

**Supporting Statement B
For Revision of Currently Approved Collection:**

Medicare Current Beneficiary Survey (MCBS)

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B. Statistical Methods

The revision to this OMB package includes the following modifications to the sampling design and Community and Facility instrument sections:

- Modify the sample design permanently by reducing three Primary Sampling Units in Puerto Rico and expanding Hispanic data collection in the continental U.S.
- Discontinue a 12th Exit interview as had previously been collected.
- Revise the Preventive Care Questionnaire (PVQ) to add questions on HIV testing.
- Modify the collection of utilization data by expanding the Dental Utilization Questionnaire (DUQ) into a new section called Dental, Vision, and Hearing Care Utilization Questionnaire (DVH). The section will include parallel measures for vision and hearing as are currently asked for dental utilization.
- Add a new section on Chronic Pain Prevalence and Management (CPQ).
- Revise the Health Status and Functioning (HFQ) section to add three new physical measures and one recall question to measure cognitive functioning.
- Reduce the content of Facility interviews for Medicare certified facilities when CASPER and MDS administrative data are available.
- Discontinue collection of Prescribed Medicines (PM) data during the Facility interview.

B1. Universe and Respondent Selection

The target universe is current Medicare beneficiaries entitled to hospital and/or supplementary medical insurance and living in the 50 states or the District of Columbia. Both institutionalized and non-institutionalized beneficiaries are represented. Table B.1 summarizes the number of beneficiaries in the target universe based on CMS administrative records through 2017 and projected estimates for 2018. The seven age groups shown in the table correspond to the primary sampling strata from which the samples for the MCBS are drawn. The age groups are defined by the beneficiaries' age as of July 1 of the given year for 2013 to 2015, and as of December 31 of the given year for 2016 to 2018.

Table B.1: Universe Counts Broken Down by MCBS Age Groups (in thousands)

Age Interval	2013	2014	2015	2016	2017	2018 (est.)
Disabled <45 44<45	1,754.70	2,081.98	1,938.78	1,888.80	1,842.08	1,879.21
45 to 64	6,291.14	7,147.45	7,207.86	7,150.16	7,076.64	7,219.28
Total	8,045.84	9,229.42	9,146.64	9,038.96	8,918.72	9,098.49
Aged						
65 to 69	10,893.58	13,541.48	15,312.60	15,727.66	15,767.28	16,085.09
70-74	11,010.72	10,973.99	11,640.90	12,401.12	13,080.94	13,344.61
75-79	8,024.64	7,890.82	8,314.00	8,607.10	9,080.94	9,263.98
80-84	5,989.26	5,767.31	5,999.42	6,069.32	6,137.60	6,261.31
85+	7,228.14	6,626.77	7,045.62	6,976.84	7,021.14	7,162.66
Total	43,146.34	44,800.37	48,312.54	49,782.04	51,087.90	52,117.65
Total	51,192.18	54,029.80	57,459.18	58,821.00	60,006.62	61,216.14

Source: Historical counts for 2013-2014 are based on full Medicare administrative records. Historical counts for 2015-2017 are based on a 5-percent extract of the Medicare administrative records and are computed as 20 times the extract counts.

Notes: Puerto Rico beneficiaries are excluded from 2017 counts by sample design. Projections (2018) from the historical counts are based on the annual rate of change from 2016-2017. Totals do not necessarily equal the sum of rounded components.

The target sample size of the MCBS has been designed to yield 10,112¹ completed cases providing Cost Supplement data per year (approximately 900-1,000 disabled enrollees under the age of 65 in each of two age strata, and 1,500-2,000 enrollees in each of five age strata for enrollees 65 and over).

To achieve the desired number of completed cases, the MCBS selects new sample beneficiaries each year (referred to as the incoming panel) to compensate for nonresponse, attrition, and retirement of sampled beneficiaries in the oldest panel (referred to as the exit panel) and to include the newly eligible population, while continuing to interview the non-retired portion of the continuing sample. The incoming panel is always added in the Fall round (also referred to as the baseline interview); the retiring or exit panel occurs in the winter round (and is the 11th and final interview for all respondents).

Each year, an analysis of non-response and attrition is conducted to determine the optimal sample size for the fall round incoming panel. Through 2009, approximately 6,500 beneficiaries were added to the sample in the fall (September – December) round each year to replace the exiting panel and to offset sample losses due to non-response and attrition. Beginning in the fall round of 2010, the number of beneficiaries included in the incoming panel was increased to approximately 7,400 to compensate for declining response rates. By 2017, the sample has increased further to approximately 11,700, with an additional 147 additional cases to support Hispanic oversampling. The sample size results in about 36,000 interviews completed per year.

Proxy interviews are attempted for deceased sample persons. If data are collected through the date of death, then such cases are counted as completes. For sampled beneficiaries who reside in both a community and a facility setting, the round is considered complete if both community and facility interviews are completed. Sampled beneficiaries remain in the survey when they are unavailable for an interview in a given round; that is, they are carried forward into the next round. For these individuals, the reference period for their next interview is longer as it covers the period since their last interview; this ensures that there will not be a gap in coverage of utilization and expenditure data. If a sampled beneficiary is not interviewed for two consecutive rounds, they are not scheduled for any further interviews and are taken out of case management. Such cases are treated as nonresponding cases.

The methodology for drawing the samples is described later in this document. The number of cases to be selected each year for the incoming panel (designated sample sizes) are larger than the targeted number of completes to compensate for non-response, ineligibility, and attrition. To see an illustration of the extent of the compensation necessary in Fall 2016 Round 76 to achieve the desired number of cases providing annual data, see Table B.2.

¹ Note that the historical target of 11,500 responding beneficiaries across all panels was not achievable in 2016; the target was reduced to 10,112, which was the maximum number of completed interviews achievable within budget.

Table B.2: Sample Size Needed to Compensate for Initial Non-Response and Ineligibility in the 2016 Fall Round

Table B.2: Sample Size Needed to Compensate for Initial Non-Response and Ineligibility

Age on December 31 of <u>reference year</u>	Desired average number of <u>cases providing annual data</u>	Number sampled at <u>Round 76*</u>
18-44	332	1,325
45-64	301	827
65-69	692	2,394
70-74	458	1,426
75-79	512	1,799
80-84	502	1,893
85+	575	2,535
Total	3,372	12,200

*Including Hispanic oversampling cases

Cross-sectional sample sizes for other domains. There are multiple domains of interest in the MCBS, (for example, respondents with end-stage renal disease, persons residing in nursing homes, managed care enrollees, beneficiaries of various race and ethnic backgrounds, and Medicaid recipients). The MCBS will continue to maintain a minimum target of 10,000 completed responses in the annual Cost Supplement file to help ensure that analysis can be performed on MCBS data for many domains of interest.

Sample sizes for longitudinal analyses. Beginning in 2018, under the rotating panel design specified for the MCBS, respondents remain in the sample for up to eleven rounds of data collection over a three and a half year time period; prior to 2018, respondents remained in the sample for up to twelve rounds of data collection over a four year period. The historical response rates and attrition rates observed in the MCBS are used to determine the rotational sample size and configuration of each new incoming panel. The rotational sample design attempts to achieve consistency in subgroup sample sizes across all panels comprising a particular calendar year.

Table B.3 (in section B2 below) presents the round-by-round conditional and unconditional response rates as of Round 73 (Fall round of 2015) for the samples (referred to in the table as “panels”) selected in 2008 through 2015. For example, from the bottom part of the table, it can be seen that by the 10th round of data collection for the 2012 panel, 31.8 percent of the 2012 panel were still in a formal responding status (that is, either the sampled beneficiary was alive and still participating in the study or had died but a cooperative proxy was found for the collection of data on the last months of life) or had participated in the survey until death, leaving enough data to estimate the last months of life. For the 2013 and 2014 panels, the unconditional response rates as of Round 73 were 36.6 percent (through the 7th round of data collection) and 40.1 percent (through the 4th round of data collection), respectively. The 2015 panel (the new panel selected in Round 73) had an initial response rate of 53.3 percent in its first round of data collection.

Round 73 (Fall 2015) is the latest round for which MCBS data have been fully processed. There were 2,226 interviews successfully completed at Round 73 with still-living members of the 2012 panel. For brevity, we refer to these 2,226 interviews as “live completes.” For the 2013 and 2014

panels there were 2,555 and 4,327 live Round 73 completes, respectively. For the first round of data collection for the 2015 panel, there were 4,352 completes at Round 73.

The MCBS has used a variety of techniques to maintain respondents in the survey and reduce attrition. These will be continued and adapted to comply with the time frames for initiating and implementing the continuing sample.

B2. Procedures for Collecting Information

This section describes the procedures used to select the samples for the national survey. It includes a general discussion of the statistical methodology for stratification and rotational panel selection, estimation procedures, and the degree of accuracy needed. This is followed by a presentation of how instrument sections are used to enhance the analytic potential of the MCBS data. Finally, there is a discussion of rules for allowing proxy response.

a. Statistical Methodology for Stratification and Sample Selection

This section opens with a description of the MCBS sample design. This is followed by a general discussion of the selection of the original and annual new incoming (historically referred to as supplemental) samples and the use of Medicare administrative enrollment data each year to reduce problems associated with duplication of samples across the years.

- 1) PSU and Census tract clustering. The MCBS employs a complex multistage probability sample design. At the first stage of selection, the sample consists of 107 primary sampling units (PSUs) defined to be metropolitan areas and clusters of nonmetropolitan counties. At the second stage of selection, samples of Census tracts are selected within the sampled PSUs. At the third and final stage of selection, stratified samples of beneficiaries within the selected Census tracts are sampled at rates that depend on age group and race/ethnicity. Three PSUs located in Puerto Rico have been eliminated from the sample design leaving 104 PSUs for sample selection. As with many federal surveys, when the survey was developed in 1991, the MCBS Hispanic sample was predominantly drawn from PSUs in Puerto Rico and Puerto Rican beneficiaries residing in the continental U.S. As the Hispanic population has changed drastically over the past 25 years, and the Puerto Rico health care system and Medicare experience is completely different from that of individuals in the continental U.S., the MCBS began an oversample of CONUS Hispanics beginning in Fall 2015 (Round 73) continuing with Fall 2018 (Round 82) to realign the Hispanic population of the survey to be consistent with the population in the continental U.S. and to allow for reliable estimates of this vulnerable elderly population. As the Puerto Rico PSUs were not self-representing, they were never designed to produce estimates for the territory of Puerto Rico. CMS had intended to stop data collection in Puerto Rico in 2018. However, with Hurricane Maria devastating the Puerto Rico infrastructure, extended periods without electricity, and the difficulty in tracking those respondents who relocated, discontinuing the Puerto Rico PSUs took place in Fall 2017 (Round 79) instead of in Fall 2018 (Round 82). The Puerto Rico PSU respondents were replaced with additional CONUS Hispanic beneficiaries by additional oversampling when releasing cases to the field, as much as possible mid-operation.

In 2019 and beyond, the strata used for selection of the PSUs will cover the 50 states and the District of Columbia. Since PSUs were selected randomly with probabilities proportionate to size, there are some states without any sample PSUs within their boundaries. Within major strata defined by region and metropolitan status, PSUs were sorted by percent of beneficiaries

enrolled in HMOs and/or percent of beneficiaries who are minorities based on data in CMS administrative files. Substrata of roughly equal size were created from the ordered list for sample selection.

In 2014, within the PSUs, a sample of 703 second-stage units (SSUs) consisting of Census tracts or clusters of adjacent tracts was selected. There were several steps in the SSU sampling process. First, an extract of the entire Medicare administrative enrollment database was obtained, and all beneficiaries' addresses were geocoded to the tract level. A minimum measure of size was used to determine whether a Census tract was large enough (i.e., had enough Medicare beneficiaries) to stand on its own as an SSU or would need to be combined with one or more adjacent tracts. A frame of 24,212 SSUs was then constructed, and a sample of 703 SSUs was selected using systematic probability proportional to size. These SSUs have been used for sampling MCBS beneficiaries since 2014 and were sized to be used for up to 20 years. An additional sample of 339 reserve SSUs was also selected to support an expansion of the sample or the study of special rare populations in future years. To date, these reserve SSUs have not yet been used for sampling for the MCBS.

Table B.3: Conditional and Unconditional Response Rates as of the 2015 Panel for Medicare Current Beneficiary Survey by Interview Round

Conditional Response Rates for Medicare Current Beneficiary Survey by Interview

Round	2008 Panel (n=5532)	2009 Panel (n=6915)	2010 Panel (n=7260)	2011 Panel (n=7365)	2012 Panel (n=7400)	2013 Panel (n=7400)	2014 Panel* (n=11398)	2015 Panel (n=8621)
Round 1	78.0%	77.5%	77.5%	77.4%	73.2%	72.8%	58.7%	53.3%
Round 2	90.5%	89.4%	89.0%	88.7%	87.6%	87.4%	**	
Round 3	93.4%	91.3%	92.7%	91.4%	92.4%	92.1%	82.1%	
Round 4	94.5%	93.9%	93.3%	91.9%	92.3%	78.5%	84.1%	
Round 5	96.3%	95.3%	94.8%	94.0%	94.3%	**		
Round 6	96.7%	96.3%	94.7%	95.4%	94.3%	86.9%		
Round 7	96.8%	96.0%	94.2%	94.8%	80.7%	87.6%		
Round 8	97.1%	96.8%	96.2%	96.2%	**			
Round 9	97.4%	96.4%	96.8%	96.3%	89.8%			
Round 10	98.0%	96.5%	97.1%	86.2%	90.1%			
Round 11	98.8%	99.1%	98.8%	**				
Round 12	99.7%	99.6%	99.6%	96.9%				

Unconditional Response Rate for Medicare Current Beneficiary Survey by Interview Round								
Round	2008	2009	2010	2011	2012	2013	2014	2015
Round 1	78.0%	77.5%	77.5%	77.4%	73.2%	72.8%	58.7%	53.3%
Round 2	70.5%	69.2%	68.8%	68.5%	63.9%	63.4%	**	
Round 3	61.2%	58.4%	60.4%	62.6%	58.6%	57.9%	48.1%	
Round 4	61.8%	59.4%	59.6%	57.2%	53.5%	44.8%	40.1%	
Round 5	58.7%	55.4%	55.8%	53.4%	50.1%	**		
Round 6	52.6%	48.7%	52.5%	50.1%	46.4%	42.1%		
Round 7	54.4%	50.7%	49.0%	47.3%	37.2%	36.6%		
Round 8	52.0%	48.3%	46.8%	45.1%	**			
Round 9	46.7%	46.3%	44.7%	42.5%	35.5%			
Round 10	48.9%	44.2%	43.0%	36.3%	31.8%			
Round 11	47.6%	43.4%	42.0%	***				
Round 12	43.6%	39.5%	38.3%	34.4%				

* The 2014 panel response rate was impacted by several operational design changes recognized during the transition between contractors in 2014, including an extensive CAPI instrument development effort originally considered out-of-scope for transition purposes, the initial need to release a larger 2014 incoming panel sample to account for a smaller continuing sample fielded in the fall of 2014, the hiring and training of 100 new interviewers for MCBS data collection, and the decision to extend the incoming panel data collection through the release of additional replicates in December 2014, resulting in a shorter data collection period and consequently lower response rate for 2,500 sample members.

** Not available because the 2015 winter and summer rounds (R71 and R72) were combined for data

collection in this year only. Again, this was due to transition activities that started in 2014 and was completed in 2015.

- 2) Selection of beneficiaries. In the Fall 2016 Round 76, an incoming panel sample of 12,171 beneficiaries was selected from the Medicare administrative enrollment data. This sample was clustered within the selected PSUs and SSUs and was designed to achieve uniform sampling weights within each strata. Beginning in 2015, beneficiaries eligible *anytime* during the sampling year are also included in the Medicare administrative enrollment sampling frame (referred to as newly eligible beneficiaries). Their inclusion allows for the release of data files up to one year earlier than previously possible.² Also beginning in 2015, Hispanic beneficiaries living outside of Puerto Rico were oversampled. Nursing home residents are drawn into the sample in exactly the same manner as other beneficiaries residing in the community.

b. Estimation Procedure

To date, sampling weights have been calculated for each Fall round (1, 4, 7..., and 76) in order to produce the Survey File limited data sets (previously referred to as the Access to Care files). Both cross-sectional and longitudinal weights have been calculated. These weights reflect differential probabilities of selection and were adjusted to account for overlapping coverage of the panels included in the Survey File and non- response. Replicate weights were also calculated so that users can calculate standard errors using replication methods. In addition to the replicate weights, stratum and unit codes exist on each weight file for users who prefer to use Taylor Series methods to estimate variances.

Besides standard weighting and replicate weighting, another part of the estimation program includes the full imputation of the data sets to compensate for item non-response. Imputation of charges for non-covered services and sources of payment for covered services in the Cost Supplement files have been developed. The weighting and imputation of data continue each year.

c. Degree of accuracy needed for the purpose described in the justification

A broad range of statistics are produced from the MCBS. There is no single attribute of beneficiaries and their medical expenses that stands out as the primary goal of the survey. Thus, there can be no simple criterion for the degree of reliability that statistics for each analytic domain should satisfy. Even with a sample size of 14,000 to 15,000 persons, there will be many small domains of interest for which it will be necessary to use modeling techniques or to wait several years for sufficient data to accumulate.

The MCBS will maintain a stratified approach to the selection of the sample. The sample will continue to be clustered by PSU and Census tract-based SSU and stratified by age domain and race/ethnicity; the tract-based SSU approach was an innovation first begun in 2014 which has resulted in greater efficiencies and increased analytic opportunities. We anticipate maintaining a total of 1,800-2,000 annual cases allocated to the two younger age categories for disabled beneficiaries who are not yet 65. The two age categories were selected because they indirectly reflect the means by which the disabled person becomes eligible for Medicare. Since the number of disabled sample persons per PSU and Census tract will be small, the effects of clustering on

² Persons who became eligible for Medicare during 2015 could have incurred health care costs in 2015. By including such persons in the sampling process up to a year earlier than was done previously, they can be appropriately represented in the 2015 Cost Supplement File up to a year earlier.

statistical precision should be mild for this subgroup. For example, depending on the prevalence of the characteristic being estimated, the MCBS has achieved standard errors for estimates of percentages ranging from 2-3% or lower for subgroup estimates based on 1,000 respondents. Since many of the cost and reimbursement statistics derived from the MCBS may be heavily right-skewed (i.e., reflecting the higher end of the cost/reimbursement spectrum to a disproportionate degree), the accuracy may be lower in relative terms but still acceptable. For example, the relative standard error of the mean total Medicare reimbursements derived from the MCBS has generally ranged from 2.0-2.5% for the total sample, and 4.0-8.0% for subgroups.

Each of the age strata for the Medicare sample age 65 and over will be allocated 1,500-2,000 cases, with the oldest stratum (age 85 and over) being allocated about 1,700 cases with oversampling. A major reason for over sampling the very old is to obtain an adequate sample of nursing home stays. Variations in sampling weights across the age strata and clustering within PSU and Census tract will inflate sampling errors, but the resulting effective sample sizes should be adequate for most analyses.

d. Interview content for periodic data collection cycles to reduce burden.

1) Content and timing of instrument sections.

The primary variables of interest for the MCBS are the use and cost of health care services and associated sources and amounts of payment. While Medicare claims files supply information on billed amounts and Medicare payments for covered services, the survey provides important self-reported information on use of services not covered by Medicare and on payment sources and amounts for costs not reimbursed by Medicare. For both the Community and Facility components, the primary focus of the data collection is on use of services (dental, hospital, physician, medical providers, prescription medication and other medical services), sources and amounts of payment, and health insurance coverage. The MCBS interview collects continuous information on these items through thrice-yearly interviews; that is, once a new respondent completes their baseline interview, they are asked utilization and cost questions each round.

Continuous data on utilization and expenditures are required for a number of reasons. First, several of the distinct expenditure categories involve relatively rare medical events (inpatient hospital stays, use of home health care, purchase of durable medical equipment, and so forth), so limiting the reference period would mean insufficient observations for annual estimates. Second, episodes of medical care often consist of a series of services over weeks or months; data collected several times a year allow examination of the grouping of services and costs around particular episodes of care. Third, payment for medical services often occurs considerably later than the utilization, so collection of complete information about a particular event can often only be obtained sometime after the event occurs.

The administration of the instruments will continue to follow the established pattern of data collection. Baseline information will be collected in the initial interview with new incoming panel respondents. This will be followed with 10 interviews to collect utilization, cost and other important topics. Since the initial interview always occurs in the last four months of a calendar year, collection of utilization and expenditure data in the second interview means the reference period will always begin prior to January 1st. This creates use and expenditure estimates on a calendar year basis.

The literature (initially reported by Neter and Waksberg in 1964, and confirmed in

subsequent research by other analysts) indicates that collection of behavioral information in an unbounded recall period can result in large recall errors. The incoming panel interviews covered in this clearance request - Fall 2019 (Round 85), Fall 2020 (Round 88), and Fall 2021 (Round 91) -prepares the respondent for the collection of utilization and expenditure information in subsequent rounds, thus “bounding” the recall period for the next interview. During the baseline interview, the respondent is provided with a calendar and interviewers emphasize the importance of this tool for use in future interviews. This calendar marks the recall period for the respondent and serves as the means to record utilization as well as a prompt to retain statements and bills.

2) Content of the instruments, Rounds 83-91.

Nearly all of the instruments sections as currently approved by OMB are unchanged. Table B.4 presents the core and topical sections that comprise the MCBS Community instrument. As shown in the table, the content and order of administration varies based on season of data collection (Fall, Winter, Summer) and the type of interview (Baseline, Continuing). Those sections with an asterisk (*) include a revision contained in this clearance request (either adding or deleting questions).

Table B.4: Community Instrument Sections and Order of Administration

Section Listed in the order in which the section is administered.	Type of Section (Core or Topical)	Season of Administration (Rounds Administered)	Interview Type (Baseline, Continuing, Both)
Introduction (INQ)	Core	All (Round 83-91)	Both
Enumeration (ENS)	Core	All (Round 83-91)	Both
Housing Characteristics (HAQ)	Topical	Fall (Rounds 85, 88, 91)	Both
Health Insurance (HIQ)	Core	All (Round 83-91)	Both
Dental, Vision, and Hearing Care Utilization (DVH)*	Core	All (Round 83-91)	Continuing
Emergency Room Utilization (ERQ)	Core	All (Round 83-91)	Continuing
Inpatient Utilization (IPQ)	Core	All (Round 83-91)	Continuing
Outpatient Utilization (OPQ)	Core	All (Round 83-91)	Continuing
Institutional Utilization (IUQ)	Core	All (Round 83-91)	Continuing
Home Health Summary (HHS)	Core	All (Round 83-91)	Continuing
Home Health Utilization (HHQ)	Core	All (Round 83-91)	Continuing
Medical Provider Utilization (MPQ)	Core	All (Round 83-91)	Continuing
Access to Care (ACQ)	Core	Winter (Rounds 83, 86, 89)	Continuing
Prescribed Medicine Utilization (PMQ)	Core	All (Round 83-91)	Continuing
Other Medical Expenses (OMQ)	Core	All (Round 83-91)	Continuing
Statement Cost Series (STQ)	Core	All (Round 83-91)	Continuing
Post-Statement Cost (PSQ)	Core	All (Round 83-91)	Continuing
No Statement Cost Series (NSQ)	Core	All (Round 83-91)	Continuing
Cost Payment Summary (CPS)	Core	All (Round 83-91)	Continuing

Section Listed in the order in which the section is administered.	Type of Section (Core or Topical)	Season of Administration (Rounds Administered)	Interview Type (Baseline, Continuing, Both)
Mobility of Beneficiaries (MBQ)	Topical	All (Round 83-91)	Both
Preventive Care (PVQ)*	Topical	All (Round 83-91)	Both
Health Status and Functioning (HFQ)*	Core	Fall (Rounds 85, 88, 91)	Both
Chronic Pain (CPQ)*	Topical	Summer (Rounds 84, 87, 90)	Continuing
Nicotine and Alcohol Use (NAQ)	Topical	Fall (Rounds 85, 88, 91)	Both
Satisfaction with Care (SCQ)	Core	Fall (Rounds 85, 88, 91)	Both
Demographics and Income (DIQ)	Core	Fall (Rounds 85, 88, 91)	Baseline
Beneficiary Knowledge and Information Needs (KNQ)	Topical	Winter (Rounds 83, 86, 89)	Continuing
Usual Source of Care (USQ)	Core	Winter (Rounds 83, 86, 89)	Continuing
Income and Assets (IAQ)	Core	Summer (Rounds 84, 87, 90)	Continuing
Chronic Pain Questionnaire (CPQ)	Topical	Summer (Rounds 84, 87, 90)	Continuing
Drug Coverage (RXQ)	Topical	Summer (Rounds 84, 87, 90)	Continuing
Chronic Pain (CPQ)	Topical	Summer (Rounds 84, 87, 90)	Continuing
End Section	Core	All (Round 83-91)	Both

The Facility instrument collects information that is similar in content to the Community instrument. Table B.5 presents the sections that comprise the MCBS Facility instrument; all sections are considered core. As with the Community instrument, the content and order of administration varies based on season of data collection (Fall, Winter, Summer) and the type of interview (baseline, continuing).

Section	Season of Administration (Rounds Administered)	Interview Type (Baseline, Continuing, Both)
Facility Questionnaire (FQ)*	All (Round 83-91)	Both
Residence History (RH)	All (Round 83-91)	Both
Background Questionnaire (BQ)*	Fall (Rounds 85, 88, 91)	Baseline
Health Insurance (IN)*	All (Round 83-91)	Both
Use of Health Services (US)	All (Round 83-91)	Continuing
Expenditures (EX)*	All (Round 83-91)	Continuing
Health Status (HS)*	Fall (Rounds 85, 88, 91)	Both
Facility Questionnaire Missing Data [^]	All (Round 83-91)	Both
Residence History Missing Data [^]	All (Round 83-91)	Both
Background Questionnaire Missing Data [^]	Fall (Rounds 85, 88, 91)	Baseline

[^]Section only activated and available for administration when critical data points from the FQ, RH, or BQ sections are marked as missing, Don't Know, or Refused.

The revision to this OMB package includes the following content changes to the Community instrument and Facility instrument.

Summary of instrument changes beginning in Winter 2019 Round 83 through Fall 2021 Round 91:

- A change to the flow of the Facility instrument beginning in Fall 2019 such that portions of the Facility Questionnaire (FQ), Health Status (HS), Background Questionnaire (BQ), Health Insurance (IN), and Expenditures (EX) sections of the Facility instrument are not administered when CASPER and MDS administrative data are available for a MCBS facility-dwelling beneficiary.
- Elimination of the Prescribed Medicines (PM) section of the Facility instrument starting in Winter 2019.
- Expand the Dental Utilization Questionnaire (DUQ) into a new section called Dental, Vision, and Hearing Care Utilization Questionnaire (DVH) that will begin in Winter 2019. The section will include parallel measures for vision and hearing as those used for dental utilization.
- Revise the Preventive Care Questionnaire (PVQ) to add questions on HIV testing that will begin in Fall 2019.
- Revise the Health Status and Functioning (HFQ) section to add three new physical measures and one recall question to measure cognitive functioning, that will begin in Fall 2019.
- Add a new section on Chronic Pain Prevalence and Management (CPQ) that will begin Summer 2019.

The goal of changes to the Facility instrument is to leverage existing administrative data to reduce respondent burden. The goal of these changes to the Community instrument is to bring the MCBS questionnaire in line with other national surveys and to fill data gaps in areas that impact Medicare beneficiaries.

Changes to the Facility Instrument Flow

Changes to the Facility instrument flow beginning Fall 2019 Round 85 are designed to take advantage of existing CMS administrative data to reduce respondent burden. During the Facility interview, interviewers collect data about MCBS facility-dwelling beneficiaries by administering CAPI instrument sections to facility staff and abstracting information from medical documentation. For interviews conducted at Medicare- or Medicaid-certified facilities, selected questions in the MCBS Facility instrument are redundant with administrative data that are reported regularly to CMS. These data sources include the Long-Term Care Minimum Data Set (MDS), which is a federally-mandated health assessment of residents living in Medicare- and Medicaid-certified nursing homes, and Certification and Survey Provider Enhanced Reports (CASPER), which contains certification data and provider characteristics for every facility in the United States that is qualified to provide services under Medicare or Medicaid.

Starting in Fall 2019 Round 85, a small set of questions will be added to the Facility questionnaire (FQ) section to verify whether the facility is Medicare- or Medicaid-certified and therefore meets CMS' reporting requirements for MDS and CASPER administrative data. If a facility's certification and reporting status is confirmed, the Facility interview will skip close to 130 questions (approximately 40 questions in the Facility questionnaire (FQ) section, 80 questions in

the Health Status (HS) section, 3 questions in the Background (BQ) section, 4 questions in the Health Insurance (IN) section, and 2 questions in the Expenditures (EX) section) that are redundant with CASPER and MDS administrative data. For interviews conducted at facilities not certified by Medicare or Medicaid, the full Facility instrument will be administered. Survey-collected data elements will be combined with CASPER and MDS administrative data to provide complete information for all MCBS facility-dwelling beneficiaries. These changes to the Facility instrument will reduce burden for approximately 40% of annual facility cases, which are expected to reside in facilities meeting CMS' certification and reporting requirements.

Starting in Winter 2019, collection of prescribed medicine data during the Facility interview will be discontinued. The decision was made to eliminate the Prescribed Medicines (PM) section of the Facility instrument due to an analysis which revealed that prescribed medicine data collected during the Facility interview were not incorporated into data products shared with users. Further, analysis revealed that this information can be provided via other sources such as the Medicare Part D claims data, which are currently included in the Cost Supplement file.

Revisions to Dental, Vision, and Hearing Utilization

Beginning in Winter 2019, a revised Dental Utilization Questionnaire (DUQ) will be implemented to include vision and hearing utilization. Specifically, the revised section called Dental, Vision, and Hearing Utilization Care (DVH) will capture more detail associated with each vision and hearing provider visit, such as provider name, specialization, visit date, and procedures and/or medicines prescribed during each visit. Moreover, because DVH will collect more detail on each vision and hearing provider visit, data users will be able to identify these types of visits for analysis, which is currently not possible because vision and hearing visits are indistinguishable from other kinds of medical provider visits collected in the Medical Provider Utilization Questionnaire (MPQ). The DVH will also include existing questions about vision and hearing utilization, migrated from their current location in the Other Medical Expenses Questionnaire (OMQ) and the Health Status and Functioning Questionnaire (HFQ) sections. This change will facilitate a more streamlined flow of questions about vision and hearing utilization.

Ultimately, the revised DVH section will contribute to CMS' understanding of beneficiaries' use of vision and hearing health care services and associated out-of-pocket costs by providing detailed utilization data and improving CMS' ability to link cost and use for these services.

Revision to Preventive Care (PVQ) to Include Testing for HIV

Claims-based analyses have suggested very low uptake by beneficiaries on obtaining these important screening services. Many national health surveys include screenings for HIV; as CMS continues to modernize the MCBS, these data gaps should be addressed. Given the potential benefits of these preventive services to Medicare beneficiaries, CMS recommends adding these screening items to generate survey-based estimates of the frequency with which they are administered. There are four items on HIV testing which will be added to the Preventive Care (PVQ) section starting in Fall 2019, including two from the NHIS and two from the National HIV Behavioral Surveillance System (NHBS). The first item will be administered to all respondents in Fall 2019 and will ask whether the respondent has ever been tested for HIV. For those who respond yes, they will be asked for the date of their most recent HIV test. For those who respond no, they will be asked for the main reason they have not been tested. In total, each respondent will receive two items about HIV testing in Fall 2019. In future Fall rounds (Fall

2020 and beyond), Baseline respondents will follow the administration pattern described above. Continuing respondents who have not previously been tested for HIV will receive a modified introductory item while Continuing respondents who previously reported receipt of HIV testing will skip these items entirely.

Addition of Physical and Cognitive Measures

Measuring the prevalence of functional limitations in the Medicare population is important to understanding whether the needs of beneficiaries are being met through either paid or unpaid help and to measuring the impact on current and future health care costs.³ Performance on physical measures, such as a timed walk and standing chair lift, can be an early predictor of developing future difficulties with activities of daily living (ADL). As shown by Gill et al., “simple tests of physical performance are strong and independent predictors of functional dependence.”⁴ Similarly, mild cognitive impairment is linked with increased difficulties with ADLs and Instrumental Activities of Daily Living (IADL), but the signs of cognitive impairment may be present before the respondent self-reports any functional limitations.⁵ Incorporating physical or cognitive measures to the MCBS protocol will provide researchers with data both to understand the trajectory of functional dependence and to explore the relationship of these early indicators to health care utilization and costs.

The following physical and cognitive measures are scheduled to be added to the MCBS in the Health Status and Functioning (HFQ) section of the Community instrument beginning in Fall 2019. The physical measures were successfully tested and implemented on the National Social Life, Health, and Aging Project (NSHAP); the cognitive measures were successfully tested and implemented on the Health and Retirement Study (HRS). Both NSHAP and HRS are surveys of the older adult population, making CMS confident that these measures will perform as expected in the MCBS and that MCBS field interviewers can be successfully trained to administer the measures in the field.

- Physical measures:
 - Gait speed: Respondents are asked to walk a short distance at their usual pace. The time needed to cover the specified distance is recorded.
 - Balance test: Respondents are asked to stand in a series of particular positions for a given amount of time; most common is a progressively difficult set of positions (side-by-side, semi-tandem, tandem). The qualitative outcome of each position is recorded (i.e., whether the respondent was able to maintain each pose).
 - Chair Stand Test: First, the respondent completes a single chair stand, in which he/she stands from a seated position while keeping his/her arms folded across the chest, and returns to a seated position; the qualitative outcome of the single chair stand is recorded (e.g., respondent used arms, respondent unable to do, etc.). Second, the respondent completes five chair stands as quickly as possible; the time needed to complete five chair stands is recorded.

³ Centers for Medicare and Medicaid Services (2014, July). Are Medicare Beneficiaries Getting the Help They Need with Home-Based Care? (MCBS Data Brief 002).

⁴ Gill, T, et al. (1995). Assessing Risk for the Onset of Functional Dependence among Older Adults: The Role of Physical Performance. *Journal of American Geriatric Society*. 43:603-609, 1995.

⁵ Puente, A, et al. (2014) Functional Impairment in Mild Cognitive Impairment Evidenced Using Performance-Based Measurement. *Journal of Geriatric Psychiatry and Neurology*. December 2014 vol. 27 no. 4 253-258.

- Cognitive recall measure. This measure involves the following four tasks:
 - Backwards Counting: Respondents are asked to count backwards for 10 continuous numbers.
 - Date Naming: Respondents are asked to name today's date.
 - Object Naming: Respondents are asked to answer two questions: “What do you usually use to cut paper?” and “What do you call the kind of prickly plant that grows in the desert?”
 - President/Vice President Naming: Respondents are asked to name the current President/Vice President.

Addition of Section to Measure Chronic Pain Prevalence and Management

The MCBS currently has a couple of questions that measure pain medication or pain management. Starting in Summer 2018, the MCBS will add a short Chronic Pain Questionnaire (CPQ) section that seeks to measure prevalence and self-management of chronic pain. The Interagency Pain Research Coordinating Committee (IPRCC) is a Federal advisory committee created by the Department of Health and Human Services to enhance pain research efforts and promote collaboration across the government, with the ultimate goals of advancing the fundamental understanding of pain and improving pain-related treatment strategies⁶. To increase the quantity and quality of what is known about chronic pain within the U.S. population, the IPRCC created the National Pain Strategy (NPS). The NPS recommends specific steps to increase the precision of information about chronic pain prevalence overall, for specific types of pain, and in specific population groups and to track changes in pain prevalence, impact, and treatment over time in order to enable evaluation of population-level interventions and identification of emerging needs.

The NPS Interagency Working Group has addressed this emerging public health concern by developing questions to be included in federal surveys such as the National Health Interview Survey (NHIS) and other relevant federal surveys where the understanding and measurement of pain will assist researchers in developing this strategy. The Interagency Working Group developed a set of questions which will be included in a pain supplement for the 2018 NHIS (OMB clearance 0920-0214). CMS has also been asked to include these questions on the Medicare Current Beneficiary Survey (MCBS) to assist in the identification of and prevalence of pain in both the disabled and elderly Medicare populations, which can then be used with administrative claims data and prescription medicine data to enhance analysis. Adding these questions to the MCBS will assist in understanding the prevalence of pain in the elderly and the disabled Medicare populations and assist in the identification of current treatment modalities for beneficiaries reporting chronic pain, including the use of opioids and alternative medical interventions. This would lead to a more timely release of these data, helping to address public health concerns related to pain prevalence, pain management and the opioid crisis. The questions are derived from those used on the Consumer Assessment of Healthcare Providers & Systems (CAHPS) and are comparable to those planned for fielding in the NHIS.

e. Rounds 83 through 91 data collection procedures.

- 1) Interviews with incoming panel sample persons in community. In the Fall rounds (Round 85, 88, 91), all newly selected beneficiaries will be sent a Community Advance Letter (Attachment 2) from the Centers for Medicare and Medicaid Services. Field interviewers

⁶ [Interagency Pain Research Coordinating Committee](#)

will carry copies of the advance letter for respondents who do not recall receiving one in the mail, as well as a copy of the MCBS Community Brochure and At the Door Sheet (Attachment 2).

The Community interviews (Rounds 83-91) will be administered to the respondent or a designated proxy using a CAPI program on a laptop computer. Attachment 3 includes a copy of all questionnaire sections administered in the baseline interview, the continuing interview, and the showcards used by the interviewer to assist in the interviewing process.

At the completion of the baseline interview (Rounds 85, 88, 91), each new respondent is provided with a MCBS calendar (Attachment 2), on which he or she is encouraged to record health care events. The same calendar is provided to all Continuing Community respondents on a calendar year basis.

- 2) Interviews with sample persons in institutions. All Facility interviews are administered to facility staff using a CAPI program on a laptop computer. For all facility residents, the Facility Eligibility Screener is administered each time a respondent is found to have entered a facility, or in the case of baseline respondents, is currently in a facility (Attachment 4). The Facility instrument to be used in Rounds 83-91 is shown in Attachment 5.

Some facility administrators will require consent of the sample person or a next of kin before releasing any information. The data collection contractor will offer to obtain such written consent, using the Resident Consent Form, and Next of Kin Consent Form. These forms as well as a HIPAA letter are included in Attachment 6.

f. Proxy rules.

For Community respondents, the preferred mode is self-response. Respondents are asked to designate proxy respondents. These are individuals who are knowledgeable about the respondent's health care. In the MCBS, only those individuals who are designated by the respondents can serve as proxy respondents.

Upon screening a facility where a facility resident is residing, the interviewers determine the appropriate staff at the facility best able to respond. MCBS interviewers do not interview residents in a facility. Instead, interviewers are trained to determine and seek out the appropriate staff for when appropriate, interviewers abstract information from available facility records. If a respondent is incarcerated, we do not seek self-response within a prison, but rather monitor the respondent's incarceration status should the person be released. Other institutions will be treated on a case-by-case basis.

B3. Methods for Maximizing Response Rates and Dealing with Issues of Non-Response

The sample for the MCBS is a heterogeneous population that presents a unique challenge for maximizing response rates. The survey selects respondents from two Medicare groups—those age 65 and over and those younger than 65 who have disabilities. Both of these groups have characteristics that often lead to refusals on surveys. Increasing age, poor health or poor health of a family member are prevalent reasons for refusal. On the other hand, older persons are the least mobile segment of the population and thus, for a longitudinal survey, less likely to be lost due to failure to locate. Recent data on the MCBS indicate that the population aged under 65 tends to have a slightly higher response rate than the aged population.

Because this is a longitudinal survey, it is essential that we maximize the response rates. In order to do so, data collection staff undertakes an extensive outreach effort each round. This includes the notification of government entities about the survey including CMS regional offices and hotline, carriers and fiscal intermediaries, and Social Security Offices, national organizations including the AARP and various community groups (e.g., social service and health departments, home health agencies, state advocates for the elderly and area agencies on aging). These efforts are undertaken to answer questions or concerns that respondents may have in order to increase the likelihood that respondents would participate in the MCBS and remain in the survey panel. Specifically, efforts to maximize response rates include: 1) informing authoritative sources to whom respondents are likely to turn if they question the legitimacy of the MCBS; 2) giving interviewers resources to which they can refer to reassure respondents of the legitimacy/importance of the survey; and 3) generally making information about MCBS available through senior centers and other networks to which respondents are likely to belong or reach out to (such as the 1-800-Medicare hotline).

In addition to outreach, the following efforts remain in place to maintain a sense of validity and relevance among the survey participants.

- a. An advance letter is sent to both sampled beneficiaries and facility administrators from CMS with the Privacy Officer's signature. This includes an informational brochure answering anticipated questions (Attachment 2).
- b. A handout with Privacy Act information and an appeal to participate is given to the respondent at the door by the interviewer.
- c. Interviewer training emphasizes techniques and approaches effective in communicating with the older and disabled population and ways to overcome difficulties respondents may have in participating.
- d. Individualized non-response letters are sent to respondents who refuse to participate (example included in Attachment 2). These letters are used when deemed appropriate by the field management staff.
- e. NORC field management staff are specialized to follow up with respondents who express concerns about participating due to privacy or confidentiality questions.
- f. Proxy respondents are sought for respondents unable to participate for themselves in order to keep respondents in the survey over the life of the panel.
- g. Non-respondents are re-contacted by a refusal conversion specialist.
- h. A dedicated project email address (mcbs@norc.org) and toll-free number (1-877-389-3429) is available to answer respondent's questions. This information is contained on various materials provided to the respondent.
- i. An MCBS website (mcbs.norc.org) contains information for respondents on the project. Respondents are also informed about the CMS MCBS Project Page - www.cms.gov/mcbs
- j. Respondents receive an annual MCBS newsletter, which includes information about the survey as well as seasonal topics such as winter safety tips for seniors. Attachment 2 contains an example of a recent newsletter.
- k. Whenever possible, the respondent is paired with the same interviewer throughout the survey. This maintains rapport and establishes continuity of process in the interview.
- l. Interviewers are trained to utilize personal touches such as thank you notes and birthday cards to maintain contact with respondents.

A non-response bias analysis for the MCBS was conducted in 2017. Fall 2015 respondents and non-respondents were compared on various measures, including frame characteristics, Medicare claims payments, and chronic conditions, in order to identify areas of potential bias. The only statistically significant differences were found among frame characteristics. For the 2015 Panel, non-respondents appear more likely to be female and older, and slightly less likely to be non-Hispanic black. Among the continuing panels, however, non-respondents tend to skew younger. None of the differences is large in a practical sense. The weighting procedure includes a raking step that accounts for all of the frame characteristics for which differences were found. Thus, the small potential bias identified via these analyses is expected to be minimized by the weighting procedures. In contrast to most surveys, the MCBS has a large amount of information to characterize non-respondents. This information, including Medicare claims data, can be used for imputation if necessary.

Over the rounds, the following patterns of nonresponse have been observed, which have or have not changed over time. In the most recent three rounds for which a full analysis of response rates have been completed, the round-level response rates for continuing panels remains high, ranging from 84.1% for the 2014 panel in Round 73 to 96.9% for the 2011 panel in Round 71/72. Despite these high rates, each year continuing panels are subjected to a nonresponse adjustment based on new response propensity models by panel. Incoming panels at the first interview (e.g., the 2015 panel at Round 73) show a larger propensity for nonresponse due to having never been reached prior to the first interview. In Round 73 the response rate for the 2015 Supplemental panel was 53.3%. Once again we rely on cells derived from response propensity models to account for differential effects of demographic and geographic characteristics on the resulting data. In 2015 the most closely related covariates to response propensity in the incoming panel were: the mean response rate over the previous 5 years in the same county; race (2-level: black, non-black); entitlement for Part B (2-level: yes, no); and sex (2-level: male, female). By accounting for these characteristics in constructing the adjustment cells, we reduce the potential for nonresponse bias that could arise due to these differential factors.

Adaptive design methods have also been applied to measure the representativeness of the MCBS incoming sample. In 2017, CMS conducted a review of the Representativity Indicators (R-indicators) or metrics for the Fall 2017 Baseline interview to monitor the representativeness of the achieved sample. The R-indicators provided a quantitative assessment of which segments of the sample were over/under producing and causing the achieved sample to be imbalanced in terms of sample representativeness. In Fall 2016 and Fall 2017, R-indicators were not observed outside these thresholds; consequently, no data collection interventions were needed to improve the representativity of the achieved sample.

B4. Tests of Procedures or Methods

MCBS' generic clearance for Questionnaire Testing and Methodological Research for the MCBS was approved by OMB in May 2015 (OMB No. 0938-1275, expiration 05/31/2018). The generic clearance encompasses development and testing of MCBS questionnaires, instrumentation, and methodological experiments. It contains approval for seven types of potential research activities: 1) cognitive interviewing, 2) focus groups, 3) usability testing, 4) field testing, 5) respondent debriefing questionnaire, 6) split ballot and other methodological experiments, and 7) research about incentives. Any future changes to the MCBS instrumentation, data collection methods, or procedures that require testing will be submitted as individual collection requests under the generic clearance.

B5. Individuals Consulted on Statistical Aspects of Design

The person responsible for statistical aspects of design is:

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