



2019 MEDICARE
HEALTH OUTCOMES
SURVEY-MODIFIED

DATA USERS
GUIDE

MEDICARE HEALTH

OUTCOMES SURVEY



CENTERS
FOR MEDICARE
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HEALTH SERVICES ADVISORY GROUP

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Preface

Medicare Health Outcomes Survey

The Centers for Medicare & Medicaid Services (CMS) is committed to monitoring the quality of care provided by its programs. The overall focus of the Medicare Health Outcomes Survey (HOS) is to gather valid and reliable health status data to assess a Medicare Advantage Organization's (MAO) ability to maintain or improve the physical and mental health of its Medicare beneficiaries over time. Since 1998, baseline data are collected from a new cohort annually with one re-measurement two years later.

Medicare Health Outcomes Survey-Modified

The Medicare Health Outcomes Survey-Modified (HOS-M) was fielded for the first time in 2002 as the Program of All-Inclusive Care for the Elderly (PACE) Health Survey, and was renamed in 2005 as the HOS-M. It is a modified version of the Medicare HOS that is administered annually by CMS to frail elderly and predominantly dual-eligible beneficiaries (i.e., recipients of both Medicare and Medicaid) in PACE organizations for the purpose of adjusting plan payments based on the frailty of their members.

Similar to the HOS, the HOS-M design is based on a randomly selected sample of individuals from each participating PACE organization. Unlike the HOS, the HOS-M is a cross-sectional survey that measures the physical and mental health functioning of beneficiaries at a single point in time without a follow up.

This HOS-M 2019 **Data Users Guide (DUG)** is designed to assist users with the beneficiary level HOS-M data file. The DUG includes an overview of the file organization, an explanation of the derived fields, a table defining the attributes of all fields in the file, and a copy of the survey instrument annotated with the field names in the data file.

Statutory Authority

Section 722 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) mandates collecting, analyzing, and reporting health outcomes information. This legislation also specifies that data collected on quality, outcomes, and beneficiary satisfaction to facilitate consumer choice and program administration must use the same types of data that were collected prior to November 1, 2003. Collected since 1998, the Medicare HOS is the first patient-reported outcomes measure in Medicare managed care, and therefore remains a critical part of assessing MAO quality. In addition, CMS includes the HOS results as a component of the Medicare Plan Finder (www.medicare.gov/plan-compare), a web-based tool that helps inform beneficiaries about Medicare enrollment choices. CMS incorporates new survey components in HOS, as appropriate, in order to provide outcome measures that MAOs can use in quality improvement initiatives.

Technical Assistance

The Medicare HOS Information and Technical Support Telephone Line (1-888-880-0077) and the Email Address (hos@hsag.com) are available to provide assistance with questions regarding the data file. Additionally, the CMS HOS website provides general information about the program (www.cms.gov/Research-Statistics-Data-and-Systems/Research/HOS). A full description of the program is available at www.HOSonline.org and the Medicare HOS glossary consisting of definitions relevant to the HOS and HOS-M may be accessed from the "Glossary" link at the bottom of site webpages.

Methodology and Design

Sampling Methodology

A total of 123 PACE organizations participated in the HOS-M in 2019. Beneficiaries were defined as eligible for the HOS-M if they were enrolled in a participating PACE plan, resided in the community, did not have End Stage Renal Disease (ESRD), and were age 55 or older. In general, for eligible plans with Medicare populations of 1,200 or more members, a simple random cross-sectional sample of 1,200 members was selected for the survey (i.e., the survey is not a cohort study). For eligible plans with populations of less than 1,200 members, all eligible members were included in the HOS-M sample. Ineligible beneficiaries met one of the following criteria: deceased; not enrolled in the health plan; had a bad address and phone number; had a language barrier; had a bad address and mail-only protocol (*Russian only*); or were removed from the sample due to death, disenrollment, or institutionalization after the sample was drawn.

The definition of a completed survey, and hence the response rate, depends on the context. The definition of a completed survey for the HOS-M report is based on the Veteran's RAND 12-Item Health Survey (VR-12) summary measures, while a completed survey for frailty assessment is based on the Activities of Daily Living (ADL) questions.

For the HOS-M report, a completed survey is defined as one for which a physical component summary (PCS) or mental component summary (MCS) score could be calculated from the VR-12. Participating PACE plans may access their reports from the Quality and Performance/HOS module under HOS-M Feedback Reports on the CMS Health Plan Management System (HPMS). The HOS-M report sample size and response rate information is also available from the HOS-Modified Overview section on the HOS website at www.HOSonline.org. Please refer to the Medicare HOS-M Survey Status Information Table.

For frailty assessment, a completed survey is defined as one in which all six ADL questions are answered. Responses and ADL distributions considered for payment purposes are reported separately for PACE plans on the HPMS. Participating PACE plans may access their frailty results from the HPMS Risk Adjustment module under Survey Results for Frailty Adjustment.

For a more detailed discussion on sampling, data collection, and submission, please refer to the HEDIS 2019, Volume 6: Specifications for the Medicare Health Outcomes Survey manual.^{1,2}

¹ National Committee for Quality Assurance. *HEDIS*[®] 2019, *Volume 6: Specifications for the Medicare Health Outcomes Survey*. Washington, DC: NCQA Publication, 2019. Available at: https://hosonline.org/globalassets/hosonline/survey-administration/hos_hedis_volume6_2019.pdf. Accessed on: Mar 5, 2020.

² HEDIS® is a registered trademark of the National Committee for Quality Assurance.

Medicare HOS-M Instrument

The HOS-M instrument contains ADL items as the core items used to calculate the frailty adjustment factor.³ The HOS-M instrument also contains the VR-12 to further assess the physical and mental health functioning of each PACE organization's members.^{4,5} The HOS-M includes questions about the following: lifting or carrying objects as heavy as 10 pounds; walking a quarter mile; health or physical problems interfering with daily activities; receiving help with ADLs; physical and emotional health compared to one year ago; memory loss; urinary incontinence; and a question on whether the survey was self-completed or completed by a proxy. If the participant received assistance completing the survey, the proxy respondent was asked information about his/her relationship to the participant.

Detailed information about the Medicare HOS-M instrument can be found in the NCQA HEDIS 2019, Volume 6: Specifications for the Medicare Health Outcomes Survey manual. The manual is available online for download from the Survey Administration section on the Program page of the HOS website (www.HOSonline.org). The manual may be obtained by calling the NCQA Customer Support Telephone Line at 1-888-275-7585 or via NCQA's Publications Center (https://store.ncqa.org/). The 2019 HOS-M questionnaire may also be downloaded from the Survey page of the HOS website (www.HOSonline.org).

Summary Measures

The key component of the HOS-M for assessment of the physical and mental health functioning is the VR-12 Health Survey. The VR-12 consists of 14 items, 12 of which are used in the calculation of the eight health domains and the two summary measures: the physical component summary (PCS) and mental component summary (MCS) scores. The VR-12 measures the same eight health domains as the 36-item health survey: 1) Physical Functioning, 2) Role-Physical, 3) Role-Emotional, 4) Bodily Pain, 5) Social Functioning, 6) Mental Health, 7) Vitality, and 8) General Health. Each domain aggregates one or two items and all eight domains are used to calculate the two summary measures, as illustrated in the VR-12 mapping model on the following page. Two of the 14 items, which ask about change in physical health and emotional health compared to one year ago, are not used in the calculation of the PCS and MCS scores. The field names for the 14 items begin with the prefix "M22VR" in the data file.

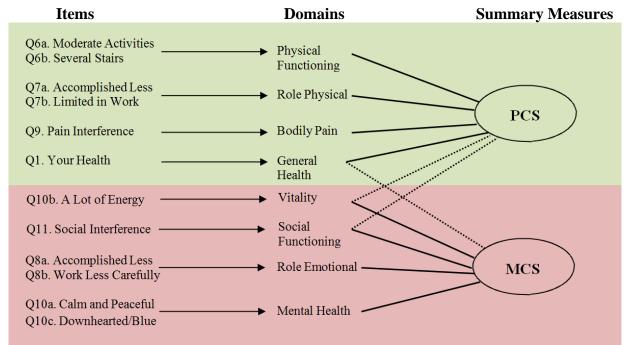
³ Walsh EG, Khatustsky G, Johnson L. Functional impairment levels in PACE enrollees. *Health Care Financing Review*. Summer 2008. Volume 29(4): 81-88. Available at: www.cms.gov/Research-Statistics-Data-and-Systems/Research/HealthCareFinancingReview/downloads/2008Summerpg81.pdf. Accessed on: Mar 5, 2020.

⁴ Jones D, Kazis LE, Lee A, et al. Health status assessments using the Veterans SF-36 and SF-12. Methods for evaluating outcomes in the Veterans Health Administration. *Journal of Ambulatory Care Management*. 2001; 24(3):1-19.

⁵ Iqbal SU, Rogers W, Selim A, et al. *The Veterans RAND 12 Item Health Survey (VR-12): What it is and How it is used.* 2007. Available at: https://hosonline.org/globalassets/hos-online/publications/veterans_rand_12_item_health_survey_vr-12_2007.pdf. Accessed on: Mar 5, 2020.

⁶ Boston University School of Public Health. VR-36, VR-12 and VR-6D Overview. Available at: www.bu.edu/sph/about/departments/health-law-policy-and-management/research/vr-36-vr-12-and-vr-6d/. Accessed on: Mar 5, 2020.

Mapping of HOS-M VR-12 to 8 Health Domains and 2 Summary Measures



Note: Domains contributing the most to each summary measure are indicated by a solid line. Domains contributing to a lesser degree are indicated by a broken line. However, all domains contribute to some extent to the scoring of both summary measures (PCS and MCS).

The PCS and MCS scores were calculated from the VR-12 using the Modified Regression Estimate (MRE) for scoring and imputation of missing data. The MRE is a general method for obtaining scale scores for the eight domains in the context of missing data. The MRE uses complete cases to estimate a regression equation where only those items that are present are used.

For those beneficiaries with complete responses across the VR-12, the following steps⁷ were taken to calculate PCS and MCS:

- Step One: New variables were created for each response level choice with one level omitted. Using the 59 total response categories across the VR-12 questions, 47 indicator variables were created.
- Step Two: Aggregate PCS and MCS scores were created separately from a regression equation that weighted each of the 47 indicator variables. The weights were derived from the Veterans SF-36 PCS and MCS Scales using the 1999 Large Health Survey of Veteran Enrollees.

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⁷ Spiro A, Rogers WH, Qian S, Kazis L. *Imputing physical and mental summary scores (PCS and MCS) for the Veterans SF-12 Health Survey in the context of missing data*. Technical Report prepared by: The Health Outcomes Technologies Program, Health Services Department, Boston University School of Public Health, Boston, MA and The Institute for Health Outcomes and Policy, Center for Health Quality, Outcomes and Economic Research, Veterans Affairs Medical Center, Bedford, MA. 2004. Available at: https://hosonline.org/globalassets/hosonline/publications/hos_veterans_12_imputation.pdf. Accessed on: Mar 5, 2020.

- Step Three: A constant was added to each of the estimates obtained from Step Two. The scores were then standardized using normative values from a 1990 U.S. general population. Therefore, a mean score of 50 represents the national average, a 10-point difference above and below the mean score is one standard deviation, and, with few exceptions, the scores have a range of 0 through 100 (higher being better).
- When a beneficiary had missing data across the VR-12 items, PCS and MCS scores were imputed using the MRE. With the use of the MRE algorithm, PCS and MCS scores can be calculated in as many as 90% of the cases in which one or more VR-12 responses are missing. Depending on the pattern of missing item responses for a beneficiary, a different set of regression weights was required to compute that individual's PCS and/or MCS scores. For each combination of missing data, the beneficiaries' data were merged with the stored regression weights and the PCS or MCS scores were computed and then standardized using the normative values from MRE Step Three.
- Beneficiary PCS and MCS results were mode adjusted for the impact of telephone
 administration compared with the reference mode of mail administration. Comparisons
 across the VR-12 of matched HOS and Veterans Administration surveys for the same
 respondents showed that PCS and MCS scores were, on average, 1.9 and 4.5 points
 greater respectively for telephone compared to mail administered surveys. Therefore, for
 telephone surveys, 1.9 points were subtracted from the PCS score and 4.5 points were
 subtracted from the MCS score.
- For the physical health summary measure, very high scores indicate no physical limitations, disabilities, or decline in well-being; high energy level; and a rating of health as "excellent."
- For the mental health summary measure, very high scores indicate frequent positive
 affect, absence of psychological distress, and no limitations in usual social and role
 activities due to emotional problems.

For the HOS-M report, the PCS and MCS scores were *not* adjusted for case mix variables, i.e., demographic characteristics.

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⁸ Selim A, Iqbal SU, Rogers W, et al. *Medicare Health Outcomes Survey: An Alternative Case-Mix Methodology*. Technical Report prepared by: Center for Health Quality, Outcomes, and Economic Research, VA Medical Center, Bedford, Massachusetts 2007. Available at: https://hosonline.org/globalassets/hos-online/publications/hos_case_mix_final_technical_report.pdf. Accessed on: Mar 5, 2020.

⁹ Rogers WH, Gandek B, Sinclair SJ. *Calculating Medicare Health Outcomes Survey Performance Measurement Results*. Technical Report prepared by: Health Assessment Lab, Waltham, MA, The Health Institute, Department of Clinical Care Research, New England Medical Center, Boston, MA. 2004. Available at: https://hosonline.org/globalassets/hos-online/publications/hos_calculating_pm_results.pdf. Accessed on: Mar 5, 2020.

Data File Characteristics

The file is a Comma Separated Value (CSV) file and was generated using PROC EXPORT with the DBMS=CSV option in SAS^{®10} Version 9.4. The first row of the file contains the SAS variable names. The file can be imported directly into MS Excel or MS Access or converted back to SAS. If converting to SAS with PROC IMPORT, it is recommended to first set the SAS system option GUESSINGROWS to a high number (valid values 1-32767) to ensure that character fields will not be truncated.

The 2019 HOS-M data file contains 101 fields. Field names contain the prefix M22, which indicates the corresponding round of HOS data collection. The only field without a prefix is the Health Insurance Claim number **HICNUM**, which is a unique alphanumeric identifier used to identify each beneficiary in the file.

Note that selected field attributes (i.e., field name, type, length, and/or label) may have been modified for some fields included in the 2019 HOS-M data file when compared to the same fields included in previous HOS-M data files. You may refer to Appendix A for detailed information regarding all field attributes contained in the 2019 HOS-M data file.

New and Revised Fields

There was one **new** field and there were two revised fields in the 2019 HOS-M data file compared with the 2018 HOS-M data file:

- MBIDNUM New Medicare Beneficiary Identifier, an 11-digit alphanumeric variable.
- SRVDSP Survey Disposition, was revised to add a new category (M24) for bad address and mail-only protocol (*Russian only*).
- SVLANG Survey Language, was revised to add a new category (R) for Russian survey language.

Excluded Fields

The following fields were **excluded** in the 2019 HOS-M data file compared with the 2018 HOS-M data file:

- LVINFAC Participant Lives in Facility, removed from sample file
- SHAREPH Participant Shares a Phone, removed from sample file

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¹⁰ SAS® is a registered trademark of the SAS Institute Inc., Cary, NC

Field Overview

The following is a general description of fields included in the HOS-M data file. The fields are listed in the order they appear in the file.

Identifier Fields (Fields 1 - 11)

This section contains the HICNUM, which is the unique alphanumeric identifier previously discussed. It also contains a unique beneficiary link key ID (M22BLKEY), Medicare Beneficiary Identifier (M22MBIDNUM), end stage renal disease indicator (M22ESRD), institutional status (M22INSTUT), hospice status (M22HOSPICE), Medicaid status (M22MEDICAID), Dual status (M22DUAL), an anonymous beneficiary ID (M22PATID), an anonymous plan ID (M22PLAN), and the survey measurement year (M22RPTYR).

Sample File Fields (Fields 12 - 34)

This section contains contact, demographic, and other member level data for the sampled beneficiaries submitted in the Sample File by the survey vendor. These fields are obtained from the CMS Medicare Databases. None are obtained from the survey instrument. The plan name (M22PLANNM) and plan ID (M22PLANID) represent each member's plan assignment at the time of sampling in 2019. The Plan Benefit Package (PBP) number, M22PBPID, identifies the PBP to which the beneficiary belongs. A PACE plan may have one or more PBPs.

Survey Instrument Fields (Fields 35 - 77)

This section contains the member level responses collected from the 19 questions in the survey instrument. The following fields from the VR-12 survey are used to compute the PCS and MCS scores: M22VRGENHTH, M22VRMACT, M22VRSTAIR, M22VRPACCL, M22VRPWORK, M22VRMACCL, M22VRMWORK, M22VRPAIN, M22VRCALM, M22VRENERGY, M22VRDOWN, and M22VRSACT. Two items, M22VRPHCMP and M22VRMHCMP, are contained in the VR-12 survey but are not used to calculate the PCS and MCS scores.

Vendor Generated Fields (Fields 78 - 82)

This section contains member level survey administration fields generated by the survey vendor, e.g., the survey disposition code (M22SRVDSP), survey language (M22SVLANG), and survey date (M22SVDATE).

Derived Fields (Fields 83 - 94)

This section contains the following fields: flag to indicate completed surveys, flag to indicate ineligible surveys, dates in SAS date format, age, age and race categories, PCS and MCS scores, and a flag to indicate membership in the analytic sample. Age is calculated by counting the number of months between the SAS date fields for date of birth (M22TDOB) and survey date with missing values imputed (M22TSVDATIM), then dividing the result by 12 to produce an integer value for the whole number of years for the beneficiary's age.

Plan Level Fields (Fields 95 - 101)

This section contains the Plan type, Plan organization name, and Plan parent organization name obtained from the May 2019 CMS Monthly Enrollment by Contract Report of Medicare Advantage/Part D Health Plans from the CMS website at: www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAdvPartDEnrolData/. The Plan state, Plan tax status, and Plan CMS region are obtained from the August 2019 HPMS Plan Contract List.

Appendix A

Data File Layout by Position

FIELD #	FIELD NAME/ DESCRIPTION	FIELD TYPE	FIELD LENGTH	VALID VALUES	COMMENTS	
1	HICNUM	Char	12		Unique beneficiary identifier	
	HIC Number				Obtained from Sample File	
2	M22BLKEY Beneficiary Link Key	Char	13		Obtained from Sample File	
3	M22MBIDNUM Medicare Beneficiary ID Number	Char	11		Medicare beneficiary identifier Obtained from Sample File	
4	M22ESRD ESRD Indicator	Num	3	0 = No ESRD 1 = ESRD	Obtained from CMS data	
5	M22INSTUT Institutional Status	Num	3	0 = Out of Institution 1 = Institutionalized	Obtained from CMS data	
6	M22HOSPICE Hospice Status	Num	3	0 = No hospice start date present 1 = Hospice start date present	Obtained from CMS data	
7	M22MEDICAID Medicaid Status	Num	3	0= Out of Medicaid 1= In Medicaid (Full or Partial Benefit in March)	Obtained from CMS data	
8	M22DUAL Dual Status	Num	3	0 = Not Dual Status 1 = Dual Status (Full Benefit any time during year)	Obtained from CMS data	
9	M22PATID Anonymous Beneficiary ID	Num	8		Derived field Could be used as a database key if personally identifiable fields (e.g., HICNUM) were removed.	
10	M22PLAN Anonymous Plan ID	Num	8		Derived field Could be used as a database key if plan identifiable fields (e.g., M22PLANID) were removed.	
11	M22RPTYR Report Year	Num	8		HOS-M survey measurement year	
12	M22PLANNM Plan Name	Char	60		Obtained from Sample File	
13	M22PLANTYPE Plan Type	Char	8		Obtained from Sample File	
14	M22PLANID Plan ID	Char	5		Obtained from Sample File	
15	M22PBPID Plan Benefit Package Number	Char	3		Obtained from Sample File 3-digit number filled with leading zeros	
16	M22FNAME Member First Name	Char	30		Obtained from Sample File	
17	M22MIDINIT Member Middle Initial	Char	1	Obtained from Samp		
18	M22LNAME Member Last Name	Char	35		Obtained from Sample File	

FIELD #	FIELD NAME/ DESCRIPTION	FIELD TYPE	FIELD LENGTH	VALID VALUES	COMMENTS
19	M22ADDRS1 Address 1	Char	25		Obtained from Sample File Address fields M22ADDRS1- M22ADDRS6 from CMS Medicare Databases.
20	M22ADDRS2 Address 2	Char	25		Obtained from Sample File
21	M22ADDRS3 Address 3	Char	25		Obtained from Sample File
22	M22ADDRS4 Address 4	Char	25		Obtained from Sample File
23	M22ADDRS5 Address 5	Char	25		Obtained from Sample File
24	M22ADDRS6 Address 6	Char	25		Obtained from Sample File
25	M22DOB Date of Birth	Char	10		Obtained from Sample File
26	M22GENDER Gender	Num	8	1 = Male 2 = Female	Obtained from Sample File
27	M22RACE Race	Num	8	0 = Unknown 1 = White 2 = Black 3 = Other 4 = Asian 5 = Hispanic 6 = North American Native	Obtained from Sample File
28	M22ADDRSS Participant Street	Char	65		Obtained from Sample File Address Fields: M22ADDRSS, M22CITY, M22STATE, and M22ZIP originated from the Contact Data File developed by small plans, which may be more up to date than the CMS Medicare Databases.
29	M22CITY Participant City	Char	25		Obtained from Sample File
30	M22STATE Participant State	Char	20		Obtained from Sample File
31	M22ZIP Participant Zip Code	Char	20		Obtained from Sample File
32	M22BENELANG Participant Primary Language	Char	35		Obtained from Sample File
33	M22RCVOMAIL Participant Receives Own Mail	Char	35		Obtained from Sample File
34	M22PACECTR PACE Center, Care System, or Center Attended	Char	55		Obtained from Sample File

FIELD #	FIELD NAME/ DESCRIPTION	FIELD Type	FIELD LENGTH	VALID VALUES	COMMENTS
35	M22VRGENHTH Q1 General Health	Num	8	1 = Excellent 2 = Very Good 3 = Good 4 = Fair 5 = Poor	Entered from the survey (See Appendix B)
36	M22DIFCARRY Q2 Difficulty Lifting 10 Pounds	Num	8	1 = No difficulty at all 2 = A little difficulty 3 = Some difficulty 4 = A lot of difficulty 5 = Not able to do it	Entered from the survey (See Appendix B)
37	M22DIFBLKS Q3 Difficulty Walking 2-3 Blocks	Num	8	1 = No difficulty at all 2 = A little difficulty 3 = Some difficulty 4 = A lot of difficulty 5 = Not able to do it	Entered from the survey (See Appendix B)
38	M22ADLBTH Q4a Difficulty Bathing	Num	8	1 = No, I do not have difficulty 2 = Yes, I have difficulty 3 = I am unable to do this activity	Entered from the survey (See Appendix B)
39	M22ADLDRS Q4b Difficulty Dressing	Num	8	1 = No, I do not have difficulty 2 = Yes, I have difficulty 3 = I am unable to do this activity	Entered from the survey (See Appendix B)
40	M22ADLEAT Q4c Difficulty Eating	Num	8	1 = No, I do not have difficulty 2 = Yes, I have difficulty 3 = I am unable to do this activity	Entered from the survey (See Appendix B)
41	M22ADLCHR Q4d Difficulty In/Out Chairs	Num	8	1 = No, I do not have difficulty 2 = Yes, I have difficulty 3 = I am unable to do this activity	Entered from the survey (See Appendix B)
42	M22ADLWLK Q4e Difficulty Walking	Num	8	1 = No, I do not have difficulty 2 = Yes, I have difficulty 3 = I am unable to do this activity	Entered from the survey (See Appendix B)
43	M22ADLTLT Q4f Difficulty Using Toilet	Num	8	1 = No, I do not have difficulty 2 = Yes, I have difficulty 3 = I am unable to do this activity	Entered from the survey (See Appendix B)
44	M22HLPBTH Q5a Receive Help Bathing	Num	8	1 = Yes, I receive help 2 = No, I do not receive help 3 = I do not do this activity	Entered from the survey (See Appendix B)
45	M22HLPDRE Q5b Receive Help Dressing	Num	8	1 = Yes, I receive help 2 = No, I do not receive help 3 = I do not do this activity	Entered from the survey (See Appendix B)
46	M22HLPEAT Q5c Receive Help Eating	Num	8	1 = Yes, I receive help 2 = No, I do not receive help 3 = I do not do this activity	Entered from the survey (See Appendix B)
47	M22HLPCHR Q5d Receive Help In/Out Chairs	Num	8	1 = Yes, I receive help 2 = No, I do not receive help 3 = I do not do this activity	Entered from the survey (See Appendix B)
48	M22HLPWLK Q5e Receive Help Walking	Num	8	1 = Yes, I receive help 2 = No, I do not receive help 3 = I do not do this activity	Entered from the survey (See Appendix B)

FIELD #	FIELD NAME/ DESCRIPTION	FIELD TYPE	FIELD LENGTH	VALID VALUES	COMMENTS
49	M22HLPTLT	Num	LENGTH 8	1 = Yes, I receive help	Entered for mother commen
49	Q5f Receive Help	INUIII	0	1 = 1 es, 1 receive help 2 = No, I do not receive help	Entered from the survey (See Appendix B)
	Using Toilet			3 = I do not do this activity	(See Appendix B)
50	M22VRMACT	Num	8	1 = Yes, limited a lot	Entered from the survey
30	Q6a Limited Moderate	INUIII	0	2 = Yes, limited a little	(See Appendix B)
	Activities			3 = No, not limited at all	(See Appendix B)
51	M22VRSTAIR	Num	8	1 = Yes, limited a lot	Entered from the survey
31	Q6b Limited Climbing	INGIII	0	2 = Yes, limited a little	(See Appendix B)
	Several Stairs			3 = No, not limited at all	(See Appendix B)
52	M22VRPACCL	Num	8	1 = No, none of the time	Entered from the survey
32	Q7a Physical Health	Ttuili	o o	2 = Yes, a little of the time	(See Appendix B)
	Accomplished Less			3 = Yes, some of the time	(See Appendix B)
				4 = Yes, most of the time	
				5 = Yes, all of the time	
53	M22VRPWORK	Num	8	1 = No, none of the time	Entered from the survey
	Q7b Physical Health			2 = Yes, a little of the time	(See Appendix B)
	Limited Work			3 = Yes, some of the time	
	Activities			4 = Yes, most of the time	
				5 = Yes, all of the time	
54	M22VRMACCL	Num	8	1 = No, none of the time	Entered from the survey
	Q8a Emotional			2 = Yes, a little of the time	(See Appendix B)
	Problems			3 = Yes, some of the time	
	Accomplished Less			4 = Yes, most of the time	
				5 = Yes, all of the time	
55	M22VRMWORK	Num	8	1 = No, none of the time	Entered from the survey
	Q8b Emotional			2 = Yes, a little of the time	(See Appendix B)
	Problems Work Not			3 = Yes, some of the time	
	Careful			4 = Yes, most of the time 5 = Yes, all of the time	
56	M22VRPAIN	Num	8	1 = Not at all	Entered from the survey
30	Q9 Pain Interfere Past	INUIII	0	1 = Not at all 2 = A little bit	
	4 Weeks			3 = Moderately	(See Appendix B)
	T WCCR5			4 = Quite a bit	
				5 = Extremely	
57	M22VRCALM	Num	8	1 = All of the time	Entered from the survey
	Q10a Past 4 Weeks	1 (4111		2 = Most of the time	(See Appendix B)
	Felt Calm/Peaceful			3 = A good bit of the time	(See Tippellalli B)
				4 = Some of the time	
				5 = A little of the time	
				6 = None of the time	
58	M22VRENERGY	Num	8	1 = All of the time	Entered from the survey
	Q10b Past 4 Weeks A			2 = Most of the time	(See Appendix B)
	Lot of Energy			3 = A good bit of the time	
				4 = Some of the time	
				5 = A little of the time	
	1 (22) IND OTTO			6 = None of the time	1- 10
59	M22VRDOWN	Num	8	1 = All of the time	Entered from the survey
	Q10c Past 4 Weeks			2 = Most of the time	(See Appendix B)
	Blue or Sad			3 = A good bit of the time 4 = Some of the time	
				4 = Some of the time $5 = $ A little of the time	
				6 = None of the time	
	J.			0 - None of the time	

FIELD #	FIELD NAME/ DESCRIPTION	FIELD Type	FIELD LENGTH	VALID VALUES	COMMENTS
60	M22VRSACT Q11 Past 4 Weeks Phys or Emot Interfere Social Activities	Num	8	1 = All of the time 2 = Most of the time 3 = Some of the time 4 = A little of the time 5 = None of the time	Entered from the survey (See Appendix B)
61	M22VRPHCMP Q12 Physical Health Compared with One Year Ago	Num	8	1 = Much better 2 = Slightly better 3 = About the same 4 = Slightly worse 5 = Much worse	Entered from the survey (See Appendix B)
62	M22VRMHCMP Q13 Emotional Health Compared with One Year Ago	Num	8	1 = Much better 2 = Slightly better 3 = About the same 4 = Slightly worse 5 = Much worse	Entered from the survey (See Appendix B)
63	M22MEMLOSS Q14 Memory Loss Interferes with Daily Activities	Num	8	1 = Yes 2 = No	Entered from the survey (See Appendix B)
64	M22EVERURN Q15 How Often Difficulty Controlling Urination	Num	8	1 = Never 2 = Less than once a week 3 = Once a week or more often 4 = Daily 5 = Catheter	Entered from the survey (See Appendix B)
65	M22CMPWHO Q16 Who Completed Survey Form	Num	8	1 = Medicare participant 2 = Family member, relative, or friend of Medicare Participant 3 = Nurse or other health professional	Entered from the survey (See Appendix B)
66	M22PROXRSNI Q17 Reason Filled Out Due to Physical Problems	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
67	M22PROXRSN2 Q17 Reason Filled Out Due to Memory Loss or Mental Problems	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
68	M22PROXRSN3 Q17 Reason Filled Out Due to Unable to Speak/Read English	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
69	M22PROXRSN4 Q17 Reason Filled Out Due to Person Not Available	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
70	M22PROXRSN5 Q17 Reason Filled Out Due to Other	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
71	M22PROXHOW1 Q18 Helped Read Questions to the Person	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)

FIELD #	FIELD NAME/ DESCRIPTION	FIELD Type	FIELD LENGTH	VALID VALUES	COMMENTS
72	M22PROXHOW2 Q18 Helped Write Down Answers	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
73	M22PROXHOW3 Q18 Helped Answer Based on Experience with Person	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
74	M22PROXHOW4 Q18 Helped By Using Medical Records to Fill Out Survey	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
75	M22PROXHOW5 Q18 Helped Translate the Survey	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
76	M22PROXHOW6 Q18 Helped Other	Num	8	0 = No 1 = Yes 7 = Appropriately skipped	Entered from the survey (See Appendix B)
77	M22CAREPOS Q19 Staff/Caregivers Position	Num	8	1 = Home Health Aide, Personal Care Attendant, or Certified Nursing Assistant 2 = Nurse (RN, LPN, or NP) 3 = Social Worker or Case Manager 4 = Adult Foster Care, Adult Day Care, Assisted Living, or Residential Care Staff 5 = Interpreter 6 = Other 7 = Appropriately skipped	Entered from the survey (See Appendix B)

FIELD	FIELD NAME/	FIELD	FIELD	VALID	G
#	DESCRIPTION	Түре	LENGTH	VALUES	COMMENTS
78	M22SRVDSP Disposition of Survey	Char	3	M10/T10 = Complete survey (Q4a-f answered) M11/T11 = Non-response: partial complete survey (one or more of Q4a-f missing) Ineligible: M20/T20 = deceased M21/T21 = not enrolled in health plan M23/T23 = language barrier M24 = bad address and mail-only protocol (Russian only) T24 = bad address AND phone number M25/T25 = removed from sample by RTI M26/T26 = Duplicate: beneficiary listed twice in sample Non-response: M32/T32 = refusal by member M33/T33 = unavailable M34/T34 = physically or mentally incapacitated M35/T35 = institutionalized M36/T36 = after maximum attempts M37/T37 = refusal by proxy M38/T38 = gatekeeper refusal	Generated by the survey vendor (M=Mail and T=Telephone)
79	M22RNDNUM Survey Round	Char	3	M1 = 1 st Mailing M2 = 2 nd Mailing T1 = 1 st Telephone T2 = 2 nd Telephone T3 = 3 rd Telephone T4 = 4 th Telephone T5 = 5 th Telephone T6 = 6 th Telephone T7 = 7 th Telephone T8 = 8 th Telephone T9 = 9 th Telephone T10 = 10 th Telephone T11 = 11 th Telephone T12 = 12 th Telephone MT = Partially completed by mail and converted to complete by telephone NC = Not completed	Generated by the survey vendor

FIELD #	FIELD NAME/ DESCRIPTION	FIELD TYPE	FIELD LENGTH	VALID VALUES	COMMENTS
80	M22PCTANS Percentage of Survey Questions Answered	Num	8	VIIDELS	Generated by the survey vendor Based on the 31 responses for M22VRGENHTH (field 35) to M22CMPWHO (field 65) and the survey disposition M22SRVDSP (field 78). If M22SRVDSP = M10, T10, M11, or T11 then M22PCTANS = (number answered)/31*100; otherwise M22PCTANS=0.
81	M22SVLANG Survey Language	Char	1	C = Chinese E = English O = Other S = Spanish R = Russian	Generated by the survey vendor
82	M22SVDATE Date Survey Was Completed	Char	8		Generated by the survey vendor Date mail survey received or date of telephone interview by survey vendor. Displayed as MMDDYYYY
83	M22CMPSRV Completed Survey (All ADLs Q4a-f answered)	Num	8	0 = Incomplete Survey 1 = Completed Survey	Derived field Based on the six ADL questions ADLBTH (field 38) to ADLTLT (field 43). If all six ADLs are answered then M22CMPSRV = 1; otherwise M22CMPSRV = 0.
84	M22INVSRV Ineligible Survey Flag	Num	8	0 = Eligible 1 = Ineligible	Derived field Ineligible survey includes these members: deceased, not enrolled in the health plan, had a bad address and phone number, had a language barrier, had a bad address and mail-only protocol (Russian only), or were removed from sample due to death, disenrollment, or institutionalization.
85	M22TDOB Date of Birth (SAS Date)	Num	8		Derived SAS date field SAS date equivalent of M22DOB. MMDDYY10. format.
86	M22TSVDATE Date of Survey (SAS Date)	Num	8		Derived SAS date field SAS date equivalent of M22SVDATE. MMDDYY10. format.
87	M22TSVDATIM Date of Survey (SAS Date with Missing Values Imputed)	Num	8		Derived SAS date field If M22TSVDATE is missing, then M22TSVDATIM = 04/25/2019; otherwise M22TSVDATIM = M22TSVDATE MMDDYY10. format.

FIELD	FIELD NAME/	FIELD	FIELD	VALID	COMMENTS
#	DESCRIPTION	TYPE	LENGTH	VALUES	COMMENTS
88	M22TDOELMT Date of Accretion Limit - 03/01/2019 (SAS Date)	Num	8		Derived SAS date field 03/01/2019 for all records. MMDDYY10. format.
89	M22AGE Age (Exact Calculation)	Num	8		Derived field Calculated from M22TDOB and M22TSVDATIM
90	M22AGECAT Age Groups (6 Categories from Calculated AGE)	Num	8	1 = 55 to 64 years 2 = 65 to 69 years 3 = 70 to 74 years 4 = 75 to 79 years 5 = 80 to 84 years 6 = 85 years or older	Derived field Obtained from M22AGE
91	M22RACECAT Race Groups (3 Categories from CMS Race)	Num	8	1 = White 2 = Black 3 = Other	Derived field Obtained from M22RACE
92	M22PCS Physical Component Summary Score	Num	8		Derived field Unadjusted PCS score.
93	M22MCS Mental Component Summary Score	Num	8		Derived field Unadjusted MCS score.
94	M22ANALYT Analytic Sample Indicator	Num	8	0 = Not included in analytic sample 1 = Included in analytic sample	Derived field
95	M22PLTYPE Plan Type - source CMS 05/19	Char	39		Obtained from the May 2019 CMS Monthly Enrollment by Contract Report of Medicare Advantage/Part D Health Plans
96	M22PLORGNM Plan Organization Name - source CMS 05/19	Char	50		Obtained from the May 2019 CMS Monthly Enrollment by Contract Report of Medicare Advantage/Part D Health Plans
97	M22PLPTORG Plan Parent Organization Namesource CMS 05/19	Char	50		Obtained from the May 2019 CMS Monthly Enrollment by Contract Report of Medicare Advantage/Part D Health Plans
98	M22PLANSTN Plan State - source HPMS 08/19	Char	2		Obtained from the August 2019 HPMS Plan Contract List.
99	M22PLTAXST Plan Tax Status - source HPMS 08/19	Char	25		Obtained from the August 2019 HPMS Plan Contract List.
100	M22PLNDCT Duration of Plan Contract Categories	Num	8	1 = less than 1 year 2 = 1 to 4 years 3 = 5 to 9 years 4 = 10 years or more	Obtained from the August 2019 HPMS Plan Contract List.

FIELD #	FIELD NAME/ DESCRIPTION	FIELD TYPE	FIELD LENGTH	VALID VALUES	COMMENTS
101	M22PLREGCDE Plan CMS Region Code	Num	3	1 = Region 1 - Boston (CT, ME, MA, NH, RI, VT) 2 = Region 2 - New York (NJ, NY, PR, VI) 3 = Region 3 - Philadelphia (DC, DE, MD, PA, VA, WV) 4 = Region 4 - Atlanta (AL, FL, GA, KY, MS, NC, SC, TN) 5 = Region 5 - Chicago (IL, IN, MI, MN, OH, WI) 6 = Region 6 - Dallas (AR, LA, NM, OK, TX) 7 = Region 7 - Kansas City (IA, KS, MO, NE) 8 = Region 8 - Denver (CO, MT, ND, SD, UT, WY) 9 = Region 9 - San Francisco (AZ, CA, Guam, HI, NV) 10 = Region 10 - Seattle (AK, ID, OR, WA)	Derived from the August 2019 HPMS Plan Contract List

Appendix B (Annotated Survey Form)

2019 Medicare Health Outcomes Survey-Modified

1.	In general, would yo	u say your health is:			M22VRGENHTH
	Excellent	Very good	Good	Fair	Poor
	1	2	3	4	5
2.	How much difficulty, as a sack of potatoes	if any, do you have lit s?	fting or carrying o	objects as heavy a	s 10 pounds, such
	No difficulty at all	A little difficulty	Some difficulty	A lot of difficulty	Not able to do it
	1	2	3	4	5
3.	How much difficulty, blocks?	if any, do you have w	alking a quarter	of a mile—that is a	bout 2 or 3
	No difficulty at all	A little difficulty	Some difficulty	A lot of difficulty	Not able to do it
	1	2	3	4	5
4.		or physical problem, ecial equipment or l			following
			No, I do not have difficulty	Yes, I have difficulty	I am unable to do this activity
	a. Bathing	M22ADL	BTH ₁	2	3
	b. Dressing	M22ADL	.DRS ₁	2	3
	c. Eating	M22ADL	.EAT ₁	2	3
	d. Getting in or o	ut of chairs. M22ADL	.CHR ₁	2	3
	e. Walking	M22ADL	.WLK ₁	2	3
	f. Using the toile	t M22ADL	.TLT ₁	2	3

Do you receive help from another person with any of these activities?				
Yes, I receive help				
a. Bathing M22HLPBTH	2	3		
b. Dressing M22HLPDRE	2	3		
c. Eating M22HLPEAT	2	3		
d. Getting in or out of chairs. M22HLPCHR	2	3		
e. Walking M22HLPWLK	2	3		
f. Using the toilet	2	3		
The following items are about activities you might do durinow limit you in these activities? If so, how much?	ing a typical day. [Does your health		
ACTIVITIES	limited li	Yes, No, not mited a little at all		
a. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1 2	₃		
b. Climbing several flights of stairs. M22VRSTAIR	1 2			
regular daily activities as a result of your physical heal	th? (If you are not	able to do work or		
none of litt	le of some of	Yes, Yes, all most of of the time time		
a. Accomplished less than you would like M22VRPACCL	3	4 5		
b. Were limited in the kind of work or other activities M22VRPWORK	3	4 5		
	ACTIVITIES a. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	Yes, I receive help a. Bathing		

8.	During the past 4 weeks , have you had any of the following problems with your regular dail activities as a result of any emotional problems (such as feeling depressed or anxious)? (you are not able to do work or regular daily activities, please answer 'yes, all of the time' to both questions.)					us)? (Íf			
	zoni quoc			No, none of the time	Yes, a little o the tim		of n		es, all of the time
			ess than you M22VRMACCL] 1	2	3]	4	5
			r other activities usual M22VRMWORK	₁	2	3]	4	5
9.			eks, how much did	J pain interfe	ere with	your norn	nal wo	rk (includir	ng both
	work outsi	ide the home	and housework)?					M22VRPAIN	
	No	t at all	A little bit	Moderat	ely	Quite	a bit	Extr	emely
	1		2	3		4		5	
These questions are about how you feel and how things have been with you during the past four weeks. For each question, please give the one answer that comes closest to the way you have been feeling.									
10.	How much	n of the time	during the past 4 v	veeks:					
				All of the time	of the	A good bit of the time	of the	e of the	None of the time
a.	have you		l peaceful? VRCALM	1	2	3	4	5	6
b.	did you ha		nergy?	1	2	3	4	5	6
C.	have you		orted and blue? VRDOWN	1	2	3	4	5	6
11. During the past 4 weeks , how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?									
	, , , , , , , , , , , , , , , , , , , ,		J			M22VRSACT			
		II of time	Most of the time	Some of the time		A little	-		ne of time
	1		2	3		4]	5	

Now, we'd like to ask you some questions about how your health may have changed.

12.	Compared to one year ago, how would you rate your physical health in general now?						
				About the		M22VRPHCMP	
	Mu	ch better	Slightly better	same	Slightly worse	Much worse	
		1	2	3	4	5	
13.	3. Compared to one year ago, how would you rate your emotional problems (such as feeling anxious, depressed or irritable) in general now?					(such as feeling	
				About the		M22VRMHCMP	
	Mu	ch better	Slightly better	same	Slightly worse	Much worse	
		1	2	3	4	5	
14.	. Do you experience memory loss that interferes with daily activities?						
	1 ,	Yes				M22MEMLOSS	
	2 I	No					
15.	How oft	en, if ever, do y	ou have difficulty	controlling urination	(bladder accider	nts)?	
			Less than once	Once a week or		M22EVERURN	
		Never	a week	more often	Daily	Catheter	
		1	2	3	4	5	
16.	Who co	Who completed this survey form?				M22CMPWHO	
	I	Medicare Partic	→ STO	P HERE			
	2 I	amily member	ly member, relative, or friend	d of Medicare Partic	ipant → Go t e	So to Question 17	
	3 1	Nurse or other I	se or other health professional		→ Go to	→ Go to Question 17	

17.	 What was the reason you filled out this survey for someone else? (Please answer ALL that apply.) 						
	Δ ρ Ρ.)	Physical problems	M22PROXRSN1				
	2	Memory loss or mental problems	M22PROXRSN2				
	3	Unable to speak or read English	M22PROXRSN3				
	4	Person not available	M22PROXRSN4				
	5	Other	M22PROXRSN5				
18. How did you help complete this survey? (Please answer ALL that apply.)							
	1	Read the questions to the person	M22PROXHOW1				
	2	Wrote down the person's answers	M22PROXHOW2				
	3	Answered the questions based on my experience with the person	M22PROXHOW3				
	4	Used medical records to fill out the survey	M22PROXHOW4				
	5	Translated the survey questions	M22PROXHOW5				
	6	Other	M22PROXHOW6				
		FOR PROFESSIONAL STAFF (CAREGIVERS) ONLY					
19.	19. Which of the following best describes your position? (Please choose one answer.)						
	Home Health Aide, Personal Care Attendant, or Certified Nursing Assistant						
	2	Nurse (RN, LPN, or NP)	M22CAREPOS				
	3	Social Worker or Case Manager					
	Adult Foster Care/Adult Day Care/Assisted Living/Residential Care Staff						
	5	Interpreter					
	6	Other					

YOU HAVE COMPLETED THE SURVEY. THANK YOU.