiary health status and health care policy.

The MCBS is a continuous, in-person, multi-purpose longitudinal survey, representing the population of beneficiaries aged 65 and over and beneficiaries aged 64 and below with disabilities, residing in the United States. Fieldwork for the first round of data collection began in September 1991; since then, the MCBS has continued to collect and provide essential data on the costs, use, and health care status of Medicare beneficiaries. The MCBS has conducted continuous data collection for over 25 years, completing more than one million interviews provided by thousands of respondents.

The MCBS primarily focuses on economic and beneficiary topics including health care use and health care access barriers, health care expenditures, and factors that affect health care utilization. As a part of this focus, the MCBS collects a variety of information about the beneficiary, including demographic characteristics, health status and functioning, access to care, insurance coverage and out of pocket expenses, financial resources, and potential family support. The MCBS collects this information in three data collection periods, or rounds, per year. Over the years, data from the MCBS have been used to inform many advancements to the Medicare program, including the creation of new benefits such as Medicare's Part D prescription drug benefit.

Annually, CMS releases three sets of files – a Public Use File (PUF) and two Limited Data Sets (LDS). The LDS releases are referred to as the Survey File and the Cost Supplement File. The data within the LDS releases are organized into data segments. The Survey File serves as a stand-alone research file and is generally released in the summer, 18 months after the close of the calendar year for that data collection cohort. Some data for the Survey File is collected into the next calendar year to provide a complete picture of the beneficiary for analysis. The Cost Supplement File is usually released in the fall, approximately three months after the Survey File, when data collection has ended and final administrative and claims data for that calendar year become available.

The Survey File contains information on beneficiaries' demographic information, health insurance coverage, self-reported health status and conditions, and responses regarding access to care and satisfaction with care. The Cost Supplement File contains a comprehensive accounting of beneficiaries' health care use, expenditures, and sources of payment. Detailed descriptions of each file, including the contents of the files, file structure, information on new variables, key recodes, and administrative sources for select variables are included in each Data User's Guide (i.e., Survey File and Cost Supplement File).

Each data release (LDS and PUF) includes a Data User's Guide that offer a publicly available, easily searchable resource for data users. Beginning with 2015 MCBS data release, they are updated for each new data year to ensure that users have current documentation on the survey design, methods, and estimation as well as MCBS data products. In this Guide, Section 7 ("Data Products and Documentation") provides a crosswalk from historical segments to 2017 segments. Note that for analyses on beneficiaries' health care costs and utilization, data users will need to use the Cost Supplement File in conjunction with the Survey File.

For questions or suggestions on this document or other MCBS data-related questions, please email MCBS@cms.hhs.gov.

1.1 Contents of the Data User's Guide: Survey File

The content of the Survey File is governed by its central focus of serving as a unique source of information on beneficiaries' health and well-being that cannot be obtained through CMS administrative sources alone. The Survey File includes data related to Medicare beneficiaries' access to care, health status, and other information regarding beneficiaries' knowledge, attitudes towards, and satisfaction with their health care. The data release also contains demographic data and information on all types of health insurance coverage as well as fee-for-service claims data, which provide information on medical services and payments paid by Medicare under this plan type.

This Guide contains detailed information about the Survey File and specific background information to help data users understand and analyze the data. A companion Data User's Guide focuses on the Cost Supplement File LDS release.[1]

This document contains an overview of the survey, questionnaires, sample design, and other topics relevant to the MCBS in general. Data users can access this Guide along with other data documentation at https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/Codebooks.html. Please also see Appendix A: MCBS Common Definitions for descriptions of frequently used or key terms.

Here is an overview of the contents of the Data User's Guide: Survey File:

- Section 2: General Guidelines for Data Use – This section describes the main requirements for data use.
- Section 3: What's New? – This section describes the key MCBS Questionnaire changes and other highlights and enhancements for the data year.
- Sections 4-9: Overview of the MCBS – These sections provide an overview of the MBCS, including the questionnaires and the file structure. They include a technical description of the specifications and structure of the file and a brief description of the record types in this file.
- Section 10: Data File Notes – This section provides an overview of each file included in the release, a description of derived variables, and any changes from previous releases or special highlights for data users.
- Sections 11-12: References and Appendices – This section provides references and key supporting documentation including common definitions and sample programs for data users.

[1] The Cost Supplement LDS and companion Data User's Guide is released three to four months after the Survey File LDS.

2. GENERAL GUIDELINES FOR DATA USE

The LDS files contain beneficiary-level health information, but exclude specific direct identifiers as outlined in the Health Insurance Portability and Accountability Act of 1996 (HIPAA). LDS files are considered identifiable, even without the inclusion of specific direct identifiers, due to the potential capability to link other sources of data, creating an increased risk of re-identification of individuals. Since the information provided on an LDS is considered identifiable, it also remains subject to the provisions of the Privacy Act of 1974.

All requested LDS files require a signed LDS Data Use Agreement (DUA) between CMS and the data requestor to ensure that the data remain protected against unauthorized disclosure. LDS requestors must show that their proposed use of the data meets the disclosure provisions for research. The research purpose must relate to projects that could ultimately improve the care provided to Medicare patients and policies that govern the care. This type of research includes projects related to improving the quality of life for Medicare beneficiaries, improving the administration of the Medicare program, cost and payment related projects, and the creation of analytical reports.

Information on content and access to the MCBS PUF, including a codebook and additional documentation, can be found at https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/MCBS-Public-Use-File/index.html.

2.1 Data Access

In order to gain access to the LDS, data users must complete several steps. First, data users must sign and submit a CMS DUA and complete an LDS Worksheet. The DUA acknowledges the user's agreement to CMS' terms around data exchange, privacy, use, and storage. The LDS worksheet provides CMS with information about the research project, the specific files needed, and payment information for administrative fees associated with the data request.

Administrative processing fees for obtaining the LDS files are $300 for the 2017 Survey File alone, and $600 for the 2017 Survey File with the 2017 Cost Supplement (the Cost Supplement File cannot be acquired separately). The processing of the DUA takes approximately six to eight weeks. Upon approval and payment, CMS releases the data within ten business days, depending on the size of the data request. Data users will receive the data on DVD or via the CMS Virtual Research Data Center (VRDC) for use with SAS® or other statistical software packages; each data release contains multiple files that are linkable through a key identification variable (BASEID).

For additional information on data access and the DUA Process, data users can visit the CMS' LDS website at https://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/Data-Disclosures-Data-Agreements/DUA_-_NewLDS.html.

Questionnaires, codebooks, and bibliographies for each survey year are available for download on the CMS' MCBS website at https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/index.html. A link to this documentation is also visible when approved data users log in to the VRDC.

2.2 Guidelines for Citation of Data Source

This document was produced, published, and disseminated at U.S. taxpayer expense. All material appearing in this document is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

Accordingly, CMS requests that data users cite CMS and the Medicare Current Beneficiary Survey as the data source in any publications or research based upon these data. Suggested citation formats are below.

Tables and Graphs: The suggested citation to appear at the bottom of all tables and graphs should read:

> SOURCE: Centers for Medicare & Medicaid Services, Medicare Current Beneficiary Survey, [Data Product], [Year].

Bibliography: The suggested citation for the 2017 MCBS Data User's Guide should read:

> SOURCE: Centers for Medicare & Medicaid Services. 2017 Medicare Current Beneficiary Survey Data User's Guide: Survey File. Retrieved from [ADD URL], [Year].

Survey Data: The suggested citation for the MCBS survey data files and other documentation should read:

> SOURCE: Centers for Medicare & Medicaid Services. Medicare Current Beneficiary Survey, Survey File data. Baltimore, MD: U.S. Department of Health and Human Services, 2017.

> SOURCE: Centers for Medicare & Medicaid Services. Medicare Current Beneficiary Survey, Cost Supplement File data. Baltimore, MD: U.S. Department of Health and Human Services, 2017.

3. WHAT'S NEW FOR DATA YEAR 2017?

Below data users will note highlights and updates for the 2017 data year.

3.1 Sampling

Sample eligibility: Beginning in 2017, Puerto Rico was removed from the MCBS sampling geography. Beneficiaries residing in Puerto Rico are no longer sampled for the MCBS in the new (incoming) panels.

Hispanic oversample: Data collection ended in Puerto Rico effective Fall 2017 (Round 79). Hispanic sampling rates in the continental U.S. have been increased to compensate, over time, for the loss of Hispanic beneficiaries from Puerto Rico.

3.2 Questionnaires

Questionnaire content changes: There were a number of questionnaire sections that were revised in 2017. Note that variable names referenced below are the Questionnaire variable names. Data users can view the questionnaire for each data year along with the questionnaire variable names referenced below and question text on the MCBS website at https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/Questionnaires.html.

3.2.1 General

The MCBS introduced several Community questionnaire flow updates in 2017 to enhance data quality, improve interviewer and respondent experience, and reduce respondent burden.

Starting in Fall 2017, the Access to Care Questionnaire (ACQ) and the Usual Sources of Care Questionnaire (USQ) migrated from the fall round interview to the winter round interview. The effect of this adjustment is that the ACQ and USQ sections were not fielded during 2017; both sections were fielded in the winter round starting in Winter 2018. Though fielded in 2018, the ACQ and USQ sections have reference periods in 2017 and are included in the 2017 MCBS data files.

A shortened version of the Satisfaction with Care Questionnaire (SCQ) remained in the Fall 2017 interview. Four items were cut from SCQ; multiple prescription medicine items were moved from SCQ to other questionnaire sections, including the Prescribed Medicine Utilization Questionnaire (PMQ), Medical Provider Utilization Questionnaire (MPQ), and Drug Coverage Questionnaire (RXQ). Finally, while the Patient Activation Questionnaire (PAQ) was administered in Summer 2017, it had a reference period in 2016 and is included in the 2016 MCBS data files. Administration of the stand-alone PAQ will be discontinued in the future. Eight items from PAQ were folded into the revised SCQ section in Fall 2017.

In Fall 2017, the Health Insurance Summary (HIS) and Prescribed Medicine Summary (PMS) sections were removed from the questionnaire. This change was part of an effort to remove questionnaire sections in which interviewers could edit data entered in prior rounds.

Also in Fall 2017, the survey implemented an enhanced prescription medicine lookup (PMLU) tool in the Community questionnaire. The revised PMLU allows interviewers to select medicine details, including name, strength, and form, directly from the First Databank (FDB) list used for post-processing and claims matching (see https://www.fdbhealth.com). The PMLU design minimizes manual entry of medicine data; streamlines the entry of new medicine details and medicine refills across questionnaire sections; and provides flexibility to accommodate situations in which the respondent does not have complete information about reported medicines. In addition:

- Two items were added to measure prescription medication adherence. Item TABSADAY measures the number of times the medicine is prescribed to be taken per day, and item TABTAKE measures the number of times the respondent usually takes the medicine per day.
- Two new items were added to the Prescribed Medicine Utilization section (PMQ) to aid in collection of drug class when a respondent may have received a prescription for which he or she no longer possesses the documentation and does not know the medicine name: PMKNWNM (Does respondent know the name of the medicine?) and PMCOND (What condition is this medicine prescribed for or what is its primary use?).
- Several variables were permanently deleted due to the consolidated PMLU sequence. For example, in the Emergency Room Utilization Questionnaire (ERQ), ER9-MEDID and ER-9-MEDICINE_ER were permanently deleted. Parallel updates can be seen in other utilization and cost sections.

3.2.2 Section-Specific Changes

The MCBS introduced several item- and section-level changes to the Community questionnaire in 2017,[2] including changes to response options, questionnaire routing, and addition, migration, and deletion of items. The purpose of these changes was to enhance data quality, address gaps in content relevant to data users, improve interviewer and respondent experience, and to reduce respondent burden.

Access to Care (ACQ)

One minor modification was required to accommodate the migration of the Access to Care (ACQ) Questionnaire from the fall round interview to the winter round interview. As item AC7-ERADMT was only administered to Incoming Panel respondents, this item was removed from the questionnaire starting in Winter 2018. Instead, all respondents receive ER6-ERADMIT as part of the ERQ. Response categories for items AC13-OPDDRTEL and AC25-MDDRTEL were updated to capture more information about appointment setting for outpatient and doctor's visits.

Demographics and Income (DIQ)

- Response categories for French and German were added to DI2E-WHATLANG beginning in Fall 2017, as these responses were frequently entered as "Other-specify" responses in prior rounds.

Dental Utilization (DUQ)

- In Fall 2017, two adjustments were made to existing item DU15-DVNEED. Previously, this item was asked only if dental utilization was not reported earlier in DUQ; beginning in Fall 2017, the item was asked whether or not dental utilization was reported, because dental utilization is one type of care that can be split up over time or "partially" completed due to cost or convenience. In addition, DU15-DVNEED and its follow-up, DU16-DVNDRS, were revised to be asked only when the respondent is living; this is consistent with other items of this type in the MCBS and also consistent with the National Health and Nutrition Examination Survey (NHANES), where DU16-DVNDRS also appears.

Drug Coverage (RXQ)

- In Summer 2018, 22 items from the Satisfaction with Care Questionnaire (SCQ) relating to prescription medicine coverage were moved to RXQ. Additionally, to reduce respondent and field interviewer burden, and improve data quality, the response option, "AUTOMATICALLY RECEIVES GENERICS" was added to the

[2] Variable names referenced below are questionnaire variable names. The names and question text can be viewed on the MCBS website at https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/Questionnaires.html.

question SC20-GENERRX. These items use a reference period of 2017 and, as such, are included in the 2017 LDS.

Enumeration Summary (ENS)

- ENS section criteria were updated in Summer 2017 to include exit panel (INTTYPE=C008) cases. This change allows for updates to the household roster during the exit round interview, thereby ensuring that the interviewer captures any changes to the beneficiary's relationship status. Information from the household roster informs text fills for spouses and partners in the Income and Assets (IAQ) questionnaire.

Health Status and Functioning (HFQ)

- Two affordability items were added to the HFQ in Fall 2017 to ask about experiences with medical debt: HFAC32A-PAYPROB and HFAC32B-PAYOVRTM.

Home Health Summary (HHS)

- In Summer 2017, a new reference period was created that reconciles summary utilization reference date in the Home Health Summary (HHS). The new reference date, SUMMUTIL, asks about any new home health utilization during the summary utilization reference period of January 1st of the current year through the date of the winter interview.

Medical Provider Utilization (MPQ)

- Prior to 2017, there was no item in the MCBS questionnaire to measure foregone mental health care. To fill this gap, MP33B-AFRDMT was added to the MPQ section beginning in Fall 2017 as a follow-up to items about mental health utilization.

Nicotine and Alcohol Use (NAQ)

- A new response option of, "NEVER / DOES NOT DRINK," was added to items ALC12MN and ALC12MNU to account for respondents who do not drink or never drank alcohol.

Patient Activation (PAQ)

- Using a reference year of 2016, the PAQ was administered for the final time in Summer 2017, and these data are included in the 2016 MCBS data files. Eight items from PAQ were folded into the revised SCQ section in Fall 2017 and are included in the 2017 MCBS data files.

Prescribed Medicine Utilization (PMQ)

- The MCBS removed an overlap between several items in the Prescribed Medicine section (PMQ) and the Satisfaction with Care section (SCQ). The PMQ items (RXNOFILL, RXDELAY, RXSKIP, and RXDOSE and items NOFILLED, DELAYFIL, SKIPDOSE, CUTDOSE) were removed in Winter 2017 in favor of the SCQ items.

Usual Source of Care (USQ)

- Starting in Fall 2017, the USQ was migrated from the fall round interview to the winter round interview in order to reduce respondent burden in the fall data collection round.

In addition, the following updates were implemented in this section in Winter 2018:[3]

- Seven Limited English Proficiency (LEP) items were added to this section. See exhibit 3.4.1 for the specific items.
- Several items were removed from the Community questionnaire, including US11A1-PERSWITH, US15-USHOWLONG, US17-PREVMEDC, US27-USCOMPET, US27-USUNHIST, US27-USHURRY, US32-USEXPPRB, US32-DISCUS, US32-USFAVOR, US32-USTELALL, US32-USANSQUX, US37-USCONFID, US37-USDEPEND, US37H-KNOWTEST, and US37J-UNMEDTST. These items had overlap with other items asked in the questionnaire and were removed to reduce redundant content and reduce respondent burden.
- In Fall 2016, the Usual Source of Care/Patient Perceptions of Integrated Care (USQ/PPIC) section fielded in 2015 was reverted back to the originally fielded USQ section. In Winter 2018, a sub-set of the PPIC items were reintroduced into the questionnaire with several updates. First, the response categories for these items were updated to facilitate an in-person interview. Second, the reference date for these items was incorporated into the question stem to aid in respondent recall. Third, the reference period was adjusted for PPIC items in the USQ to be 12 months instead of 6 months. This change brings the reference period for the PPIC items that were added to USQ in line with other sections in the MCBS Community questionnaire.
- The response option, "PHYSICIAN'S ASSISTANT," was added to the code frame at US6A-MDSPEC due to the frequency with which this response is entered at "Other, specify" item MDSPECOS.

3.3 Documentation

Data User's Guides: The 2017 MCBS Survey File and General Information Data User's Guides are combined into a single 2017 MCBS Data User's Guide: Survey File. This change consolidates some key information into one comprehensive Guide.

3.4 Data Processing

New and revised content:

For the 2017 Survey File LDS, the MCBS implemented the following changes to segments:

- Two new segments are released Access to Care, Medical Appointments (ACCSSMED) and the Chronic Care Conditions Flags (CHRNCDFL).
- The segment RX Medications (RXMED) will replace the RXPARTD segment released in 2016. See more information in section 10.32.
- There are new topical weights for questionnaire sections ACQ and USQ. See more information in section 9.4: Weighting.
- Questions previously released in the DENTAL segment have been moved to the ACCSSMED segment with other questions regarding foregone healthcare.

The 2017 questionnaire changes also resulted in the following variables added to the annual releases:

[3] The reference period for these data is 2017.

Exhibit 3.4.1: 2017 MCBS Community Content Additions

Location	Questionnaire Section	Variable	Description
ACCESSCR	ACCS	PAYOVRTM	MEDICAL BILLS BEING PAID OFF OVER TIME
ACCESSCR	ACCS	PAYPROB	PROBLEM PAYING MEDICAL BILLS
DEMO	CMS Admin data	H_RUCAx	RURAL-URBAN CONTINUUM CODES
DEMO	ENS	SPSDTH	SP SPOUSE DIED WITHIN THE YEAR
HHCHAR	ENS	D_COMPHH	HOUSEHOLD COMPOSITION
HHCHAR	ENS	D_SEXSPP	GENDER OF SPOUSE/PARTNER
HISUMRY	HIS	H_CTYP01-H_CTYP12	PART C PLAN TYPE CODE
HISUMRY	HIS	H_DTYP01-H_DTYP12	PART D PLAN TYPE CODE
HISUMRY	HIS	H_EGWP01 - H_EGWP12	PRESCRIPTION DRUG PLAN (PDP) EMPLOYER GROUP WAIVER PLAN INDICATOR
HISUMRY	HIS	H_PRGID	CMS PROG ID – PAYMENT MODEL (THE H_PRGID-H_PRGID3 VARIABLES REPLACE THE H_ACOFLG VARIABLE DISPLAYED IN 2015 AND 2016)
HISUMRY	HIS	H_PRGID2	2ND CMS PROG ID – PAYMENT MODEL
HISUMRY	HIS	H_PRGID3	3RD CMS PROG ID – PAYMENT MODEL
USCARE	USQ	ANYRX	SP TOOK PRESCRIPTION MEDICINES
USCARE	USQ	ASPRSCBD	SP ABILITY TO TAKE MEDS AS PRESCRIBED
USCARE	USQ	BADRCTN	HOW OFTEN PROVIDER TALKED WITH SP ABOUT BAD REACTIONS
USCARE	USQ	CARESPCL	SEE SPECIALIST OUTSIDE PCP OFFICE
USCARE	USQ	DOCEASY	HOW OFTEN PROVIDER EXPLAINS THINGS CLEARLY
USCARE	USQ	DOCHLTH	HOW OFTEN PROVIDER ASKS ABOUT SP'S HEALTH
USCARE	USQ	DOCLSTN	HOW OFTEN PROVIDER LISTENS TO SP
USCARE	USQ	DOCRSPCT	HOW OFTEN PROVIDER RESPECTED SP
USCARE	USQ	ENUFTIME	HOW OFTEN PROVIDER SPENDS ENOUGH TIME WITH SP
USCARE	USQ	GIVEINST	PROVIDER GAVE INSTRUCTIONS FOR HEALTH CARE
USCARE	USQ	HLTHIDEA	HOW OFTEN PROVIDER ASKS TO IMPROVE HEALTH
USCARE	USQ	HLTHSRVC	SP NEEDED HOME SERVICES TO HELP WITH HEALTH
USCARE	USQ	HOSINST	HOSPITAL FOLLOWED UP ABOUT MEDICINES INSTRUCTIONS
USCARE	USQ	HOSADMIT	SP ADMITTED TO HOSPITAL OVERNIGHT
USCARE	USQ	HOSFLWUP	HOSPITAL FOLLOWED UP WITH SP

Location	Questionnaire Section	Variable	Description
USCARE	USQ	HOSINFO	DR KNEW ABOUT HOSPITAL STAY
USCARE	USQ	HOSMED	PRESCRIBED MEDS AFTER HOSPITAL
USCARE	USQ	INSTEASY	POST HOSPITAL INSTRUCT EASY UNDERSTAND
USCARE	USQ	KNOWSPCL	SPECIALIST KNOWS ENOUGH OF SP MED HISTORY
USCARE	USQ	LANGCOMM	HOW WELL PROVIDER COMMUNICATE IN LANGUAGE SPOKEN AT HOME
USCARE	USQ	LANGPFOS	LANGUAGE RECEIVE MEDICAL CARE - OTHER SPECIFY TEXT
USCARE	USQ	LANGPREF	LANGUAGE RECEIVE MEDICAL CARE
USCARE	USQ	LANGPROB	PROBLEM UNDERSTANDING A MEDICAL SITUATION
USCARE	USQ	LANGPRVD	PROVIDER SPEAK LANGUAGE SPOKEN AT HOME
USCARE	USQ	LANGSYMP	HOW WELL SP AND PROVIDER COMMUNICATE IN ENGLISH
USCARE	USQ	MEDPVENG	HELPS COMMUNICATE WITH MED PROVIDER - DO BEST WITH ENGLISH
USCARE	USQ	MEDPVFAM	HELPS COMMUNICATE WITH MED PROVIDER - FAMILY MEMBER
USCARE	USQ	MEDPVFND	HELPS COMMUNICATE WITH MED PROVIDER – FRIEND
USCARE	USQ	MEDPVINT	HELPS COMMUNICATE WITH MED PROVIDER - PROFESSIONAL INTERPRETER
USCARE	USQ	MEDPVNA	HELPS COMMUNICATE WITH MED PROVIDER – NO MEDICAL PROVIDER
USCARE	USQ	MEDPVOTH	HELPS COMMUNICATE WITH MED PROVIDER – SOMEONE ELSE
USCARE	USQ	MEDPVSTF	HELPS COMMUNICATE WITH MED PROVIDER - MEDICAL OFFICE STAFF
USCARE	USQ	MISSAPPT	HOW OFTEN SP MISSES APPTS
USCARE	USQ	MNGCARE	EASE OF MANAGING MEDICAL CARE RATING
USCARE	USQ	MTHLTHGL	CARE HELPED REACH GOALS
USCARE	USQ	NAMESPCL	SPECIALIST SEEN MOST OFTEN OUTSIDE PCP
USCARE	USQ	NEWAPPT	HOW OFTEN PROVIDER OFFICE MADE NEW APPT FOR SP
USCARE	USQ	NOTAVAIL	MED RECORDS NOT AVAILABLE FOR DR APPT
USCARE	USQ	ONEDOC	ONE PROVIDER KNEW ALL MEDICAL NEEDS
USCARE	USQ	ORDRTEST	PROVIDER ORDERED TESTS
USCARE	USQ	OSNOINFO	HOW OFTEN STAFF KNEW ABOUT MED HISTORY

Location	Questionnaire Section	Variable	Description
USCARE	USQ	OSTLKCR	HOW OFTEN STAFF TALKED ABOUT CARE
USCARE	USQ	OSUPTODT	HOW OFTEN STAFF WAS UP TO DATE
USCARE	USQ	OTHRSTFF	STAFF GAVE SP INSTRUCTIONS
USCARE	USQ	PREPARE	SP GOT INSTRUCTIONS TO PREPARE FOR VISIT
USCARE	USQ	PROVYR	SP SEEN PROVIDER IN LAST 12 MONTHS
USCARE	USQ	PRVNOMED	ONE PROVIDER KNEW ALL SP'S MEDICINES
USCARE	USQ	REMDAPPT	PCP REMINDS SP OF APPT
USCARE	USQ	RQSTRSLT	HOW OFTEN SP REQUESTED TEST RESULTS
USCARE	USQ	RSLTEASY	HOW OFTEN TEST RESULTS PRESENTED CLEARLY
USCARE	USQ	SEXSPCL	SPECIALIST SEX
USCARE	USQ	SRVCHELP	HOW OFTEN PROVIDER HELPED GET HOME SERVICES
USCARE	USQ	STHLTHGL	PROVIDER TALKED TO SP ABOUT HEALTH GOALS
USCARE	USQ	STPMSPCL	SPECIALIST OUTSIDE PCP OFFCE PRESCRIBE RX
USCARE	USQ	TALKRX	PROVIDER TOLD SP HOW TO TAKE MEDS
USCARE	USQ	TESTRSLT	HOW OFTEN SPECIALISTS KNOW SP TEST RESULTS
USCARE	USQ	TSTFLWUP	HOW OFTEN PROVIDER FOLLOWED UP ABOUT TESTS
USCARE	USQ	USPRVENG	HELPS COMMUNICATE WITH USUAL PROVIDER - DO BEST WITH ENGLISH
USCARE	USQ	USPRVFAM	HELPS COMMUNICATE WITH USUAL PROVIDER - FAMILY MEMBER
USCARE	USQ	USPRVFND	HELPS COMMUNICATE WITH USUAL PROVIDER - FRIEND
USCARE	USQ	USPRVINT	HELPS COMMUNICATE WITH USUAL PROVIDER - PROFESSIONAL INTERPRETER
USCARE	USQ	USPRVOTH	HELPS COMMUNICATE WITH USUAL PROVIDER - SOMEONE ELSE
USCARE	USQ	USPRVSTF	HELPS COMMUNICATE WITH USUAL PROVIDER - MEDICAL OFFICE STAFF

Data editing and imputation procedures: MCBS data files undergo thorough editing and quality control checks prior to release. For more detailed information regarding data editing and imputation procedures conducted for the 2017 LDS releases, please consult the 2017 Data User's Guide: Cost Supplement File and the forthcoming 2017 MCBS Methodology Report available on the CMS MCBS website.

Weighting:

The 2017 Survey File LDS includes a two-year longitudinal weight for analyses using 2016 and 2017 data, and a three-year longitudinal weight for analyses using 2015 and 2017 data. Given that 2014 data were not released, the four-year longitudinal weight is excluded. For the 2017 Cost Supplement LDS, two- and three-year longitudinal weights are included.

Weights for Continuing panels were recalibrated to better reflect the proportion of beneficiaries in Medicare Advantage (MA) plans, and MA plan information was added to calibration and response propensity models for the 2017 panel and future panels. This change brings the MCBS estimates of MA plan enrollment closer in line with administrative benchmarks. Additional information is available in the 2017 MCBS Methodology Report.

In previous years, the Topical sections with special weights included the Beneficiary Knowledge Questionnaire (KNQ), Patient Activation Questionnaire (PAQ), Income and Assets Questionnaire (IAQ) and Prescription Drug Questionnaire (RXQ). In 2017, questions from the PAQ were moved to the Satisfaction with Care Questionnaire (SAQ) that is administered in the fall round but still require special weights, as the section is not asked of proxy respondents. New weights were added for the new sections in the Access to Care Questionnaire (ACQ) and the Usual Source of Care Questionnaire (USQ), both now asked in the winter round.

4. SURVEY OVERVIEW

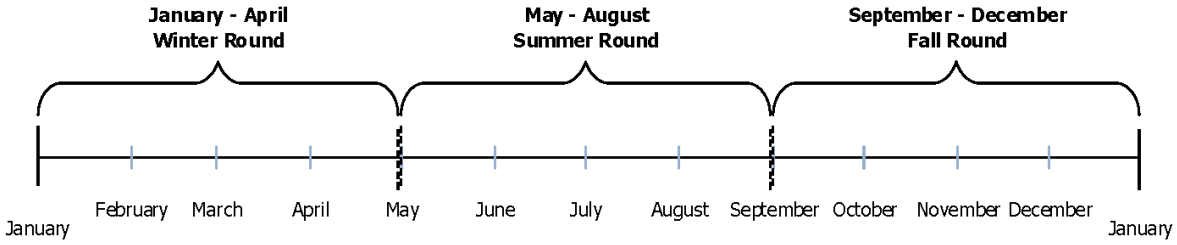
4.1 Design of MCBS

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. However, this was later determined to be impractical, and beginning in 1994, participation of beneficiaries in the MCBS was limited to no more than four years.

Although limited to a four year period, MCBS data collection is continual throughout the year with three distinct seasons (i.e., rounds) of data collection per year. In general, the three rounds are: winter (January through April); summer (May through August); and fall (September through December). The primary reason for the round by round configuration (rather than interviewing on an annual basis) is to have shorter periods of recall during the year in order to capture more complete health care costs and utilization from beneficiaries.

The 2017 MCBS data releases reflect data collected from January 2017 through early January 2018, as well as topical sections collected through the Summer 2018.[4] Exhibit 4.1.1 depicts an MCBS data collection year and the typical span of the rounds.

Exhibit 4.1.1: Typical MCBS Data Collection Year

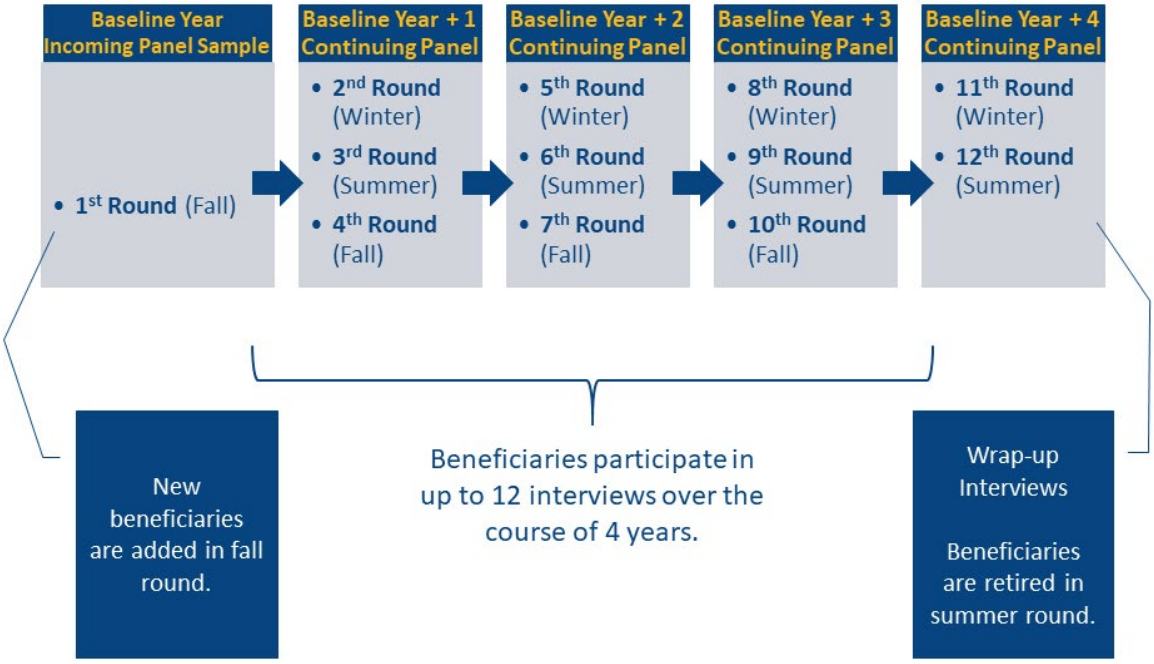


Initial interviews of newly-selected respondents take place in the fall round. Often the fall round begins early (i.e., late July or early August) to allow more time to conduct outreach and collect information from the new survey respondents who are selected to participate in the MCBS. That is, the early start of the fall round overlaps with the final weeks of data collection for the summer round. These small overlap periods as one round ends and another begins are acceptable design features of the survey. For example, the fall round usually extends into early January to allow for the completion of interviews that may have been postponed due to the holiday period.

Subsequent rounds, which occur every four months, involve re-interviewing of the same respondent (or appropriate proxy respondents) until they have completed four years of participation (up to 12 interviews in total). Interviews are conducted regardless of whether the respondent resides at home or in a long-term care facility, using a questionnaire version appropriate to the setting. Exhibit 4.1.2 depicts the timeline of participation for respondents selected to be in the MCBS sample and Appendix B provides a list of all rounds by data collection year.

[4] Due to the nature of some survey items, LDS data for each data year may include data pulled forward from a prior data collection year and/or data added from a future data collection year due to the specific reference period.

Exhibit 4.1.2: MCBS Beneficiary Participation Timeline



4.2 Sample Design

The MCBS uses a rotating panel sample design, covering the population of Medicare beneficiaries residing in the continental U.S. (48 states and the District of Columbia).[5] Each sampled beneficiary is scientifically selected as part of a panel and is interviewed up to three times per year.[6] One panel is retired during each summer round, and a new panel is selected to replace it each fall round (see Exhibit 4.2). The size of the new panel is designed to provide a stable number of respondents across all panels participating in the survey annually. Please see Section 6: Sampling for more information on the sample design selection.

[5] Alaska and Hawaii are not included among the states from which the sample is selected due to the high cost of data collection in those areas; however, they are included in control totals for weighting purposes. Beginning in 2017, sampling from Puerto Rico was discontinued.

[6] The three rounds per year are referred to seasonally. Respondents are interviewed in the winter round, the summer round, and the fall round each year.

Exhibit 4.2: 2012-2017 MCBS Rotating Panel Design

Data Collection Schedule			Panel					
Data Year	Season	Round#	2012	2013	2014	2015	2016	2017
2012	Winter	62						
	Summer	63						
	Fall	64						
2013	Winter	65						
	Summer	66						
	Fall	67						
2014	Winter	68						
	Summer	69						
	Fall	70						
2015	Winter/Summer*	71/72						
	Fall	73						
2016	Winter	74						
	Summer	75						
	Fall	76						
2017	Winter	77						
	Summer	78						
	Fall	79						

*The Summer and Winter Rounds in 2015 were combined due to a contract transition.

4.3 Case Types

MCBS respondents are classified by their phase of participation (i.e., Incoming or Continuing) and interview participation (i.e., Community or Facility), which is determined by residence status. A description of these case types are discussed below.

4.3.1 Incoming and Continuing Cases

Every fall, a new panel of sampled beneficiaries is added to the total sample to replace the panel of respondents completing a final interview and exiting the MCBS in the prior summer round. Respondents new to the MCBS and introduced in the fall round are referred to as Incoming Panel cases. After the initial interview, they are referred to as Continuing cases.

4.3.2 Community Interviews and Facility Interviews

Approximately 90 percent of the interviews take place in the respondent or proxy's own residence or in a neutral interview location, such as a library or public venue. These interviews are called Community interviews; the remaining 10 percent of the interviews are for beneficiaries residing in a facility. Over the course of a four year period, it is not uncommon for respondents to enter long-term care facilities (e.g., nursing homes) or to go back and forth between the community and a facility setting (these cases are called Crossovers). In order to obtain an accurate representation of the experiences of all Medicare beneficiaries, the MCBS includes beneficiaries wherever they reside, even if they reside in and/or enter a facility for the duration of their four years with the study. The MCBS does not conduct Facility interviews with the respondent directly; instead, specially trained Facility interviewers administer the survey with Facility administrative staff.

4.4 Interviewing and Training Procedures

4.4.1 Overview of Data Collection

CMS contracts with NORC at the University of Chicago (NORC) to administer the MCBS. A national team of specially trained and certified NORC field interviewers conduct either face-to-face interviews with MCBS respondents or their designated proxies or they conduct face-to-face interviews with Facility administrators on behalf of respondents. The first interview conducted for an Incoming Panel respondent is relatively short as it does not collect health care utilization or cost data. Continuing respondent interviews are longer as field interviewers collect information about the respondent's health care utilization and associated costs. Telephone interviews are usually conducted for respondents who are in the 12th and final round of the MCBS as this interview is short and does not include questions on cost and utilization.

Overview of recruitment of beneficiaries and scheduling procedures

Medicare beneficiaries selected to participate in the MCBS receive a letter and brochure in the mail, introducing the study and explaining that an interviewer from NORC will contact them to schedule an appointment. For Incoming Panel respondents, initial contact is typically made in person; for Continuing respondents, outreach to set an appointment for the next interview is most often made by phone. If respondents are unable to answer questions or require language assistance, respondents can enlist the help of an assistant, such as a family member, to help complete the interview; a proxy can also respond on behalf of the respondent if the respondent is incapacitated or unable to complete the interview. For Spanish speaking respondents, a Spanish version of the Community instrument is available and bilingual interviewers conduct the interview.

Computer-Assisted Personal Interviewing (CAPI)

Field interviewers complete MCBS interviews using a Computer-Assisted Personal Interviewing (CAPI) instrument loaded on a laptop. The CAPI program automatically guides the field interviewer through the questions, records the answers, and contains logic and skip flows that increase the output of timely, clear, and high quality data. The CAPI also contains follow-up questions where data were missing from the previous interview. When the interview is completed, the CAPI system allows the field interviewer to transmit the data electronically to the NORC central office in a secure manner.

4.4.2: Interviewer Training

Nationally, the MCBS employs an average of approximately 200[7] field interviewers, who participate in a combination of several targeted training initiatives and careful coaching and monitoring activities throughout data collection. Each training is customized to the level of experience of the interviewer (new to MCBS or MCBS-experienced), the type of interview (Community or Facility), the type of sample (Incoming Panel or Continuing), and the unique requirements of each round (changing questionnaire sections or data collection protocols). Field interviewers who are new to MCBS are always trained in person; experienced field interviewers participate in a periodic in-person training program and receive continuous online refresher training. Weekly field memos issued to all field managers and field interviewers cover important data collection tips, provide answers to interviewer questions, and reminders about how to handle complicated scenarios.

[7] The fall round starts with a target of 230 field interviewers which, over the course of the year, is reduced due to staff turnover. Each summer, a cohort of new interviewers is hired for the MCBS.

4.4.3: Privacy and Data Security

Field interviewer training stresses the importance of maintaining respondent privacy, and project protocols are documented within the Field Interviewer manual. Field outreach and contacting procedures also maintain and ensure confidentiality. These procedures include the utilization of standard computer security protocol (dual authentication password protection for each interviewer laptop) and restrictions on submitting personally identifiable information (PII) through electronic mail. All MCBS survey staff directly involved in data collection and/or analysis activities are required to sign a Non-Disclosure Agreement and a confidentiality agreement.

NORC and CMS are committed to protecting respondent confidentiality and privacy, and both organizations diligently uphold provisions established under the Privacy Act of 1974, the NORC Institutional Review Board (IRB), the Office of Management and Budget (OMB), and the Federal Information Security Management Act of 2002. As stated in the MCBS OMB documentation, the information collected for MCBS is protected by NORC and by CMS. Respondent data are used only for research and statistical purposes. As required under the Privacy Act of 1974, identifiable information is not disclosed or released without the consent of the individual or the establishment, except to those involved in research (Public Law 93-579).

4.5 Completed Interviews

Exhibit 4.5 lists the number of completed interviews for the Fall 2017 Continuing (2014, 2015, and 2016) and Incoming (2017) Panels by age strata. Under the rotating panel design, the beneficiaries selected in Fall 2013 exited the study prior to Fall 2017.

Exhibit 4.5: 2017 MCBS Fall Round Completed Interviews: Continuing and Incoming Panels

Age Category as of 12/31/2017	2014 Panel	2015 Panel	2016 Panel	2017 Panel	Total
Under 45 years	137	163	342	616	1,258
45-64 years	194	156	311	478	1,139
65-69 years	185	201	613	1,219	2,218
70-74 years	579	314	521	789	2,203
75-79 years	378	384	567	995	2,324
80-84 years	424	370	609	1,024	2,427
85+ years	607	495	867	1,029	2,998
Total	2,504	2,083	3,830	6,150	14,567

SOURCE: 2017 MCBS Internal Sample Control File

4.6 Item Non-Response

As in any other survey, some respondents could not, or would not, supply answers to some questions.[8] Item non-response rates are generally low in the MCBS data release, but the analyst still needs to be aware of the missing data and be cautious about patterns of non-response.[9] Some of the missing data are attributable to the fact that some of the Community interviews and all of the Facility interviews are conducted through a proxy respondent. In other words, the respondent may not have had knowledge of the information sought on the sample person. In other situations, the respondent may have simply refused to answer.

[8] This is different from when an individual refuses to participate in the survey altogether, which is called unit non-response. Unit non-response is discussed in detail in the MCBS Methodology Report, Section 9.

[9] In the LDS files, item non-response types are indicated by missing type codes in SAS, including refusal to answer, don't know the answer, and invalid skip. The code .D represents a "don't know" response, the code .R represents a "refused" response, and .N represents an "invalid skip" response.

5. QUESTIONNAIRES

5.1 Overview

The MCBS Questionnaire structure features two components (Community and Facility), administered based on the beneficiary's residence status. Within each component, the flow and content of the questionnaire varies by interview type and data collection season (fall, winter, or summer). There are two types of interviews (Baseline, Continuing) containing two types of questionnaire sections (Core and Topical). The beneficiary's residence status determines which questionnaire component is used and how it is administered. See Exhibit 5.1 for a depiction of the MCBS Questionnaire structure.

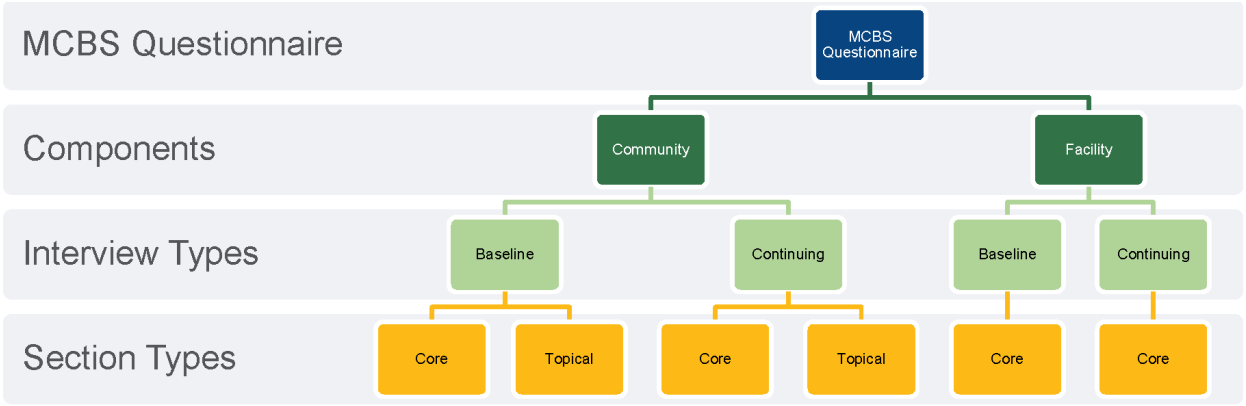
- Community Component: Survey of beneficiaries residing in the community at the time of the interview (i.e., their residence or a household). Interview may be conducted with the beneficiary or a proxy.
- Facility Component: Survey of beneficiaries residing in facilities, such as long-term care nursing homes or other institutions at the time of the interview. Interviewers do not conduct the Facility component with the beneficiary, but with staff members located at the facility (i.e., facility respondents). This is one of the key differences between how the Community and Facility components are administered.

Within each component, there are two types of interviews – a Baseline interview and a Continuing interview.

- Baseline: The initial questionnaire administered to beneficiaries new to the study; administered in the fall of the year they are selected into the sample (interview #1).
- Continuing: The questionnaire administered to beneficiaries as they progress through the study (interviews #2-12).

Depending on the interview type and data collection season (fall, winter, or summer), the MCBS Questionnaire includes Core and Topical sections. See Sections 5.2 and 5.3 for tables of the 2017 Core and Topical sections.

Exhibit 5.1: MCBS Questionnaire Overview



5.2 Community Questionnaire

The content of the MCBS Community questionnaire consists of Core and Topical sections. Core sections include the standard opening and closing sections covering interview characteristics and socio-demographics, health insurance, utilization, cost, experiences with care, and health status sections. The questionnaire sections in each of these categories may be asked each round or seasonally (fall, winter, summer). Topical sections in the Community questionnaire include information about housing characteristics, health behaviors, and knowledge and decision-making.

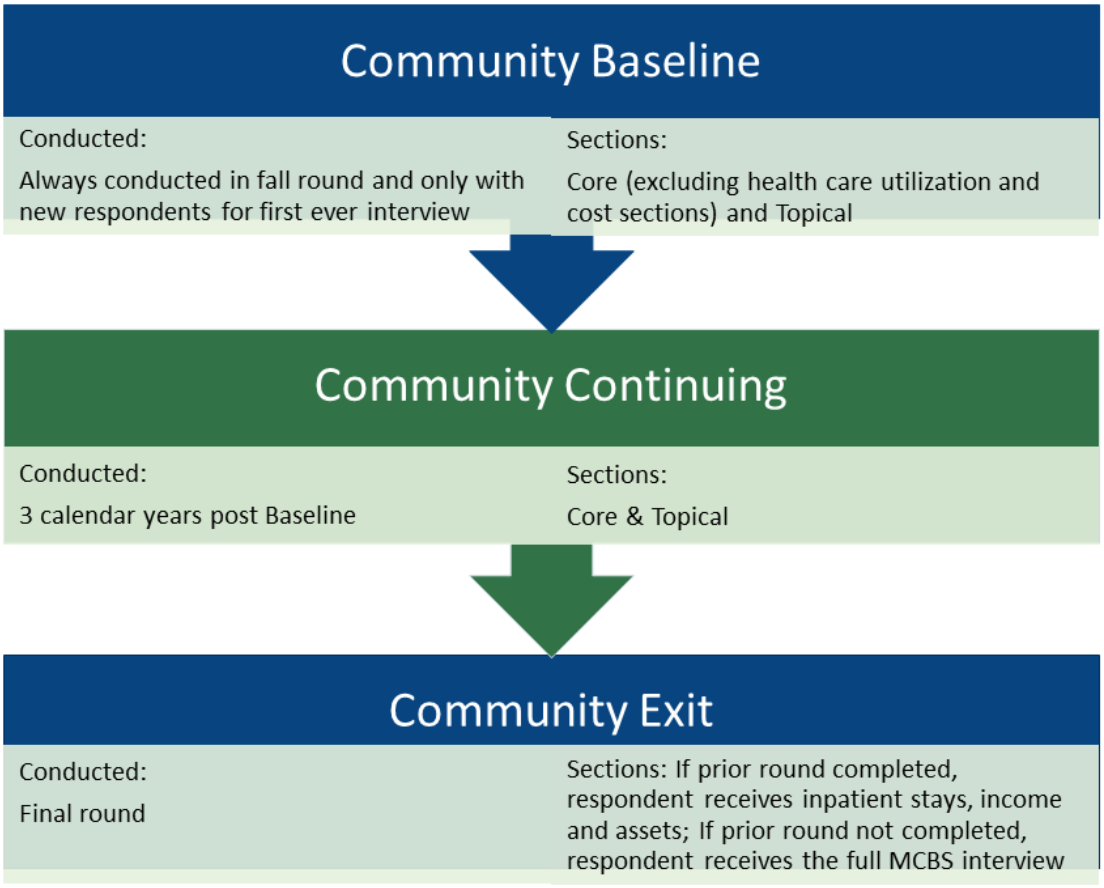
Different combinations of Core and Topical sections are used depending on a number of criteria, including interview type (Baseline vs. Continuing); the season of the round of data collection (fall, winter, summer); whether the respondent is alive, deceased, or in a facility; and whether the interview is being completed with the beneficiary or a proxy.

The first Community interview conducted with Incoming Panel respondents is referred to as the Baseline interview. This interview is always conducted in the fall round and consists of a combination of Core and Topical sections. However, this first interview does not include Core sections that collect health care utilization and cost data. The respondent's 2nd through 11th interviews, also known as the Continuing interviews, consist of Core and Topical sections including those that collect health care utilization and cost data; these interviews essentially provide three calendar years of reported health care utilization and cost data for each beneficiary. Finally, there is a short 'exit' interview that is conducted in the final summer round; this 12th interview completes the beneficiary's participation in the MCBS; it generally consists of mobility of beneficiaries, preventative care, income and assets, and patient activation sections (and for those who did not have an 11th interview, it completes any utilization data that was still open as of the previous calendar year).

In summary, the Community questionnaire consists of the following components (see Exhibit 5.2):

- Community Baseline questionnaire
- Community Continuing questionnaire (exit interview conducted in final round)

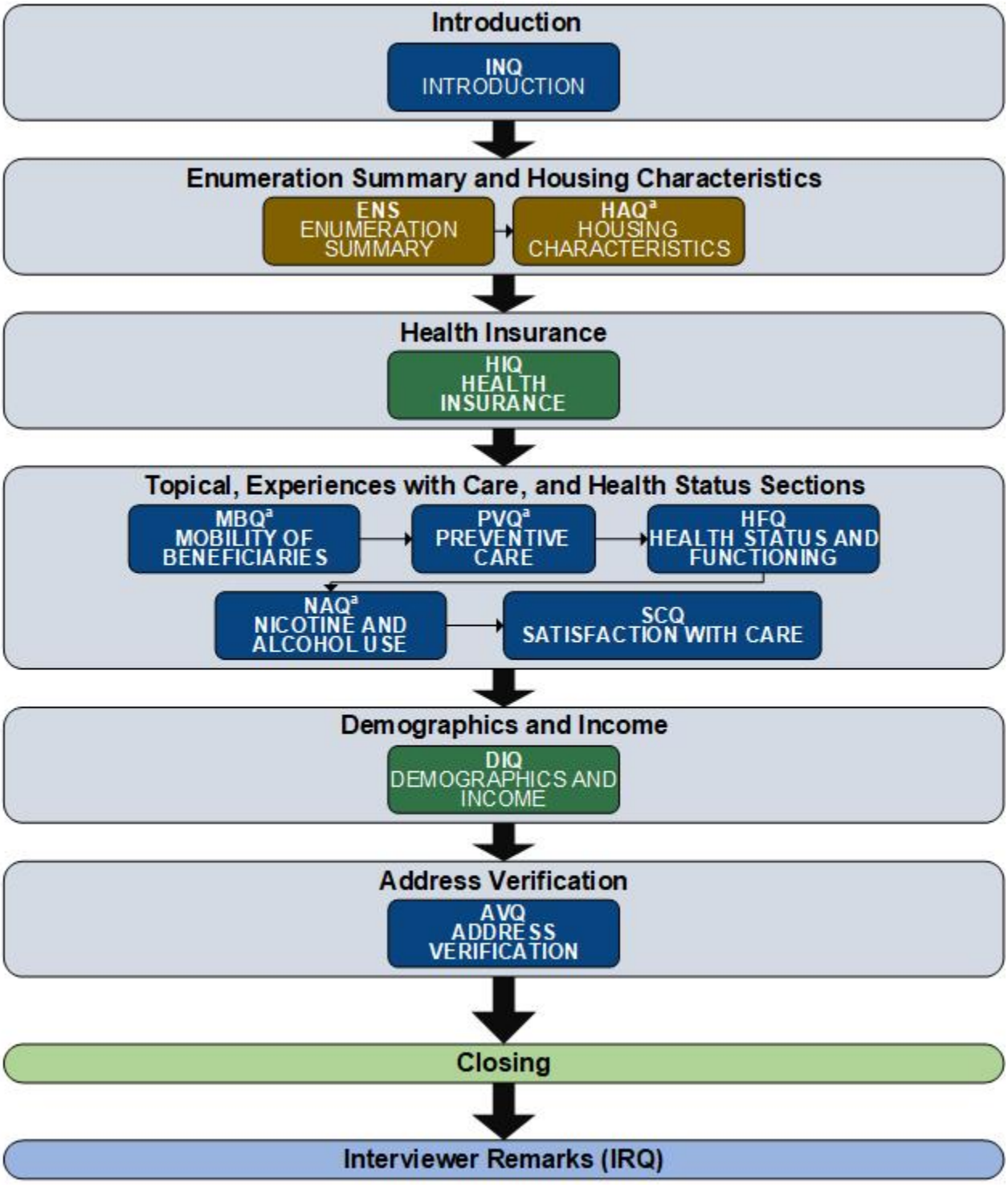
Exhibit 5.2: Overview of the MCBS Community Questionnaire Components



5.2.1 Baseline Interview

As the first interview conducted, the Baseline interview provides an opportunity for the field interviewer to develop a strong rapport and connection with the respondent, acquaint the respondent with the intent of the survey, and emphasize the importance of keeping accurate records of medical care and expenses. Whenever possible, field interviewers are assigned the same beneficiary over the course of their participation in the survey, so establishing a positive relationship is critical during this first interview. Exhibit 5.2.1 depicts the sections and flow of the Community Baseline interview.

Exhibit 5.2.1: 2017 MCBS Community Questionnaire Flow for Baseline Interview



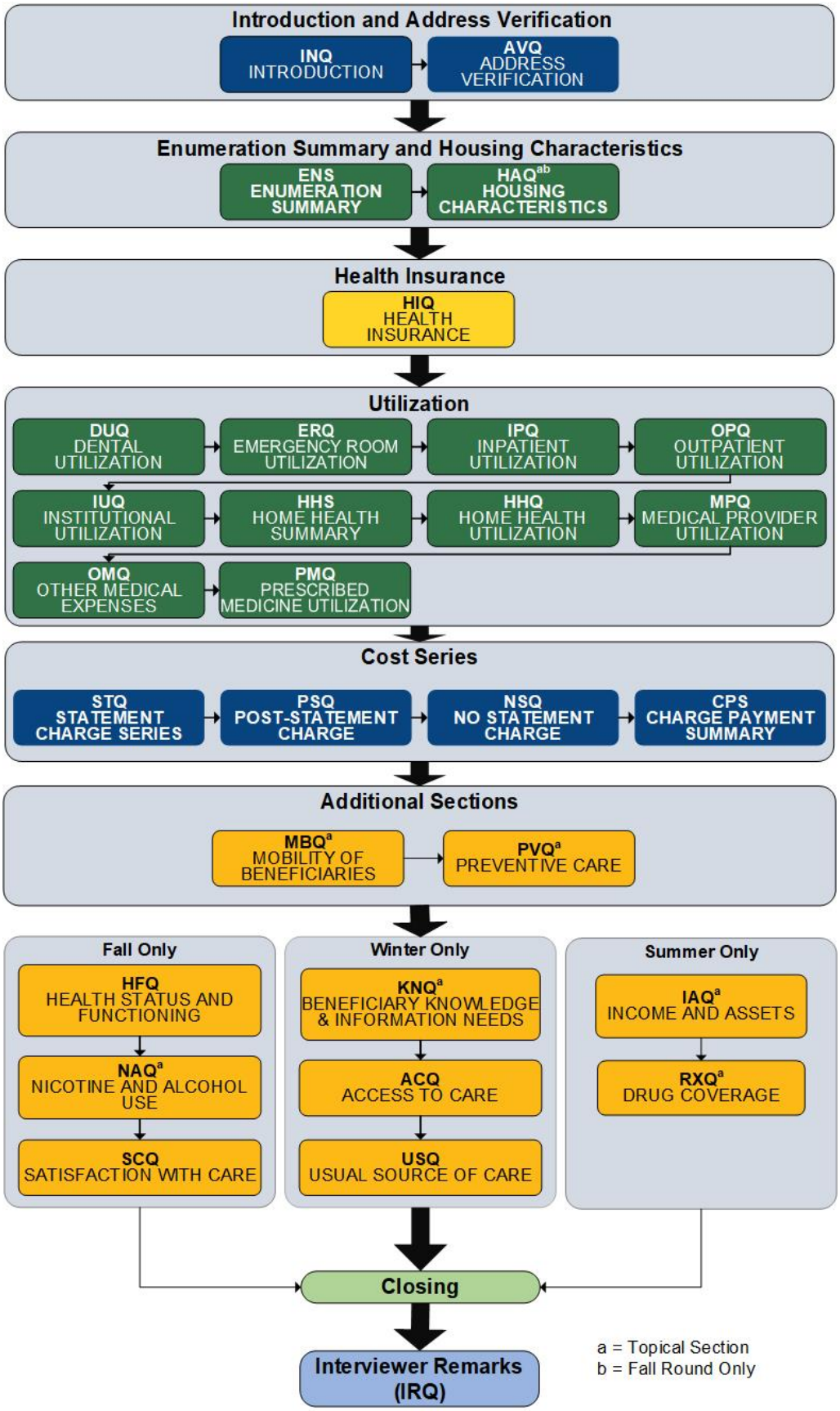
a = Topical Section

5.2.2 Continuing Interview

The Continuing interview consists of Core sections that focus on use of medical services and the resulting costs, and are asked in essentially the same way each and every time a section is administered. The respondent is asked about new health events, and to complete any partial information that was collected in the last interview. For example, the respondent may mention a doctor visit during the health care "utilization" part of the interview. In the "cost" section, the field interviewer will ask if there are any receipts or statements from the visit. If the answer is "yes", the field interviewer will record information about costs from the statements, but if the answer is "no," the question will be stored until the next interview. The Continuing interview also includes sections about health insurance. During each interview, the respondent is asked to verify ongoing health insurance coverage and to report any new health insurance plans.

Continuing interviews also include Topical sections that cover subjects such as mobility or drug coverage. Exhibit 5.2.2 depicts the sections and flow of the Continuing Community interview. All sections are considered "Core" sections unless otherwise noted.

Exhibit 5.2.2: 2017 MCBS Community Questionnaire Flow for Continuing Interview



5.2.3 Core Questionnaire Sections

New respondents receiving the Baseline interview do not receive Core sections about health care utilization and costs; these sections are reserved for Continuing respondents. As such, in Fall 2017, only persons in the 2014, 2015, and 2016 panels received the Core sections about health care utilization and health care costs. All panels received the health insurance section. Exhibit 5.2.3 displays the Core Community questionnaire sections that are included in the Survey File and the Cost Supplement File.

Exhibit 5.2.3: 2017 MCBS Community Core Sections by Data File and Data Collection Schedule*

Section Group	Abbr.	Section Name	LDS§	Data Collection Schedule
Socio-Demographics	IAQ	Income and Assets**	SF	Summer**
	DIQ	Demographics/Income	SF	Fall, Baseline Interview
Health Insurance	HIS	Health Insurance Summary±	SF	All Seasons
	HIQ	Health Insurance	SF	All Seasons
Utilization	DUQ	Dental Utilization	CS	All Seasons
	ERQ	Emergency Room Utilization	CS	All Seasons
	IPQ	Inpatient Hospital Utilization	CS	All Seasons
	OPQ	Outpatient Hospital Utilization	CS	All Seasons
	IUQ	Institutional Utilization	CS	All Seasons
	HHS	Home Health Summary±	CS	All Seasons
	HHQ	Home Health Utilization	CS	All Seasons
	MPQ	Medical Provider Utilization	CS	All Seasons
	OMQ	Other Medical Expenses Utilization	CS	All Seasons
	PMS	Prescribed Medicine Summary±	CS	All Seasons
	PMQ	Prescribed Medicine Utilization	CS	All Seasons
Cost	STQ	Statement Cost Series	CS	All Seasons
	PSQ	Post-Statement Charge	CS	All Seasons
	NSQ	No Statement Charge	CS	All Seasons
	CPS	Charge Payment Summary±	CS	All Seasons
Experiences with Care	ACQ	Access to Care₸	SF	Winter 2018
	SCQ	Satisfaction with Care	SF	Fall
	USQ	Usual Source of Care₸	SF	Winter 2018
Health Status	HFQ	Health Status and Functioning	SF	Fall

SOURCE: 2017 MCBS Community Questionnaire

*Certain procedural or operational management sections are collected specifically to manage the data collection process. These sections are not directly included in the LDS files (e.g., Introduction (INQ), Address Verification (AVQ), Enumeration (ENS), Closing (CLQ), and Interview Remarks (IRQ)).

**The IAQ is administered in the summer round following the current data year. The reference period for this section is the prior year and data are included in the prior year data files.

±Summary sections: Updates and corrections are collected through the summary sections. The respondent is asked to verify summary information gathered in previous interviews. Changes are recorded if the respondent reports information that differs from what was previously recorded. The HIS and PMS were removed from the Community questionnaire in Fall 2017.

₸In 2017, the ACQ and USQ sections migrated from the fall to the winter round interview, meaning they were not fielded in Fall 2017 but instead fielded in Winter 2018. The reference period for these sections is the prior year, and data are included in the prior year data files.

§ Limited Data Set (LDS) indicates the file where the questionnaire data appears (i.e., SF = Survey File, CS = Cost Supplement File).

5.2.4 Topical Questionnaire Sections

Exhibit 5.2.4 lists the topical sections and data collection season. Note that information collected via topical questionnaire sections is included in the Survey File only and is not included in the Cost Supplement File. In addition, some topical questionnaire data are collected through the summer following the current data year (i.e., IAQ, KNQ, PVQ, and RXQ). Annually, special non-response adjustment weights are included within the segments for use in analysis when data are not collected within the same calendar year (see Exhibit 5.2.5).

Exhibit 5.2.4: 2017 MCBS Community Topical Sections by Data Collection Schedule

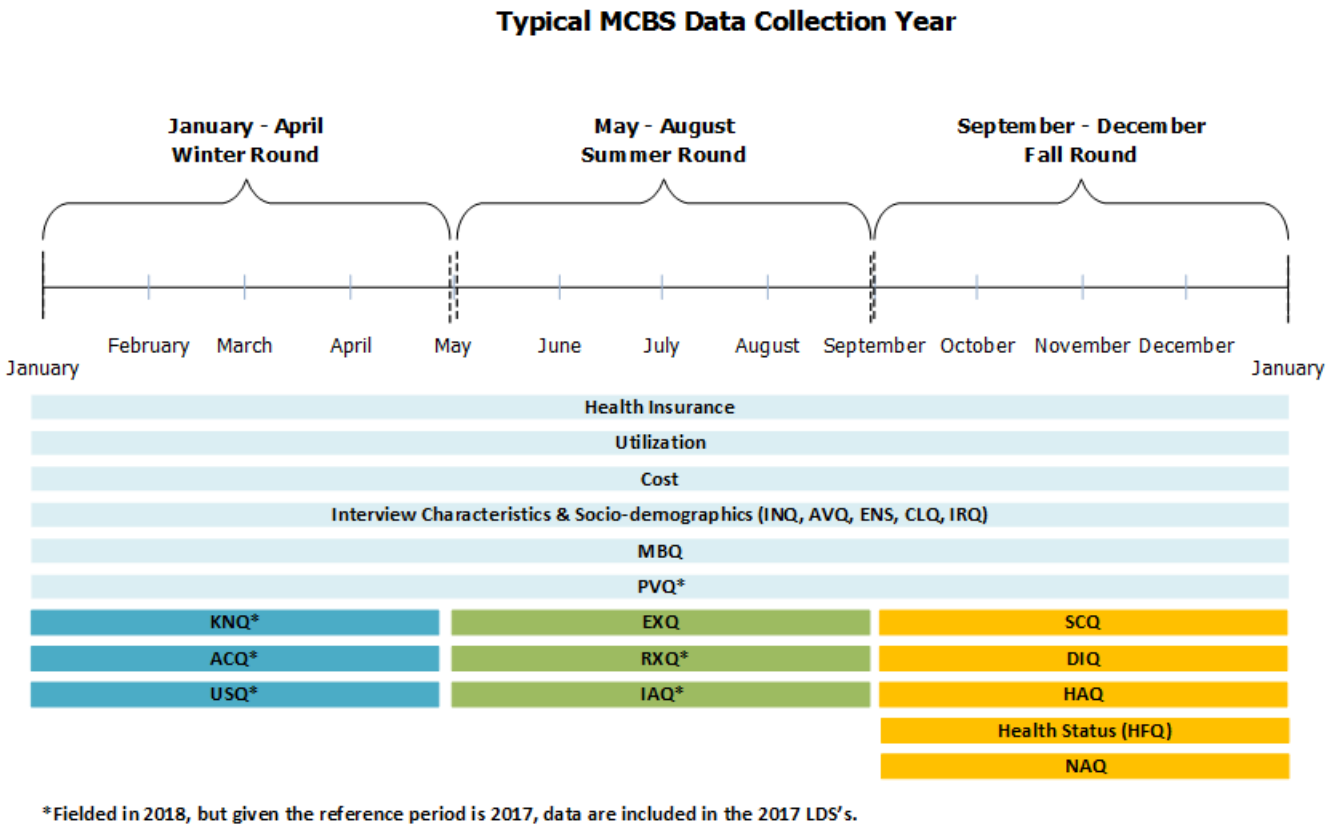
Section Group	Abbr.	Section Name	LDS*	Data Collection Schedule
Housing Characteristics	HAQ	Housing Characteristics	SF	Fall 2017
Health Behaviors	MBQ	Mobility of Beneficiaries	SF	Winter 2017, Summer 2017, Fall 2017
	NAQ	Nicotine and Alcohol Use	SF	Fall 2017
	PVQ	Preventative Care	SF	Fall 2017, Winter 2018, Summer 2018
	IAQ	Food Insecurity items**	SF	Summer 2018
Knowledge and Decision Making	KNQ	Beneficiary Knowledge and Information Needs	SF	Winter 2018
	RXQ	Drug Coverage	SF	Summer 2018

*Limited Data Set (LDS) indicates the file where the questionnaire data appears (i.e., SF = Survey File, CS = Cost Supplement File).
**The Food Insecurity items are included within the Income and Assets Questionnaire (IAQ).

5.2.5 Community Questionnaire Section Rotation within a Data Year

Exhibit 5.2.5 presents the MCBS Questionnaire section rotation schedule for 2017. Thus, the 2017 MCBS data releases reflect data collected from January 2017 through the first week in January 2018, as well as topical sections collected through Summer 2018.

Exhibit 5.2.5: 2017 MCBS Community Questionnaire Section Rotation



5.3 Facility Instrument

In addition to collecting information from respondents living in the community, the MCBS collects information at the institutional level if the beneficiary is residing in a facility at the time of the interview. Information is obtained only by interviewing facility staff; the beneficiary is never interviewed directly.

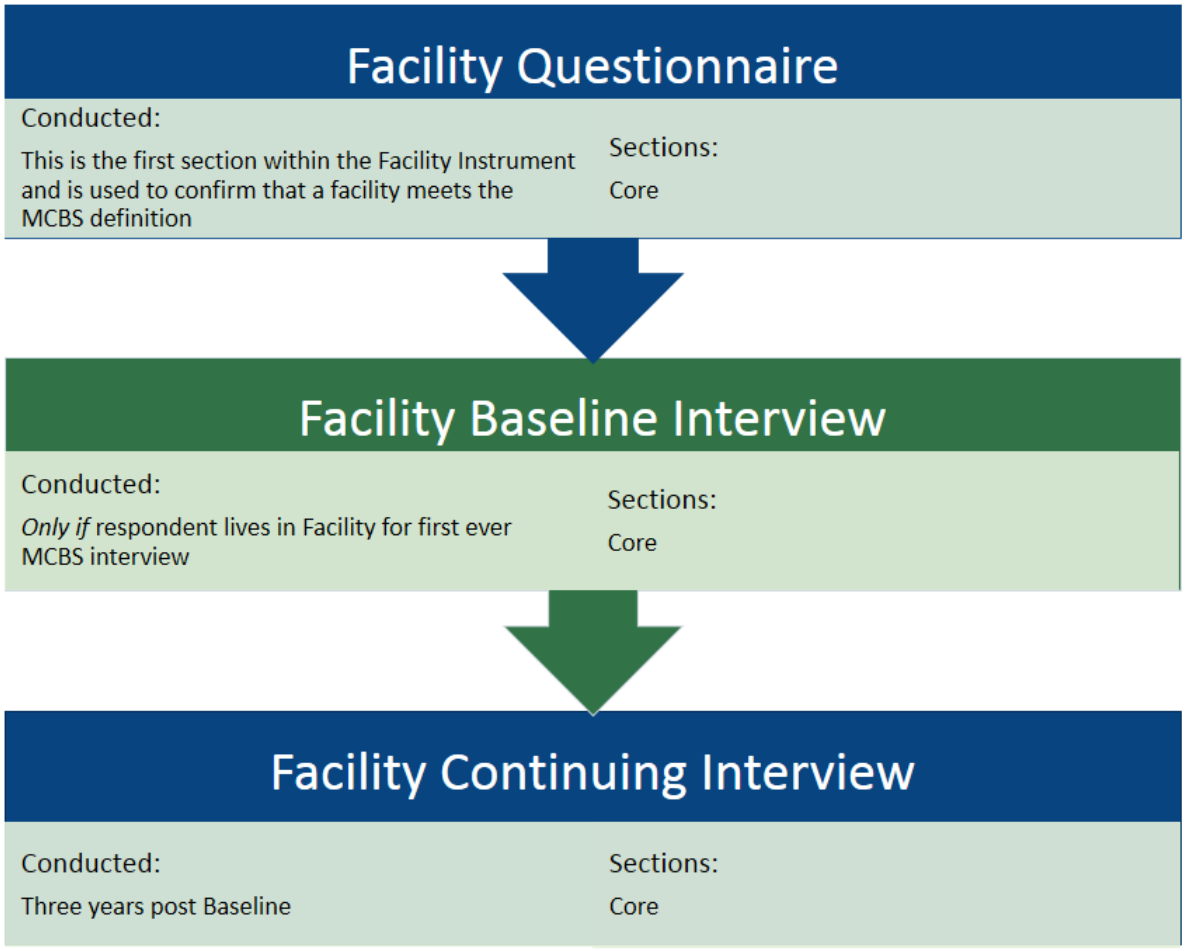
Similar to the Community questionnaire, if a beneficiary is living in a facility when first selected to participate in the MCBS, a Facility Baseline interview is administered. For cases in the 2nd through 12th round, a Facility Continuing interview is conducted. While administration of the Facility instrument sections varies by season and interview type, the Facility instrument is comprised exclusively of Core sections; each section collects information that is considered of critical importance to the MCBS.

If a person residing in a facility returns to the community, that person would receive the Community questionnaire. If the beneficiary spent part of the reference period in the community and part in a facility, then a separate interview is conducted to collect information pertaining to the beneficiary's experiences covering each distinct 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 beneficiary.

In summary, the Facility instrument consists of the following components (see Exhibit 5.3):

- Facility Questionnaire (establishes that the facility meets the MCBS Facility interview requirements)
- Facility Baseline interview
- Facility Continuing interview

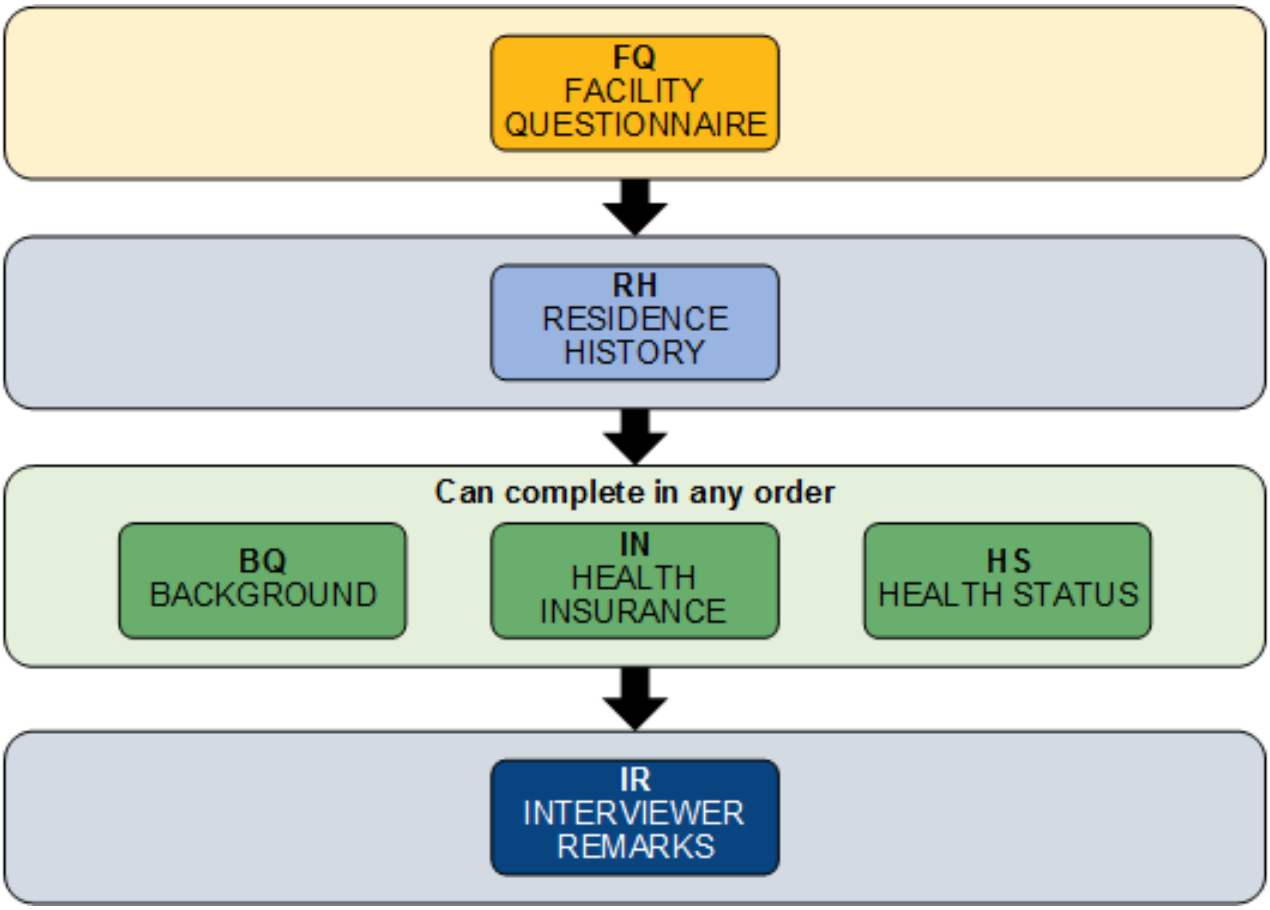
Exhibit 5.3: Overview of the MCBS Facility Instrument



5.3.1 Facility Baseline Interview

The Facility Baseline interview (see Exhibit 5.3.1) serves as a reference interview and gathers information on the facility itself as well as the health status, insurance coverage, residence history and demographic information for the beneficiary.

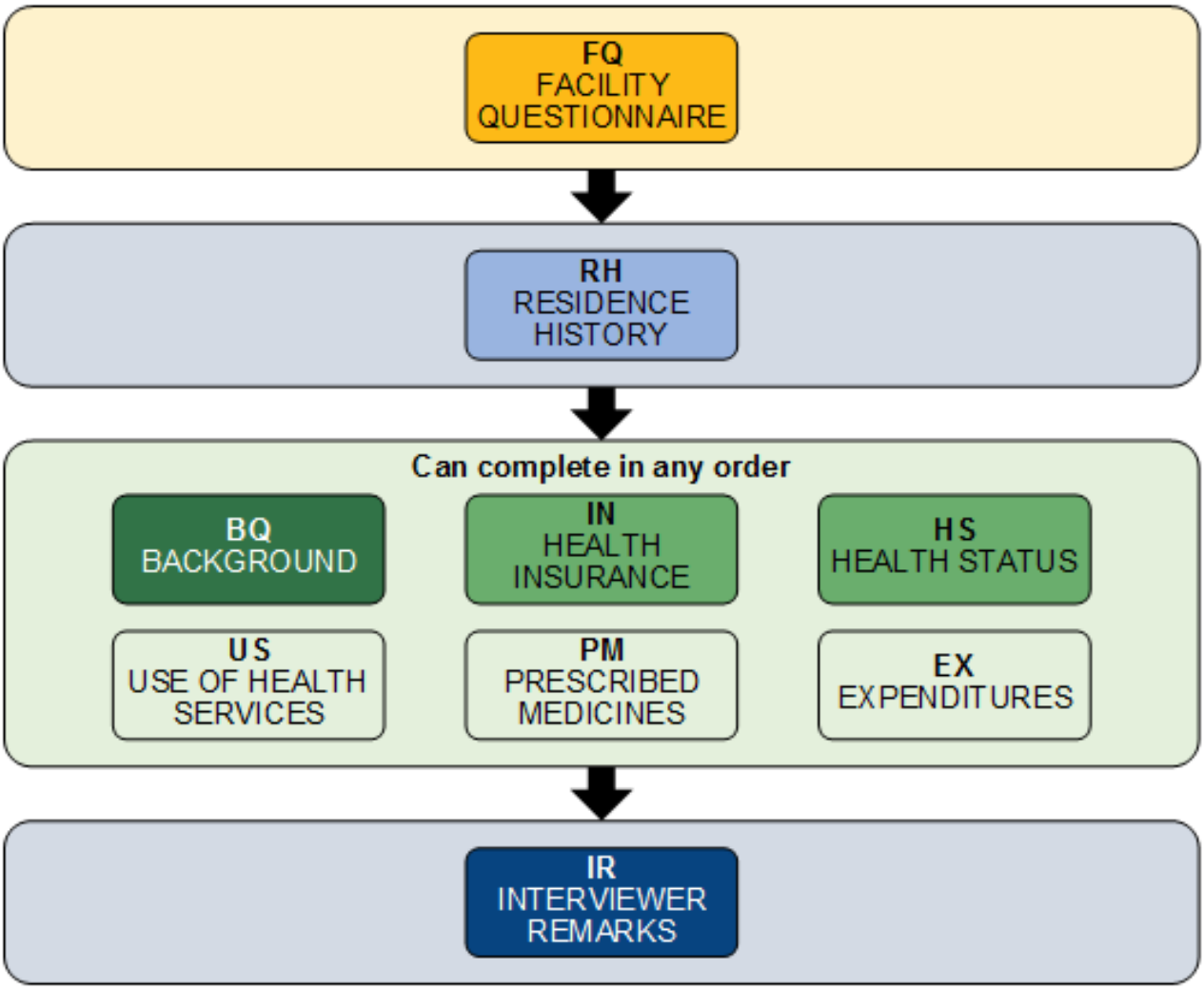
Exhibit 5.3.1: 2017 MCBS Facility Instrument Flow for Baseline Interview



5.3.2 Facility Continuing Interview

Exhibit 5.3.2 illustrates the flow of the Facility Continuing interview sections. Note that beneficiaries who move to a facility from the community (Community to Facility cases), move to a new facility (Facility to Facility cases), or move to the community from the facility (Facility to Community cases) receive a different combination of Facility Continuing sections than beneficiaries who have lived continuously in the same facility.

Exhibit 5.3.2: 2017 MCBS Facility Instrument Flow for Continuing Interviews



Administered only for Community to Facility interviews

Administered to all sample types in Fall round. Otherwise, administered only for Community to Facility, Facility to Facility, and for beneficiaries residing in a Facility whose last interview was a Community interview and who completed a Facility interview in a prior round.

Administered for all Facility interviews

5.3.3 Facility Continuing Core Sections

The sections depicted in Exhibit 5.3.3 parallel the Core sections for the Community component. These sections of the Facility Continuing interview are administered in the same rotation as the Community Continuing interview (the 2nd through the 12th rounds); however, beneficiaries new to a facility receive additional Core sections.

Similarly to the Community questionnaire, operational management/procedural data are collected through the Interviewer Remarks (IR) section, which is completed by the interviewer and primarily used for case finalization. Exhibit 5.3.3 summarizes each component of the Facility questionnaire by data release.

Exhibit 5.3.3: 2017 MCBS Facility Core Sections by Data File and Data Collection Schedule*

Section Group	Abbrev	Section Name	LDS§	Data Collection Schedule
Facility Characteristics	FQ	Facility Questionnaire	SF	All seasons
Socio-Demographics	RH	Residence History	SF	All seasons
	BQ	Background	SF	Fall**
Health Insurance	IN	Health Insurance	SF	Fall±
Utilization	US	Use of Health Services	CS	All seasons
	PM	Prescribed Medicines	CS	All seasons
Cost	EX	Expenditures	CS	All seasons
Health Status	HS	Health Status	SF	Fall±

SOURCE: 2017 MCBS Facility Instrument

*Certain procedural or operational management sections are collected specifically to manage the data collection process. These sections are not directly included in the LDS files (e.g., Interview Remarks (IR)).

**The BQ section is also administered to Community to Facility Crossover cases each season.

±The IN and HS sections are also administered to Community to Facility and Facility to Facility cases each season.

§ Limited Data Set (LDS) indicates the file where the questionnaire data appears (i.e., SF = Survey File, CS = Cost Supplement File).

6. SAMPLING

6.1 Medicare Population Covered by the 2017 MCBS Data

The MCBS data releases are a reflection of enrolled Medicare beneficiaries residing in the continental United States.[10] Excluded from both populations are residents of foreign countries and U.S. possessions and territories.

The beneficiaries included in the 2017 MCBS LDS releases represent a random cross-section of all beneficiaries who were ever enrolled in either Part A or Part B of the Medicare program for any portion of 2017. A subset of these beneficiaries represent a random cross-section of all beneficiaries who were continuously enrolled from January 1, 2017 up to and including interviews conducted during Fall 2017. The ever enrolled and continuously enrolled populations are described in further detail below:

- The ever enrolled population represents individuals who were enrolled in Medicare at any time during the calendar year. This population includes beneficiaries who enrolled during the calendar year 2017 as well as those who dis-enrolled or died prior to their fall interview.[11] The ever enrolled population includes beneficiaries who were enrolled in Medicare for at least one day at any point during 2017.
- The continuously enrolled population represents only those individuals continuously enrolled in Medicare from January 1, 2017 up to and including their fall interview; this specifically excludes beneficiaries who enrolled during the calendar year 2017 and those who dis-enrolled or died prior to their fall interview. The concept of continuously enrolled is consistent with the concept of being exposed or "at risk" for using services up to and including their fall interview.

The Survey File and Cost Supplement File represent four separate MCBS panels identified by the year in which the panel was selected and first interviewed (i.e., for 2017 LDS files, the 2014, 2015, 2016 and 2017 panels). Exhibit 6.1 shows the composition of each of the four panels included in the 2017 data files.

Exhibit 6.1: 2017 MCBS Composition of Panels in LDS Data Files

Data Year (Fall)	Number of Beneficiaries Selected
2014[12]	11,398
2015	8,621
2016	12,145
2017	11,623

[10] Prior to 2017, Puerto Rico was also included as part of the MCBS sampling geography. Beginning in 2017, Puerto Rico was removed, and only beneficiaries residing in the continental U.S. were eligible to be sampled for the MCBS. The decision to remove Puerto Rico from the sample was based largely on the fact that Medicare in Puerto Rico is very different and difficult to compare to (or combine analytically with) Medicare in the U.S.

[11] Note that data collection for beneficiaries who enrolled during 2017 and died in 2017 after enrollment but before their fall interview was still pursued through attempts at conducting proxy interviews.

[12] Fall 2014 was the first round collected by NORC after the contract transitioned from the prior incumbent of data collection following a transition between contractors. In September 2014, the final number of Summer 2014 completed interviews from the Continuing sample was provided to NORC. Because the completion rates for the Summer 2014 round were lower than anticipated, CMS and NORC agreed that the Incoming Panelsample size should be increased to 8,880 cases. Then in December 2014, CMS and NORC agreed to extend the Fall 2014 round to March 2015 so that final re-programming of all questionnaire sections could be completed for fielding of the next round. This decision resulted in an additional buffer of Incoming Panel sample released in January 2015 with a data collection period of about eight weeks.

Exhibit 6.1.1 presents the aggregated estimates of the size of the two Medicare populations overall and by sex and race. Exhibits 6.1.2 and 6.1.3 present estimates of the size of the continuously enrolled and ever enrolled Medicare populations by race, and age (as of December 31, 2017) for male and female beneficiaries.

Exhibit 6.1.1: 2017 Total Estimated Number of Medicare Beneficiaries by Sex and Race

Group	Subgroup	Continuously Enrolled	Ever Enrolled
Overall Total		54,543,627	59,286,140
Sex	Male Total	24,892,518	27,114,051
	Female Total	29,651,109	32,172,089
Race	White non-Hispanic Total	41,122,223	43,082,057
	Black non-Hispanic Total	5,410,961	5,555,038
	Hispanic Total	3,899,618	4,214,563
	Other Total*	4,110,825	6,434,482

SOURCE: 2017 Survey File and Sample Control File, weighted counts.
*The 'Other' race category includes other races, more than one race, and unknown race.

Exhibit 6.1.2: 2017 Estimated Number of Male Medicare Beneficiaries by Race and Age

Race	Age as of 12/31/2017	Continuously Enrolled	Ever Enrolled
White non-Hispanic	0-44	516,892	542,680
	45-64	2,429,796	2,334,899
	65-69	4,160,061	4,528,143
	70-74	4,396,366	4,553,776
	75-79	3,119,356	3,245,213
	80-84	2,160,758	2,245,489
	85+	1,914,993	2,131,268
Black non-Hispanic	0-44	189,718	194,507
	45-64	532,726	479,701
	65-69	572,075	595,334
	70-74	393,734	423,130
	75-79	301,286	310,675
	80-84	144,309	147,821
	85+	135,495	143,371
Hispanic	0-44	101,417	109,026
	45-64	250,492	252,709
	65-69	434,581	524,802
	70-74	396,787	429,765
	75-79	234,491	250,106
	80-84	140,506	158,394
	85+	149,791	171,564
Other*	0-44	98,527	151,903
	45-64	294,556	474,778
	65-69	1,166,397	2,039,483
	70-74	377,225	387,362
	75-79	147,491	151,309
	80-84	62,501	67,307
	85+	70,189	69,537

SOURCE: 2017 Survey File and Sample Control File, weighted counts.

*The 'Other' race category includes other races, more than one race, and unknown race.

Exhibit 6.1.3: 2017 Estimated Number of Female Medicare Beneficiaries by Race and Age

Race	Age as of 12/31/2017	Continuously Enrolled	Ever Enrolled
White non-Hispanic	0-44	424,861	457,024
	45-64	2,130,797	2,081,090
	65-69	4,604,087	4,962,727
	70-74	5,526,606	5,609,035
	75-79	4,027,931	4,111,796
	80-84	2,623,580	2,746,695
	85+	3,086,137	3,532,222
Black non-Hispanic	0-44	147,601	158,573
	45-64	646,719	605,023
	65-69	735,622	756,682
	70-74	576,685	613,703
	75-79	399,849	419,616
	80-84	285,697	309,120
	85+	349,445	397,783
Hispanic	0-44	72,755	89,334
	45-64	271,907	326,766
	65-69	485,090	510,022
	70-74	565,432	564,627
	75-79	307,264	300,756
	80-84	227,134	234,583
	85+	261,969	292,110
Other*	0-44	46,825	109,433
	45-64	237,785	372,714
	65-69	936,352	1,931,868
	70-74	297,996	290,882
	75-79	132,158	129,470
	80-84	109,924	111,232
	85+	132,899	147,206

SOURCE: 2017 Survey File and Sample Control File, weighted counts.

*The 'Other' race category includes other races, more than one race, and unknown race.

6.2 Targeted Population and Sampling Strata

Historically, the targeted population for the MCBS consisted of persons enrolled in one or both parts of the Medicare program, that is, Part A or Part B, as of January 1 of the applicable sample-selection year, and whose address on the Medicare files is in one of the 48 contiguous states (excludes Alaska and Hawaii), the District of Columbia, or Puerto Rico. Beginning in 2015, the targeted population for the MCBS consisted of Part A and/or Part B enrollees as of December 31 of the sample-selection year. For example, for Fall Round 2014 (the round in which the 2014 Panel, included in the 2017 MCBS data, was first selected), the targeted population included those individuals enrolled as of January 1 of 2014. For Fall Rounds 2015, 2016, and 2017 (the three rounds in which the 2015, 2016, and 2017 Panels, included in the 2017 MCBS data, were selected), the targeted population included those individuals enrolled as of December 31 of 2015, 2016, and 2017, respectively. Beginning in 2017, Puerto Rico was removed from the MCBS sample; thus, the MCBS sample was selected entirely from the continental U.S. and the District of Columbia beginning with the 2017 Panel.

The universe of beneficiaries for the MCBS is divided into seven sampling strata based on age as of a specified date during the calendar year of the data release. Beginning in 2015, this date was moved from July 1 to December 31 of the sampling year in order to include all beneficiaries enrolling during the sampling year. The age categories are: under 45, 45 to 64, 65 to 69, 70 to 74, 75 to 79, 80 to 84, and 85 or older. Beginning in 2015, the strata were expanded to separate U.S. Hispanic, U.S. non-Hispanic, and Puerto Rican beneficiaries by age group. Beginning in 2017, with the removal of Puerto Rico, only two Hispanic strata remained (Hispanic and non-Hispanic). The 14 strata in 2017 include those depicted in Exhibit 6.2.1.

Exhibit 6.2.1: 2017 MCBS Sampling Strata

Hispanic	Non-Hispanic
Under 45 years Hispanic	Under 45 years non-Hispanic
45 - 64 Hispanic	45 - 64 non-Hispanic
65 - 69 Hispanic	65 - 69 non-Hispanic
70 - 74 Hispanic	70 - 74 non-Hispanic
75 - 79 Hispanic	75 - 79 non-Hispanic
80 - 84 Hispanic	80 - 84 non-Hispanic
85 and over Hispanic	85 and over non-Hispanic

Additionally, in the 2014 Panel, beneficiaries in an ACO were oversampled, and in the 2015, 2016, and 2017 Panels, beneficiaries residing within the U.S. who were Hispanic (based on a Hispanic ethnicity classification code in the Medicare enrollment data; see Eicheldinger[13] for more details) were oversampled. Exhibit 6.2.2 displays the beneficiaries selected as part of the 2017 Panel, by age and ethnicity.

[13] Eicheldinger, C. "More Accurate Racial and Ethnic Codes for Medicare Administrative Data," *Health care financing review* 29, no. 3.

Exhibit 6.2.2: 2017 Panel of Selected Beneficiaries by Hispanic and Non-Hispanic Ethnicity Classification and Age Category

Age Category as of 12/31/2017	TOTAL Sample Size	TOTAL Weighted	Hispanic Sample Size	Hispanic Weighted	Non-Hispanic Sample Size	Non-Hispanic Weighted
Under 45 years	1,172	1,828,616	101	189,740	1,071	1,638,876
45-64 years	804	6,849,180	69	570,286	735	6,278,894
65-69 years	2,406	15,786,729	202	1,051,953	2,204	14,734,776
70-74 years	1,530	12,793,788	130	926,220	1,400	11,867,568
75-79 years	1,854	8,997,662	158	571,441	1,696	8,426,221
80-84 years	1,859	5,892,200	158	372,152	1,701	5,520,048
85+ years	2,001	6,911,448	171	348,660	1,830	6,562,788
Total	11,626	59,059,623	989	4,030,451	10,637	55,029,171

6.3 Primary and Secondary Sampling Units

The MCBS employs a three-stage cluster sample design. Primary sampling units (PSUs) are made up of major geographic areas consisting of metropolitan areas or groups of rural counties. Secondary sampling units (SSUs) are made up of census tracts or groups of tracts within the selected PSUs. Medicare beneficiaries, the ultimate sampling units (USUs), are then selected from within the selected SSUs. The MCBS sample is annually "supplemented" during the fall round to account for attrition (deaths, dis-enrollments, refusals) and newly enrolled persons. Each annual supplement is referred to as the Incoming Panel sample.

Prior to Fall 2001, respondents for the MCBS were drawn from a sample of 107 PSUs that had been selected in 1991 from the 48 continental U.S., the District of Columbia, and Puerto Rico. A second-stage sample of 1,163 SSUs defined by ZIP Code was initially drawn within those PSUs. The second-stage sample was expanded each subsequent year to represent newly created ZIP Code areas, ultimately increasing to 1,523 SSUs in Fall 2000. For Fall 2001, the PSU sample was updated and reselected in a manner that maximized overlap with the original PSU sample. Within the new sample of 107 PSUs, 1,209 SSUs were initially selected in Fall 2001. With the addition of new ZIP Code clusters in subsequent years, the number of SSUs increased to 1,250 by Fall 2013.

Beginning in Fall 2014, census tracts or groups of tracts replaced ZIP Code areas as SSUs for the Incoming Panel selected each fall. A sample of 703 tract-based SSUs was selected within the existing 107 PSUs in 2014; the SSUs were sized to support beneficiary sampling for approximately 20 years. The new tract-based SSU design was chosen because census tracts are more stable and change less often than ZIP Code areas, resulting in less required maintenance. An additional benefit is that tract-based units are more easily merged to federal survey data such as those published by the Census (e.g., decennial census data and the American Community Survey (ACS)).

Beginning in 2017, Puerto Rico was removed from the MCBS sample. As a result, 104 of the original 107 PSUs, and 685 of the 703 tract-based SSUs, are employed in sample selection for the 2017 Panel and beyond. All of the panels in the 2017 data releases are distributed across the subset of 104 non-Puerto Rican PSUs from the

redesigned sample of 107 PSUs selected in 2001.[14] These PSUs are a representative, national sample of beneficiaries who are geographically dispersed throughout metropolitan areas and groups of non-metropolitan counties.

Respondents for the MCBS are sampled from the Medicare Administrative enrollment data. Because of interest in their special health care needs, elderly beneficiaries (age 85 and over) and beneficiaries with disabilities (age 64 and under) are oversampled to permit more detailed analysis of these subpopulations. In 2013 and 2014, an additional oversample of beneficiaries in Accountable Care Organizations (ACOs) was conducted, and beginning in 2015, an oversample of Hispanic beneficiaries was implemented.[15] The MCBS sample is designed to yield about 14,500 completed cases annually in the MCBS Survey File and about 11,500 completed cases annually in the MCBS Cost Supplement File.

6.3.1 Eligibility: Medicare Population Covered by the 2017 LDS

Beginning in 2015, beneficiaries who became eligible for Medicare Part A or B and enrolled anytime during the sampling year were eligible to be sampled as part of the annual panel. This is a substantial change in practice; prior to 2015, only beneficiaries enrolled in Medicare by January 1 of the sampling year were eligible to be sampled in an annual panel. More specifically, previously the MCBS would have waited until the 2016 panel to select beneficiaries who became eligible and enrolled during 2015 (e.g., those 'new' to Medicare). Thus, to estimate 2015 events, cost, and utilization would require the 2015 panel and all prior panels plus the new 2015 enrollees who were not sampled until the 2016 panel. Beginning in 2015, these beneficiaries were selected as part of the 2015 panel; thus, the 2015 Cost Supplement includes data using the 2015 panel as well as the 2012, 2013 and 2014 previous panels, without the need to use data from the 2016 panel. Likewise, the 2017 Cost Supplement includes data using the 2017 panel as well as the 2014, 2015, and 2016 previous panels, without the need to use data from the 2018 panel, allowing data to be released in a timelier manner. That is, data are released up to one year earlier with the Survey File LDS released 12-15 months after the end of data collection and the Cost Supplement LDS released 15-18 months after the end of data collection.

6.4 Sample Selection

The MCBS sampling design provides nearly self-weighting (i.e., equal probabilities of selection) samples of beneficiaries within each of the 14 sampling strata. Within the selected PSUs and SSUs, a systematic sampling scheme with random starts is employed for selecting beneficiaries.[16] For each continuing beneficiary, the survey questions corresponding to the Survey File data release are administered in the fall of the data collection year. Similarly, for beneficiaries new to the MCBS, the survey questions are administered as part of the initial fall Baseline interview. Exhibit 6.4 provides a brief summary of the number of selected beneficiaries and the inclusion criteria for the 2014 through 2017 Panels.

[14] An original set of 107 PSUs was selected at the start of the MCBS in 1991; the current PSUs were selected in 2001 with a focus on maximizing overlap with the original set of PSUs. With the rotating panel design, the PSU redesign is transparent to data users and no special processing is required. For more details on the PSU redesign, see Lo, A, A Chu, and R Apodaca. "Redesign of the Medicare Current Beneficiary Survey Sample," Proceedings of the Survey Research Section of the American Statistical Association 2002.

[15] Note that once an oversample is implemented for a given fall round, those beneficiaries remain in the survey for four years.

[16] The MCBS 2017 Panel was drawn by systematic random sampling with probability proportional to probabilities of selection with an independently selected random start within each PSU. For more information on this sampling method, please see the MCBS Methodology Report.

Exhibit 6.4: 2017 MCBS Sample Selection for the LDS Releases

Panel	# of Selected Beneficiaries	Previously Enrolled Beneficiaries Still Alive as of January 1 of Panel Year	Newly Enrolled Beneficiaries Since Last Panel Selection*
2014	11,398	Enrolled on or before 1/1/2013	Enrolled 1/2/2013 – 1/1/2014
2015	8,621	Enrolled on or before 1/1/2014	Enrolled 1/2/2014 – 12/31/2015
2016	12,145	Enrolled before 1/1/2016	Enrolled 1/1/2016 – 12/31/2016
2017	11,623	Enrolled before 1/1/2017	Enrolled 1/1/2017 – 12/31/2017

SOURCE: 2017 MCBS Internal Sample Control File

*Newly enrolled beneficiaries need not be living as of January 1st of the panel year; because these beneficiaries were not eligible for selection in any previous panels and could have incurred medical costs any time after enrollment, they are eligible for selection into the current panel regardless of vital status.

7. DATA PRODUCTS & DOCUMENTATION

7.1 Contents of Data Release

MCBS data are made available via releases of annual files. For 2017, two annual LDS releases (the Survey File and the Cost Supplement File), and one PUF (based on the Survey File data only) are planned. The LDS releases contain multiple files, called segments, which are easily linkable through a common beneficiary key ID. The Survey File LDS contains, over 4,000 variables across 37 segments and the Cost Supplement LDS contains over 600 variables across 14 segments.

Detailed descriptions of each segment, including the core contents of each segment, key variable definitions, and special notes on new variables, recodes, and administrative sources for select variables can be found in this Data User's Guide for the Survey File and corresponding information for the Cost Supplement File can be found in the MCBS Data User's Guide: Cost Supplement File.

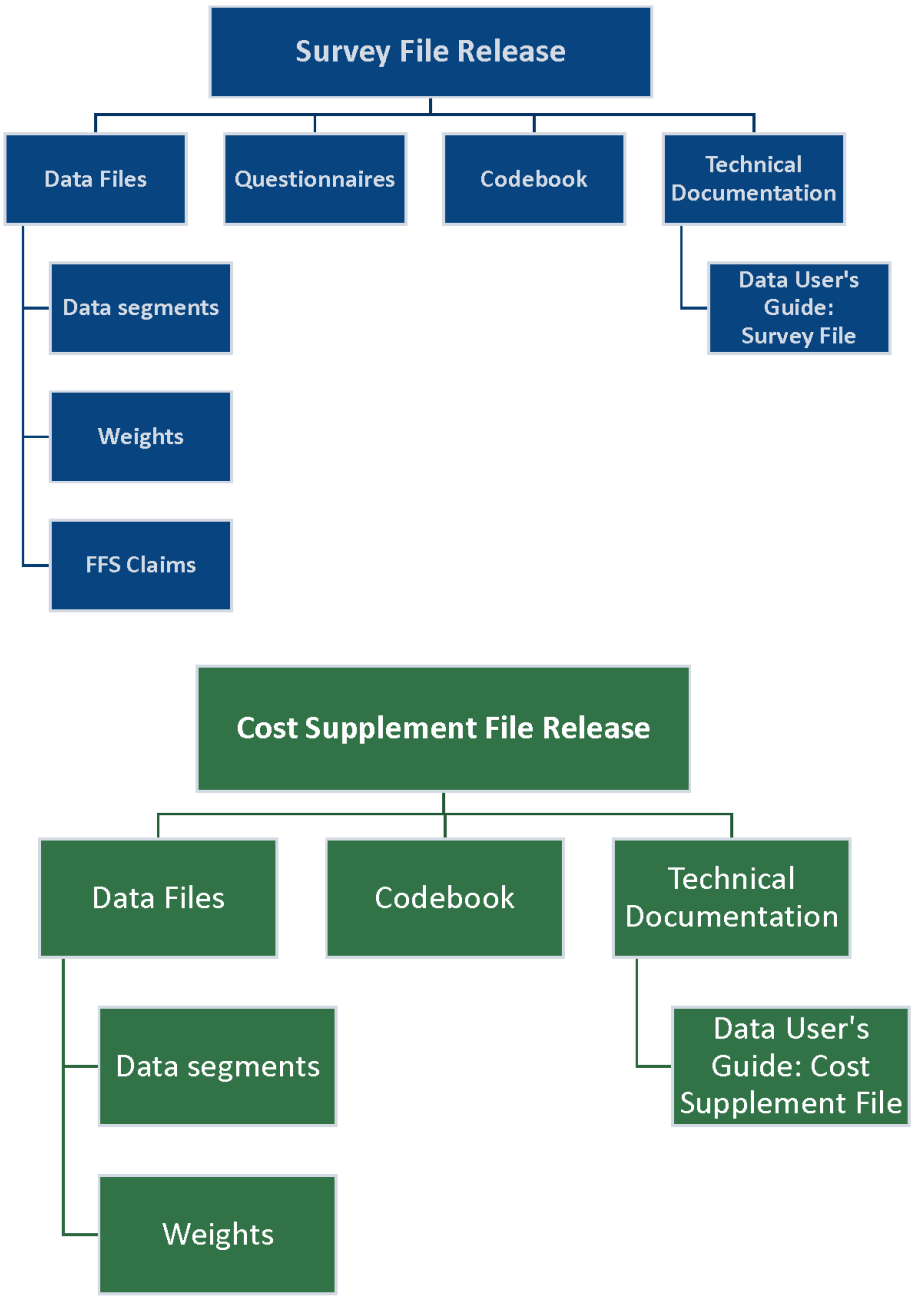
Exhibit 7.1 displays the components of each LDS release. Both the Survey File and Cost Supplement File contain data segments, codebooks, questionnaires and technical documentation. The Survey File release contains the Fee-for-Service (FFS) claims data, which provide CMS administrative information on medical services and payments paid by Medicare claims; claims data for Medicare Advantage beneficiaries are not available. While users can conduct analyses with the Survey File alone, users interested in the Cost Supplement File data will need both LDS files to link cost and utilization variables with demographic or health insurance coverage variables.

Data users should note that some questionnaire sections are asked in the calendar year following the LDS file data year. The reason for this delay is that the reference period, or the timeframe to which the questionnaire item refers, is the entire prior year. For example, the Income and Assets Questionnaire (IAQ) asks about 2017 income in the 2018 calendar year in order to capture a beneficiary's complete income record for 2017. For survey questions such as these, the calendar year following the LDS file data year is the most reasonable time period to collect the information. Data are released with this in mind. As such, IAQ data collected in Summer 2018 are released with the 2017 LDS files.

Data from previous rounds of data collection may be used for a Continuing beneficiary where the item asks about experiences in a lifetime. For example, a beneficiary in 2014 who answered yes to the question, "Have you ever had a hysterectomy?" will have that answer added to her 2017 data.

Exhibits 7.1.1 and 7.1.2 designate each segment included in the Survey File and Cost Supplement File along with the abbreviation, description, and the equivalent historic segment from the 1991-2013 data release structure.

Exhibit 7.1: 2017 Contents of Data Releases



7.1.1 2017 MCBS Survey File

The Survey File contains data collected directly from respondents and supplemented by administrative items plus the facility (non-cost) information and FFS claims. The Survey File includes multiple topic-related segments, including health status and limitations, access to care, health insurance coverage, and household characteristics. The Survey File also includes information on Facility interviews including a residence timeline, facility characteristics, and assessment (Minimum Data Set) measures. Finally, Topical questionnaire sections (e.g., beneficiary knowledge, drug coverage) are included with this release. 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 and administrative data.

Exhibit 7.1.1: 2017 MCBS Survey File Segments and Contents

Survey File Segment	Segment Abbrev	Description	Historic RIC Segment	Respondent Type (C, F, B)*
Access to Care	ACCESSCR	Survey responses related to ability to obtain health care, delay of care related to costs, and reasons for not obtaining needed health care.	3	C
Access to Care Medical Appointment	ACCSSMED	Survey responses related to medical visit experiences and foregone medical care. Special non-response adjustment weights are included with this file.	3	C
Administrative Utilization Summary	ADMNUTLS	Summarized administrative information on Medicare, program expenditures, and utilization	A	B
Assistance	ASSIST	Identifies the person helping and type of assistance that the beneficiary may receive performing ADLs and IADLs (e.g., assistance with dressing, shopping, eating).	2H	C
Beneficiary Demographics	DEMO	Demographic information collected in the survey and enhanced by Medicare Administrative data.	1, 9, A, K	B
Chronic Conditions	CHRNCOND	Survey responses related to chronic and other diagnosed medical conditions.	2, 2P	C
Chronic Conditions Flags	CHRNCDFL	FFS Chronic Condition Flag Records and FFS Chronic and other Disabling Flag records from administrative data sources	New	B
Diabetes	DIABETES	Survey responses related to diabetes management such as insulin usage.		C
Facility Assessments	FACASMNT	Assessment information conducted while the beneficiary was a resident in a Medicare approved or non-Medicare approved facility.	2F	F
Facility Characteristics	FACCHAR	Primarily contains information from the Facility Questionnaire, while also incorporating Skilled Nursing Facility (SNF) stay information for both Facility and Community respondents.	7, 7S	B
Falls	FALLS	Survey responses related to injuries and attitudes related to falls.	2, 2P	C
Food Insecurity	FOODINS	Information regarding the beneficiary's availability to obtain sufficient food. The FOODINS data that was collected in Summer 2018 is released with the 2017 Survey File given that the reference period is 2017. Special non-response adjustment weights are included with this file.		C
General Health	GENHLTH	Survey responses regarding a beneficiary's general health status and functioning such as height and weight.	2	C

Survey File Segment	Segment Abbrev	Description	Historic RIC Segment	Respondent Type (C, F, B)*
Health Insurance Summary	HISUMRY	Administrative information on the characteristics of insurance coverage.	4, A	B
Health Insurance Timeline	HITLINE	Types of insurance plans and the coverage eligibility timeline as well as information regarding premiums, co-pays, deductibles, and what is covered.	4, A	B
Household (HH) Characteristics	HHCHAR	Information about the beneficiary's household composition and home.	5	B
Income and Assets	INCASSET	Data on a beneficiary's income and assets. Income and Assets (IAQ) data were collected in Summer 2018 but released with the 2017 Survey File, because the reference period is 2017. Special non-response adjustment weights are included with this file.	1, Income Asset	B
Interview Characteristics	INTERV	Summarizes the characteristics of the interview such as the type of interview conducted and whether or not a proxy was used.	4, 8, 9, K	B
Medicare Advantage (MA) Plan Questions	MAPLANQX	Augments information from the Access to Care and Satisfaction with Care sections of the questionnaire for beneficiaries enrolled in Medicare Part C.	H	C
Medicare Plan Beneficiary Knowledge	MCREPLNQ	Information about the beneficiary's experience with the Medicare open enrollment period and knowledge about Medicare covered expenses. The Knowledge of Beneficiaries (KNQ) data were collected in Winter 2018 but released with the 2017 Survey File, because the reference period is 2017. Special non-response adjustment weights are included with this file.	KN	C
Minimum Data Set	MDS3	Assessment information conducted while the beneficiary was in an approved Medicare Facility.	MDS, 10	B
Mental Health	MENTHLTH	Survey responses regarding the beneficiary's mental health such as feelings of anxiety or depression.		C
Mobility	MOBILITY	Information on the beneficiary's use of available transportation options and whether the beneficiary's health affects their daily travel.		C
NAGI Disability	NAGIDIS	Information on difficulties with beneficiary's performance of activities of daily living.	2, 2H, 2P	C
Nicotine and Alcohol	NICOALCO	Information on the prevalence and frequency of alcohol and nicotine use.	2, 2P	C

Survey File Segment	Segment Abbrev	Description	Historic RIC Segment	Respondent Type (C, F, B)*
Outcome and Assessment Information	OASIS	Assessment information conducted while the beneficiary was receiving home health services.	OAS, 10	B
Patient Activation	PNTACT	This questionnaire section is designed to assess the degree to which Medicare beneficiaries actively participate in their own health care and decisions concerning that care. Special non-response adjustment weights are included with this file.	PA	C
Preventative Care	PREVCARE	Data on preventative services such as vaccinations and routine screening procedures.	2, 2P	C
Prescription Drug Access and Part D Drug Plan Experience	RXMED	Augments information from the Access to Care and Satisfaction with Care sections of the questionnaire regarding prescription medication access and satisfaction with and knowledge about Medicare Part D. Drug Coverage (RXQ) data were collected in Summer 2018, but released with the 2017 Survey File because the reference period is 2017. Special non-response adjustment weights are included with this file.	RX	C
Residence Timeline	RESTMLN	Where the beneficiary resided over the course of the year.	6, 9, A, K	B
Satisfaction with Care	SATWCARE	Data on satisfaction with health care and reasons why beneficiaries do not seek medical care or prescription drugs.	3	C
Usual Source of Care	USCARE	Data on where and how the beneficiary typically seeks medical care. Special non-response adjustment weights are included with this file.	2, 3	C
Vision and Hearing	VISHEAR	Information on the beneficiary's eye health and hearing status.	2	C
Weights	CENWGTS EVRWGTS LNG2WGTS LNG3WGTS	The weights file provides: longitudinal weights for the continuously enrolled population, general-purpose cross-sectional weights, a series of replicate weights, and weights to represent the ever enrolled population.	X, XE, X3, X4	B
Fee-for-Service Claims	FFS	These files include abbreviated FFS claims data. Additional claims-like data will be included as they become available in subsequent years (e.g., Encounter Data, Medicaid claims data).	Research Claims	B

* = Respondent type describes the expected setting where beneficiaries resided during the course of the calendar year (i.e., C = respondent only completed Community interviews, F = a Facility interview was conducted, or B = respondents completed at least one Community interview and for whom at least one Facility interview was conducted). In each data year, some differences by segment will exist (i.e., data may reflect a prior or future calendar year due to the specific questionnaire and reference period used to collect the information).

7.1.2 2017 MCBS Cost Supplement File

The Cost Supplement File contains both individual event and summary files and can be linked to the Survey File to conduct analyses on healthcare cost and utilization. The Cost Supplement File links survey-reported events to Medicare FFS claims and provides a comprehensive picture of health services received, amounts paid, and sources of payment, including those not covered by Medicare. Survey-reported data include information on the use and cost of all types of medical services, as well as information on supplementary health insurance costs. Medicare FFS claims data include administrative and billing information on the use and cost of inpatient hospitalizations, outpatient hospital care, physician services, home health care, durable medical equipment, skilled nursing home services, hospice care, and other medical services.[17] The Cost Supplement File can support a broader range of research and policy analyses on the Medicare population than would be possible using either survey data or administrative claims data alone.

The Cost Supplement File undergoes a careful reconciliation process to separately identify and flag health care services reported: 1) from the survey alone, 2) from the claims data alone, and 3) from both sources. This process results in a file with a much more complete and accurate picture of health services received, amounts paid, and sources of payment. Due to the added processing time required to reconcile survey reported events with the claims data, this file is generally released 18 months after the close of the calendar year for data collection.

[17] Only Medicare claims for beneficiaries enrolled in Medicare Fee-for-Service (FFS, often called 'traditional' Medicare), are available for linkage; similar claims information for Medicare Advantage (MA) beneficiaries is not available. To the extent that health care use and costs may be underreported in the survey, or reported differentially between FFS and MA beneficiaries, this will be reflected in the data as MA beneficiaries' information will not be supplemented by claims data. In 2016, MA beneficiaries accounted for nearly one in three Medicare beneficiaries (https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Dashboard/Medicare-Enrollment/Enrollment%20Dashboard.html).

Exhibit 7.1.2: 2017 MCBS Cost Supplement File Segments and Contents

Cost Supplement Segment	Abbrev	Description	Historic RIC Segment
Dental Utilization Events	DUE	This file contains individual dental events for the MCBS population.	DUE
Facility Events	FAE	This file includes individual facility events for the MCBS population. There is one record for each stay that occurred at least partly in the data year.	FAE
Inpatient Hospital Events	IPE	This file contains individual inpatient hospital events for the MCBS population.	IPE
Institutional Events	IUE	This file contains individual short-term facility (usually SNF) stays for the MCBS population that were reported during a community interview or created from Medicare claims data.	IUE
Medical Provider Events	MPE	This file contains individual events for a variety of medical services, equipment, and supplies.	MPE
Outpatient Hospital Events	OPE	This file contains individual outpatient hospital events for the MCBS population.	OPE
Prescribed Medicine Events	PME	This file contains individual outpatient prescribed medicine events for the MCBS population.	PME
Person Summary	PS	Summarization of utilization and expenditures by type of service and summarization of expenditures by payer, yielding one record per person.	PS
Service Summary	SS	Summarization of the seven individual event files along with home health and hospice utilization, yielding a total of nine summary records per person.	SS
Cost Supplement Ever Enrolled Weights	CSEVWGTS CSL2WGTS CSL3WGTS	The weights file provides: longitudinal weights for the ever enrolled population who had cost and utilization information, general-purpose cross-sectional weights, and a series of replicate weights. The CSL2WGTS file is the two-year longitudinal weights file for the population ever enrolled at any time during both 2016 and 2017. The CSL3WGTS file is the three-year longitudinal weights file for the population ever enrolled at any time during each of 2015, 2016, and 2017.	X

As an aid to users, the Cost Supplement File data are provided at three different levels of summarization: event level, person summary level (PS), and service summary (SS) level. The tri-level structure allows analysts to fit the research problem they are addressing to the available file summary levels, and potentially avoid having to process all the detailed event records in the file when summaries may suffice. For example, an analysis of differences in total health spending per person between men and women could use the person level summary, and thereby avoid having to process the more numerous event level records. Similarly, an analysis of differences in use of Medicare hospital payments by race could use the type of service summary records. Event level records would be used for more detailed analyses, for example, average length of long-term facility stays or average reimbursements per prescription drug type. For a more complete discussion of the tri-level file structure, see the MCBS Data User's Guide: Cost Supplement File document.

7.1.3 Using the Data

The MCBS data releases are made available in two formats: SAS® formatted files, and comma delimited files for use with Stata® and R®. Directions and sample SAS® code are given below to help users read the dataset into SAS®.

Files with programming code to create formats and labels are provided for both SAS users and for use with comma delimited files.

7.1.4 Research Claims Files

The fixed-length claims (also known as the research claims) are abbreviated versions of the full claim record layout. Each claim type has a subset of variables selected for their relevancy to data analysis of that service. Additionally, institutional claim types have a corresponding revenue center file that links back to the claim-level data file through a unique claim identifier. See Section 8.3: Claims Files for more on the claims file specifications.

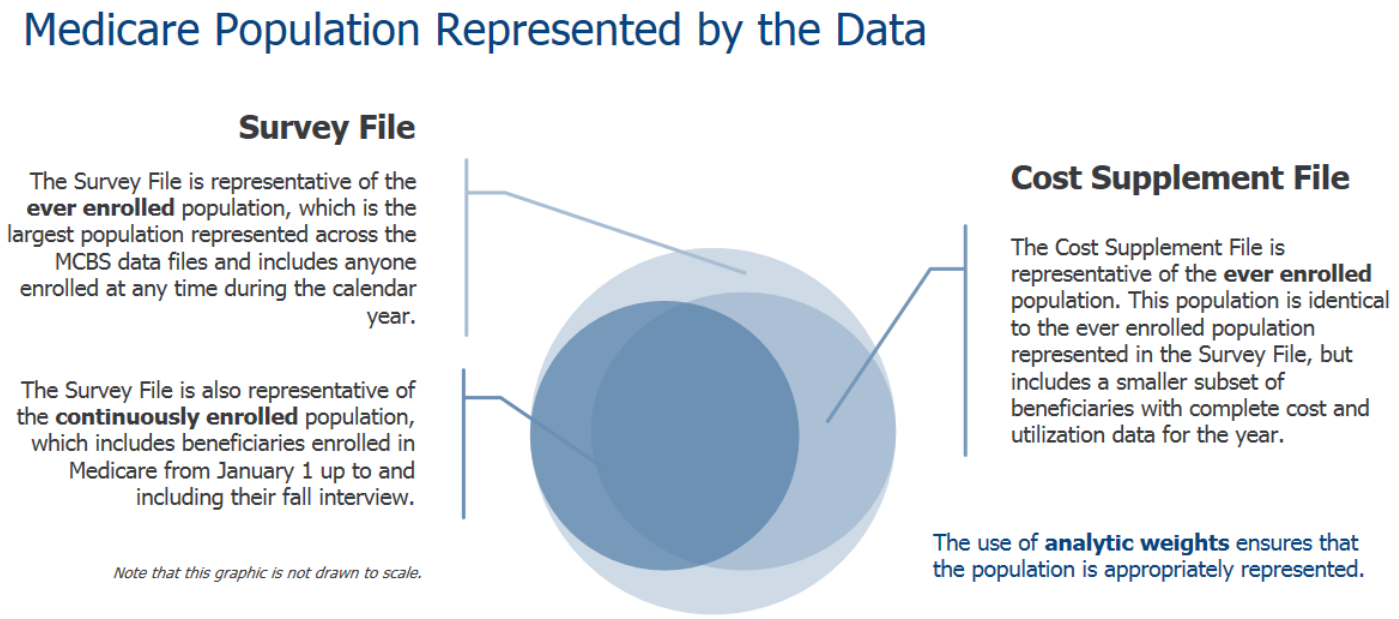
There is one observation per data record for all of the MCBS claims files except the Physician/Supplier Claims and Durable Medical Equipment (DME) Claims. Those claim types treat each line item as a separate observation with the claim-level detail repeating for each line item.

7.2 Which File Do I Need?

The identification of the target population for a given research question will influence both the selection of weights and the particular segments that a data user will need to conduct analyses. Exhibit 7.2 depicts the relationship between the beneficiaries included in the annual data releases.[18] The ever enrolled population from the Survey File is the largest, including anyone enrolled at any time during the calendar year. The continuously enrolled population is limited to those beneficiaries who were enrolled from January 1 of the survey year through the fall interview date. The Survey File includes a weights segment that allows for subsetting the data by the ever enrolled and continuously enrolled populations. The Cost Supplement File includes a weights segment that allows for subsetting the data by the ever enrolled population.

[18] Exhibit 7.2 is not drawn to scale, but provided as a visual reference for the relationship of populations between data files.

Exhibit 7.2: MCBS Populations in Data Products



7.2.1 Survey File Only

Users who wish to focus on research questions around health-related topics, such as health status and access to care and/or Medicare FFS utilization, only need the Survey File. Similarly, data users conducting year-to-year or longitudinal analyses with the 1991 through 2013 Access to Care files only need the Survey File to make comparisons of services.

7.2.2 Using Both Survey File and Cost Supplement File

To the extent that a data user needs demographic and health insurance information to conduct research on the cost and utilization of medical services, both the Survey File and the Cost Supplement File are required. Data users must also use the ever enrolled cost weights when analyzing any cost data from the Cost Supplement File combined with survey-reported information from the Survey File. For more information on using the weights, please see 9.4 Weighting

8. FILE STRUCTURE

8.1 LDS Specifications

The MCBS Survey File contains survey-collected data augmented with administrative and claims data to allow for analysis regarding the beneficiaries' health status, access to health care, satisfaction with health care and usual source of care. The following information is represented in the MCBS Survey File: Beneficiary Demographics, Household Characteristics, Access to Care, Satisfaction with Care, Usual Source of Care, Health Insurance Timeline (shows types of insurances, the coverage eligibility, and what is covered), Health Status and Functioning and other topical survey sections like Medical Conditions, Health Behaviors, Preventative Services, Interview Characteristics, Beneficiary Knowledge of the Medicare Program, Residence Timeline, Facility Characteristics, and Income and Assets.

8.2 File Structure

The Survey File segments can be divided into two subject matter groups: files containing survey data with related Medicare administrative variables and files containing Medicare bill data. The bill records represent services provided during calendar year 2017 and processed by CMS. To facilitate analysis, the Administrative Utilization Summary files (ADMNUTLS) record contains a detailed summary of the utilization enumerated by these bills.

All MCBS segments begin with the same three variables: a unique number that identifies the person who was sampled (the BASEID), the survey reference year (in this release, a constant "2017"), and the version of release. 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. Beneficiaries may not have a record on every data file. Exhibit 7.1.1 provides an overview of the Survey File segments and their inclusion of Community-only respondents, Facility-only respondents, or both types of respondents.

8.3 Claims Files

The fixed-length claims (also known as the research claims or Fee-for-Service claims) are abbreviated versions of the full claim record layout. Each claim type has a subset of variables selected for their relevancy to data analysis of that service. Additionally, institutional claim types have a corresponding revenue center file that links back to the claim-level data file through a unique claim identifier. The Research Claims are provided as SAS© files and as CSV files.

8.3.1 Utilization Detail Records

Core Content

The following rules were used to select bill and claims records for the Claims files.

1. Inpatient bills were included if the discharge or "through" date fell on or after January 1, 2017 and on or before December 31, 2017.
2. Skilled nursing facility bills were included if the admission or "from" date fell on or after January 1, 2017 and on or before December 31, 2017.
3. Home health agency and outpatient facility bills were included if the "through" date fell on or after January 1, 2017 and on or before December 31, 2017.
4. Hospice bills were included if the admission or "from" date fell on or after January 1, 2017 and on or before December 31, 2017.
5. Physician or supplier claims were included if the latest "service thru" date fell on or after January 1, 2017 and on or before December 31, 2017.
6. Durable medical equipment (DME) claims were included if the latest "service thru" date fell on or after January 1, 2017 and on or before December 31, 2017.

A total of 4,976 (about 32.7 percent) of the 2017 survey participants did not use Medicare reimbursed services in a FFS setting in 2017; 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.[19] For the other 10,231 individuals in the sample, the MCBS has captured bills meeting the date criteria, processed and made available by CMS through June 2018.[20] Medicare payment amounts have been reduced by the sequestration amount of 2 percent for all claims for service dates on or after April 1, 2013.

[19] The Health Insurance Timeline (HITLINE) segment provides data on types of insurances, the coverage eligibility timeline, and the source information for the coverage use of services (i.e., Medicare Administrative enrollment data and/or survey data). The Access to Care (ACCESSCR) and Medicare Advantage Questions (MAPLANQX) segments also provide self-reported data on access and satisfaction with visits. See Section 3 of this document for more information on the contents of these segments.

[20] Note that claims "mature" through the midpoint of the following calendar year. That is, 2017 claims were pulled from CMS' administrative data after June 2018 to ensure that the 2017 claims had been finalized.

9. DATA FILE DOCUMENTATION

9.1 LDS Contents

In addition to the data, CMS provides technical documentation with the following resources for data users:

- Codebooks
- Questionnaires
- Data files (SAS©, CSV)
- Research claims (SAS©, CSV)
- Format control files
- Sample SAS code to apply the formats and labels for those not using SAS.

9.2 LDS Components

9.2.1 Codebooks

Codebooks are included with each data release and serve as the key resource for comprehensive information on all variables within a data file. The codebooks list the variables in each of the segments, the possible values, and unweighted frequencies. For variables that are associated with items in the MCBS Questionnaire, the item number and item text are provided.

The information provided within each Codebook is as follows:

Variable: The codebook contains the variable names associated with the final version of the data files. Certain conventions apply to the variable names. All variables that are preceded by the character "D_", such as D_SMPTYP, are derived variables. Variables preceded by the character "H_", such as H_DOB, come from CMS administrative source files.

Format Name: This column identifies the format name associated with the variable in the SAS© dataset.

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

Question #: This column contains a reference to the questionnaire for direct variables, or to the source of derived variables. For example, the entry that accompanies the variable D_ERVIST 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. This column will be blank for variables that do not relate to the questionnaire or to the CMS administrative source files, which are usually variables created to manage the data and the file.

Label (variable label and codes): The variable label provides an explanation of the variable, which describes it more explicitly than would be possible in only eight letters. 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.

Version Number: Files may be re-released due to needed updates, which will be noted by the version number variable.

Survey Year: The Survey Year of interest is included as a variable on the file.

BASEID: The BASEID is the unique identifier assigned to each beneficiary. This identifier can be used to link data across the survey files.

Note: Each variable may be 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 respondent said he has never smoked (Community interview, question HFG1), he would not be asked if he smokes now (question HFG2). Notes also describe important information about the variable.

Many questions were written to elicit simple "Yes" or "No" answers, or to limit responses to one choice from a list of categories. In other questions, the respondent was given a list of responses and instructed to select all responses that applied. In these cases when the question was a "select all that apply" item, each of the responses is coded "Indicated"/"Selected" or "Not Indicated"/"Not Selected".

If a respondent provided an answer that was not on the list of possible choices, it was recorded verbatim. Beginning with the 2016 data, a new programmatic backcoding approach was developed for some variables to streamline the review and categorization of verbatim responses. The 2016 backcoding implementation involved programmatically fixing misspellings of commonly used terms and then categorizing responses into existing response option categories as appropriate using keyword searches for terms matching those categories.

9.2.2 Questionnaires

Data users can view the Questionnaire for each data year along with the questionnaire variable names and question text on the MCBS website at: https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/Questionnaires.html.

9.2.3 Data User Resources

CMS provides technical assistance to researchers interested in using MCBS data, and provides free consultation to users interested in obtaining these data products and using these data in research. Users can email MCBS@cms.hhs.gov with questions regarding obtaining or using the data.

9.3 Data Edits and Imputation

9.3.1 Data Edits

A series of edits are conducted on the data files in order to check the data for accuracy, completeness, and reasonableness. Any structural issues are addressed during either data extraction or data cleaning.

Logic and reasonableness checks are also performed for each data file. Logic checks verify that the questionnaire worked as expected, particularly with respect to questionnaire routing. Errors identified during logic checking result in two categories of data edits: flagging values that were incorrectly skipped or setting incorrectly populated values to null to indicate a valid missing.

Global edits are applied to edit unreasonable or impossible extreme values to bind the data to reasonable responses and to check for values that are not explicitly disallowed by the questionnaire. For example, male respondents should not report female-only conditions, like cervical cancer. The MCBS also conduct consistency checks and edits. If a respondent reports becoming Medicaid eligible due to a certain condition, then they should have reported having that certain condition. Based on a thorough data review, these types of errors are corrected during data cleaning.

A flag variable is created for each edit to indicate whether the variable was edited for a particular observation.

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 depicted in Exhibit 9.3.1.

Exhibit 9.3.1: Data Review and Editing Codes

Value	Format	Meaning
.	INAPPLICABLE	Valid missing, inapplicable, a valid skip, missing with no expectation that a value should be present. Missing is '.' in numeric variables and blank in character variables.
.R	REFUSED	Valid missing, refused survey response
.D	DON'T KNOW	Valid missing, don't know survey response
.N	INVALID SKIP	Invalid missing, not ascertained, an invalid skip, as response should be present but is not
.E	EDITING CODE	Editing code, extreme value, unreasonable or out of range survey response

9.3.2 Imputation

In order to compile the most accurate and complete LDS, there are several types of adjustments applied to the MCBS data that compensate for missing information. Although a variety of methods are used in making the adjustments, adjustments of all types are governed by some basic principles. Information reported by the survey respondent is retained, even if it is not complete, unless strong evidence suggests that it is not accurate. When information is not reported during the interview, Medicare claims data and administrative data are the first choice as a source of supplementary, or in some cases, surrogate information.

There are several techniques for handling cases with missing data. One option is to impute the missing data. This can be done 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, see Kalton and Kasprzyk.[21]

The MCBS imputes income when income data are missing. Using the hot deck imputation method, the MCBS first imputes whether an income source exists (such as Social Security). If the income source exists, then the amount earned was imputed. A flag was created for each imputed variable indicating whether or not the corresponding value was imputed.

The 2017 Income and Assets imputation used IAQ data reported in 2018, as the 2018 IAQ asks about total income in the prior year (2017). The MCBS imputed different sets of variables for respondents to the 2018 IAQ and for the 2017 ever enrolled respondents who did not complete the 2018 IAQ. For the first group, the MCBS imputed a selection of variables from the 2018 IAQ. These included probe variables, which are indicators of whether the beneficiary and/or the spouse had income or asset items, and amount variables, which give the amount of the income or asset items that the beneficiary and/or the spouse had. For the second group, only the amount of total income was imputed.

[21] Kalton, Graham, and Daniel Kasprzyk. "The treatment of missing survey data." Survey methodology 12, no. 1 (1986): 1-16.

The MCBS created one imputation flag for each imputed variable. For the probes, only the hot deck imputation method was used, so the imputation flags indicate whether the probe was imputed or not. For the amounts, the MCBS used a variety of imputation methods. The imputation flags indicate whether the amount was not imputed, imputed by the hot deck method, imputed by the carry forward method, or imputed by data edits. The imputation used information from the Income and Assets and Facility Assessments Survey File segments and demographic information from the Beneficiary Demographics and Household Characteristics segments.

Using information from the Cost Supplement File segments and Medicare claims data, the MCBS imputed missing payer and payment information for medical events reported in 2017. The MCBS first imputed whether or not a payer, such as an insurance plan, paid for a particular event. If the payer paid, then the amount paid was imputed next. Imputation was performed using the hot deck imputation method, and a flag was created for each imputed variable indicating whether or not the corresponding cost value was imputed.

9.4 Weighting

9.4.1 Preparing Statistics (Using the Full Sample Weights)

The data user may choose to conduct analyses of the Survey File data alone or use the Cost Supplement data to conduct joint analyses of both survey and cost and utilization data. Exhibit 9.4.1 provides an overview of the weights for the 2017 Survey File and Cost Supplement File. For analysis of Survey File data, there are two populations of inference that can be obtained through the use of two distinct weights. The ever enrolled Survey File weight is greater than zero for all beneficiaries in the Survey File. This weight segment is EVRWGTS, and the name of the weight is EEYRSWGT. The sum of this weight represents the population of beneficiaries who were entitled and enrolled in Medicare for at least one day at any time during the calendar year.

The continuously enrolled Survey File weight is greater than zero for the subset of beneficiaries in the Survey File who were continuously enrolled in Medicare from January 1, 2017, through completion of their fall interview. This weight segment is CENWGTS, and the weight is named CEYRSWGT. The population represented by the sum of this weight is the continuously enrolled population of Medicare beneficiaries who were enrolled from the first of the year through the Fall 2017.[22] Users should use the continuously enrolled Survey File weight (CEYRSWGT) for time series analysis of survey data across years.

Analyses of the Cost Supplement File data should be done with the Cost Supplement weight, which represents an ever enrolled population of Medicare beneficiaries enrolled in Medicare on at least one day at any time in 2017. The Cost Supplement weights segment is named CSEVRWGT. The population represented by the sum of this weight is identical to the population represented by the sum of the ever enrolled Survey File weight, but it is populated for a smaller subset of respondents with complete cost and utilization data. Users wishing to conduct joint analysis of both Survey File and Cost Supplement File data should use the Cost Supplement File weights.

The weights mentioned above for the calendar year 2017 are full-sample weights. The term "full-sample" distinguishes these weights from the replicate weights used for variance estimation, as discussed in the Section 9.6: Variance Estimation. Additional information on using the weights is available in the file-specific MCBS Data User's Guide documents that accompany each data file release.

[22] This is identical to the historical Access to Care (ATC) cross-sectional weight that was available in previous years.

Longitudinal weights allow for the study of respondents across data years. The following longitudinal weights are provided with the 2016 Survey File and Cost Supplement LDS's.[23]

- Survey File Two-Year Longitudinal Weights (LNG2WGTS): Two-year longitudinal weights apply to members of the 2014, 2015, and 2016 panels who were alive and entitled as of the Fall 2017 (Round 79) interview, had 2016 and 2017 Survey File data, enrolled on or before 1/1/2016, and were continuously enrolled for two years.
- Survey File Three-Year longitudinal weights (LNG3WGTS): Three-year longitudinal weights are populated for members of the 2014 and 2015 panels who were alive and entitled as of the Fall 2017 (Round 79) interview, had Survey File data in 2015 and 2017, enrolled on or before 1/1/2015, and were continuously enrolled through the fall of 2017 (i.e., three years).
- Cost Supplement Two-Year Longitudinal Weights (CSL2WGTS): The two-year longitudinal weights are populated for members of the 2014, 2015, and 2016 panels who were ever enrolled in Medicare at any time during both 2016 and 2017 and provided utilization and cost data for both years.
- Cost Supplement Three-Year Longitudinal Weights (CSL3WGTS): The three-year longitudinal weights are populated for members of the 2014 and 2015 panels who were ever enrolled in Medicare at any time during 2015, 2016, and 2017, and provided utilization and cost data for all three years.

Topical questionnaire modules related to the Survey File and Cost Supplement File are weighted separately as they are fielded in the winter and summer rounds following the data year. There are two sets of full-sample and replicate weights for each module, one based on the 2017 Survey File continuously-enrolled population, and the other based on the 2017 Cost Supplement ever-enrolled population. These weights may be used to conduct joint analyses of Topical module data, Survey File data, and Cost Supplement data. Note that counts of cases with positive Topical module weights may vary within the data year and may change across years due to response rates, sample sizes, and fielding methods. The Topical weights account for these changes. The Topical module weights, segments, and weight names are listed in Exhibit 9.4.1.

Exhibit 9.4.1: 2017 MCBS Data Files Summary of Weights

Limited Data Set	Description	Segment	Full-Sample Weight	Replicate Weights	Population
Survey File	Continuously Enrolled Cross-Sectional Weights	CENWGTS	CEYRSWGT	CEYRS001-CEYRS100	Continuously enrolled from 1/1/2017 through the fall of 2017
Survey File	Ever Enrolled Cross-Sectional Weights	EVRWGTS	EEYRSWGT	EEYRS001-EEYRS100	Ever enrolled for at least one day at any time during 2017

[23] Beginning with the 2016 LDS, the Survey File longitudinal weight names reflect the number of years the beneficiary was enrolled in Medicare (i.e., LNG2WGTS weights are referred to as 'two-year' rather than 'one-year' as they represent the population continuously enrolled for two years). This change was made to align the names of the longitudinal weights in the Survey File LDS with the naming convention used for the Cost Supplement LDS.

Limited Data Set	Description	Segment	Full-Sample Weight	Replicate Weights	Population
Survey File	Continuously Enrolled Two-Year Longitudinal Weights	LNG2WGTS	L2YRSWGT	L2YRS001-L2YRS100	Continuously enrolled from 1/1/2016 through the fall of 2017
Survey File	Continuously Enrolled Three-Year Longitudinal Weights	LNG3WGTS	L3YRSWGT	L3YRS001-L3YRS100	Continuously enrolled from 1/1/2015 through the fall of 2017
Survey File	Continuously Enrolled Four-Year Longitudinal Weights	Will not be released in 2017	-	-	Continuously enrolled from 1/1/2014 through the fall of 2017
Cost Supplement File	Ever Enrolled Cross-Sectional Weights	CSEVRWGT	CSEVRWGT	CSEVR001-CSEVR100	Ever enrolled for at least one day at any time during 2017
Cost Supplement File	Two-Year Longitudinal Weights	CSL2WGTS	CSL2YWGT	CSL2Y001-CSL2Y100	Enrolled at any time during both 2016 and 2017
Cost Supplement File	Three-Year Longitudinal Weights	CSL3WGTS	CSL3YWGT	CSL3Y001-CSL3Y100	Enrolled at any time during each of 2015, 2016, and 2017
Survey File Topical Section	KNQ Continuously Enrolled	MCREPLNQ	KNCWT	KNC1-KNC100	Continuously enrolled in 2017 and still alive, entitled, and not residing in a facility in Winter 2018
Survey File Topical Section	KNQ Ever Enrolled	MCREPLNQ	KNEWT	KNE1-KNE100	Ever enrolled in 2017 and still alive, entitled, and not residing in a facility in Winter 2018
Survey File Topical Section	ACQ Continuously Enrolled	ACCSSMED	ACCWT	ACC1-ACC100	Continuously enrolled in 2017 and still alive, entitled, and not residing in a facility in Winter 2018

Limited Data Set	Description	Segment	Full-Sample Weight	Replicate Weights	Population
Survey File Topical Section	ACQ Ever Enrolled	ACCSSMED	ACEWT	ACE1-ACE100	Ever enrolled in 2017 and still alive, entitled, and not residing in a facility in Winter 2018
Survey File Topical Section	USQ Continuously Enrolled	USCARE	USCWT	USC1-USC100	Continuously enrolled in 2017 and still alive, entitled, and not residing in a facility in Winter 2018
Survey File Topical Section	USQ Ever Enrolled	USCARE	USEWT	USE1-USE100	Ever enrolled in 2017 and still alive, entitled, and not residing in a facility in Winter 2018
Survey File Topical Section	IAQ Continuously Enrolled	INCASSET	IACWT	IAC1-IAC100	Continuously enrolled in 2017 and still alive, entitled, and not residing in a facility in Summer 2018
Survey File Topical Section	IAQ Ever Enrolled	INCASSET	IAEWT	IAE1-IAE100	Ever enrolled in 2017 and still alive, entitled, and not residing in a facility in Summer 2018
Survey File Topical Section	IAQ Continuously Enrolled	FOODINS	FDICWT	FDIC1-FDIC100	Continuously enrolled in 2017 and still alive, entitled, and not residing in a facility in Summer 2018
Survey File Topical Section	IAQ Ever Enrolled	FOODINS	FDIAEWT	FDIE1-FDIE100	Ever enrolled in 2017 and still alive, entitled, and not residing in a facility in Summer 2018

Limited Data Set	Description	Segment	Full-Sample Weight	Replicate Weights	Population
Survey File Topical Section	PAQ Continuously Enrolled	PNTACT	PACWT	PAC1-PAC100	Continuously enrolled from 1/1/2017 through the fall of 2017
Survey File Topical Section	PAQ Ever Enrolled	PNTACT	PAEWT	PAE1-PAE100	Ever enrolled for at least one day at any time during 2017
Survey File Topical Section	RXQ Continuously Enrolled	RXMED	RXCWT	RXC1-RXC100	Continuously enrolled in 2017 and still alive, entitled, and not residing in a facility in Summer 2018
Survey File Topical Section	RXQ Ever Enrolled	RXMED	RXEWT	RXE1-RXE100	Ever enrolled in 2017 and still alive, entitled, and not residing in a facility in Summer 2018

9.5 Using the Data

9.5.1 Merging Segments within 2017

Data users can merge segments within and/or across the Survey File and Cost Supplement File. Appendix C provides a hypothetical research question with sample SAS© code for the construction of an analytic file using the 2017 Survey File LDS.

Note that although the MCBS data are nationally representative, they are not representative at the regional or state level and cannot be used to produce regional or state-level estimates. However, the data user can use the data to look for national trends across population groups.

9.6 Variance Estimation (Using the Replicate Weights)

9.6.1 Variables Available for Variance Estimation

In many statistical packages, the procedures for calculating sampling errors (e.g., variances, standard errors) assume that the data were collected in a simple random sample. Procedures of this type are not appropriate for calculating the sampling errors of statistics based upon a stratified, unequal-probability, multi-stage sample such as the MCBS. The MCBS includes variables to obtain weighted estimates and estimated standard errors using either the Taylor-series linearization approach or balanced repeated replication (Fay's method). For details on the strengths and weaknesses of the two variance estimation methods, please refer to Wolter.[24]

The variables SUDSTRAT (sampling strata) and SUDUNIT (primary sampling unit) are used for variance estimation using the Taylor-series linearization method. To estimate variance using the balanced repeated replication method, a series of replicate weights are included in the 2017 Survey File release for each of the five types of weights described above. Unless the complex nature of the MCBS is taken into account, estimates of the variance of a survey statistic may be biased downward.

As displayed in Exhibit 9.4.1 above, there are five types of full-sample weights, two for cross-sectional analyses and three for longitudinal analyses, and five corresponding sets of replicate weights. The replicate weights can be used to calculate standard errors of the sample-based estimates as described below. For the Survey File, the replicate cross-sectional weights are labeled CEYRS001 through CEYRS100 corresponding to the continuously enrolled weight CEYRSWGT, and EEYRS001 through EEYRS100 corresponding to the ever enrolled weight EEYRSWGT. These weights may be found on CENWGTS and EVRWGTS respectively. The Survey File replicate longitudinal weights are found on segments LNG2WGTS and LNG3WGTS.

The Survey File's longitudinal weights (LNG2WGTS) are populated only for members of the 2016 and 2017 panels who were continuously enrolled in 2017. The population represented by these weights is the population of beneficiaries enrolled on or before 1/1/2016 and surviving and entitled as of completion of the Fall 2017 interview. Given that 2014 MCBS data were not released, the four-year longitudinal weights are not released. The three-year longitudinal weights (LNG3WGTS) are populated only for members of the 2015 panel who were continuously enrolled during all of the years 2015-2017. The resulting weights represent the population of Medicare beneficiaries who enrolled on or before 1/1/2015 and were still alive and entitled as of completion of the Fall 2017 interview.

9.6.2 Variance Estimation for Analyses of Single Year of MCBS

Most commercial software packages today include techniques to accommodate the complex design, either through Taylor-expansion type approaches or replicate weight approaches. Among these are R®, STATA®, SUDAAN®, and the complex survey procedures in SAS®.

9.6.3 Subgroup Analysis

When analyzing survey data, researchers are often interested in focusing their analyses on specific subgroups of the full population sample (e.g., Medicare beneficiaries age 65 and over, Hispanics, or females). A common pitfall when performing sub-group analysis of survey data when variance estimation methods such as Taylor-series is used, is to delete or exclude observations not relevant to the subgroup of interest. Standard errors for MCBS estimates are most accurate when the analytic file includes all beneficiaries. However, when replicate weights are used for variance estimation, deleting observations not relevant to the subgroup of interest prior

[24] Wolter, Kirk. Introduction to variance estimation. Springer Science & Business Media, 2007.

to analyzing the subgroup will still produce accurate standard errors. Almost all statistical packages provide the capability to limit the analysis to a subgroup of the population.

9.7 Combining Multiple Years of Data

The MCBS is based on a rotating panel design, which allows for longitudinal analysis of up to three years when appropriate longitudinal weights are used. Multiple years of MCBS data can also be pooled to perform serial cross-sectional or pooled analysis. The appropriate method to combine data across years will depend on the analytic design of the study. Sample code is presented in Appendix C to demonstrate the steps involved in combining multiple years of data to perform two types of analysis: (1) Longitudinal analysis; (2) Pooled, cross-sectional analysis.

9.7.1 Longitudinal Analysis

The study objective in longitudinal analysis is to assess changes over time for each sample person. The Survey File cross-sectional and longitudinal population definitions are consistent from year to year, so the data are comparable between years. The Cost Supplement cross-sectional population definition is also consistent and comparable from year to year.[25]

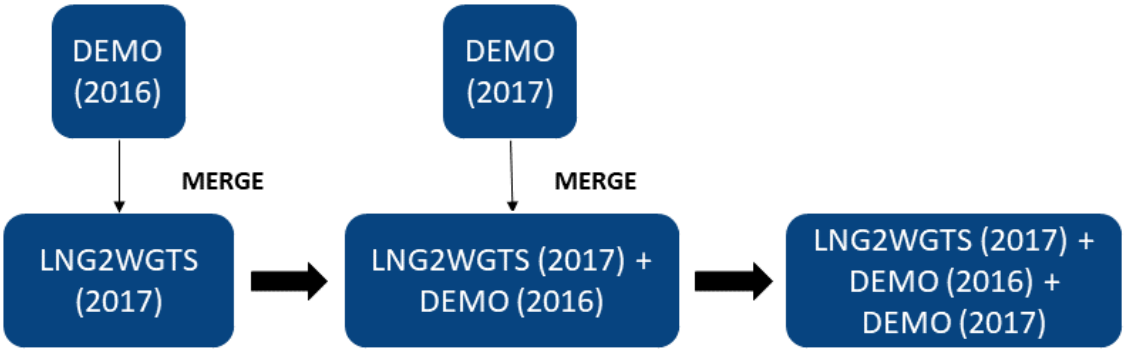
Most longitudinal analyses require the data to be in long-format (i.e. repeated observations – each representing a calendar year the sample person was surveyed – are stored in a separate row for each sample person). To construct a longitudinal analytic dataset, the first step is to use the appropriate longitudinal weights file. For example, as shown in Exhibit 9.7.1, to assess changes over time beneficiaries who have been in the sample for at least two years – from CY2016 to CY2017 – the two-year longitudinal weights (i.e., one-year "backward longitudinal weights") (LNG2WGTS) should be used.

> Please note that because 2014 MCBS data was not released, the examples in this section use MCBS data for 2016 and 2017 and, thus, demonstrate how to construct an analytic file with the two-year backward longitudinal weights segment (LNG2WGTS). Beginning with data year 2017, the Survey File LDS will include two- and three-year backward longitudinal weights that can be used for longitudinal analyses.

Variables from current year files representing the outcome of interest should then be merged with the current year's "backward longitudinal weights" file. While merging, all observations in the weights file should be preserved. Next, the same variables from the prior year's files should be merged with the current year's "backward longitudinal weights" file.

[25] The Cost Supplement two-year longitudinal population changed slightly in 2016 from what was defined the last time the two-year longitudinal weights were supplied (i.e., in 2013). In 2013, the two-year longitudinal (i.e., one-year backward longitudinal weight) Cost Supplement weights represented the population that enrolled on or before 1/1/2011 and were still enrolled in 2013 (i.e., enrollees after 1/1/2011 were not included). Beginning in 2016, the two-year longitudinal weights now represent a true two-year ever-enrolled population (i.e., the population of beneficiaries that were ever enrolled in both 2015 and 2016).

Exhibit 9.7.1: Constructing a Longitudinal Analytic File



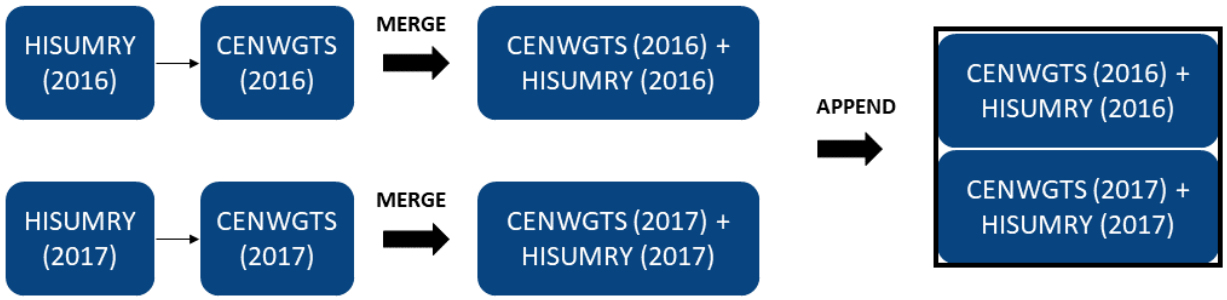
Variance estimation for longitudinal analysis (using replicate weights)

Just as there are full-sample "backward longitudinal weights", there are corresponding sets of replicate weights. The replicate weights included in the "backward longitudinal weights" data files can be used to calculate standard errors of the sample-based estimates. The first set of replicate longitudinal weights is labeled L2YRS001 through L2YRS100 and may be found on the two-year "backward longitudinal weights" file (LNG2WGTS). The second set of replicate longitudinal weights is labeled L3YRS001 through L3YRS100 and may be found on the three-year "backward longitudinal weights" file (LNG3WGTS).

9.7.2 Repeated Cross-Sectional or Pooled Analysis

Multiple years of MCBS data can be pooled to perform serial cross-sectional or pooled analysis. Repeated cross-sectional analysis is used for analyzing changes in the Medicare population as a whole over time. In contrast, the longitudinal analysis described earlier is used to analyze beneficiary level changes over time. Pooled data analysis yield estimates that are in effect a moving average of nationally representative year-specific estimates. The pooled estimates can be interpreted as being representative of the midpoint of the calendar year of the pooled period. Exhibit 9.7.2 demonstrates the steps involved in constructing a repeated cross-sectional or pooled analytic dataset using CY2016 and CY2017 data. For each year in the study, variables representing the outcome of interest should then be merged with the cross-sectional weights file. While merging, all observations in the weights file should be preserved. Next, the year-specific files are appended to produce the analytic dataset.

Exhibit 9.7.2: Constructing a Repeated Cross-Section or Pooled Analytic File



Variance estimation for repeated cross-sectional or pooled analysis (using replicate weights)

Due to the rotating-panel and multistage-sampling design of the MCBS, there is both serial and intra-cluster correlation in the data when pooling multiple years of data. Using the balanced half-sample method (also known as the balanced repeated replication, or BRR, method) of variance estimation throughout appropriately accounts for the various correlations due to sampling second-stage units within primary sampling units, sampling beneficiaries within second-stage units, and repeated observations of the selected beneficiary across time. The replicate cross-sectional weights are labeled CEYRS001 through CEYRS100 and can be found in each year's cross-sectional weights file (CENWGTS).

10. DATA FILE NOTES

This section is a collection of information about various data fields present in the Survey File segments. The MCBS does not attempt to present information on every survey data field; rather, it concentrates its efforts on data fields where additional clarity or detail may be useful. The MCBS starts with information that is applicable globally, followed by specific information on individual segments, presented in the same sequence as the segments appear in the Codebook.

10.1 Global Information

10.1.1 BASEID

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 check digit.

LDS segments may vary in the number of BASEIDs. This variation may occur for several reasons. First, some segments include data from Community questionnaires and others from Facility questionnaires with different numbers of beneficiaries providing responses. Second, there are also differences in the number of beneficiaries by the specific round completed. Third, the use of ever enrolled or continuously enrolled weights in constructing the segments may result in differences.

10.1.2 Missing Values

Various special values indicate the reason why some data are missing, such as .R for "refused," .D for "don't know". See Exhibit 9.3.1 above for additional values.

10.1.3 Derived and Administrative Variables

Variables that were derived or created by combining two or more survey variables are preceded with the characters "D_", such as D_ SMPTYP. CMS may create or modify variables in order to recode data items (e.g., to protect the confidentiality of survey participants) or to globally edit some variables. Variables preceded by the character "H_", such as H_DOB, come from CMS administrative source files.

10.1.4 Initial Interview Variables

Some questions are asked only in the Baseline (initial) interview 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 Incoming Panel sample respondents indicate having a chronic condition (such as diabetes), the interviewer will not ask, "Have you ever been told you have diabetes?" in a subsequent interview. To maximize the usefulness of this release as a cross-sectional file, these data are pulled forward from the Baseline interviews, for persons joining the survey in the 2013, 2014 and 2015 panels. Variables that have been reproduced this way are annotated as (Initial interview variable) in Section 3 of this document.

10.1.5 Data Editing

Data are edited for consistency and to provide users with files that are easily used for analysis. Questions that are asked differently in the Baseline and Continuing segments are often combined into recoded variables to provide a complete picture of the responses.

10.1.6 Open-Ended Questions

Respondents are asked a number of open-ended questions. For example, respondents are asked about different reasons why they may be dissatisfied with care and about types of problems experienced in getting health care. The respondents answer these questions in their own words, and interviewers record the responses verbatim. Codes are then assigned to similar responses to facilitate analysis; there are no verbatim responses provided on the files. Often there will be more than one answer to a single question. In these cases, responses are recoded into several variables, all of which contain categorized data.

10.1.7 Consistency with Medicare Program Statistics

In general, MCBS estimates may differ from Medicare program statistics using 100 percent administrative enrollment data. There are several reasons for the differences. The most important reason for the difference is that the administrative enrollment data may include people who are no longer alive. This may occur where people have entitlement, such as for Part A only, and receive no Social Security check. When field interviewers try to locate these beneficiaries for interviews, they establish the fact of these deaths. Unrecorded deaths may still be present on the Medicare Administrative enrollment data. The MCBS makes every effort to reconcile the survey information against the administrative data when possible. Other reasons, such as sampling error, may also contribute to differences between MCBS estimates and Medicare program statistics.

10.1.8 Do administrative data override survey-reported data?

In linking survey-reported and administrative data, the MCBS keep records from both sources to provide more complete data. Indicators in the file will usually tell you if the information is survey-reported only, administrative data only, or both. Data that are only administrative are indicated as such in the data documentation and codebook. In the HITLINE segment, administrative data do override survey-reported data if there is a discrepancy. For instance, if the respondent reported that the beneficiary is covered by Medicaid from January through December of the calendar year, but the administrative data show coverage only for January through June, then the ENDDATE of coverage will be set to June 30. The Coverage source variables will indicate the differences. In this example, the SRCCOV01 – SRCCOV06 variables will have a value of 3 (Both Survey and Admin), but the variables SRCCOV07 – SRCCOV12 will have a value of 1 (Survey data only). The variables COV01 – COV06 will have a value of 1 (Eligible) and COV07 – COV12 will have a value of 0 (Ineligible).

10.2 Survey File Segment Information

Below is the information regarding each segment within the Survey File release, presented in alphabetical order. The notes have been organized into three main categories of information.

1. Core Content – a description of the main subject of the data.

2. Variable Definitions – definitions of derived variables and/or variables that require additional explanation regarding their construction. Note: The variables listed are not a comprehensive list of all variables in each segment. The Codebook provides information on all variables in each segment.

3. Special Notes – additional background information that data users may find helpful for constructing analyses.

10.3 Access to Care (ACCESSCR)

10.3.1 Core Content

The Access to Care segment contains information from the health status and functioning section of the Fall 2017 questionnaire. General questions were asked of beneficiaries' ability to access medical services in 2017. This segment also contains information on medical debt and the reasons beneficiaries could not access the care they needed.

10.3.2 Variable Definitions

Other variables:

Verbatim questions OFFEXVB1, OFFEXVB2, OFFEXVC1, OFFEXVC2, and OFFEXVC3 were back coded as necessary, but the verbatim text was not released.

10.3.3 Special Notes

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, and instead offers codes that summarize the answer. Often there will be more than one code because the answer included several specific topics.

Beginning in 2017, questions about medical visit experiences were asked in context in the utilization section of the questionnaire in Winter 2018 so all respondents would be asked the questions in the same manner. Questions about experiences with types of medical visits are now in the section ACCSSMED.

10.4 Access to Care, Medical Appointment (ACCSSMED)

10.4.1 Core Content

The Access to Care segment contains information from the Access to Care section of the questionnaire from Winter 2018 and from the medical visit utilization sections asked in Winter 2018. General questions were asked of beneficiaries regarding their access to all types of medical services in 2017 and about reasons for their visits or why they did not have visits for particular types of medical care.

Beginning in 2017, questions about medical visit experiences were asked in context in the utilization section of the questionnaire in Winter 2018 so all respondents would be asked the questions in the same manner. Questions about experiences with types of medical visits are now in the section ACCSSMED.

10.4.2 Variable Definitions

Definitions applied to medical providers:

Company clinic: A doctor's office or clinic, which is operated principally for the employees (and sometimes their dependents) of a particular company or business.

Doctor: This includes both medical doctors (M.D.) and doctors of osteopathy (D.O.). It does not include chiropractors, nurses, technicians, optometrists, podiatrists, physician's assistants, physical therapists, psychologists, mental health counselors or social workers. Generic specialties shown in parentheses 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 clinic practice: This refers to any group of doctors or other health professionals 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 health professional is available.

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

Free-standing surgical center: A facility performing minor surgical procedures on an outpatient basis, and not physically connected to a hospital. Note that a unit performing outpatient procedures connected with a hospital (either physically or by name) is referred to as a hospital outpatient department/clinic.

Medicare Managed Care Organization (MCO)/Health Maintenance Organization (HMO): This is an organization that provides a full range of health care coverage in exchange for a fixed fee/co-pay. Some managed care plans require that plan members receive all medical services from one central building or location. Formerly referenced only as HMOs, these organizations are now referred to with terms such as Medicare MCOs/HMOs/Medicare Advantage/Part C.

Home (doctor comes to respondent's home): This includes situations where the doctor comes to the beneficiary, rather than the beneficiary going to the doctor. Here, "home" refers to anywhere the beneficiary was usually staying at the time of the medical provider's visit. It may be his/her home, the home of a friend, a hotel room, etc.

Hospital emergency room: This means the emergency room of a hospital. "Urgent care" centers are not included. (NOTE: All hospital emergency room visits were included, even if the respondent went there for a "non-emergency" condition such as a cold, flu or intestinal disorder.) A physician, nurse, paramedic, physician extender, or other medical provider may administer the health care.

Hospital outpatient department: A unit of a hospital, or a facility connected with a hospital, providing health and medical services, health education, health maintenance, preventative services, diagnosis, treatment, surgery, and rehabilitation to individuals who receive services from the hospital but do not require hospitalization or institutionalization. Outpatient clinics can include obesity clinics; eye, ear, nose and throat clinics; alcohol and drug abuse clinics; physical therapy clinics; kidney dialysis clinics, and radiation therapy clinics. The outpatient department may or may not be physically attached to a hospital, but it must be associated with a hospital.

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

Other clinic: A non-hospital facility clinic that is not already listed in the other clinic categories. Some examples include a "free" clinic, a family planning clinic, or military base clinic.

Rural health clinic: A clinic that 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. The clinic can also provide outpatient services that include physician services, services and supplies provided under the direction and guidance of a physician by nurse practitioner, physician

assistants, and treatment of emergency cases. These services are usually provided at no charge except for the amount of any deductible or coinsurance amount.

Walk-in urgent center: A facility not affiliated with a nearby hospital, offering services for acute conditions (e.g., flu, virus, sprain). Typically, people are seen without appointments (i.e., walk-ins).

10.4.3 Special Notes

This questionnaire is administered the winter following the year of interest. Special non-response adjustment weights are included in the file to account for survey non-response from the fall to the winter data collection period. Note that counts of cases with positive topical module weights may vary within the data year and may change across years due to response rates, sample sizes, and fielding methods. The topical weights account for these changes. Please see the Weights section below for information on using weights with data from Topical Questionnaires.

10.5 Administrative Utilization Summary (ADMNUTLS)

10.5.1 Core Content

The Administrative Utilization Summary segment contains information on Medicare program expenditures and utilization taken directly from the Medicare Administrative enrollment data.

10.5.2 Variable Definitions

Except as noted otherwise, the variables in this segment were derived from summarizing data from CMS's Medicare Administrative enrollment data and the Medicare Administrative utilization and payment records. Administrative data available as of December 31, 2017 were summarized to create these data items.

10.5.3 Special Notes

Utilization Summary:

For easier comparison of groups of people by the number and cost of medical services they have received, the Administrative Utilization Summary includes a summary of all Medicare bills and claims for calendar year 2017, as received and processed by CMS through July 2017 for the 2016 benefit year. The administrative data source for this information changed in 2016. There are different breakouts and summary items than on previous versions of MCBS data.

The utilization summary represents services rendered and reimbursed under Medicare FFS in the calendar year 2017. If a beneficiary used no Medicare services at all or was a member of a coordinated or managed care plan that does not submit claims to a fiscal intermediary or carrier, all program payment summary variables will be empty/missing. If the beneficiary used no services of a particular type (e.g., inpatient hospitalization), the variables relating to those benefits will be empty/missing.

H_ACOFLG: For 2017, this variable has been replaced by three variables in the Health Insurance Summary (HISUMRY) segment. The variables are: H_PRGID, H_PRGID2, and H_PRGID3.

H_HHASW: One or more home health agency visits in the calendar year is indicated by a 1. This is triggered by a value (greater than zero) found in the home health visits field (H_HHVIS). Otherwise the value for H_ HHASW is 2.

H_HOSSW: One or more hospice bills in the calendar year is indicated by a 1. This is triggered by a value (greater than zero) found in the hospice Medicare payments (H_HOSPMT) field or the hospice stays (H_HOSSTY) field. Otherwise the value for H_HOSSW is 2.

H_INPSW: One or more inpatient discharges in the calendar year is indicated by a 1. This is triggered by a value (greater than zero) found in the acute inpatient stays (H_ACTSTY) field or the other inpatient stays (H_OIPSTY) field. Otherwise the value for H_INPSW is 2.

H_OUTSW: One or more outpatient visits in the calendar year is indicated by a 1. This is triggered by a value (greater than zero) found in the hospital outpatient visits (H_HOPVIS) field or hospital outpatient emergency room visits (H_HOP_ER) field. Otherwise the value for H_OUTSW is 2.

H_PBSW: One or more Part B claims in the calendar year is indicated by a 1. This is triggered by a value (greater than zero) found in any of the following fields: H_PHYPMT, H_PHYEVT, H_PB_DEV, H_PB_DRG, H_PB_OTH, H_PB_OEV, H_DMEEVT, H_DMEPMT, H_TSTEVT, H_TSTPMT, H_ANEVT, H_ANEPMT, H_ASCEVT, H_ASCPMT, H_DIAEVT, H_DIAPMT, H_EMEVT, H_EMPMT, H_IMGEVT, H_IMGPMT, H_PTBRMB. Otherwise the value for H_PBSW is 2.

H_SNFSW: One or more skilled nursing facility (SNF) admissions in the calendar year is indicated by a 1. This is triggered by a value (greater than zero) found in any of the following fields: H_SNFPMT, H_SNFSTY, H_SNFDAY. Otherwise the value for H_ SNFSW is 2.

H_PTARMB: Total Part A reimbursement in the calendar year. It is a sum of calendar year reimbursements for: HHA Part A, Hospice, Inpatient, and SNF. The CLM_PMT_AMT field was selected for each claim type in preparing this calculation. The CLM_VAL_CD ='64' was used to determine HHA Part A.

H_PTBRMB: Total Part B reimbursement in the calendar year. It is a sum of calendar year reimbursements for: HHA Part B, Physician, and Outpatient. The CLM_PMT_AMT field was selected for each claim type in preparing this calculation. The CLM_VAL_CD ='65' was used to determine HHA Part B. 'Physician' as noted in the 'sum' statement above consisted of BCARRIER_CLAIMS and DME_CLAIMS.

H_ACTPMT: Acute Inpatient Medicare Payments is the sum of the Medicare claim payment amounts (CLM_PMT_AMT from each source claim) in the acute inpatient hospital setting for a given year. To obtain the total acute hospital Medicare payments, take this variable and add in the annual per diem payment amount (H_ACTMPT + H_ACTPRD).

H_ACTPRD: Acute Inpatient Hospital Pass-thru Per Diem Payments is the sum of all the pass through per diem payment amounts (CLM_PASS_THRU_PER_DIEM_AMT from each source claim) in the acute inpatient hospital setting for the year. Medicare payments are designed to include certain "pass-through" expenses such as capital-related costs, direct medical education costs, kidney acquisition costs for hospitals that are renal transplant centers, and bad debts. This variable is the sum of all the daily payments for pass-through expenses. It is not included in the Medicare Payment amount (H_ACTPMT). To determine the total Medicare payments for acute hospitalizations for the beneficiary, this field must be added to the total Medicare payment amount for acute inpatient hospitalizations

H_ACTSTY: Acute Inpatient Stays is the count of acute inpatient hospital stays (unique admissions, which may span more than one facility) for the year. An acute inpatient stay is defined as a set of one or more consecutive acute inpatient hospital claims where the beneficiary is only discharged on the most recent claim in the set. If a beneficiary is transferred to a different provider, the acute stay is continued even if there is a discharge date on the claim from which the beneficiary was transferred.

H_ACTDAY: Acute Inpatient Medicare Covered Days is the count of Medicare covered days in the acute inpatient hospital setting for the year.

H_IP_ER: Inpatient Emergency Room Visits is the count of emergency department (ED) claims in the inpatient setting for the year. The revenue center codes indicating Emergency Room use were (0450, 0451, 0452, 0456, and 0459).

H_OIPPMT: Other Inpatient Hospital Medicare Payments is the sum of the Medicare claim payment amounts (CLM_PMT_AMT from each source claim) in the other inpatient (OIP) settings for a given year. To obtain the total OIP Medicare payments, take this variable and add in the annual per diem payment amount (H_OIPPMT + H_OIPPRD). These OIP claims are a subset of the claims in the IP claims consisting of data from IP settings such as long-term care hospitals, inpatient psychiatric facilities, inpatient rehabilitation facilities, and other types of IP facilities such as children's hospitals or cancer centers.

H_OIPPRD: Other Inpatient Pass-thru Per Diem Payments is the sum of all the pass through per diem payment amounts (CLM_PASS_THRU_PER_DIEM_AMT from each source claim) in the other inpatient (OIP) setting for the year. Medicare payments are designed to include certain "pass-through" expenses such as capital-related costs, direct medical education costs, kidney acquisition costs for hospitals that are renal transplant centers, and bad debts. This variable is the sum of all the daily payments for pass-through expenses. It is not included in the Medicare Payment amount (H_OIPPMT). To determine the total Medicare payments for other (non-acute) hospitalizations for the beneficiary, this field must be added to the total Medicare payment amount for other hospitalizations.

H_OIPSTY: Other Inpatient Stays is the count of hospital stays (unique admissions, which may span more than one facility) in the non-acute inpatient setting for a given year. A non-acute inpatient stay is defined as a set of one or more consecutive non-acute inpatient claims where the beneficiary is only discharged on the most recent claim in the set.

H_OIPDAY: Other Inpatient Hospital Covered Days is the count of covered days in the non-acute inpatient hospital setting for the year. This variable equals the sum of the CLM_UTLZTN_DAY_CNT variables on the source claims. These OIP claims are a subset of the IP claims consisting of data from IP settings such as long-term care hospitals, inpatient psychiatric facilities, inpatient rehabilitation facilities, and other types of IP facilities such as children's hospitals or cancer centers.

H_SNFPMT: SNF Medicare Payments is the total Medicare payments in the SNF setting for the year.

H_SNFSTY: SNF Stays is the count of SNF stays (unique admissions, which may span more than one facility) for a given year. A SNF stay is defined as a set of one or more consecutive SNF claims where the beneficiary is only discharged on the most recent claim in the set.

H_SNFDAY: SNF Medicare Covered Days is the count of Medicare covered days in the SNF setting for the year. This variable equals the sum of the CLM_UTLZTN_DAY_CNT variables on the source claims.

H_HOSPMT: Hospice Medicare Payments is the total Medicare payments in the hospice (HOS) setting for the year.

H_HOSSTY: Hospice Stays is the count of stays (unique admissions, which may span more than one facility) in the hospice setting for a given year. A hospice stay is defined as a set of one or more consecutive hospice claims where the beneficiary is only discharged on the most recent claim in the set.

H_HOSDAY: Hospice Medicare Covered Days is the count of Medicare covered days in the hospice setting for a given year. This variable equals the sum of the CLM_UTLZTN_DAY_CNT variables on the source claims.

H_HHPMT: Home Health Medicare Payments is the total Medicare payments in the home health (HH) setting for a given year.

H_HHVIS: Home Health Visits is the count of home health (HH) visits for the year.

H_HOPPMT: Hospital Outpatient Medicare Payments is the total Medicare payments in the hospital outpatient (HOP) setting for a given year.

H_HOPVIS: Hospital Outpatient Visits is the count of unique revenue center dates (as a proxy for visits) in the HOP setting for the year.

H_HOP_ER: Hospital Outpatient Emergency Rm Visits is the count of unique emergency department revenue center dates (as a proxy for an ED visit) in the hospital outpatient claims for the year. Revenue center codes indicating Emergency Room use were (0450, 0451, 0452, 0456, or 0459).

H_PB_DRG: Part B Drug Medicare Payments is the total Medicare payments for Part B drugs for a given year. Part B drug claims are a subset of the claims in the Part B Carrier and DME claims.

H_PB_DEV: Part B Drug Events is the count of events in the Part B drug setting for a given year. An event is defined as each line item that contains the relevant service. Part B drug claims are a subset of the claims in the Part B Carrier and DME claims.

H_EMPMT: Evaluation and Management Medicare Payments is the total Medicare payments for the Part B evaluation and management (E&M) services for a given year. E & M claims are a subset of the claims in the Part B Carrier and DME claims, and a subset of physician claims.

H_EMEVT: E&M Events is the count of events for the Part B evaluation and management services for a given year. An event is defined as each line item that contains the relevant service.

H_PHYPMT: Part B Physician Medicare Payments is the total Medicare payments for the Part B physician office services (PHYS) for a given year. Physician office claims are a subset of the claims in the Part B Carrier and DME claims, and a subset of physician evaluation and management claims (note that E&M are tabulated separately).

H_PHYEVT: Part B Physician Events is the count of events in the part B physician office services (PHYS) for a given year. An event is defined as each line item that contains the relevant service. Physician office claims are a subset of the claims in the Part B Carrier and DME claims, and a subset of physician evaluation and management claims (note that E&M are tabulated separately).

H_OPRPMT: Other Procedures Medicare Payments is the total Medicare payments for services considered part B other procedures (i.e., not anesthesia or dialysis) for a given year. Claims for other procedures are a subset of the claims, and a subset of procedures in the Part B Carrier claims.

H_OPREVT: Other Procedures Events is the count of events for part B other procedures for a given year. An event is defined as each line item that contains the relevant service. Claims for other procedures are a subset of the claims in the Part B Carrier claims.

H_DMEPMT: Durable Medical Equipment Medicare Payments is the total Medicare payments for Part B durable medical equipment (DME) for a given year. Claims for DME are a subset of the claims in the Part B Carrier and DME claims.

H_DMEEVT: Durable Medical Equipment Events is the count of events in the part B durable medical equipment (DME) for a given year. An event is defined as each line item that contains the relevant service. Claims for DME are a subset of the claims in the Part B Carrier and DME claims.

H_PB_OTH: Other Part B Carrier Medicare Payments is the total Medicare payments from Part B Carrier and DME claims which appear in specific settings for a given year. Claims for other carrier/DME claims are a subset of the claims in the Part B Carrier and DME claims. Types of services which may have been summarized in this other carrier category (OTHC) include ambulance, chiropractor, chemotherapy, vision, hearing and speech services, etc.

H_PB_OEV: Other Part B Carrier Events is the count of events in the part B other setting for a given year, which includes Part B Carrier and DME claims which appear in specific settings for a given year. Claims for other carrier/DME claims are a subset of the claims in the Part B Carrier and DME claims. Types of services which may have been summarized in this other carrier category (OTHC) include ambulance, chiropractor, chemotherapy, vision, hearing and speech services, etc. An event is defined as each line item that contains the relevant service.

H_PTDPMT: Part D Medicare Payments is the dollar amount that the Part D plan covered for all covered drugs for a given year. The variable is calculated as the sum of the plan payments for covered Prescription Drug Events (PDEs) (CVRD_D_PLAN_PD_AMT) and the low income cost sharing subsidy amount (LICS_AMT) during the year.

H_PTDEVT: Part D Events is the count of events for Part D drugs for a given year (i.e., a unique count of the PDE_IDs). An event is a dispensed (filled) drug prescription that appears on the source Prescription Drug Event (PDE) claims.

H_PTDTOT: Part D Total Prescription Costs is the gross drug cost (TOT_RX_CST_AMT on the source claims) of all Part D drugs for a given year. This value includes the ingredient cost, dispensing fee, sales tax (if applicable), and vaccine administration fee.

H_ANEPMT: This is the total Medicare payments for part B anesthesia services for a given year. Anesthesia claims are a subset of the claims, and a subset of procedures in the Part B Carrier claims.

H_ANEVT: This is the count of events for part B anesthesia services for a given year. An event is defined as each line item that contains the relevant service.

H_ASCEVT: This is the count of events in the part B ambulatory surgery center setting for a given year. An event is defined as each line item that contains an ambulatory surgery center service.

H_ASCPMT: This is the total Medicare payments in the part B ambulatory surgery center setting for a given year. Ambulatory surgery center claims are a subset of the claims in the Part B Carrier claims.

H_DIAEVT: This is the total Medicare payments for Part B dialysis services (primarily the professional component since treatments are covered in hospital outpatient) for a given year. An event is defined as each line item that contains the relevant service. Dialysis claims are a subset of the claims, and a subset of procedures in the Part B Carrier claims.

H_DIAPMT: This is the total Medicare payments for Part B dialysis services (primarily the professional component since treatments are covered in hospital outpatient) for a given year. Dialysis claims are a subset of the claims, and a subset of procedures in the Part B Carrier claims.

H_IMGEVT: This is the count of events for imaging services for a given year. An event is defined as each line item that contains the relevant service. Claims for imaging procedures are a subset of the claims, and a subset of procedures in the Part B Carrier and DME claims.

H_IMGPMT: This is the total Medicare payments for imaging services for a given year. Claims for imaging procedures are a subset of the claims, and a subset of procedures in the Part B Carrier and DME claims.

H_PTDFIL: Part D prescribing events (PDE) consist of highly variable days' supply of the medication. This derived variable creates a standard 30 days' supply of a filled Part D prescription, and counts this as a "fill". The Part D fill count does not indicate the number of different drugs the person is using, only the total months covered by a medication (e.g., if a patient is receiving a full year supply of a medication, whether this occurs in one transaction or 12 monthly transactions, the fill count = 12; if the patient is taking three such medications, the fill count=36).

H_READMT: This is the count of hospital readmissions in the acute inpatient setting for a given year.

H_TSTEVT: This is the count of events for part B tests for a given year. An event is defined as each line item that contains the relevant service. Claims for tests are a subset of the claims in the Part B Carrier claims.

H_TSTPMT: This is the total Medicare payments for part B tests for a given year. Claims for tests are a subset of the claims in the Part B Carrier claims.

For additional information on administrative data items please see the Master Beneficiary Summary - Cost and Use Segment Data Dictionary Codebook: https://www.ccwdata.org/web/guest/data-dictionaries.

10.6 Assistance (ASSIST)

10.6.1 Core Content

This segment contains information on each person identified as helping the beneficiary to perform ADLs or IADLs, including the helper's age, relationship to the beneficiary and the types of assistance that the beneficiary receives (e.g., assistance with dressing, shopping, eating) from each identified helper. NOTE: The number of records in the ASSIST segment reflects the number of persons identified as having assisted the beneficiary in performing one or more ADL or IADLs. Therefore, it is possible to have one, several, or no records per beneficiary. Please see Special Notes below for specific information pertaining to these data.

10.6.2 Variable Definitions

HLPRNUM: This variable is the Helper Identification Number and is derived from the survey's administrative files. The survey develops a person roster containing information about each person living with, treating or helping the beneficiary.

HLPRMOST: When a beneficiary has more than one helper, this variable identifies which helper provides the beneficiary with the most help with daily activities. This variable is coded as a 1 for the helper who gave the most help, and is missing for all other helpers for that beneficiary. This variable also contains missing values for helpers who were a beneficiary's only helper. If a beneficiary with multiple helpers has not indicated which helper provides the most help, then this variable contains missing data for all of that beneficiary's helpers.

10.6.3 Special Notes

During final processing, it was discovered that rostering information for newly rostered helpers was incorrectly excluded. This resulted in missing records in the ASSIST segment and missing data for the variable HLPRREL in some records in the ASSIST segment in data years 2015 and 2016.

An identified issue in the ASSIST segment for the 2017 data year only caused too many helpers to have a response of "Yes" for the variable HLPRUSGO, which identifies the helper who usually accompanies the beneficiary to their health care provider. A small number of responses (less than 1%) for each ASSIST variables shifted when the issue was fixed.

10.7 Chronic Conditions (CHRNCOND)

10.7.1 Core Content

The Chronic Conditions segment provides data on whether the beneficiary had a series of chronic and other diagnosed medical conditions such as cancer, high blood pressure, and depression. If the beneficiary responds that they have the condition, a series of follow-up questions is asked.

10.7.2 Variable Definitions

Note: the answers in the health status and functioning section of the questionnaire reflect the respondent's opinion, not a professional medical opinion.

BLOOD PRESSURE: A number of variables asking about blood pressure appear in this segment.

HYSTEREC: Female respondents were asked if they have ever had a hysterectomy in the last year. "Hysterectomy" includes partial hysterectomies. (Initial interview variable). This variable does not apply to and is not asked of:

- male beneficiaries
- female beneficiaries in the Incoming Panel sample other than those who reported that they have never had a hysterectomy
- female beneficiaries in the Continuing sample who previously reported having had a hysterectomy in an earlier round

D_OCDTYP: This variable, indicating type of diabetes, is derived from HFQ items OCDTYPE and DIAPRGNT. The OCDTYPE categories for "Pre-diabetes" and "Borderline" diabetes are combined into one category for D_OCDTYP. Female beneficiaries who answered "Yes" for DIAPRGNT, which is not released, are coded as "Gestational diabetes" for D_OCDTYP, unless they indicated for OCDTYPE that they had Type 1 diabetes.

ILLNESS/CONDITION VARIABLES: The MCBS asks respondents whether they have ever had any of a series of illnesses or conditions. Their responses are coded affirmatively if the respondent 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 reported by the respondent as diagnosed by a physician, and not by the respondent. 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. The MCBS asks about: heart disease and high blood pressure; disorders or diseases of the brain; psychiatric disorders; intellectual disability ; skin cancer; cancer, other than skin cancer; diabetes; arthritis; osteoporosis; a broken hip; emphysema, asthma, or chronic obstructive pulmonary disease (COPD); complete or partial paralysis; an amputation; enlarged prostate or benign prostatic hypertrophy.

If the respondent confirms having had cancer, other than skin cancer, a series of follow-up questions is asked to identify the kind of cancer.

In the fall round, all respondents are asked about various illnesses or conditions, such as hypertension There are different versions of each question, depending on whether a respondent is in the Incoming Panel sample) or Continuing sample. Incoming Panel sample respondents are asked if a doctor ever told them that they had a specific condition (hypertension, for example). If the answer is "Yes", then the Incoming Panel respondent is asked if the doctor had told them in the past year that they had the condition. Once a condition or illness is reported, the CAPI questionnaire logic retains that information for subsequent interviews. Then annually thereafter, the respondent is only asked if a doctor told them in the past year that they had a specific condition. All data from a beneficiary from the current survey year and all previous years are used to determine whether the beneficiary had ever been told by a doctor that they had a condition. The CHRNCOND data file includes variables that indicate whether a beneficiary ever had specific conditions.

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

10.7.3 Special Notes

N/A

10.8 Chronic Condition Flags (CHRNCDFL)

10.8.1 Core Content

Beginning in 2017, Chronic Conditions Flags and Chronic and Other Disabling Conditions flags from administrative FFS records are included. These flags are taken from administrative data from the Chronic Conditions Warehouse (CCW) which summarizes the beneficiaries FFS claims for the calendar year, and provides whether or not a claim for a particular condition met criteria for inclusion. This segment also provides the first year the beneficiary met the criteria for having that particular chronic condition. Variables are included for those conditions related to the self-reported information included in the MCBS survey, and are not inclusive of all chronic and disabling conditions available.

10.8.2 Variable Definitions

The end of year indicator flags require beneficiaries to satisfy both claims criteria (a minimum number/type of claims that have the proper diagnosis codes and occurred within a specified time period) and coverage criteria (FFS Part A and Part B coverage during the entire specified time period). Each flag also is created using details about the specific condition that must be met for inclusion.

Indicators have the following values:

0 = Beneficiary did not meet claims criteria or have sufficient fee-for-service (FFS) coverage
1 = Beneficiary met claims criteria but did not have sufficient FFS coverage
2 = Beneficiary did not meet claims criteria but had sufficient FFS coverage
3 = Beneficiary met claims criteria and had sufficient FFS coverage

The ever indicator variables for the conditions show the date when the beneficiary first met the criteria for the chronic or disabling condition. The variable will be blank for beneficiaries that have never had the condition. The earliest possible date for anyone is January 1, 1999. If the beneficiary became eligible for Medicare after that, the earliest possible date will be some time after his/her coverage start date.

10.8.3 Special Notes

These data are pulled from the Chronic Condition Warehouse data sources. The criteria were developed after reviewing validated algorithms from the research literature and criteria used by other federal data sources. You can find more detailed information on the criteria on the CCW website: https://www.ccwdata.org/web/guest/condition-categories

10.9 Demographics (DEMO)

10.9.1 Core Content

The Demographic segment contains demographic information collected in the survey as well as demographic information from Medicare Administrative enrollment data, and constructed items of interest.

10.9.2 Variable Definitions

ADI: The Area Deprivation Index (ADI) is an indicator of the socioeconomic deprivation of geographic areas and is intended for use in evaluating the relationship between socioeconomic factors and health. This index was originally developed using 17 markers of socioeconomic status from the 1990 Census data. The ADI dataset used in this data release was developed by the Health Innovation Program at the University of Wisconsin using the same indicators and 2000 census block group-level data. ADI values are set to have a mean of 100 and a standard deviation of 20. Higher ADI values indicate higher levels of deprivation. Negative ADI values exist but are uncommon.[26] The MCBS includes two ADI values for each beneficiary, one based on the nine digit zip code for their primary residence address and one based on the census block group for that address. Beneficiaries have a zip code ADI if their nine digit zip code is found on the ADI dataset, and they will have a census block group ADI if their census block group is found on the ADI dataset. Excluding the exiting 2013 panel cases, there was an 88.8 percent match rate for cases matched to ADI on zip code and a 63.1 percent match rate for cases matched to ADI on census block group.

H_DOB, H_DOD, H_AGE, and D_STRAT: The MCBS furnishes four variables relating to the beneficiary's age in the Demographics segment. The "legal" dates of birth and death from Medicare and Social Security Administration records are recorded as H_DOB and H_DOD, respectively. The variable H_AGE represents the "legal" age as of December 31, 2017, adjusted for date of death, if present. The variable D_STRAT groups the beneficiaries by various age categories using H_AGE. The date of birth, as reported during the Baseline interview, is recorded in DEMO (D_DOB).

D_DOB: 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 date of birth per CMS records (H_DOB). In these cases, the beneficiary 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 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)

D_RACE2: Race categories are self-reported by the respondent. Categories are 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 are not recorded. (Initial interview variable)

[26] HIPxCHANGE. Area Deprivation Index Datasets. https://www.hipxchange.org/ADI.

H_CENSUS: The Census division is preformed through internal edits, by matching the survey participant's SSA State code to the appropriate Census region. The Census divisions are as follows:

- New England – Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
- Middle Atlantic – New Jersey, New York, Pennsylvania
- South Atlantic – Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
- East North Central – Illinois, Indiana, Michigan, Ohio, Wisconsin
- West North Central – Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
- East South Central – Alabama, Kentucky, Mississippi, Tennessee
- West South Central – Arkansas, Louisiana, Oklahoma, Texas
- Mountain – Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
- Pacific – Alaska, California, Hawaii, Oregon, Washington
- Puerto Rico

Urban/Rural Status Variables

H_RUCA, H_RUCA1, and H_RUCA2 are included in the demographic file beginning in 2017. H_RUCA indicates overall urban/rural status. H_RUCA1 and H_RUCA2 indicate the primary and secondary RUCA codes, respectively. RUCA codes are many, but permit stricter or looser delimitation of metropolitan, micropolitan, and small town commuting areas. This classification scheme provides an alternative to county-based systems for situations where more detailed geographic analysis is feasible. It identifies areas of emerging urban influence and areas where urban-rural classifications overlap, thus providing an exhaustive system of statistical areas for the country.

Primary and Secondary RUCA Codes

The 10 whole numbers shown in Table 1 below refer to the primary, or single largest, commuting share. Metropolitan cores (code 1) are defined as census tract equivalents of urbanized areas. Micropolitan and small town cores (codes 4 and 7, respectively) are tract equivalents of urban clusters. Tracts are included in urban cores if more than 30 percent of their population is in the urbanized area or urban cluster.

High commuting (codes 2, 5, and 8) means that the largest commuting share was at least 30 percent to a metropolitan, micropolitan, or small town core. Many micropolitan and small town cores themselves (and even a few metropolitan cores) have high enough out-commuting to other cores to be coded 2, 5, or 8; typically these areas are not job centers themselves but serve as bedroom communities for a nearby, larger city. Low commuting (codes 3, 6, and 9) refers to cases where the single largest flow is to a core, but is less than 30 percent. These codes identify "influence areas" of metro, micropolitan, and small town cores, respectively, and are similar in concept to the "nonmetropolitan adjacent" codes found in other ERS classification schemes (Rural-Urban Continuum Codes, Urban Influence Codes). The last of the general classification codes (10) identifies rural tracts where the primary flow is local or to another rural tract.

Exhibit 10.9.2a Primary RUCA (H_RUCA.1) Codes, 2010

Code	Classification description
1	Metropolitan area core: primary flow within an urbanized area (UA)
2	Metropolitan area high commuting: primary flow 30% or more to a UA
3	Metropolitan area low commuting: primary flow 10% to 30% to a UA
4	Micropolitan area core: primary flow within an urban cluster of 10,000 to 49,999 (large UC)
5	Micropolitan high commuting: primary flow 30% or more to a large UC
6	Micropolitan low commuting: primary flow 10% to 30% to a large UC
7	Small town core: primary flow within an urban cluster of 2,500 to 9,999 (small UC)
8	Small town high commuting: primary flow 30% or more to a small UC
9	Small town low commuting: primary flow 10% to 30% to a small UC
10	Rural areas: primary flow to a tract outside a UA or UC
99	Not coded: Census tract has zero population and no rural-urban identifier information

These 10 codes offer a relatively straightforward and complete delineation of metropolitan and nonmetropolitan areas based on the size and direction of primary commuting flows. However, secondary flows may indicate other connections among rural and urban places. Thus, the primary RUCA codes are further subdivided to identify areas where classifications overlap, based on the size and direction of the secondary, or second largest, commuting flow (table 2). For example, 1.1 and 2.1 codes identify areas where the primary flow is within or to a metropolitan core, but another 30 percent or more commute to a larger metropolitan core. Similarly, 10.1, 10.2, and 10.3 identify rural tracts for which the primary commuting share is local, but more than 30 percent also commute to a nearby metropolitan, micropolitan, or small town core, respectively.

Exhibit 10.9.2b: Secondary RUCA (H_RUCA2) Codes, 2010

Code	Classification description
1 Metropolitan area core: primary flow within an urbanized area (UA)	
1.0	No additional code
1.1	Secondary flow 30% to 50% to a larger UA
2 Metropolitan area high commuting: primary flow 30% or more to a UA	
2.0	No additional code
2.1	Secondary flow 30% to 50% to a larger UA
3 Metropolitan area low commuting: primary flow 10% to 30% to a UA	
3.0	No additional code
4 Micropolitan area core: primary flow within an urban cluster of 10,000 to 49,999 (large UC)	
4.0	No additional code
4.1	Secondary flow 30% to 50% to a UA
5 Micropolitan high commuting: primary flow 30% or more to a large UC	
5.0	No additional code
5.1	Secondary flow 30% to 50% to a UA
6 Micropolitan low commuting: primary flow 10% to 30% to a large UC	
6.0	No additional code
7 Small town core: primary flow within an urban cluster of 2,500 to 9,999 (small UC)	
7.0	No additional code
7.1	Secondary flow 30% to 50% to a UA
7.2	Secondary flow 30% to 50% to a large UC
8 Small town high commuting: primary flow 30% or more to a small UC	
8.0	No additional code
8.1	Secondary flow 30% to 50% to a UA
8.2	Secondary flow 30% to 50% to a large UC
9 Small town low commuting: primary flow 10% to 30% to a small UC	
9.0	No additional code
10 Rural areas: primary flow to a tract outside a UA or UC	
10.0	No additional code
10.1	Secondary flow 30% to 50% to a UA
10.2	Secondary flow 30% to 50% to a large UC
10.3	Secondary flow 30% to 50% to a small UC
99 Not coded: Census tract has zero population and no rural-urban identifier information	

HISPORIG: Hispanic/Latino origin includes persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race. Again, these answers are self-reported by the respondent. (Initial interview variable)

INCOME: Income represents the best source or estimate of income during 2017. Data gathered in fall and summer interviews represent the most detailed 2017 data and are used when available. For individuals not completing the Fall 2017 interview (that is, Continuing Panel people unavailable for Fall 2017), the most recent information available was used. It should be noted that the variable INCOME includes income from all sources, such as pension, Social Security and retirement benefits, for the beneficiary and spouse. In some cases the

respondent would not, or could not, provide specific information but did say the income was above or below $25,000.

INT_TYPE: Provides the source for a beneficiary's residence status at the time of interview, and the types of interviews conducted with C=Community, F=Facility, and B=Both.

INT_TYPE is defined as:

- C = respondent only resided in the community and only completed Community-administered survey instruments in each round
- F = respondent only resided in a facility and only completed Facility-administered survey instruments in each round
- B = respondents completed instruments in both settings across the rounds

INT_TYPE was created following the rules below:

- Beneficiaries were assigned an INT_TYPE if they completed or partially completed an interview in at least one round in 2017. INT_TYPE is also calculated for beneficiaries who completed an interview, but died or lost entitlement during the data year.
- Missing INT_TYPEs - There are currently 21 beneficiaries with "complete" dispositions which cannot have their INT_TYPE/residence location calculated for them. These are individuals that appear to have died in early 2016, and did not have any completed/partially completed questionnaire data for 2016. These individuals have ever enrolled weights, but do not have completed interviews.

Note that in each data year, some differences by segment will exist (i.e., data may reflect a prior or future calendar year due to the specific questionnaire and reference period used to collect the information). INT_TYPE is only constructed using survey-reported data for the benefit year and is not edited to account for data collected in a future or prior data year.

INT_TYPE is calculated on the benefit year, but data segments may reflect a prior or future calendar year due to the specific questionnaire and reference period used to collect the information. That is, the segment data is collected prior to or after the benefit year designation of INT_TYPE.

For example, there may be Facility-dwelling beneficiaries (INT_TYPE = F) that appear on the 2017 segments that include 2017 non-response adjustments: INCASSET, FOODINS, MCREPLNQ, RXMED, PNTACT. The MCBS would expect these segments to only include beneficiaries with INT_TYPE = C or B because these segments contain data from survey-reported instruments only asked of beneficiaries that reside in the community. However, due to the fact that the data for these segments is collected in 2018, beneficiaries may have moved from a facility in 2017 to the community in 2018 at the time these data segments were collected.

Alternatively, data may be pulled forward from a prior data collection year. For example, a beneficiary in 2015 that answered affirmative to the question, "Have you ever had a hysterectomy?", a survey item that is asked of beneficiaries in the Community questionnaire, will have that answer pulled forward to the 2016 data segment even if the beneficiary currently resides in a facility in 2016, and thus they would show an INT_TYPE = F. INT_TYPE is only constructed using survey-reported data for the benefit year and is not edited to account for data collected in a future or prior data year.

IPR_IND: The income-to-poverty ratio (IPR) was added in 2015. The Census Bureau determines who is poor by comparing an individual or household's income to a set of dollar-value thresholds that are intended to represent the amount of income needed to meet basic needs, and are adjusted for family size and composition. A family will be designated as "poor" or "not poor" depending on whether their income is at or below or above this set threshold in a given year. In addition, the Census Bureau provides another way to

describe a person's economic well-being by gauging how close to or far from the poverty threshold a family's income rests using an IPR. IPRs, e.g. income divided by the appropriate poverty threshold, are used to normalize incomes across family types and provide context for a better understanding of the depth of poverty (or lack thereof) of a family. The IPR is a useful analytic tool that can help MCBS users to easily identify the percentage of Medicare beneficiaries living in deep poverty, below poverty, or those in "near" poverty (usually defined as less than 125 percent of the poverty level); or how health care access and use may differ across different thresholds of interest. Note that the MCBS IPR is calculated only for household sizes of 1 (beneficiary living alone or in a facility) or 2 (beneficiary living with a spouse only) as the Income and Asset information is collected only from the beneficiary and the beneficiary's spouse. Medicare beneficiaries have slightly different poverty level indices used for program eligibility. The IPR_IND uses the Medicare poverty thresholds for calculation.

PANEL: Indicates the year of the beneficiary's baseline interview.

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

SPMARSTA: The respondent was allowed to define marital status categories (SPMARSTA); there was no requirement for respondents to report a legally recognized arrangement (e.g. married, divorced, etc.).

SPSDTH: Indicates if a respondent's spouse died within the last year. This variable is new in 2017.

SPVARATE: The VA disability rating variable is a percentage and is expressed in multiples of ten; it refers to disabilities that are officially recognized by the government as service-related. If the VA finds that a Veteran has multiple disabilities, the VA uses a Combined Ratings Table to calculate a combined disability rating (see https://www.benefits.va.gov/compensation/rates-index.asp#combined).

SURVIVE: This variable contains data from beneficiaries who were continuously enrolled in Medicare from January 1 up to and including their fall round interview.

10.9.3 Special Notes

The DEMO segment now contains all demographic data from both the survey and from CMS administrative records. Beginning in 2016, an LEP variable indicates what language the respondent prefers to read in. H_CBSA replaces H_URBRUR beginning in 2017.

10.10 Diabetes (DIABETES)

10.10.1 Core Content

This segment includes survey responses related to diabetes management. Only community-dwelling beneficiaries who indicated that they had ever been told they have non-gestational diabetes (variable D_OCDTYP in the CHRNCOND segment) are included in the DIABETES segment. Included are beneficiaries who indicated they had been diagnosed with any of these diabetic conditions: Type 1, Type 2, pre-diabetes/borderline diabetes, or other non-gestational type of diabetes. The variables in DIABETES originated as questions that were asked as part of the Health Status and Functioning Questionnaire (HFQ) only in even-numbered years.

10.10.2 Variable Definitions

FREQUENCY OF MANAGEMENT BEHAVIORS: The DIABETES segment includes four pairs of items that describe the frequency of specific diabetes management behaviors. These behaviors are: taking insulin, taking

prescription or oral diabetes medications, testing blood glucose, and checking for foot sores. The frequency of each behavior is described by a pair of variables, yielding the numeric frequency (variables D_INSFRQ, D_MEDFRQ, D_TSTFRQ, and D_SORFRQ, respectively) and the corresponding frequency unit (variables INSUUNIT, MEDSUNIT, TESTUNIT, and SOREUNIT, respectively).

10.10.3 Special Notes

Included in DIABETES are variables that are asked only in even-numbered years. Variables that are asked every year appear in other file segments. Three variables relevant to diabetes diagnosis (OCBETES, OCDTYPE, and OCDVISIT) appear in the CHRNCOND segment. Five variables related to diabetes risk and screening (DIAEVERT, DIARECNT, DIAAWARE, DIARISK, and DIASIGNS) appear in the PREVCARE segment. The variable pertaining to diabetic retinopathy (ERETINOP) appears in the VISHEAR segment.

10.11 Facility Assessments (FACASMNT)

10.11.1 Core Content

CMS designed the Minimum Data Set (MDS) instrument to collect information regarding the health status and functional capabilities of nursing home residents. The MDS is administered to anyone residing in a certified nursing home, regardless of payer. As a large portion of our beneficiaries residing in a facility at the time of their interview live in nursing homes, the MCBS is often able to abstract information applicable to the MCBS directly from the MDS. For this reason, the MCBS facility questionnaire has been designed to mirror the MDS instrument.

10.11.2 Variable Definitions

Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL):

ADLs and IADLs: The MCBS asks whether respondents have any difficulty performing several activities. Their answers about difficulty performing the ADLs (PFBATHNG, PFDRSSNG, PFEATING, PFTRNSFR, PFLOCOMO, and PFTOILET) and IADLs (DIFUSEPH, DIFSHOP, and DIFMONEY) reflect whether or not the beneficiary usually had difficulty and anticipates continued trouble with these tasks, even if a short-term injury made them temporarily difficult. Note that in addition to the three IADLs above that are common to both the Community and Facility interviews, the Facility MDS evaluates five more IADLs (IADSTOOP, IADLIFT, IADREACH, IADGRASP, and IADWALK).

"Difficulty" in these questions has a qualified meaning. Only difficulties associated with a health or physical problem were considered. If a respondent 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."

DIFMONEY: 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.

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

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

PFBATHNG: 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)
- the person receives no help, uses no special equipment or aids, but acknowledges having difficulty

PFDRSSNG: 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, as is putting on socks or hose. 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.

PFEATING: 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.

PFLOCOMO: 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.

PFTOILET: 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.

PFTRNSFR: Getting in and out of chairs includes getting into and out of wheelchairs. If the beneficiary 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.

10.11.3 Special Notes

What is the difference between the MDS and FACASMNT data?

See exhibit below for key differences between the segment sources, population, reference period and unit of observation.

Exhibit 10.11.3: Differences between FACASMNT and MDS3 Data

Data Type	Facility Assessment (FACASMNT)	Minimum Data Set (MDS3)
Source	Survey-reported (facility staff may pull information from electronic health records or systems to answer the survey questions)	Administrative (like claims files)
Population	Represents ALL facility residents, not just those in nursing homes	Represents all residents of nursing homes certified to participate in Medicare or Medicaid ONLY
Reference period	Throughout the year	Could be multiple assessments during the year, time periods may differ based on what happened to each individual
Unit of observation	One per beneficiary	One per beneficiary per assessment

10.12 Facility Characteristics (FACCHAR)

10.12.1 Core Content

The Facility Characteristics segment is constructed using data from the Facility questionnaire, which provides information about survey collected facility stays, and the administrative Provider of Service (POS) file, which provides facility characteristics pertaining to SNF stays.

For a beneficiary in the current year's population file, any facility stay within a round from the current file year, as well as from the following winter round, provided that it has an admission date that falls within the current file year, is included in the file. The inclusion of these winter round records is meant to capture any stays which began after the conclusion of the fall round for a given file year. Selected data from the POS file is also included for any SNF stay occurring during the file year for beneficiaries on the finder file.

10.12.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.12.3 Special Notes

Variables listed in Exhibit 10.12.3 have been renamed from previous releases to reflect how the data are collected currently and from the administrative sources.

Exhibit 10.12.3: Facility Characteristics' Renamed Variables

2015-17 Var Name	Description	Formerly
ELIGSTAT	Provide long term care?	FACLONGT
CANDCBED	# of Mcare & Mcaid cert beds	MANDMBED
CAIDBEDS	# of Mcaid only cert beds	MCAIDBED
CAREBEDS	# of Mcare only cert beds	MCAREBED
FMRBEDS	# of ICF/MR beds	ICFMRBED
D_UNCBED	# of uncertified beds	CERTBEDS
HDLICBED	# of licensed (not cert) beds	MNORMBED
PCHBED	# of other long term care beds	OTLTCBED
OTHERBED	# of LTC beds w cert unknown	NLTCBEDS
NORMCARE	Provide nursing/medical care?	ROOMCARE
SUPRMEDI	Supervises self-admin meds?	SUPRVMED
HELPBATH	Provide help w/bathing?	FHLPBATH
HELPDRES	Provide help w/dressing?	FHLPDRES
HELPSHOP	Provide help w/ shopping?	FHLPSHOP
HELPWALK	Provide help w/walking?	FHLPWALK
HELPEAT	Provide help w/eating?	FHLPEAT
HELPCOMM	Provide help w/communication?	FHLPCOMM
D_24CARE	Provide 24 hr on-site care?	FHLPNURS
D_HIGHRT	High monthly facility rate	HIRATE
D_LOWRT	Low monthly facility rate	LOWRATE
RECADMN	Most recent admission date	ADMIN
BEFORADM	Place admitted from	ADMTFROM
D_LIVWITH	Lived with prior to admission	LIVWRELA

10.13 Falls (FALLS)

10.13.1 Core Content

This file contains responses related to injuries and attitudes related to falls. The data included in this segment are collected from topical sections asked in 2015 and every year thereafter.

10.13.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.13.3 Special Notes

N/A

10.14 Food Insecurity (FOODINS)

10.14.1 Core Content

This file contains information regarding the beneficiary's availability to obtain sufficient food. These questions are part of the Income and Assets Questionnaire and are based upon the USDA ERS Six-Item Short Form of the Food Security Survey Module found at https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/survey-tools.

10.14.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.14.3 Special Notes

This questionnaire is administered the summer following the year of interest. The food insecurity section for the reference year 2017 was asked in the summer of 2018. Special non-response adjustment weights are included in the file to account for survey non-response from the fall to the summer data collection period. Note that counts of cases with positive topical module weights may vary within the data year and may change across years due to response rates, sample sizes, and fielding methods. The topical weights account for these changes. Please see the Weights section below for information on using weights with data from Topical Questionnaires.

10.15 General Health (GENHLTH)

10.15.1 Core Content

This file contains data regarding a beneficiary's general health status and functioning such as height and weight.

10.15.2 Variable Definitions

HEIGHTFT and HEIGHTIN: For height and weight, the respondent was asked to recall or estimate, not to measure or weigh him or herself. In the height measurement, 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)

HELMTACT: Limitations on activities and social life reflect the respondent's experience over the preceding month, even if that experience was atypical.

WEIGHT: In the weight measurement, 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)

BMI_CAT: BMI (Body Mass Index) was calculated using height and weight as-
(WEIGHT*703)/((HEIGHTFT*12+HEIGHTIN)*(HEIGHTFT*12+HEIGHTIN))
Then categorized as:

0< BMI<18.5 = 1
18.5<= BMI<25 = 2

25<= BMI<30 = 3
30<= BMI<40 = 4
BMI>=40 = 5

10.15.3 Special Notes

N/A

10.16 Health Insurance Summary (HISUMRY)

10.16.1 Core Content

The Health Insurance Summary file contains information on administrative plans and their characteristics. Specifically, it includes flags for monthly enrollment and dual eligibility status, as well as information on premiums, co-pays, deductibles, and capitated payments. The file also includes EST_TPRM, which is the sum of premiums for Parts A, B, C, and D and premiums for other plans (private coverage purchased directly from an insurance company, etc.).

There are important caveats to using premium information contained in HISUMRY. For more details, see the 2017 MCBS Frequently Asked Questions document available on the CMS MCBS website.

10.16.2 Variable Definitions

Please find below descriptions and definitions for several key variables found on the HISUMRY segment.

H_CPBP01-12: Part C Plan Benefit Package identifiers

H_CPRM01-12: Part C Premium values

H_CREDSW: Creditable Coverage indicator

H_CTYP01-12: Part C Plan Type Code

H_DDED01-12: Part D Deductible values

H_DPBP01-12: Part D Plan Benefit Package identifiers

H_DPRM01-12: Part D Premium values

H_DSGM01-12: Part D Segment identifiers

H_DTYP01-12: Part D Plan Type Code

H_DUAL01 – 12: The variables H_DUAL01 – H_DUAL12 describe dual eligibility for each month, based on state reporting requirements outlined in the MMA. These variables provide more detail regarding the type of Medicaid benefits the beneficiary is entitled to receive and are considered the most accurate source of information on enrollee status. Specific types of dual eligibility identified by these variables are as follows, where the applicable month is MM:

- Qualified Medicare Beneficiaries without other Medicaid (QMB-only) – These individuals are entitled to Medicare Part A, have an income of 100 percent of the Federal poverty level (FPL) or less, have resources that do not exceed twice the limit for SSI eligibility, and are not otherwise eligible for full Medicaid.

Medicaid pays their Medicare Part A premiums, if any, Medicare Part B premiums, and to the extent consistent with the Medicaid State plan, Medicare deductibles and coinsurance for Medicare services provided by Medicare providers. [Partial benefit; H_DUAL_MM=01]

- Qualified Medicare Beneficiaries plus full Medicaid (QMB-Plus) – These individuals are entitled to Medicare Part A, have an income of 100 percent FPL or less and resources that do not exceed twice the limit for SSI eligibility, and are eligible for full Medicaid benefits. Medicaid pays their Medicare Part A premiums, if any, Medicare Part B premiums, and, to the extent consistent with the Medicaid State plan, Medicare deductibles and coinsurance, and provides full Medicaid benefits. [Full benefit; H_DUAL_MM=02]
- Specified Low-Income Medicare Beneficiaries without other Medicaid (SLMB-only) – These individuals are entitled to Medicare Part A, have an income of greater than 100 percent FPL but less than 120 percent FPL, have resources that do not exceed twice the limit for SSI eligibility, and are not otherwise eligible for Medicaid. Medicaid pays their Medicare Part B premiums only. [Partial benefit; DUAL_MM=03]
- Specified Low-Income Medicare Beneficiaries plus full Medicaid (SLMB-plus) – These individuals are entitled to Medicare Part A, have an income of greater than 100 percent FPL but less than 120 percent FPL, have resources that do not exceed twice the limit for SSI eligibility, and are eligible for full Medicaid benefits. Medicaid pays their Medicare Part B premiums and provides full Medicaid benefits. [Full benefit; DUAL_MM=04]
- Qualified Disabled and Working Individuals (QDWI) – These individuals lost their Medicare Part A benefits due to their return to work. They are eligible to purchase Medicare Part A benefits, have an income of 200 percent FPL or less, have resources that do not exceed twice the limit for SSI eligibility, and are not otherwise eligible for Medicaid. Medicaid pays the Medicare Part A premiums only. [Partial benefit; DUAL_MM=05]
- Qualifying Individuals (QI) – There is an annual cap on the amount of money available, which may limit the number of individuals in the group. These individuals are entitled to Medicare Part A, have an income of at least 120 percent FPL but less than 135 percent FPL, have resources that do not exceed twice the limit for SSI eligibility, and are not otherwise eligible for Medicaid. Medicaid pays their Medicare Part B premiums only. [Partial benefit; DUAL_MM=06]
- Other full benefit dual eligible/Medicaid Only Dual Eligibles (Non-QMB, -SLMB, -QDWI,-QI) – These individuals are entitled to Medicare Part A and/or Part B and are eligible for full Medicaid benefits. They are not eligible for Medicaid as a QMB, SLMB, QDWI, or QI. Medicaid provides full Medicaid benefits and pays for Medicaid services provided by Medicaid providers, but Medicaid will only pay for services also covered by Medicare if the Medicaid payment rate is higher than the amount paid by Medicare, and, within this limit, will only pay to the extent necessary to pay the beneficiary's Medicare cost sharing liability. Payment by Medicaid of Medicare Part B premiums is a state option. [Full benefit; DUAL_MM=08]

H_DOE: Medicare coverage start date from the Master Beneficiary Summary file.

H_DOT: Medicare entitlement end date, from the Medicare Administrative data. If the date is beyond the calendar year, it is shown as missing.

H_EGWP01 - H_EGWP12: PDP Employer Group Waiver Plan indicator: If the plan is an EGWP then the value is 1, else the value will be 2. An EGWP is not open to general enrollment, but is offered through an employer group.

H_ESRBEG: Beginning date of ESRD period

H_ESREND: Ending date of ESRD period. If the date is beyond the calendar year, then it is shown as missing.

H_GHPSW: Some of the beneficiaries in the MCBS sample belong to Medicare managed care plans. CMS derived variables that describe this Medicare managed care membership (H_GHPSW and MAFF01 – MAFF12). The variable (H_GHPSW) should be used only when there is an indication that the enrollee was a member of a Medicare managed care plan at some time during 2017 and this information is needed for analysis. The monthly variables (H_MAFF01-H_MAFF12) can be used for analyzing membership at specific points in time. The variables will indicate either "FF" (Original Medicare/Fee for Service), "MA" (Medicare Advantage/Other Medicare Capitated Payment Plans), or "No" (No Entitlement). The H_GHPSW variable is derived from the Health Maintenance Organization (HMO) Coverage Months variable in the administrative data. This variable indicates participation in a group health organization, also known as HMO, managed-care participation, or Medicare Advantage/Medicare Part C.

H_MACY01-12: Buy-in agency (state agency code)

H_MAFF01-12: The MAFLAG variables are the most reliable indicators for monthly MA information, as of the 2009 MCBS files. This information is sourced from the CMS administrative data. The H_ENT variables were used to determine if the individual did not have Medicare entitlement. This information factored into the "No Entitlement" category in the MAFLAG monthly variables. The monthly entitlement variables can be found on the HITLINE segment. H_DOE and H_DOT on the HISUMRY file provide Medicare entitlement start and end dates for the beneficiary. Because the administrative source of this information has changed, H_ENT variables cannot be used to "crosswalk" to the MAFLAG variables. However, H_ENT can be used to determine Part A and Part B eligibility among FFS beneficiaries in files prior to 2015.

H_MANUM: Number of MA plans in beneficiary area

H_MAPMT: Total MA A/B Payment – annual amount, from the MARX data

H_MCDE01-12: Medicaid eligibility status

H_MCSW: State buy-in is tracked by CMS and is used as a general proxy for Medicaid participation. CMS derived H_MCSW using its administrative enrollment data.

H_MEDSTA: Medicare status code as of 12/31 (Aged/Disabled/ESRD)

H_OPMDCD:

> This variable provides a summary of annual Medicare-Medicaid dual eligibility, based on the state Medicare Modernization Act (MMA) files. In 2015, CMS modified the data types of several variables. One example is the 2013 variable OP_MDCD compared to the 2015 variable H_OPMDCD. The variable values "1","2","3","4" had been stored as character values. As part of the modifications applied in 2015, these values are stored as numeric values. The code definitions are equivalent. Users that want to merge the HISUMRY segment across Access to Care (2013 and prior) and Survey File (2015 and later) must change the data type of one variable and rename it.
>
> Beneficiaries are assigned a dually eligible status if they are Medicaid eligible for at least one month. Specific eligibility (full, partial, or QMB) is determined by the beneficiary's status in the last month of eligibility for the year (for definitions, see option C below in Special Notes for HISUMRY for Full-benefit vs. Partial-benefit vs. QMB-only). QMB beneficiaries include Qualified Medicare Beneficiaries without other Medicaid (QMB-only). The "partial benefit" beneficiaries include: Specified Low-Income Medicare Beneficiaries without other Medicaid (SLMB-only), Qualified Disabled and Working Individuals (QDWI), and Qualifying Individuals (QI). The "full benefit" beneficiaries include: Qualified Medicare Beneficiaries plus full Medicaid (QMB-Plus), Specified Low-Income Medicare Beneficiaries (SLMB-Plus), and all other full benefit beneficiaries (Non-QMB, -SLMB, -QWDI, -QI).

Medicaid Questions: To help the respondent answer the questions about Medicaid, the interviewers used the name of the Medicaid program in the state where the beneficiary was living. A health insurance plan is one that covers any part of hospital bills, doctor bills, or surgeon bills, but 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 which 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.
- 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.

H_PDLS01-12: Low-Income Subsidy Indicator values

H_PDPY01-12: Part D Capitation Payments

H_PDRS01-12: Retiree Drug Subsidy monthly indicators for whether or not the employer provided subsidies for the beneficiary.

H_PFSNUM: Number of Private Fee-for-Service (PFFS) plans in beneficiary area

H_PLPY01-12: Medicare Capitation Payments

H_PNUM: Number of Group Health Participants (GHPs) in beneficiary area

H_PRPY01-04: Primary Payer codes. Blank if Medicare is primary, other values indicate additional payer categories.

H_PRTC01-12: Part C Contract identifiers

H_PRTD01-12: Part D Contract identifiers

H_PTAPRM: Total Part A Premium paid in CY - This is for beneficiaries who purchased Part A by paying a monthly premium. Note that this variable will have a relatively small number of beneficiaries.

H_PTBPRM: Total Part B Premium paid in CY - This includes all Part B beneficiaries (a large number; a premium is always paid, by either the beneficiary or a third party). NOTE: The MCBS shows no Part B premium paid if the beneficiary belongs to a managed-care plan in which the plan pays the entirety of the premium. (In this scenario, the plan paid the entirety of the beneficiary's premium, so the process shows no premium paid.)

H_PTDAMT: PTD Total Payment – annual amount, from the MARX data

MTFCOVER: In 2017, this variable was dropped due to an instrument issue that resulted in some in universe beneficiaries not being asked the question. The variable will be re-introduced in future years.

EST_TPRM: This variable is the sum of all premiums reported, prorated by the number of months of coverage for each plan. The variable name emphasizes that the total is an estimate, since complete information on the amount that a *beneficiary* paid may not be available for all plans. For example, for Part A, B, C, and D plans, the premium reflects the *total* paid, either by the beneficiary or a third party on their behalf. Prior to 2015, this information was released as TOT_PREM. This new variable name highlights some of the uncertainty that may exist around the total premium paid for some plans. In addition, due to a change in the source of premium information for Part A, B, C, and D plans, data for 2015 and beyond are not directly comparable with data for earlier years. Please refer to the 2017 MCBS Frequently Asked Questions for additional important details and guidance on using premium data.

Payment Model Participation Flags

There are three variables that indicate the payment model for each plan. These payment model participation flags replace the 2015 and 2016 H_ACOFLG variable that only indicated participation in the value '08' (Medicare Shared Savings Program or MSSP). The new variables show participation in all programs, not just MSSP.

H_PRGID: CMS Prog ID – Payment Model
H_PRGID2: 2nd CMS Prog ID – Payment Model
H_PRGID3: 3rd CMS Prog ID – Payment Model

H_PRGID2 and H_PRGID3 are only populated if the beneficiary has multiple program_IDs. Variables are designated as single, 2nd, or 3rd based on the start/end dates of the entries in the source data (earliest start date, next=2, etc.). Start dates are displayed prior to 12/31/YR and end dates are displayed after 1/1/YR where "YR"=data year.

10.16.3 Special Notes

When describing dual enrollees, users typically define and present analyses separately for two subgroups: full-benefit and partial-benefit. However, some users may wish to pull the QMB-only beneficiaries out of the partial-benefit group to create a third classification. Therefore, the H_DUAL01 – H_DUAL12 variables may be used to group Medicare-Medicaid enrollees into one, two or three categories, as follows:

A. No delineation:

   All Medicare-Medicaid (dual) enrollees: H_DUAL01 – H_DUAL12 in (1, 2, 3, 4, 5, 6, 8)

B. Full-benefit vs. Partial-benefit:

   Partial-benefit: H_DUAL01 – H_DUAL12 in (1, 3, 5, 6)
   Full-benefit: H_DUAL01 – H_DUAL12 in (2, 4, 8)

C. Full-benefit vs. Partial-benefit vs. QMB-only:

   QMB-only: H_DUAL01 – H_DUAL12 =1
   Partial-benefit (non-QMB): H_DUAL01 – H_DUAL12 in (3, 5, 6)
   Full-benefit: H_DUAL01 – H_DUAL12 in (2, 4, 8)

10.17 Health Insurance Timeline (HITLINE)

10.17.1 Core Content

This segment contains one record for each plan a beneficiary has and includes information on type of insurance coverage, monthly eligibility / enrollment, and the source information for the coverage. All plans that a beneficiary has, both administrative and survey reported, are included on the file. In addition, HITLINE also contains detailed information on plans for which no administrative data are available. These plans are reported in the survey only and include different types of private plans, Tricare, coverage through the Department of Veteran's Affairs, and public plans that do not fall under either Medicare or Medicaid. For these survey-only plans, the file includes flags indicating types of services covered, and, for private plans, information on plan policyholder and premiums paid. All plans reported in a Community setting also have a unique plan identifier, PLANNUM, which can be used to link plans across multiple years.

Prior to 2013, detailed information on survey-reported plans was available only for the first five plans and was included in the HISUMRY segment. In the 2017 Survey File LDS, this content is available for all plans and will appear in HITLINE.

10.17.2 Variable Definitions

PLANNUM: Unique plan number associated with a plan reported in a Community setting.

PLANTYPE: Indicates the type of plan.

S_INS: Specifies whether the private health insurance plan has limited service coverage, such as dental-only, prescription drug-only, etc. This information was developed through an editing process in which plan names were researched and combined with other survey-reported plan information.

BEGDATE: The date the plan coverage began.

ENDDATE: The date the plan coverage ended

SCRCCOV01-12: Indicates the source of coverage information for the plan: CMS Administrative Data, Survey Data, or Both Administrative and Survey Data.

COV01-12: Indicates if the beneficiary was covered by this plan for a given month in the calendar year.

S_HMOPPO: Indicates whether beneficiary's private plan is an HMO/PPO. Obtained from (HI25) or (HIS25).

S_PHREL: The relationship of the policyholder to the beneficiary. Responses from (HIS26), or (HI26) are combined with beneficiary's household roster information to determine the policyholder's relationship to the beneficiary.

S_OBTNP: Indicates how the main insured person obtained their private policy (e.g. self-purchased, current or former employer, etc.)? Obtained from either (HI27) or (HIS27).

S_COVNM: The number of people covered by each private plan. This information is obtained from either (HI29) or (HIS29).

D_COVRX: Indicates if beneficiary's plan covers prescription drugs.

S_MSCOV: Indicates if beneficiary's plan covers visits to a doctor or other professional or lab work. Obtained from (HI31A) or (HIS31A).

S_IP: Indicates whether beneficiary's private plan covers inpatient stays. Obtained from (HI31A) or (HIS31A).

S_COVNH: Indicates whether beneficiary's private plan has long-term care coverage. This information is obtained from either (HI31A) or (HIS31).

S_DNTAL: Indicates whether beneficiary's private plan covers dental services. Obtained from (HI31A) or (HIS31A).

S_PAYSP: Does the main insured person (MIP) pay any part of the insurance premium? Obtained from either (HI32) or (HIS32).

S_PREM: Reported cost of private health insurance plan premiums. A premium amount was recorded even if the respondent did not directly pay the premium (if, for example, a son or daughter paid the premium). This variable was derived from responses to (HI33) and (HIS33). For family plans, the reported amount reflects the total premium paid for the plan.

D_ANNPREM: The annual reported cost of private health insurance plan premiums calculated for beneficiaries who answered questions associated with both S_PAYUNIT and S_PREM. Premium amounts have been prorated based on how long the beneficiary held the policy. For family plans, the annualized amount reflects the total premium paid for the plan.

S_PAYUNT: Specifies how frequently (once per year, once per month, etc.) the amount reported in S_PAYSP was paid. This information is based on either (HI33) or (HIS33).

S_PAYOTH: Indicates whether anyone else, such as an employer or a union, helped to pay any portion of the premium. Obtained from either (HI33A) or (HIS33A).

S_PAYWHO: Indicates who paid a portion of the total cost of the premium. Obtained from (HI33B) and (HIS33B).

S_TRIRX: Specifies where Tricare members obtain prescription drugs. This information is derived from either (HIT4A1) or (HIST3AA).

D_FCLTYF: Indicates whether a plan was reported in a Facility setting. Facility interviews are not conducted with the beneficiary but rather with facility staff who may have little information on coverage type and plan details. D_FCLTYF indicates which plans were reported in a Facility setting and thus have limited detailed information about them available. Beneficiaries who transition between Community and Facility settings may have a plan reported in each setting. However, due to the nature of the Facility interview, it is not possible to ascertain whether these would reference the same plan.

10.17.3 Special Notes

The HITLINE segment has one record for every plan reported for a beneficiary. Individuals covered for the entire year by a plan will have a BEGDATE of 0101201X and an ENDDATE of 1231201X to indicate a full year's coverage.

The variables D_PRIVAT, D_HMO_COV, D_HMOCUR, D_MCAID, D_MCARE, and D_MCRHMO from previous releases of the MCBS are not on this file; however, the information regarding Medicare Advantage coverage,

Medicaid coverage, Medicare coverage and the sources of the coverage information is contained within the file.

Starting with data year 2015, the HITLINE segment is provided in a long format versus a wide format. If data users are conducting analysis covering a period that includes both pre-2015 and 2015 or later data years, data should be transposed in order to merge them. See the codebook for explanations of codes for plan types and details about the private plans reported.

10.18 Household Characteristics (HHCHAR)

10.18.1 Core Content

This file includes beneficiaries who resided in a Community setting as of their last complete interview and contains information about the beneficiary's household composition and residence. For each calendar year, the file reflects the latest available data on the size of the household, and the age and relationship of the people in it. Information about the beneficiary's physical residence is collected at the Baseline interview and updated as necessary.

10.18.2 Variable Definitions

CMS defines a household as a group of individuals, either related or not, who live together and share one kitchen. This may be one person living alone, a head of household and relatives only, or a head of household living with relatives, boarders and any other unrelated individual living under the same roof, sharing the same kitchen.

Household membership includes all persons who currently live at the household or who normally live there but are away temporarily. For example, unmarried students away at school or family members away receiving medical care 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 is any question about the composition of the household, the respondent's response is 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_HHUNRL) 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).

Two new variables are contained in the 2017 HHCHAR segment: D_COMPHH and D_SEXSPP. The variable D_COMPHH "Household Composition" replaces the variable D_HHCOMP. The new variable still reflects the composition of household members but contains a much broader array of relationships. The variable D_SEXSPP "Gender of Spouse/Partner" indicates the gender when a spouse or partner is identified in D_COMPHH as a member of the household.

10.18.3 Special Notes

Information about whether the beneficiary has a residence in another state is no longer included in the file. Data on certain characteristics of the residence (e.g., number of levels) is collected during the Baseline interview and carried forward unless a beneficiary moved or had a Facility stay prior to returning to the Community. Information about other characteristics of the residence (e.g., availability of personal care services) is updated annually during the fall interview.

10.19 Income and Assets (INCASSET)

10.19.1 Core Content

This segment contains data on a beneficiary's reported income and assets.

10.19.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.19.3 Special Notes

In the Income and Assets questionnaire (IAQ), the reference period for income is generally the previous calendar year. That is, many income questions are asked in the summer of 2018 about income earned in 2017.

a. Example: "Now I want to ask about your [and spouse's] total income for last year, that is, for the calendar year ending in December [CURRENT YEAR - 1], before any federal or state taxes were taken out."

Other items ask about income earned in the current calendar year.

b. Example: "You told me earlier that you have job-related pension plans. In all, how much was received from these pension plans in the last month, before any federal or state taxes were taken out (for the month of [CURRENT MONTH – 1])?"

For assets, there are three different timeframes referenced in the IAQ:

1. How much of an asset was received or withdrawn in the last month.
    a. Example: "Is your mortgage paid off or are monthly mortgage payments still being made?"
2. How much is currently in certain accounts.
    a. Example: "This next question is a bit different. You mentioned that you have retirement accounts. In total, about how much is currently in all of these retirement accounts?"
3. How much altogether was received or withdrawn in the last year.
    a. Example: "Now thinking about all of last year, that is calendar year [CURRENT YEAR – 1], how much altogether did you receive or withdraw from all of these retirement accounts?"

The difference in reference periods between income and assets items is due to the nature of the information collected (i.e., respondent recall is facilitated when asking about a bank account balance from the last month versus four months ago) and many assets are relatively stable in value (e.g., housing).

Special non-response adjustment weights are included in the file to account for survey non-response from the fall to the summer data collection period. Note that counts of cases with positive topical module weights may vary within the data year and may change across years due to response rates, sample sizes, and fielding methods. The topical weights account for these changes. Please see the Weights section below for information on using weights with data from Topical Questionnaires.

The MCBS imputes income in 2017 when income data are missing. Data were first imputed whether or not an income source (such as Social Security) existed. If the income source exists, then the amount earned was imputed next. Imputation was performed using the hot deck imputation method, and a flag was created for each imputed variable indicating whether or not the corresponding value was imputed.

10.20 Interview Characteristics (INTERV)

10.20.1 Core Content

This segment summarizes the characteristics of the interview such as the type of interview conducted and whether or not a proxy was used.

10.20.2 Variable Definitions

INTERVU: There is one record for each individual for each round of completed interviews, either in the community (INTERVU = "C") or a facility (INTERVU = "F"). Some beneficiaries had more than one interview in a round. To avoid duplication of data, the information in this file represents the last interview conducted with the respondent in each given round. INTERVU indicates which type of interview was conducted.

INTVDISP: the respondent's status as of the last day of the calendar year. There are two dispositions (40 = complete and 50 = complete-deceased).

Proxy Rules:

Proxy respondents were always used in nursing homes, homes for beneficiaries with intellectual disabilities, and psychiatric hospitals. 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.

SPPROXY: People who were too ill or who could not complete the Community interview for other reasons were asked to designate a proxy. A proxy is someone very knowledgeable about the beneficiary'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 caregiver.

Proxy variables:

- ROSTREL: Indicates the proxy's relationship to the beneficiary (e.g., spouse, son, daughter).
- SPROXY: Indicates whether or not a Community interview was conducted with a proxy respondent or with the beneficiary.
- WHYPROXY: Indicates the reason that a proxy was needed.

Other variables:

INTVDATE: Date on which the interview was conducted.

MINTOTAL: MINTOTAL contains the length of the interview, in minutes. A new timestamp was implemented in 2016 that captures actual questionnaire administration time only while excluding any time that elapses for setting up the interview.

TOTLINTV: Indicates the total number of interviews conducted with this beneficiary. Community interviews are sometimes interrupted to accommodate the respondent's schedule or for other reasons. Facility interviews are conducted with several instruments and often involve many respondents.

10.20.3 Special Notes

N/A

10.21 Medicare Advantage Questions (MAPLANQX)

10.21.1 Core Content

The Medicare Advantage (MA) Questions segment augments information from the Access to Care and Satisfaction with Care sections of the questionnaire for those beneficiaries enrolled in Medicare Part C. Beneficiaries who are enrolled in a Medicare Advantage plan at the time of the interview are asked general questions about their health plans, which include access to and satisfaction with medical services. The file also contains the beneficiary's assessment of the quality of the medical care that they are receiving, types of additional coverage offered, and any beneficiary-paid premiums associated with the health plan.

10.21.2 Variable Definitions

D_ANHMO: What is the annual additional cost of Medicare Advantage premiums? The premiums have been annualized regardless of the length of time the respondent actively held the policy. This variable is derived from Health Insurance Summary Questionnaire (HIS) item HISMC10.

10.21.3 Special Notes

N/A

10.22 Medicare Plan Beneficiary Knowledge (MCREPLNQ)

10.22.1 Core Content

This segment contains information about the beneficiary's knowledge with the Medicare open enrollment period and knowledge about Medicare covered expenses.

The data collected in this segment will allow an evaluation of the impact of existing education initiatives by CMS. The KNQ questionnaire section helps to refine future CMS education initiatives by asking about information that beneficiaries may need, preferred sources for this information, and beneficiaries' access to insurance information. This data also presents the knowledge beneficiaries have gained from CMS publications.

10.22.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.22.3 Special Notes

This questionnaire is administered the winter following the year of interest. The KNQ questions for the reference year 2017 were asked in the winter of 2018. Special non-response adjustment weights are included in the file to account for survey non-response from the fall to the winter data collection period. Note that counts of cases with positive topical module weights may vary within the data year and may change across years due to response rates, sample sizes, and fielding methods. The topical weights account for these changes. Please see the Weights section below for information on using weights with data from Topical Questionnaires.

10.23 Mental Health (MENTHLTH)

10.23.1 Core Content

This segment contains survey responses regarding the beneficiary's mental health such as feelings of anxiety or depression.

10.23.2 Variable Definitions

Generalized Anxiety Disorder scale (GAD-2): Two items labeled with "GAD" comprise the GAD-2 scale, which is a screening tool for generalized anxiety.

Patient Health Questionnaire (PHQ-9): Items labeled with "PHQ" are taken from the PHQ-9, which is a screening tool for depression. The MCBS does not collect the ninth item on the PHQ-9, which asks about suicidal ideation, but does include the PHQ-9 follow-up question that asks about the overall difficulty caused by depression (MENTHLTH item PHQPRDIF).

10.23.3 Special Notes

N/A

10.24 Mobility (MOBILITY)

10.24.1 Core Content

This segment includes beneficiaries who resided in a Community setting at any point during the calendar year and contains information on the beneficiary's use of available transportation options and whether the beneficiary's health affects their daily travel.

10.24.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.24.3 Special Notes

All variables in this section are derived by summarizing the data collected in each data collection round to produce information for the benefit year, and therefore all begin with the letter D. Beneficiaries who previously reported giving up driving are not asked about whether they have given up driving again. Instead, their information is carried forward from the previous year.

10.25 Minimum Data Set (MDS3)

10.25.1 Core Content

The Minimum Data Set is assessment information conducted while the beneficiary was in an approved Medicare Facility.

CMS designed the Minimum Data Set (MDS3) instrument to collect information regarding the health status and functional capabilities of nursing home residents. The MDS is administered to anyone residing in a certified nursing home, regardless of payer. For this reason, the MCBS facility questionnaire has been designed to

mirror the MDS instrument. By adapting the applicable MCBS questions, interviewers can extract data directly from these assessments which expedites collection, while ensuring quality.

For more information regarding the MDS and the changes in version 3.0, please consult https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/index.html.

10.25.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.25.3 Special Notes

MDS3 records are included for a beneficiary having such a record in the year of interest.

What is the difference between the MDS and FACASMNT data? See Facility Assessments (FACASMNT) section above.

There are Community-dwelling beneficiaries (DEMO segment INT_TYPE = C) that appear in the MDS segment. CMS includes MDS data for all MCBS beneficiaries regardless of the INT_TYPE, which is determined by the type of survey instrument completed.

10.26 NAGI Disability (NAGIDIS)

10.26.1 Core Content

This segment contains information on difficulties with the beneficiary's performance of activities of daily living. The types of ADLs and IADLs the beneficiary has difficulty performing, how long the beneficiary has experienced these difficulties, whether or not the beneficiary has received any help or used supportive equipment to perform ADLS or IADLs, and the total number of helpers are all contained in this file. Note: For beneficiaries with identified helpers, information about the persons responsible for assisting with the beneficiary's performance of ADLs is found in the ASSIST segment.

10.26.2 Variable Definitions

Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL):

ADL and IADL Measures: The MCBS asks respondents whether they have any difficulty performing 12 activities. Their answers about difficulty performing the IADLs (PRBTELE, PRBLHWK, PRBHHWK, PRBMEAL, PRBSHOP, and PRBBILS) and ADLs (HPPDBATH, HPPDDRES, HPPDEAT, HPPDCHAR, HPPDWALK, HPPDTOIL) reflect whether or not the beneficiary usually had difficulty and anticipates continued trouble with these tasks, even if a short-term injury made them temporarily difficult.

"Difficulty" in these questions has a qualified meaning. Only difficulties associated with a health or physical problem were considered. If a beneficiary only performed an activity with help from another person (including just needing to have the other person present while performing the activity) 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."

D_ADLHNM: CMS derives the number of persons helping with ADLs and/or IADLs from the Health Status and Functioning Questionnaire (HFQ) items HFKA-F and HFLA3-F3.

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)
- 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 as is putting on socks or hose. 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.

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.

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.

PRBLHWK and PRBHHWK: 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 beneficiary would qualify as help from another person.

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

10.26.3 Special Notes

Since 2016, six global disability questions are released to comply with HHS guidance. The variables on the NAGIDIS segment are DISDECSN, DISWALK, DISBATH, and DISERRND. DISHEAR and DISSEE are included on the VISHEAR segment.

10.27 Nicotine and Alcohol (NICOALCO)

10.27.1 Core Content

This segment contains information on the prevalence and frequency of alcohol and nicotine use.

10.27.2 Variable Definitions

EVERSMOK and SMOKNOW: Respondents are asked about whether they smoke. They are not about their use of chewing tobacco. 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. The MCBS asks if the respondent "now" smokes, and defines "now" as being within the current month or so, and not just whether the respondent 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)

10.27.3 Special Notes

In 2016, this section was revised to follow HHS guidelines on asking about nicotine and alcohol consumption. Please see codebook for variables now included in this section.

10.28 Outcome and Assessment Information (OASIS)

10.28.1 Core Content

This segment contains assessment information conducted while the beneficiary was receiving home health services.

10.28.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.28.3 Special Notes

All home health records are included for survey participants for the year of interest.

10.29 Patient Activation (PNTACT)

10.29.1 Core Content

The data in this segment can be used to assess the degree to which beneficiaries actively participate in their own health care and the decisions concerning that health care; measuring not only if beneficiaries receive information about their health and Medicare, but also if they understand it in a way that makes it useful.

10.29.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.29.3 Special Notes

Special non-response adjustment weights are included in the file to account for survey non-response as these items are only asked of non-proxy respondents.

10.30 Preventative Care (PREVCARE)

10.30.1 Core Content

This segment provides data on preventative services such as vaccinations and routine screening procedures such as mammograms and colonoscopies.

10.30.2 Variable Definitions

Respondents were asked questions with regard to preventative services and behaviors: mammogram, Pap smear, prostate screening, diabetes screening, colon cancer screening, Flu, Shingles and Pneumonia shots, and blood pressure screening. Existing items about the seasonal flu vaccine are asked in the Summer and Winter Rounds of 2018. The question is asked about the Current Flu Season from July 2017 – June 2018.

10.30.3 Special Notes

N/A

10.31 Residence Timeline (RESTMLN)

10.31.1 Core Content

The RESTMLN segment provides a timeline of each setting in which a beneficiary resided over the course of the year. The total number of setting changes is recorded in the NUMSIT variable, while each transition is identified with a begin data and a code representing the type of setting.

10.31.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment. There are some variables on this segment that were derived or created by combining two or more survey variables. These derived variables are preceded with the characters "D_". Variables are created or modified in order to recode data items, to protect the confidentiality of survey participants, or to globally edit some values.

The number of variables in the series D_SIT1 – D_SIT*n* and D_CODE1 – D_CODE*n* will correspond to the maximum number of settings in a given a file year.

The variable D_SIT1 will represent whichever occurs first: the date corresponding to the beneficiary's first Inpatient, Hospice, or SNF fee for service utilization of the year, or their participation in the survey. If utilization occurs first, periods occurring outside of one of the aforementioned fee-for-service events, but prior to a beneficiary's enrollment in the survey, will be denoted with a setting type (D_SIT1-D_SIT*n*) of 'N.'

10.31.3 Special Notes

The 2015 segment was included with the Cost Supplement LDS for data year 2015 only, as it was constructed using the Cost Supplement weights. For the 2016 data year and beyond, the segment is included with the Survey File LDS.

10.32 RX Medications (RXMED)

10.32.1 Core Content

The RX Supplement segment augments information from the Access to Care and Satisfaction with Care sections of the questionnaire for those beneficiaries enrolled in Medicare Part D.

10.32.2 Variable Definitions

OPTIONS CONSIDERED WHEN CHOOSING PRESCRIPTION DRUG COVERAGE: These seven items were asked as a series of separate yes/no questions (Drug Coverage Questionnaire [RXQ] item RXPD18).

PDOPMOST: This item includes data from a single question, with only one response allowed.

REASONS DIDN'T USE CURRENT COVERAGE: These six items were asked as a single question (RXQ item RX18), with multiple responses allowed. This question is asked of respondents who indicated that they did not use their current prescription drug coverage (variable RXUSEPLN).

REASONS NOT ENROLLED IN MEDICARE PRESCRIPTION DRUG PLAN: These 12 items are derived from a single question (RXQ item RX19), with multiple responses allowed. This question is asked for beneficiaries who do not have any of the following: a current Medicare prescription drug plan, a current Medicare managed care plan that has prescription coverage, or a current private plan that has prescription coverage.

10.32.3 Special Notes

This questionnaire is administered the summer following the year of interest. The RXQ questions for the reference year 2017 were asked in the summer of 2018. Special non-response adjustment weights are included in the file to account for survey non-response from the fall to the summer data collection period. Note that counts of cases with positive topical module weights may vary within the data year and may change across years due to response rates, sample sizes, and fielding methods. The topical weights account for these changes. Please see the Weights section below for information on using weights with data from Topical Questionnaires.

A large amount of missing data was observed in the 2015 RXPARTD data file for the following 12 variables: PDNTRXCV, PDNTPRES, PDNTCOVR, PDNTENRL, PDNTPLAN, PDNTEXPS, PDNTCONF, PDNTMANY, PDNTBEFT, PDNTPDP, PDNTINTL, and PDNTOTHR.

These questions are derived from a select-all-that-apply question, PDNTENR. The question should be asked of beneficiaries who were not enrolled in Part D, which is denoted in the RXPARTD data file as H_PARTD. The text of the question is:

"You said that [you are/(SP) is] not enrolled in a Medicare Prescription Drug plan. What is the reason [you are/he is/she is] not enrolled in such a plan?"

Among the 1,056 beneficiaries in the data file who had H_PARTD=2 and were therefore expected to be asked PDNTENR, unexpected missing data was present for 664 (63%) for all 12 derived variables. An additional 11

beneficiaries answered Don't Know or Refused for PDNTENR. (These 11 answers are not problematic. This is how the data should appear for beneficiaries who reached PDNTENR but did not choose any of the 12 given options to the question).

There is a skip in the questionnaire that is driven by a flag derived from self-reported coverage and not administrative data. The flag was incorrectly populated due to a questionnaire error identified in the 2015 data, and due to its complexity, over the 2016 and 2017 data years, was iteratively edited and patched.

10.33 Satisfaction with Care (SATWCARE)

10.33.1 Core Content

This segment contains data on satisfaction with health care and reasons why beneficiaries do not seek medical care or purchase prescription drugs

10.33.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

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, and instead offers codes that summarize the answer. Often there will be more than one code because the answer included several specific topics.

10.33.3 Special Notes

Verbatim questions VCMCDIS1, VCMCDIS2, VCMCDIS3, VCMCDIS4, MCDISVB, and SCROTOS were back coded into response categories; verbatim text is not released.

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.

REASONS FOR NOT OBTAINING PRESCRIPTION: These items are asked for respondents who indicated in item PMNOTGET that there were prescriptions that they did not obtain. A single question (Satisfaction with Care Questionnaire [SCQ] item SC17A) is initially asked, with ten possible response options and multiple responses allowed, which are then coded into the ten relevant Yes/No variables in the PMUSE data file: SCPMCOST, SCNOHELP, SCPMREAC, SCPMNLKE, SCPMNCND, SCPMNOCV, SCPMTROB, SCPMSMPL, SCPMSUBS, and SCPMOTHR. In addition, the next question (SCPMMAIN) asks the main reason why the prescription was not obtained, with one response allowed.

10.34 Usual Source of Care (USCARE)

10.34.1 Core Content

This segment contains data on where and how the beneficiary typically seeks medical care.

10.34.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

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

10.34.3 Special Notes

In an effort to reduce redundant content and reduce respondent burden, in 2017 several items were removed from the Community questionnaire section USQ as they had overlap with items asked elsewhere. These items include: DRKNTEST, PERSWITH, PREVMEDC, and RECORDNA.

In 2015, this segment included additional variables adapted from the Patient Perception of Integrated Care (PPIC) survey instrument developed by Harvard School of Public Health.[27] These items were removed in the 2016 data year, to reflect the same data as collected in 2013 and prior. In Winter 2018, a sub-set of the PPIC items were reintroduced into the questionnaire with several updates. First, the response categories for these items were updated to facilitate an in-person interview. Second, the reference date for these items was incorporated into the question stem to aid in respondent recall. Third, the reference period was adjusted for PPIC items in the USQ to be 12 months instead of 6 months. This change brings the reference period for the PPIC items that were added to USQ in line with other sections in the MCBS Community questionnaire.

This questionnaire is administered the winter following the year of interest. Special non-response adjustment weights are included in the file to account for survey non-response from the fall to the winter data collection period. Note that counts of cases with positive topical module weights may vary within the data year and may change across years due to response rates, sample sizes, and fielding methods. The topical weights account for these changes. Please see the Weights section below for information on using weights with data from Topical Questionnaires.

10.35 Vision and Hearing (VISHEAR)

10.35.1 Core Content

This file contains information on the beneficiary's eye health and hearing status.

10.35.2 Variable Definitions

Please see the Codebook for information regarding variables in this segment.

10.35.3 Special Notes

Since 2016, six global disability questions are released to comply with HHS guidance. DISHEAR and DISSEE are included on the VISHEAR segment. Variables DISDECSN, DISWALK, DISBATH, and DISERRND are included on the NAGIDIS segment.

[27] Singer et al., "Development and Preliminary Validation of the Patient Perceptions of Integrated Care Survey," Medical Care Research and Review 70, no. 2.

10.36 Weights

10.36.1 Cross Sectional Weights

Two types of weights are provided, cross-sectional weights and longitudinal weights. Cross-sectional weights apply to the entire file of all those who completed an interview, either Community or Facility. The first set of cross-sectional weights (CENWGTS) can be used for making estimates of the population of Medicare beneficiaries who were continuously enrolled in Medicare from January 1st up to and including their fall interview (i.e., the "continuously enrolled" population). The second set of cross-sectional weights (EVRWGTS) can be used for making estimates of the population of Medicare beneficiaries who were enrolled in Medicare at any time during the entire calendar year (i.e., the "ever enrolled" population).

10.36.2 Longitudinal Weights[28]

Longitudinal weights allow for the study of respondents across data years.

Two-year longitudinal weights (LNG2WGTS) apply to respondents who completed fall round interviews in the current and the preceding year. This set of weights can be used to study data trends over a two-year period and apply to members of the 2014, 2015, and 2016 panels who were alive and entitled as of the Fall 2017 (Round 79) interview, had 2016 and 2017 Survey File data, and enrolled on or before 1/1/2016. By applying these weights to data in the current and preceding year, users will be able to estimate change among the Medicare population who were alive for the full two-year period.

Three-year longitudinal weights (LNG3WGTS) apply to respondents who completed fall round interviews in the current and the two preceding years. This set of weights can be used to study data trends over a three-year period and are populated for members of the 2014 and 2015 panels who were alive and entitled as of the Fall 2017 (Round 79) interview, had Survey File data in 2015 and 2017, enrolled on or before 1/1/2015, and were continuously enrolled through the fall of 2017 (i.e., three years).By applying these weights to data in the current and the three preceding years, users will be able to estimate change among the Medicare population who were alive for the full three-year period.

Given that 2014 MCBS data was not released, there are no four-year longitudinal weights in the 2017 Survey File LDS.

For a further discussion about the ever enrolled and continuously enrolled populations and obtaining weighted estimates using these files, please see the MCBS Data User's Guide: General Information. For discussion on how the weights files were created, please refer to the MCBS Methodology Report. Both documents can be found on the CMS website at https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/MCBS/codebooks.html.

10.36.3 Using weights with data from Topical Questionnaires

To generate estimates using the data from one of the five Topical Questionnaire sections (FOODINS, INCASSET, MCREPLNQ, RXMED, ACCSSMED, and USCARE) on their own or merged with another Survey File segment that does not contain special non-response adjustment weights, the analyst must always use the special non-response adjustment general and replicate weights included in the Topical segment INSTEAD of

[28] Beginning with the 2016 LDS, the Survey File longitudinal weight names reflect the number of years the beneficiary was enrolled in Medicare (i.e., LNG2WGTS weights are referred to as 'two-year' rather than 'one-year' as they represent the population continuously enrolled for two years). This change was made to align the names of the longitudinal weights in the Survey File LDS with the naming convention used for the Cost Supplement LDS.

using the general and replicate weights that appear in the separate weight segments (CENWGTS, EVRWGTS). Note that counts of cases with positive topical module weights may vary within the data year and may change across years due to response rates, sample sizes, and fielding methods. The topical weights account for these changes.

There are no weights that support joint analysis between two topical modules. Each segment with data from Topical Questionnaires has a different set of beneficiaries included. A user could merge data from one Topical segment onto another and then use one of the Topical segment's weights as the Baseline population, but the data will not align and there will be gaps. For some combinations of the different questionnaire sections, the amount of missing data may be small enough that users could still conduct analyses.

The topical weights that are described as "continuously enrolled" weights (e.g., KNCWT, IACWT) correspond to the Survey File continuously enrolled population and can be used to conduct analyses of the topical data as representing the continuously enrolled population and in conjunction with other Survey File data. The topical weights that are described as "ever enrolled" weights (e.g., KNEWT, IAEWT) correspond to the Cost Supplement ever enrolled population and can be used to conduct analyses of the topical data as representing the ever-enrolled population and in conjunction with Cost Supplement data. Weights corresponding to the Survey File ever enrolled population are not available for the topical data. Because the Cost Supplement is available for a smaller subset of the Survey File population, for each topical section the number of beneficiaries with a continuously enrolled topical weight is larger than the number of beneficiaries with an ever enrolled topical weight.

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APPENDICES

12. APPENDICES

Appendix A: MCBS Common Definitions

Activities of daily living (ADLs): Activities of daily living are activities related to personal care. They include bathing or showering, dressing, getting in and out of bed or a chair, walking, using the toilet, and eating.

Baseline interview: The initial questionnaire administered to new respondents to the study; administered in the fall of the year they are selected into the sample (interview #1).

Beneficiary: An individual selected for the MCBS sample about whom the MCBS collects information. Beneficiary may also refer to a person receiving Medicare services who may or not be participating in the MCBS.

Claim-only event: A claim-only event is a medical service or event known only through the presence of a Medicare fee-for-service claim from administrative data. This means that the event represented in the data could not be reconciled with a corresponding survey-reported event.

Community component: Survey of beneficiaries residing in the community (i.e., not in a long-term care facility such as a nursing home) during the reference period covered by the MCBS interview.

Continuing interview: The questionnaire administered to repeat respondents as they progress through the study (interviews #2-12).

Continuously enrolled (aka always enrolled): A Medicare beneficiary who was enrolled in Medicare from the first day of the calendar year until the fall interview and did not die prior to the fall round. This population excludes beneficiaries who enrolled during the calendar year 2015, those who dis-enrolled or died prior to their fall interview, residents of foreign countries, and residents of U.S. possessions and territories.

Core sections: These sections of the MCBS Questionnaire are of critical purpose and policy relevancy to the MCBS, regardless of season of administration.

Crossover: A respondents who enters a long-term care facility setting (e.g., nursing homes) or who alternates between a community and a facility setting.

Current-year enrollee: Beneficiaries who were eligible and enrolled in Medicare (Parts A or B) anytime from January 1 to December 31 of the year the sample was selected.

Ever enrolled: A Medicare beneficiary who was enrolled at any time during the calendar year including those who dis-enrolled or died prior to their fall interview. Excluded from this population are residents of foreign countries and of U.S. possessions and territories.

Exit interview: Conducted in the summer round, this interview completes the respondent's participation in the MCBS (interview #12). The exit interview is a special case of the Continuing interview.

Facility component: Survey of beneficiaries residing in facilities, such as long-term care nursing homes or other institutions, during the reference period covered by the MCBS interview. Facility interviewers do not conduct the Facility component with the respondent, but with a staff member located at the facility.

Fee-for-Service (FFS) payment: Fee-for-Service is a method of paying for medical services in which each service delivered by a provider bears a charge. This charge is paid by the patient receiving the service or by an insurer on behalf of the patient.

Field interviewer: The principal contact for collecting and securing respondent data.

Field manager: A supervisor who motivates and manages a group of field interviewers to meet the goals of high quality data collection on time and within budget limits.

Incoming Panel Sample (formerly known as Supplemental Panel): A scientifically selected group of sampled beneficiaries that enter the MCBS in the fall of a data collection year. One panel is retired during each summer round, and a new panel is selected to replace it each fall round. Panels are identified by the data collection year (e.g., 2015 panel) in which they were selected.

Instrumental Activities of Daily Living (IADLs): Instrumental activities of daily living are activities related to independent living. They include preparing meals, managing money, shopping for groceries or personal items, performing light or heavy housework, and using a telephone. If a beneficiary had any difficulty performing an activity by himself/herself, or did not perform the activity at all, because of health problems, the person was deemed to have a limitation in that activity. The limitation may have been temporary or chronic at the time of the survey. Facility interviewers did not ask about the beneficiary's ability to prepare meals or perform light or heavy housework, since they are not applicable to the beneficiary's situation; however, interviewers did question proxies about the beneficiary's ability to manage money, shop for groceries or personal items, or use a telephone.

Internal Sample Control File: A data file that contains every beneficiary sampled back through the beginning of MCBS. The file contains sampling information, year of selection, primary sampling unit, secondary sampling unit, contact information, and other sampling demographic information as well as final disposition codes to indicate completion status per round, component fielded per round, dates of death, and lost entitlement information.

Long-term care facility: A facility that provides rehabilitative, restorative, and/or ongoing skilled nursing care to patients or residents in need of assistance with activities of daily living.

Medicare: Medicare is the federal health insurance program for people who are 65 or older, certain younger people with disabilities, and people with End-Stage Renal Disease (permanent kidney failure requiring dialysis or a transplant, sometimes called ESRD). The different parts of Medicare help cover specific services:

- Hospital Insurance (Part A): covers inpatient hospital stays, care in a skilled nursing facility, hospice care, and some home health care.
- Medical Insurance (Part B): covers certain doctors' services, outpatient care, medical supplies, and preventative services.
- Medicare Advantage (Part C): an alternative to coverage under traditional Medicare (Parts A and B), a health plan option similar to a Health Maintenance Organization (HMO) or Preferred Provider Organization (PPO) administered by private companies.
- Prescription Drug Coverage (Part D): additional, optional coverage for prescription drugs administered by private companies.

For more information, please visit the Medicare.gov website at https://www.medicare.gov/sign-up-change-plans/decide-how-to-get-medicare/whats-medicare/what-is-medicare.html

Medicare Advantage (MA): Medicare Advantage Plans, sometimes called "Part C" or "MA Plans," are offered by private companies approved by Medicare**.** An MA provides, or arranges for the provision of, a comprehensive package of health care services to enrolled persons for a fixed capitation payment. The term "Medicare Advantage" includes all types of MAs that contract with Medicare, encompassing risk MAs, cost MAs, and health care prepayment plans (HCPPs).

Medicare beneficiary (aka, beneficiary): An individual who meets at least one of three criteria (is aged 65 years or older, is under age 65 with certain disabilities, or is of any age with End-Stage Renal Disease) and is entitled to health insurance benefits. (Source: https://www.cms.gov/Medicare/Medicare-General-Information/MedicareGenInfo/index.html).

Minimum Data Set (MDS): The Minimum Data Set (MDS) is part of the federally mandated process for clinical assessment of all residents in Medicare and Medicaid certified nursing homes. For more information, please visit https://www.cms.gov/Research-Statistics-Data-and-Systems/Computer-Data-and-Systems/Minimum-Data-Set-3-0-Public-Reports/index.html.

Panel: see Incoming Panel sample

Personal health care expenditures: Personal health care expenditures consist of health care goods and services purchased directly by individuals. They exclude public program administration costs, the net cost of private health insurance, research by nonprofit groups and government entities, and the value of new construction put in place for hospitals and nursing homes.

Prescription drugs: The basic unit measuring use of prescription drugs is a single purchase of a single drug in a single container. Prescription drug data are included for beneficiaries living in the community; Prescription drugs administered during an inpatient hospital stay or to beneficiaries living in a facility are not included.

Primary Sampling Unit (PSU): Primary sampling unit refers to sampling units that are selected in the first (primary) stage of a multi-stage sample ultimately aimed at selecting individual elements (Medicare beneficiaries in the case of MCBS). PSUs are made up of major geographic areas consisting of metropolitan areas or groups of rural counties.

Race/ethnicity: Responses to race and ethnicity questions are self-reported by the respondent. Respondents who reported they were white and not of Hispanic origin were coded as white non-Hispanic; those who reported they were black/African-American and not of Hispanic origin were coded as black non-Hispanic; persons who reported they were Hispanic, Latino/Latina, or of Spanish origin, regardless of their race, were coded as Hispanic; persons who reported they were American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, or two or more races and not of Hispanic origin were coded as other race/ethnicity.

Reference Period: The timeframe to which a questionnaire item refers.

Residence status: Medicare beneficiaries who only completed Community interviews during the calendar year are categorized as residing only in the community. Medicare beneficiaries for whom only Facility interviews were completed during the calendar year are categorized as residing only in facilities. Beneficiaries who completed at least one Community interview and for whom at least one Facility interview was conducted during the year are classified as residing in both community and facility

Respondent: The person who answers questions for the MCBS; this person can be the beneficiary, a proxy, or a staff member located at a facility where the beneficiary resides.

Round: The MCBS data collection period. There are three rounds each year: winter (January through April), summer (May through August), and fall (September through December).

Sample person: An individual beneficiary selected from MCBS' Incoming Panel sample to participate in the MCBS survey.

Survey-reported event: A survey-reported event is a medical service or event reported by a respondent during an interview. The event may have been matched to a Medicare fee-for-service claim from administrative data, or it may be a survey-only event, in which case it was not matched to a Medicare claim and is only known through the survey.

Secondary Sampling Unit (SSU): SSUs are made up of census tracts or groups of tracts within the selected PSUs.

Topical sections: Sections of the MCBS Questionnaire that collect information on special interest topics. They may be fielded every round or on a seasonal basis. Specific topics may include housing characteristics, drug coverage, and knowledge about Medicare.

Ultimate Sampling Unit (USU): USUs are Medicare beneficiaries selected from within the selected SSUs.

Appendix B: MCBS Rounds by Data Year and Season

Year	Winter	Summer	Fall
1991	n/a	n/a	1
1992	2	3	4
1993	5	6	7
1994	8	9	10
1995	11	12	13
1996	14	15	16
1997	17	18	19
1998	20	21	22
1999	23	24	25
2000	26	27	28
2001	29	30	31
2002	32	33	34
2003	35	36	37
2004	38	39	40
2005	41	42	43
2006	44	45	46
2007	47	48	49
2008	50	51	52
2009	53	54	55
2010	56	57	58
2011	59	60	61
2012	62	63	64
2013	65	66	67
2014	68	69	70
2015	71/72	71/72	73
2016	74	75	76
2017	77	78	79
2018	80	81	82
2019	83	84	85

Appendix C: Sample Code

Merging Segments within the 2017 Survey File LDS (Section 11.1)

Data users can merge segments within and/or across the Survey File and Cost Supplement File. What follows below is a hypothetical research question with sample SAS© code for the construction of an analytic file. In this example, the MCBS is interested in studying the self-reported general health for community-dwelling Medicare beneficiaries with diabetes.

First, there are two measures required to identify our study population: residence status and self-reported diabetes. These variables can be found in the following Survey File segments, respectively: Demographics (DEMO) and Chronic Conditions (CHRNCOND). General health information is found in the General Health (GENHLTH). To ensure estimates are representative of the continuously enrolled Medicare population, the MCBS will also require the CENWGTS file.

Below, is an example of how multiple Survey File segments can be merged with the CENWGTS segment in SAS using BASEID as the key variable. When merging segments, all observations in the CENWGTS segment should be preserved.

```
data merged;
        merge  survey17.CENWGTS (in = a)
                survey17.DEMO (keep = BASEID H_AGE INT_TYPE)
                survey17.CHRNCOND (keep = BASEID D_OCDTYP)
                survey17.GENHLTH (keep = BASEID GENHELTH);
        by BASEID;
        if a;
run;
```

In order to segment the file to community-dwelling beneficiaries only, the MCBS would then subset the file on the variable INT_TYPE.

```
data merged_surveyfile;
        set merged;
        where INT_TYPE = 'C';  /* denotes individuals living only in the community */
run;
```

The MCBS now has an analytic file that includes all the Survey File variables and weights required to analyze general health for community-dwelling Medicare beneficiaries with diabetes. Data users can export the created dataset for use with R and Stata.

SAS Output:

```
proc print data=merged_surveyfile(obs=10);
        var BASEID H_AGE INT_TYPE D_OCDTYP GENHELTH;
run;
```

Repeated Cross-Sectional or Pooled Analysis (Section 11.4.2)

Sample code and output

The sample code below demonstrates the steps involved in constructing a repeated cross-sectional or pooled analytic dataset and performing analysis. The example below estimates percent of Medicare beneficiaries that are dual eligibles (i.e. enrolled in both Medicare and Medicaid programs) during CY2016 and CY2017.

Although the MCBS includes variables to obtain weighted estimates and estimated standard errors using Taylor-series linearization approach, the balanced repeated replication (Fay's method) method provides more analytic flexibility when performing analysis using pooled cross-sectional data.[29] Therefore, the examples presented in this section involving multiple years of MCBS data use replicate weights – a form of the BRR technique.

Example

```
/* Create Analytic Dataset for Repeated Cross-Section or Pooled Analysis */
/* Merge 2017 administrative records (HISUMRY) file with 2017 cross-sectional weights (CENWGTS) file */
data mcbs17;
        merge survey17.CENWGTS (in = a drop = VERSION)
                survey17.HISUMRY (keep = BASEID H_OPMDCD);
        by BASEID;
        YEAR = 2017;
        if a;
run;

/* Merge 2016 administrative records (HISUMRY) file with 2016 cross-sectional weights (CENWGTS) file */
data mcbs16;
merge survey16.CENWGTS (in = a drop = VERSION rename = (CS1YR001-CS1YR100 = CEYRS001-CEYRS100
                CS1YRWGT = CEYRSWGT))
                survey16.HISUMRY (keep = BASEID H_OPMDCD);
        by BASEID;
        YEAR = 2016;
        if a;
run;


/* Append 2016 and 2017 cross-sectional files */
data mcbs_analytic_file;
        set mcbs16 mcbs17;
run;
```

SAS

```
* Estimate Percent of Dual Eligible Medicare Beneficiaries (Pooled estimate representing the moving average
of nationally representative year-specific estimates) using balanced repeated replication (Fay's method));
proc surveyfreq data = mcbs_analytic_file varmethod = brr (fay=.30);
```

[29] Given the rotating panel design of the MCBS, performing pooled cross-sectional analysis using Taylor-Series Linearization method of variance estimation will require additional adjustments to account for non-independence of beneficiaries across years in a multi-year dataset.

```
    table H_OPMDCD;
    weight CEYRSWGT;
    repweights CEYRS001 - CEYRS100;
run;

* Estimate Percent of Dual Eligible Medicare Beneficiaries by Year (nationally representative, year-specific
estimates) using balanced repeated replication (Fay's method);
proc surveyfreq data = mcbs_analytic_file varmethod = brr (fay=.30);
   table YEAR * H_OPMDCD/ row;
   weight CEYRSWGT;
   repweights CEYRS001 - CEYRS100;
run;
```

Stata

```
* Declare survey dataset
svyset _n [pweight = CEYRSWGT], brrweight(CEYRS001-CEYRS100) fay(.3) vce(brr)

* Estimate Percent of Dual Eligible Medicare Beneficiaries (Pooled estimate representing the
* moving average of nationally representative year-specific estimates)
svy brr, fay(.3): tab H_OPMDCD

* Estimate Percent of Dual Eligible Medicare Beneficiaries (nationally representative, year-specific estimates)
svy brr, fay(.3): tab H_OPMDCD YEAR, column
```

R

Note: Data users will need to install the 'survey' package to use the svrepdesign function below.

```
# Specify survey design object
      mcbs <- svrepdesign(
                        weights = ~CEYRSWGT,
                        repweights = "CEYRS[001-100]+",
                        type = "Fay",
                        rho = 0.3,
                        data = mcbs_analytic_file,
                        combined.weights = TRUE
                       )

# Estimate Percent of Dual Eligible Medicare Beneficiaries by Year (Pooled estimate representing the moving
average of nationally representative year-specific estimates)
prop.table(svytable(~H_OPMDCD,  design=mcbs))

# Estimate Percent of Dual Eligible Medicare Beneficiaries by Year (nationally representative, year-specific
estimates)

prop.table(svytable(~H_OPMDCD + YEAR, design=mcbs), 2)
```

Conducting Subgroup Analyses with Appropriate Variance Estimation

Variance estimation can be impacted by selecting individuals prior to analysis. If the BRR variance estimation method is used, subgroup analyses can be conducted by limiting the dataset to the desired sub-sample. If other variance estimation methods, such as Taylor Series linearization are used, the correct way to analyze MCBS data is to employ domain statements (procs surveymeans, surveylogistic, and surveyreg) or indicator variables in three-way tables (proc surveyfreq).

For indicator variables in three-way tables, you can create flags to help you identify the population of interest. For instance, if you are interested in the prevalence of diabetes in men versus women, but only in the over-65 population in Medicare Advantage, you could use the following SAS code:

```
proc surveyfreq data=mcbsdata VARMETHOD = brr (fay=.30);
    table GENDER * DIABETES * FLAG / col notot;
    weight CEYRSWGT;
    repweights CEYRS001 - CEYRS100;
run;
```

....where the FLAG variable is set to 1 if the beneficiary is over 65 and in Medicare Advantage, 0 otherwise (for example).

Since variance estimation using the BRR approach permits limiting the dataset to the desired sub-sample of interest, the following SAS code can also be used to achieve the same result.

```
data mcbsdata_subset;
    set mcbsdata;
    if FLAG = 1 then output;
run;

proc surveyfreq data=mcbsdata_subset VARMETHOD = brr (fay=.30);
    table GENDER * DIABETES / col notot;
    weight CEYRSWGT;
    repweight CEYRS001 - CEYRS100;
run;
```