Survey Level Analysis File for Respondents in Medicare Health Outcome Survey 1998-2023 (MHOS Cohorts 1-24) October, 2025		at both Baseline and Follow Up.				
File contains one record per respondent per cohort per time point (baseline or follow up) for each completed or partially completed survey.						
Included are survey related derived variables, variables from SEER, and MHOS surveys.						
SEER-Medicare Cancer File for SEER Patients linked with Medicare (Cancer Diagnosis 1973-2021)						
MBSF: Master Beneficiary Summary File, 1999-2022						
CMS: Center for Medicare and Medicaid Services						
HOS 1.0/HOS 2.0/HOS 2.5/HOS 3.0: Medicare Health Outcomes Surveys (HOS) version 1.0, 2.0, 2.5, and 3.0.						
	Cohorts 1-6 used HOS 1.0 at both Baseline and Follow Up, Cohorts 7 & 8 used HOS1.0 at Baseline and HOS 2.0 at Follow Up,					
	Cohorts 9-13 used HOS 2.0 at both Baseline and Follow Up, Cohorts 14 & 15 used HOS 2.0 at Baseline and HOS 2.5 at					
	Follow Up, Cohorts 16 & 17 used HOS 2.5 at Baseline and HOS 3.0 at Follow Up, Cohorts 18-24 used HOS 3.0					
	at both Baseline and Follow Up.					
Note 1:	Please refer to the sheet on Map of Questions for Survey Question Numbers by Survey Year					

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
	The following variables are derived by IMS						
1	MHOS_ENCRYPID	Char 15	Random ID Number				
2	COHORT	Num 8	MHOS Cohort Number			1 to 24	
3	SRVTYPE	Num 8	MHOS Survey time point (baseline or follow-up)	SRVTYPE	1 2	baseline follow up	
4	SRVDATE	Num 8	MHOS Date of survey (SAS Date, Missing Imputed)	MMDDYY10		MMDDYY10	
5	SRVDSP	Char 3	Survey Disposition	$SRVDSP	M10 M11 T10 T11	Missing Mailed: Complete survey (80-100% complete) Mailed: Partial complete survey (50-79% complete) Telephoned: Complete survey (80-100%) complete) Telephoned: Partial complete survey (50-79% complete)	
6	DSPREC	Char 1	MHOS Survey disposition recoded	$DSPREC	1 2	Completed (M10, T10) Partially completed (M11, T11)	
7	NUMCOMP	Num 8	Number of completed or partially completed MHOS surveys			1 to 28	
8	SRVSEQ	Num 8	MHOS Survey counter			1 to 28	
9	DISPBAS1	Num 8	Completed MHOS cohort 1 baseline survey (yes/no)?	YESNO	0 1	No Yes	
10	DISPBAS2	Num 8	Completed MHOS cohort 2 baseline survey (yes/no)?	YESNO	0 1	No Yes	

	NAME	TYPE		LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
11	DISPBAS3	Num	8	Completed MHOS cohort 3 baseline survey (yes/no)?	YESNO	0 1	No Yes	
12	DISPBAS4	Num	8	Completed MHOS cohort 4 baseline survey (yes/no)?	YESNO	0 1	No Yes	
13	DISPBAS5	Num	8	Completed MHOS cohort 5 baseline survey (yes/no)?	YESNO	0 1	No Yes	
14	DISPBAS6	Num	8	Completed MHOS cohort 6 baseline survey (yes/no)?	YESNO	0 1	No Yes	
15	DISPBAS7	Num	8	Completed MHOS cohort 7 baseline survey (yes/no)?	YESNO	0 1	No Yes	
16	DISPBAS8	Num	8	Completed MHOS cohort 8 baseline survey (yes/no)?	YESNO	0 1	No Yes	
17	DISPBAS9	Num	8	Completed MHOS cohort 9 baseline survey (yes/no)?	YESNO	0 1	No Yes	
18	DISPBAS10	Num	8	Completed MHOS cohort 10 baseline survey (yes/no)?	YESNO	0 1	No Yes	
19	DISPBAS11	Num	8	Completed MHOS cohort 11 baseline survey (yes/no)?	YESNO	0 1	No Yes	
20	DISPBAS12	Num	8	Completed MHOS cohort 12 baseline survey (yes/no)?	YESNO	0 1	No Yes	
21	DISPBAS13	Num	8	Completed MHOS cohort 13 baseline survey (yes/no)?	YESNO	0 1	No Yes	
22	DISPBAS14	Num	8	Completed MHOS cohort 14 baseline survey (yes/no)?	YESNO	0 1	No Yes	
23	DISPBAS15	Num	8	Completed MHOS cohort 15 baseline survey (yes/no)?	YESNO	0 1	No Yes	
24	DISPBAS16	Num	8	Completed MHOS cohort 16 baseline survey (yes/no)?	YESNO	0 1	No Yes	
25	DISPBAS17	Num	8	Completed MHOS cohort 17 baseline survey (yes/no)?	YESNO	0 1	No Yes	
26	DISPBAS18	Num	8	Completed MHOS cohort 18 baseline survey (yes/no)?	YESNO	0 1	No Yes	

	NAME	TYPE		LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
27	DISPBAS19	Num	8	Completed MHOS cohort 19 baseline survey (yes/no)?	YESNO	0 1	No Yes	
28	DISPBAS20	Num	8	Completed MHOS cohort 20 baseline survey (yes/no)?	YESNO	0 1	No Yes	
29	DISPBAS21	Num	8	Completed MHOS cohort 21 baseline survey (yes/no)?	YESNO	0 1	No Yes	
30	DISPBAS22	Num	8	Completed MHOS cohort 22 baseline survey (yes/no)?	YESNO	0 1	No Yes	
31	DISPBAS23	Num	8	Completed MHOS cohort 23 baseline survey (yes/no)?	YESNO	0 1	No Yes	
32	DISPBAS24	Num	8	Completed MHOS cohort 24 baseline survey (yes/no)?	YESNO	0 1	No Yes	
33	DISPFU1	Num	8	Completed MHOS cohort 1 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
34	DISPFU2	Num	8	Completed MHOS cohort 2 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
35	DISPFU3	Num	8	Completed MHOS cohort 3 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
36	DISPFU4	Num	8	Completed MHOS cohort 4 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
37	DISPFU5	Num	8	Completed MHOS cohort 5 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
38	DISPFU6	Num	8	Completed MHOS cohort 6 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
39	DISPFU7	Num	8	Completed MHOS cohort 7 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
40	DISPFU8	Num	8	Completed MHOS cohort 8 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
41	DISPFU9	Num	8	Completed MHOS cohort 9 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
42	DISPFU10	Num	8	Completed MHOS cohort 10 follow-up survey (yes/no)?	YESNO	0 1	No Yes	

	NAME	TYPE		LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
43	DISPFU11	Num	8	Completed MHOS cohort 11 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
44	DISPFU12	Num	8	Completed MHOS cohort 12 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
45	DISPFU13	Num	8	Completed MHOS cohort 13 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
46	DISPFU14	Num	8	Completed MHOS cohort 14 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
47	DISPFU15	Num	8	Completed MHOS cohort 15 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
48	DISPFU16	Num	8	Completed MHOS cohort 16 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
49	DISPFU17	Num	8	Completed MHOS cohort 17 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
50	DISPFU18	Num	8	Completed MHOS cohort 18 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
51	DISPFU19	Num	8	Completed MHOS cohort 19 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
52	DISPFU20	Num	8	Completed MHOS cohort 20 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
53	DISPFU21	Num	8	Completed MHOS cohort 21 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
54	DISPFU22	Num	8	Completed MHOS cohort 22 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
55	DISPFU23	Num	8	Completed MHOS cohort 23 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
56	DISPFU24	Num	8	Completed MHOS cohort 24 follow-up survey (yes/no)?	YESNO	0 1	No Yes	
57	INSEER	Num	8	Patient in SEER (Yes/No)	YESNO	0 1	No Yes	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
58	NEWREG	Char 2	Respondent residing in SEER area at time of Survey?	$NEWREG		CMS State Missing, or did not participate in Survey	
					00	Patient not selected for FU survey	
					01	San Fran	
					02	Connecticut	
					20	Detroit	
					21	Hawaii	
					22	Iowa	
					23	New Mexico	
					25	Seattle	
					26	Utah	
					27	Atlanta	
					31	San Jose	
					35	Los Angeles	
					37	Rural Georgia	
					41	Greater California	
					42	Kentucky	
					43	Louisiana	
					44	New Jersey	
					47	Greater Georgia	
					61	Idaho	
					62	New York	
					63	Massachusetts	
					65	Illinois	
					66	Texas	
					98	Other Locations	
					99	Unknown	
59	SEERAREA	Num 8	Respondent reside in SEER area at time of survey (recoded)?	YESNO	0	No, newreg=98	
					1	Yes, newreg=01-66	
					99	Unknown, newreg=99	
60	ALL_SEER	Num 8	Reside in SEER area at time of ALL surveys (yes/no)?	YESNO	0	No, SEERAREA=no for at least one survey	
					1	Yes, SEERAREA=yes for all surveys	
					99	Unknown, SEERAREA=unknown for all surveys	
61	SEXFLG	Num 8	Mismatch Flag: Check MBSF Sex vs. Survey Sex (SV_GND)	SEX_FLG	.	One or both gender variables missing or invalid	
					0	Match	
					1	Mismatch	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
62	CA_STAT	Num 8	Cancer Status at time of survey	CA_STAT	1 2 3 4 5 6 7 8 9 10	1=Cancer before survey in SEER, or in same year as survey, month same or unknown and Any Cancer Question=yes 2=No cancer before survey in SEER and Any Cancer Question=no/missing, or non-melanoma cancer in same year, month is same and Any Cancer Question=no 3=No cancer before survey in SEER and Any Cancer Question=yes 4=Not in SEER and Any Cancer Question=no 5=Not in SEER and Any Cancer Question=missing 6=Melanoma cancer in SEER, in same year as survey, month is same and Any Cancer Question=no 7=Melanoma cancer in SEER, in same year as survey, month is same and Any Cancer Question=missing 8=Non-melanoma cancer in SEER, in same year as survey, month is same and Any Cancer Question=missing 9=Non-malignant tumors before the survey, or in same year as survey, month same, and no other malignancies after the survey 10=Non-malignant tumors after the survey, no other malignancies after the survey	
63	NON_MALIG	Num 8	Non-malignant cancer indicator	NON_MALIG	0 1 2 3	No non-malignant cancer Non-malignant cancer before survey Non-malignant cancer before and after survey Non-malignant cancer after survey	
64	NUMCABEF	Num 8	Number of cancers before the survey in SEER		. 0-13 99	Missing 99 for cancer status = 6,7, 8, 9, 10	
65	NUMCAAFT	Num 8	Number of cancers after the survey in SEER		. 0-19 99	Missing 99 for cancer status = 6,7, 8, 9, 10	
66	CABEFSV	Num 8	Any cancer before the survey(yes/no) in SEER?	YESNO	. 0 1 99	Missing for cancer status = 4,5 (Not in SEER) No for cancer status = 2, 3 Yes for cancer status = 1 99 for cancer status = 6, 7, 8, 9, 10	
67	MELANOMA	Num 8	Any Melanoma (yes/no) in SEER?	YESNO	. 0 1 99	Missing No Yes Unknown	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
68	SAME_MON	Num 8	First cancer diagnosed in the same year/month as the survey in SEER	YESNO	. 0 1 99	Missing No Yes Unknown	
69	TMFCA2SV	Num 8	# of months from first cancer to survey in SEER		. < 0 >= 0	Missing <0 when first cancer was diagnosed after the survey >=0 if first cancer was diagnosed before or in the same year/month as the survey	
70	TMRCA2SV	Num 8	# of months from most recent cancer to survey in SEER		. >= 0	Missing >=0 if the most recent cancer was diagnosed before or in the same year/month as the survey	
71	SEQCABEF	Char 8	Sequence # of most recent cancer before survey in SEER		00-12 99	99 for SEER unknown seq num - federally required in situ or malignant tumors	
72	SEQCAAFT	Char 8	Sequence # of first cancer after survey in SEER		00-20 99	99 for SEER unknown seq num - federally required in situ or malignant tumors	
73	DOD_DT	Num 8	Date of death from MBSF	MMDDYY10		MBSF: bene_death_date; last date on file = 12/31/2022	
74	END_DATE	Num 8	Date of death if died <=12/31/2022, or cut-off date (12/31/2022) if alive	MMDDYY10		End-date for all patients is set to 12/31/2022, or date of death if died before 12/31/2022.	
75	TMFCA2ED	Num 8	# of months from first cancer to END_DATE				
76	TMSV2END	Num 8	# of months from survey to END_DATE				
77	TMSV2DOD	Num 8	# of months from survey to dod			Missing for patients who are alive	
78	ALIVE6M	Num 8	Survival status after 6 months from the survey	SURVIV	0 1	Dead Alive	
79	ALIVE12M	Num 8	Survival status after 12 months from the survey	SURVIV	0 1	Dead Alive	
80	AGE_SRV	Num 8	Calculated Age, calculated by subtracting the MBSF date of birth from the date the survey was completed, and dividing the result by 365.25.				
81	SMKSTAT	Num 8	Smoking Status derived from Current Smoker Question	CSMK	1 2 9	Yes (every day or some days) No Don't know or missing	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
82	NEWRACE	Num 8	Derived from survey, MBSF, and SEER	NEWRACE	1 2 3 4 5 6 0	White Asian or Pacific Islander Black or African American Hispanic American Indian or Alaskan Native Another race or Multi-Race Unknown	
	The following variables are from MBSF						
83	MBSF_RACE	Num 8	Race (MBSF)	$RACE	. 0 1 2 3 4 5 6	Missing Unknown White Black Other Asian Hispanic North American Native	
84	MBSF_GENDER	Char 1	MBSF: Gender	$GENDER	. 1 2	Missing Male Female	
85	MBSF_DOB	Char 6	MBSF: Medicare date of Birth	MMDDYY10			
86	MBSF_ESRD_IND	Char 1	MBSF: ESRD indicator	$MB_ESRD	Y 0	Has ESRD Does not have ESRD	
	The following variables are derived by IMS from variables in MBSF data						
87	ST_BUYIN	Num 8	Enrolled in state buy-in at the time of survey	ST_BUYIN	0 1	No Yes (Third Party A or Third Party B)	MBSF: Monthly Part A and/or Part B entitlement indicator = A, B, or C
88	IN_PARTD	Num 8	Part D enrollment at the time of survey	YESNO	0 1	No Yes	MBSF: Survey month Part D contract number (first character) = H, R, S, E, X
	The following variables are derived by IMS from variables in Hospice Base File						
89	IN_HOSPICE	Num 8	Hospice Status at the time of survey	YESNO	0 1	No Yes	Hospice Base File: CLM_FROM_DT, CLM_THRU_DT
	The following variables are MHOS survey questions						
	For questions that have changed in HOS 2.0/2.5/3.0 and were recoded (column "H"), both raw and recoded variables were written to this file.						
90	GENHTH	Num 8	General Health Question	GENHTH	. 1 2 3 4 5	Missing Excellent Very good Good Fair Poor	
91	HTHTRN	Num 8	Health Transition Question	HTHTRN	. 1 2 3 4 5	Missing Much better now than one year ago Somewhat better now than one year ago About the same as one year ago Somewhat worse now than one year ago Much worse now than one year ago	not collected as a general health item in HOS 2.0, however, it was split into physical and emotional health components, Q8(VRPHCMP) and Q9(VRMHCMP) in HOS 2.0 and later.

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
92	VIGACT	Num 8	Vigorous Activities Question	VIGACT	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
93	MODACT	Num 8	Moderate Activities Question	MODACT	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
94	LIFT	Num 8	Lifting or carrying groceries Question	LIFT	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
95	CLMBSV	Num 8	Climbing several flights of stairs Question	CLMBSV	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
96	CLMBON	Num 8	Climbing one flight of stairs Question	CLMBON	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
97	BEND	Num 8	Bending, kneeling, or stooping Question	BEND	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
98	WLKMI	Num 8	Walking > 1 mile Question	WLKMI	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
99	WLKBKS	Num 8	Walking several blocks Question	WLKBKS	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
100	WLK1BK	Num 8	Walking 1 block Question	WLK1BK	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
101	BATHDR	Num 8	Bathing or dressing Question	BATHDR	. 1 2 3	Missing Yes, limited a lot Yes, limited a little No, not limited at all	
102	PCUTTM	Num 8	Physical Health Limiting Time Spent on Activities Question	PCUTTM	. 1 2	Missing Yes No	
103	PACMPL	Num 8	Physical Health Limiting Amount Accomplished Question	PACMPL	. 1 2	Missing Yes No	not collected starting in HOS 2.0, similar to variable VRPACCL (5-level) in HOS 2.0 and later.
104	PLMTKW	Num 8	Physical Health Limiting the Kind of Activities Question	PLMTKW	. 1 2	Missing Yes No	not collected starting in HOS 2.0, similar to variable VRPWORK (5-level) in HOS 2.0 and later.

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
105	PDIFWK	Num 8	Physical Health Causing Difficulty Performing Activities Question	PDIFWK	.	Missing	
					1	Yes	
					2	No	
106	ECUTTM	Num 8	Q5a Emotional Problems Limiting Time Spent on Activities Question	ECUTTM	.	Missing	
					1	Yes	
					2	No	
107	EACMPL	Num 8	Emotional Problems Limiting Amount Accomplished Question	EACMPL	.	Missing	not collected starting in HOS 2.0, similar to variable VRMACCL(5-level) in HOS 2.0 and later.
					1	Yes	
					2	No	
108	ENTCRF	Num 8	Emotional Problems Limiting Carefulness Question	ENTCRF	.	Missing	not collected starting in HOS 2.0, similar to variable VRMWORK(5-level) in HOS 2.0 and later.
					1	Yes	
					2	No	
109	SOCLMT	Num 8	Extent Physical Health or Emotional Problems Interfered with Social Activities Question	SOCLMT	.	Missing	
					1	Not at all	
					2	Slightly	
					3	Moderately	
					4	Quite a bit	
					5	Extremely	
110	PNMAGT	Num 8	Bodily Pain Question	PNMAGT	.	Missing	
					1	None	
					2	Very mild	
					3	Mild	
					4	Moderate	
					5	Severe	
					6	Very severe	
111	PNINTF	Num 8	Pain Interfering with Work Question	PNINTF	.	Missing	
					1	Not at all	
					2	A little bit	
					3	Moderately	
					4	Quite a bit	
					5	Extremely	
112	FULPEP	Num 8	Full of Pep Question	FULPEP	.	Missing	
					1	All of the time	
					2	Most of the time	
					3	A good bit of the time	
					4	Some of the time	
					5	A little of the time	
					6	None of the time	
113	NERVS	Num 8	Nervous Question	NERVS	.	Missing	
					1	All of the time	
					2	Most of the time	
					3	A good bit of the time	
					4	Some of the time	
					5	A little of the time	
					6	None of the time	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
114	DNDMPS	Num 8	Down in the Dumps Question	DNDMPS	. 1 2 3 4 5 6	Missing All of the time Most of the time A good bit of the time Some of the time A little of the time None of the time	
115	PCEFUL	Num 8	Calm and Peaceful Question	PCEFUL	. 1 2 3 4 5 6	Missing All of the time Most of the time A good bit of the time Some of the time A little of the time None of the time	
116	ENERGY	Num 8	Lots of Energy Question	ENERGY	. 1 2 3 4 5 6	Missing All of the time Most of the time A good bit of the time Some of the time A little of the time None of the time	
117	BLSAD	Num 8	Downhearted and Blue Question	BLSAD	. 1 2 3 4 5 6	Missing All of the time Most of the time A good bit of the time Some of the time A little of the time None of the time	
118	WRNOUT	Num 8	Feeling Worn Out Question	WRNOUT	. 1 2 3 4 5 6	Missing All of the time Most of the time A good bit of the time Some of the time A little of the time None of the time	
119	HAPPY	Num 8	Happy Question	HAPPY	. 1 2 3 4 5 6	Missing All of the time Most of the time A good bit of the time Some of the time A little of the time None of the time	
120	TIRED	Num 8	Feeling Tired Question	TIRED	. 1 2 3 4 5 6	Missing All of the time Most of the time A good bit of the time Some of the time A little of the time None of the time	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
121	SCLACT	Num 8	Amount of Time Physical Health or Emotional Problems Interfered with Social Activities Question	SCLACT	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	
122	SCKESY	Num 8	Sick Easier Than Other People Question	SCKESY	. 1 2 3 4 5	Missing Definitely true Mostly true Don't know Mostly false Definitely false	
123	ASHLTH	Num 8	As Healthy As Anybody I Know Question	ASHLTH	. 1 2 3 4 5	Missing Definitely true Mostly true Don't know Mostly false Definitely false	
124	HTHWSE	Num 8	Expect Health To Get Worse Question	HTHWSE	. 1 2 3 4 5	Missing Definitely true Mostly true Don't know Mostly false Definitely false	
125	HTHEXT	Num 8	Excellent Health Question	HTHEXT	. 1 2 3 4 5	Missing Definitely true Mostly true Don't know Mostly false Definitely false	
	Variables DIFBTH, DIFDRS, DIFEAT, DIFCHR, DIFWLK, DIFTOL: order of response categories was reversed in HOS 2.0/2.5/3.0, but was harmonized in this dataset.						
	For consistency between HOS 1.0 and 2.0/2.5/3.0 variables, please ONLY use the definition in column F/G(Value/Level), Please DO NOT use definition in the survey form.						
126	DIFBTH	Num 8	Bathing Question	DIFBTH	. 1 2 3	Missing I am unable to do this activity Yes, I have difficulty No, I do not have difficulty	ADLBTH in HOS 2.0/2.5/3.0, reverse order
127	DIFDRS	Num 8	Dressing Question	DIFDRS	. 1 2 3	Missing I am unable to do this activity Yes, I have difficulty No, I do not have difficulty	ADLDRS in HOS 2.0/2.5/3.0, reverse order
128	DIFEAT	Num 8	Eating Question	DIFEAT	. 1 2 3	Missing I am unable to do this activity Yes, I have difficulty No, I do not have difficulty	ADLEAT in HOS 2.0/2.5/3.0, reverse order
129	DIFCHR	Num 8	Getting In/Out of Chairs Question	DIFCHR	. 1 2 3	Missing I am unable to do this activity Yes, I have difficulty No, I do not have difficulty	ADLCHR in HOS 2.0/2.5/3.0, reverse order
130	DIFWLK	Num 8	Walking Question	DIFWLK	. 1 2 3	Missing I am unable to do this activity Yes, I have difficulty No, I do not have difficulty	ADLWLK in HOS 2.0/2.5/3.0, reverse order

NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
131 DIFTOL	Num 8	Using the Toilet Question	DIFTOL	. 1 2 3	Missing I am unable to do this activity Yes, I have difficulty No, I do not have difficulty	ADLTLT in HOS 2.0/2.5/3.0, reverse order
132 CPNEXR	Num 8	Chest Pain/Pressure on Exertion Question (not in survey starting 2013)	CPNEXR	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
133 CPNRST	Num 8	Chest Pain/Pressure at Rest Question (not in survey starting 2013)	CPNRST	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
134 SOBFLT	Num 8	Shortness of Breath when Lying Flat Question (not in survey starting 2013)	SOBFLT	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
135 SOBSIT	Num 8	Shortness of Breath when Sitting/Resting Question (not in survey starting 2013)	SOBSIT	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
136 SOBWLK	Num 8	Shortness of Breath when Walking Less than One Block Question (not in survey starting 2013)	SOBWLK	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
137 SOBSTR	Num 8	Shortness of Breath when Climbing One Flight of Stairs Question (not in survey starting 2013)	SOBSTR	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
138 NMBFET	Num 8	Numbness in Feet Question (not in survey starting 2013)	NMBFET	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
139 ANKSWL	Num 8	Ankle/Leg Swelling Question (not in survey starting 2003)	ANKSWL	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
140	TINGFT	Num 8	Foot Tingling/Burning Question (not in survey starting 2013)	TINGFT	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
141	DECSNS	Num 8	Decreased Ability to Feel Hot or Cold in Feet Question (not in survey starting 2013)	DECSNS	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
142	DECHEL	Num 8	Sores/Wounds on Feet Question (not in survey starting 2013)	DECHEL	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	Not collected starting in HOS 2.5.
143	PARLYS	Num 8	Paralysis or Weakness on One Side of Body Question	PARLYS	. 1 2 3	Missing Yes, I have it Yes, but it went away No	
144	LSTTLK	Num 8	Lost Ability to Talk Question	LSTTLK	. 1 2 3	Missing Yes, I have lost it Yes, but it returned No	
			The questions regarding vision and hearing were reworded, and the direction of the responses was reversed in HOS 2.5/3.0, but was harmonized in this dataset.				
			For consistency between HOS 2.0/2.5/3.0 variables, please ONLY use the definition in column F/G(Value/Level), Please DO NOT use definition in the survey form.				
145	RDNEWP	Num 8	See Well Enough to Read Newspaper Question	RDNEWP	. 1 2	Missing Yes No	DIFSEE in HOS 2.5/3.0, reverse order
146	HRMOST	Num 8	Hear Most Things People Say Question	HRMOST	. 1 2	Missing Yes No	DIFHEAR in HOS 2.5/3.0, reverse order
147	ACDING	Num 8	Now Have Acid Indigestion or Heartburn Question (not in survey starting 2003)	ACDING	. 1 2	Missing Yes No	
148	CTRURN	Num 8	Now Have Difficulty Controlling Urination Question	CTRURN	. 1 2	Missing Yes No	
149	HIGHBP	Num 8	Ever Had Hypertension Question	HIGHBP	. 1 2	Missing Yes No	
150	ANGCAD	Num 8	Ever Had Angina Pectoris/Coronary Artery Disease Question	ANGCAD	. 1 2	Missing Yes No	
151	CHF	Num 8	Ever Had Congestive Heart Failure Question	CHF	. 1 2	Missing Yes No	
152	AMI	Num 8	Ever Had Myocardial Infarction Question	AMI	. 1 2	Missing Yes No	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
153	OTHHRT	Num 8	Ever Had Other Heart Conditions Question	OTHHRT	. 1 2	Missing Yes No	
154	STROKE	Num 8	Ever Had Stroke Question	STROKE	. 1 2	Missing Yes No	
155	COPD_E	Num 8	Ever Had Emphysema, Asthma, or COPD Question	COPD_E	. 1 2	Missing Yes No	
156	GI_ETC	Num 8	Ever Had Crohn's Disease, Ulcerative Colitis, or Inflammatory Bowel Disease Question	GI_ETC	. 1 2	Missing Yes No	
157	ATHHIP	Num 8	Ever Had Arthritis of Hip/Knee Question	ATHHIP	. 1 2	Missing Yes No	Removed starting from 2022, cohort 23 follow-up
158	ATHHAN	Num 8	Ever Had Arthritis of Hand/Wrist Question	ATHHAN	. 1 2	Missing Yes No	Removed starting from 2022, cohort 23 follow-up
159	SCIATC	Num 8	Ever Had Sciatica Question	SCIATC	. 1 2	Missing Yes No	Removed starting from 2022, cohort 23 follow-up
160	DIABET	Num 8	Ever Had Diabetes, High Blood Sugar, or Sugar in Urine Question	DIABET	. 1 2	Missing Yes No	
161	ANYCAN	Num 8	Ever Had Any Cancer Other than Skin Cancer Question	ANYCAN	. 1 2	Not Answered Yes No	
162	ARTHPN	Num 8	Arthritis Pain Question (not in survey starting 2013)	ARTHPN	. 1 2 3 4 5	Missing None Very Mild Mild Moderate Severe	
163	COLNCA	Num 8	Colon or Rectal Cancer Current Treatment Question	SPECCAN	. 1 2	Not Answered Yes No	
164	LUNGCA	Num 8	Lung Cancer Current Treatment Question	SPECCAN	. 1 2	Not Answered Yes No	
165	BRSTCA	Num 8	Breast Cancer Current Treatment Question	SPECCAN	. 1 2	Not Answered Yes No	
166	PROSCA	Num 8	Prostate Cancer Current Treatment Question	SPECCAN	. 1 2	Not Answered Yes No	
167	BACKPN	Num 8	Low Back Pain Interfered with Daily Activities Question (not in survey starting 2013)	BACKPN	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
168	NUMBLG	Num 8	Pain, Numbness, Tingling Down Leg Question (not in survey starting 2003)	NUMBLG	. 1 2 3 4 5	Missing All of the time Most of the time Some of the time A little of the time None of the time	
169	FELTSD	Num 8	Two Weeks of Depression in Past Year Question	FELTSD	. 1 2	Missing Yes No	
170	DEPMCH	Num 8	Depression Much of the Time in Past Year Question	DEPMCH	. 1 2	Missing Yes No	
171	DEP2YR	Num 8	Depression Most of the Time for 2 Years Question	DEP2YR	. 1 2	Missing Yes No	
172	CMPHTH	Num 8	Health Compared to Other People Your Age Question	CMPHTH	. 1 2 3 4 5	Missing Excellent Very good Good Fair Poor	
173	SMK100	Num 8	Smoked At Least 100 Cigarettes in Entire Life Question (not in survey starting 2003)	SMK	. 1 2 3	Missing Yes No Don't know	
174	SMKFRQ	Num 8	Current Smoker Question	SMKFRQ	. 1 2 3 4	Missing Every day Some days Not at all Don't know	Removed starting from 2022, cohort 23 follow-up
175	DRSQT_R	Char 4	How Long Since Quit Smoking Question (recoded) (not in survey starting 2003)	DRSQT_R	. 1 1.1 2 2.1 3	Missing Less than 6 months Less than 12 months (cohort 1 baseline only) 6 months or more 12 months or more (cohort 1 baseline only) Don't know	
176	QSMKAD	Num 8	Advised to Quit Smoking Question (not in survey starting 2003)	QSMKAD	. 1 2 3 4 5 6	Missing None 1 visit 2 to 4 visits 5 to 9 visits 10 or more visits I had no visits in the last 6 months	
177	BRTHYR	Char 4	Survey Reported Year of Birth Question				
178	SV_GND	Num 8	Survey Reported Gender Question	SV_GND	. 1 2	Missing Male Female	
					3	Other	New telephone response level of "other" added in 2019

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
179	SV_GNDOTH	Char	Open-ended response for Survey Gender "other"				New telephone response as a second part of the Survey Gender "other" response, added in 2019
180	HISPAN	Num 8	Hispanic or Latino Question (recoded from expanded categories starting 2013)	HISPAN	. 1 2	Missing Yes No	Beginning 2013, HISPAN=1 if HPNOHISP=0 and one or more of the Hispanic ethnicity categories are checked (HPMEX=1, HPPR=1, HPCUBA=1, HPOTHER=1); HISPAN=2 if HPNOHISP=1 AND none of the Hispanic ethnicity categories are checked (HPMEX=0, HPPR=0, HPCUBA=0, and HPOTHER=0).
	Variable SV_RAC: multiple RACE responses were collected in HOS 2.0/2.5/3.0, but was harmonized into one variable SV_RAC in this dataset. For consistency between HOS 1.0/2.0/2.5/3.0 variables, please ONLY use variable SV_RAC with the definition in column F/G(Value/Level). Please DO NOT use the definition in the survey form for individual RACE variables. Note: Variables SV_RAC and HISPAN can be combined to create the race/ethnicity variable.						
181	SV_RAC	Num 8	Survey Reported Race Question	SV_RAC	. 1 2 3 4 5	Missing American Indian or Alaskan Native Asian or Pacific Islander Black or African American White Another race or multiracial (if check Another Race or more than one Race)	not collected in HOS 2.0, recode from RCNATAM, RCASIAN, RCAFRAM, RCNHPI, RCWHITE, and RCOTHER in HOS 2.0. Not collected starting in HOS 2.5. More categories were added for Asian and Pacific Islander starting HOS 2.5. Recode from: White(RCWHITE), Black(RCAFRAM), Asian or Pacific(RCINDIA,RCCHINA,RCFILIP,RCJAPAN,RCKOREA,RCVIET,RCOTHASN,RCHAWAII,RCGUAM,RCSAMOA,RCOTHPAC), and American Indian(RCNATAM).
182	MARITL	Num 8	Marital Status Question	MARITL	. 1 2 3 4 5	Missing Married Divorced Separated Widowed Never married	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
183	EDUC	Num 8	Education Question	EDUC	. 1 2 3 4 5 6	Missing 8th grade or less Some high school, but did not graduate High school graduate or GED Some college or 2 year degree 4 year college graduate More than a 4 year college degree	
184	HMOWN	Num 8	Housing Question	HMOWN	. 1 2 3 4 5	Missing Owned or being bought by you Owned or being bought by someone in your family other than you Rented for money Not owned and one in which you live without payment of rent None of the above	
185	RTRCOM	Num 8	Retirement Community Question (not in survey starting 2003)	RTRCOM	. 1 2	Missing Yes No	
186	MDSVPV	Num 8	Retirement Community Medical Services Question (not in survey starting 2003)	MDSVPV	. 1 2	Missing Yes No	
187	WHOCMP	Num 8	Who Completed this Survey Question	WHOCMP	. 1 2 3 4	Missing Person to whom survey was addressed Family member or relative Friend Professional Caregiver	
188	HHINC	Num 8	Household Income Question	HHINC	. 1 2 3 4 5 6 7 8 9 10	Missing Less than $5,000 $5,000-$9,999 $10,000-$19,999 $20,000-$29,999 $30,000-$39,999 $40,000-$49,999 $50,000-$79,999 $80,000-$99,999 $100,000 or more Don't know	Removed starting from 2022, cohort 23 follow-up
	The following MHOS questions were first asked on the 2003 survey						
189	PHYHTH	Char 2	Number of Days Physical Health Not Good Question	PHYHTH	 00-98	Missing Valid	
190	MENHTH	Char 2	Number of Days Mental Health Not Good Question	MENHTH	 00-98	Missing Valid	
191	PORHTH	Char 2	Number of Days Health Interfered with Daily Activities Question	PORHTH	 00-98	Missing Valid	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
192	URNLKG	Num 8	Urine Leakage in Past 6 Months Question	URNLKG	. 1 2	Missing Yes No	
193	URNMAG	Num 8	Magnitude of Urine Leakage Problem Question	URNMAG	. 1 2 3	Missing A big problem A small problem Not a problem	Recode MUIDACT to URNMAG in HOS3.0
194	URNDOC	Num 8	Talked with Doctor About Urine Leakage Question	URNDOC	. 1 2 3	Missing Yes No I did not see a doctor or health provider	
195	URNTRT	Num 8	Received Treatment for Urine Leakage Question	URNTRT	. 1 2	Missing Yes No	
	The following MHOS questions were first asked on the 2005 survey						
196	ACTDOC	Num 4	Talked with Doctor About Physical Activity	ACTDOC	. 1 2 3	Missing Yes No I had no visits in the last 12 months	
197	ACTADV	Num 4	Did Doctor Advise you to start increase or maintain level of exercise	ACTADV	. 1 2	Missing Yes No	
	The following MHOS questions were first asked on the 2006 survey						
198	VRPHCMP	Num 3	Rate your Physical Health Compared to One Year Ago	VRPHCMP	. 1 2 3 4 5	Missing Much better Slightly better About the same Slightly worse Much worse	
199	VRMHCMP	Num 3	Rate your Emotional Problems Compared to One Year Ago	VRMHCMP	. 1 2 3 4 5	Missing Much better Slightly better About the same Slightly worse Much worse	
200	VRPACCL	Num 3	Physical Health Limiting Amount Accomplished Question	VRPACCL	. 1 2 3 4 5	Missing No, none of the time Yes, a little of the time Yes, some of the time Yes, most of the time Yes, all of the time	similar to variable PACMPL(yes/no) in HOS 1.0
201	VRPWORK	Num 3	Physical Health Limiting the Kind of Activities Question	VRPWORK	. 1 2 3 4 5	Missing No, none of the time Yes, a little of the time Yes, some of the time Yes, most of the time Yes, all of the time	similar to variable PLMTKW(yes/no) in HOS 1.0

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
202	VRMACCL	Num 3	Emotional Problems Limiting Amount Accomplished Question	VRMACCL	. 1 2 3 4 5	Missing No, none of the time Yes, a little of the time Yes, some of the time Yes, most of the time Yes, all of the time	similar to variable EACMPL(yes/no) in HOS 1.0
203	VRMWORK	Num 3	Emotional Problems Limiting Carefulness Question	VRMWORK	. 1 2 3 4 5	Missing No, none of the time Yes, a little of the time Yes, some of the time Yes, most of the time Yes, all of the time	similar to variable ENTCRF(yes/no) in HOS 1.0
204	ADLBTH	Num 3	Difficulty Bathing	ADLBTH	. 1 2 3	Missing No, I do not have difficulty Yes, I have difficulty I am unable to do this activity	recode to DIFBTH in HOS 1.0
205	ADLDRS	Num 3	Difficulty Dressing	ADLDRS	. 1 2 3	Missing No, I do not have difficulty Yes, I have difficulty I am unable to do this activity	recode to DIFDRS in HOS 1.0
206	ADLEAT	Num 3	Difficulty Eating	ADLEAT	. 1 2 3	Missing No, I do not have difficulty Yes, I have difficulty I am unable to do this activity	recode to DIFEAT in HOS 1.0
207	ADLCHR	Num 3	Difficulty Getting in or out of Chairs	ADLCHR	. 1 2 3	Missing No, I do not have difficulty Yes, I have difficulty I am unable to do this activity	recode to DIFCHR in HOS 1.0
208	ADLWLK	Num 3	Difficulty Walking	ADLWLK	. 1 2 3	Missing No, I do not have difficulty Yes, I have difficulty I am unable to do this activity	recode to DIFWLK in HOS 1.0
209	ADLTLT	Num 3	Difficulty Using Toilet	ADLTLT	. 1 2 3	Missing No, I do not have difficulty Yes, I have difficulty I am unable to do this activity	recode to DIFTOL in HOS 1.0
210	CCOSTEO	Num 3	Ever Had Osteoporosis Question	CCOSTEO	. 1 2	Missing Yes No	
211	FRMTLK	Num 3	Talked with Doctor about Falling or Walking Problem	FRMTLK	. 1 2 3	Missing Yes No I had no visits in the past 12 months	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
212	FRMFALL	Num 3	Did you Fall in the Past 12 Months Question	FRMFALL	. 1 2	Missing Yes No	
213	FRMBAL	Num 3	Problem with Balance or Walking in Past 12 Months Question	FRMBAL	. 1 2	Missing Yes No	
214	FRMPREV	Num 3	Has Doctor Suggested Cane/Walker, Physical Therapy, Vision or Hearing Testing or Checked Blood Pressure Lying or Standing	FRMPREV	. 1 2 3	Missing Yes No I had no visits in the past 12 months	In the 2018 cohort 21 baseline, the question was revised to remove the statement "Check your blood pressure lying or standing."
215	OTOTEST	Num 3	Ever Had a Bone Density Test Question	OTOTEST	. 1 2	Missing Yes No	Removed starting from 2021, cohort 22 follow up
216	WEIGHT	Num 8	Categorical Weight in pounds (lbs.)	WEIGHT	. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	Missing 90 lbs. or less 91-100 lbs. 101-110 lbs. 111-120 lbs. 121-130 lbs. 131-140 lbs. 141-150 lbs. 151-160 lbs. 161-170 lbs. 171-180 lbs. 181-190 lbs. 191-200 lbs. 201-210 lbs. 211-220 lbs. 221-230 lbs. 231-240 lbs. 241-250 lbs. 251-260 lbs. 261-270 lbs. 271-280 lbs. 281-290 lbs. 291-300 lbs. 301-310 lbs. 311-320 lbs. 321 lbs. or more	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
217	HEIGHT	Num 8	Categorical Height in feet and inches (ft./in.)	HEIGHT	. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Missing 5 ft. 00 in. or less 5 ft. 01 in. 5 ft. 02 in. 5 ft. 03 in. 5 ft. 04 in. 5 ft. 05 in. 5 ft. 06 in. 5 ft. 07 in. 5 ft. 08 in. 5 ft. 09 in. 5 ft. 10 in. 5 ft. 11 in. 6 ft. 00 in. 6 ft. 01 in. 6 ft. 02 in. 6 ft. 03 in. or more	
218	RCNATAM	Num 3	American Indian or Alaskan Native	RCNATAM	. 0 1	Missing Did not check American Indian or Alaskan Native Checked American Indian or Alaskan Native	recode to SV_RAC in HOS 1.0
219	RCASIAN	Num 3	Asian	RCASIAN	. 0 1	Missing Did not check Asian Checked Asian	recode to SV_RAC in HOS 1.0
220	RCAFRAM	Num 3	Black or African American	RCAFRAM	. 0 1	Missing Did not check Black or African American Checked Black or African American	recode to SV_RAC in HOS 1.0
221	RCNHPI	Num 3	Native Hawaiian or other Pacific Islander	RCNHPI	. 0 1	Missing Did not check Native Hawaiian or other Pacific Islander Checked Native Hawaiian or other Pacific Islander	recode to SV_RAC in HOS 1.0
222	RCWHITE	Num 3	White	RCWHITE	. 0 1	Missing Did not check White Checked White	recode to SV_RAC in HOS 1.0
223	RCOTHER	Num 3	Another Race (excluded in the 2011 survey)	RCOTHER	. 0 1	Missing Did not check Another race Checked Another race	recode to SV_RAC in HOS 1.0
	NOTE: BMI categories changed starting from 2017 (Cohort 18 follow up), alternative BMI categories can be calculated directly from variable BMI.						
224	BMI	Num 8	Calculated Body Mass Index				
225	BMICAT	Num 8	Categories of Body Mass Index before 2007		. 1 2 3 4 5	Missing Underweight (BMI less than 20) Normal (BMI 20-<25) Overweight (BMI 25-<30) Obese (BMI 30-<35) Morbid Obesity (BMI 35 or more)	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
			Categories of Body Mass Index (starting from 2017)		. 1 2 3 4	Missing Underweight (BMI less than 18.5) Normal (BMI 18.5-<25) Overweight (BMI 25-<30) Obese (BMI >=30)	
	The following MHOS question was first asked on the 2008 Survey, it was asked differently on the 2011 survey, consolidated to use the definition from the 2011 survey.						
226	DEPWEEK	Num 7	How much of the time in the past week did you feel depressed?	DEPWEEKB	1 2 3 4 .	Rarely or none of the time Some or a little of the time Occasionally or a moderate amt. of the time Most or all of the time Missing	
	The following MHOS question was first asked on the 2012 Survey.						
227	WEIGHTLB	Num 8	How much do you weigh in pounds(lbs.) question				recode to WEIGHT as categories starting in HOS 2.0
228	HEIGHTFT	Num 8	How tall are you without shoes on in feet(ft.) and inches (in.)				recode to HEIGHT as categories starting in HOS 2.0
229	HEIGHTIN	Num 8					
	The following MHOS question was first asked on the 2013 Survey.						
230	DIFMEALS	Num 7	Difficulty preparing meals	DIFMEALS	1 2 3	No, I do not have difficulty Yes, I have difficulty I don't do this activity	
231	DIFMONEY	Num 7	Difficulty managing money	DIFMONEY	1 2 3	No, I do not have difficulty Yes, I have difficulty I don't do this activity	
232	DIFMEDS	Num 7	Difficulty taking medications as prescribed	DIFMEDS	1 2 3	No, I do not have difficulty Yes, I have difficulty I don't do this activity	
233	DIFSEE	Num 7	Blind or have serious difficulty seeing, even when wearing glasses question	DIFSEE	1 2 3	Yes No Almost never or never	Reversed, recode to RDNEWP as in HOS 1.0
234	DIFHEAR	Num 7	Deaf or have serious difficulty hearing question	DIFHEAR	1 2 3	Yes No Almost never or never	Reversed, recode to HRMOST as in HOS 1.0
235	DIFREMEM	Num 7	Serious difficulty concentrating, remembering or making decisions question	DIFREMEM	1 2	Yes No	
236	DIFWKSTR	Num 7	Serious difficulty walking or climbing stairs	DIFWKSTR	1 2	Yes No	
237	DIFDRBTH	Num 7	Difficulty dressing or bathing	DIFDRBTH	1 2	Yes No	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
238	DIFERRND	Num 7	Because of a physical, mental, or emotional condition, difficulty doing errands alone such as visiting a doctor's office or shopping question	DIFERRND	1 2	Yes No	
239	DIFMPROB	Num 7	In the past month, how often did memory problems interfere with your daily activities question	DIFMPROB	1 2 3 4 5	Every day (7 days a week) Most days (5-6 days a week) Some days (2-4 days a week) Rarely (Once a week or less) Never	
240	CCDEP	Num 7	Doctor ever told you that you have depression question	CCDEP	1 2	Yes No	
241	CAOTHER	Num 7	Other cancer (other than skin cancer)	CAOTHER	1 2	Yes No	
242	PAINDACT	Num 7	In the past 7 days, how much did pain interfere with your day to day activities question	PAINDACT	1 2 3 4 5	Not at all A little bit Somewhat Quite a bit Very much	
243	PAINSACT	Num 7	In the past 7 days, how often did pain keep you from socializing with others question	PAINSACT	1 2 3 4 5	Never Rarely Sometimes Often Always	
244	PAINRATE	Num 7	In the past 7 days, how would you rate your pain on average question	PAINRATE	1-10		
245	PAINRATEb	Num 7	In the 2021 Cohort 22 Follow up, PAINRATE (Q38) was revised to add the (0) response to the pain scale. The scale responses range from 0 - 10 and zero now corresponds with the answer "No pain."	PAINRATEb	0-10		In the 2021 Cohort 22 Follow up, PAINRATE (Q38) was revised to add the (0) response to the pain scale. The scale responses range from 0 - 10 and zero now corresponds with the answer "No pain."
246	SPEAKENG	Num 7	How well do you speak English question	SPEAKENG	1 2 3 4	Very well Well Not well Not at all	
247	DEPNOPLS	Num 7	41a. Little interest or pleasure in doing things Question	DEPNOPLS	1 2 3 4	Not at all Several days More than half the days Nearly every day	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
248	DEPDOWN	Num 7	41b. Feeling down, depressed or hopeless Question	DEPDOWN	1 2 3 4	Not at all Several days More than half the days Nearly every day	
249	LVALONE	Num 7	Live alone	LVALONE	. 0 1	Missing Respondent did not check live alone Respondent checked live alone	
250	LVSPOUSE	Num 7	Live with spouse/significant other	LVSPOUSE	. 0 1	Missing Respondent did not check live with spouse/significant other Respondent checked live with spouse/significant other	
251	LVCHILD	Num 7	Live with children/other relatives	LVCHILD	. 0 1	Missing Respondent did not check live with children/other relatives Respondent checked live with children/other relatives	
252	LVNONREL	Num 7	Live with non-relatives	LVNONREL	. 0 1	Missing Respondent did not check live with non-relatives Respondent checked live with non-relatives	
253	LVCAREGV	Num 7	Live with paid caregiver	LVCAREGV	. 0 1	Missing Respondent did not check live with paid caregiver Respondent checked live with paid caregiver	
254	WHERELV	Num 7	Where do you live question	WHERELV	1 2 3 4	Independent house, apartment, condominium or mobile home Assisted living apartment or board and care home Nursing home Other	
255	CAREOTHR	Num 7	Do you currently provide care for someone else in your home question	CAREOTHR	1 2	Yes No	
256	CAREDAYS	Num 7	During the past week, how many days did you provide at least some care question	CAREDAYS	1 2 3 4 5	No care provided in the last week 1 or 2 days 3 or 4 days 5 or 6 days 7 days (every day)	
257	DIFTRANS	Num 7	Do you have difficulty getting to places you need to go (either by driving or by getting a ride question	DIFTRANS	1 2 3	Always or almost always Sometimes Almost never or never	
258	HPNOHISP	Num 7	Not of Hispanic, Latino/a or Spanish origin	HPNOHISP	0 1 .	No, not Hispanic not checked No, not Hispanic checked Missing	Recode to HISPAN as in HOS 1.0
259	HPMEX	Num 7	Mexican, Mexican American, Chicano/a	HPMEX	0 1 .	Respondent did not check Mexican Respondent checked Mexican Missing	
260	HPPR	Num 7	Puerto Rican	HPPR	0 1 .	Respondent did not check Puerto Rican Respondent checked Puerto Rican Missing	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
261	HPCUBA	Num 7	Cuban	HPCUBA	0 1 .	Respondent did not check Cuban Respondent checked Cuban Missing	
262	HPOTHER	Num 7	Another Hispanic, Latino/a or Spanish origin	HPOTHER	0 1 .	Respondent did not check Other Hispanic Respondent checked Other Hispanic Missing	
263	RCINDIA	Num 7	Asian Indian	RCINDIA	0 1 .	Did not check Asian Indian Checked Asian Indian Missing	recode to SV_RAC in HOS 1.0
264	RCCHINA	Num 7	Chinese	RCCHINA	0 1 .	Did not check Chinese Checked Chinese Missing	recode to SV_RAC in HOS 1.0
265	RCFILIP	Num 7	Filipino	RCFILIP	0 1 .	Did not check Filipino Checked Filipino Missing	recode to SV_RAC in HOS 1.0
266	RCJAPAN	Num 7	Japanese	RCJAPAN	0 1 .	Did not check Japanese Checked Japanese Missing	recode to SV_RAC in HOS 1.0
267	RCKOREA	Num 7	Korean	RCKOREA	0 1 .	Did not check Korean Checked Korean Missing	recode to SV_RAC in HOS 1.0
268	RCVIET	Num 7	Vietnamese	RCVIET	0 1 .	Did not check Vietnamese Checked Vietnamese Missing	recode to SV_RAC in HOS 1.0
269	RCOTHASN	Num 7	Other Asian	RCOTHASN	0 1 .	Did not check Other Asian Checked Other Asian Missing	recode to SV_RAC in HOS 1.0
270	RCHAWAII	Num 7	Native Hawaiian	RCHAWAII	0 1 .	Did not check Native Hawaiian Checked Native Hawaiian Missing	recode to SV_RAC in HOS 1.0
271	RCGUAM	Num 7	Guamanian or Chamorro	RCGUAM	0 1 .	Did not check Guamanian or Chamorro Checked Guamanian or Chamorro Missing	recode to SV_RAC in HOS 1.0
272	RCSAMOA	Num 7	Samoan	RCSAMOA	0 1 .	Did not check Samoan Checked Samoan Missing	recode to SV_RAC in HOS 1.0
273	RCOTHPAC	Num 7	Other Pacific Islander	RCOTHPAC	0 1 .	Did not check Other Pacific Islander Checked Other Pacific Islander Missing	recode to SV_RAC in HOS 1.0
	The following MHOS question was first asked on the 2015 Survey.						
274	MUIDACT	Num 7	How Much did Leaking of Urine Make Change Daily Activities or Interfere with Sleep Question	MUIDACT	1 2 3	A lot Somewhat Not at all	Recode to URNMAG
275	SLEEPHRS	Num 7	Average Hours of Sleep per Night in Past Month Question	SLEEPHRS	1 2 3 4	Less than 5 hours 5-6 hours 7-8 hours 9 or more hours	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
276	SLEEPQUA	Num 7	Overall Sleep Quality Rating in Past Month Question	SLEEPQUA	1 2 3 4	Very good Fairly good Fairly bad Very bad	
277	SPEAKLNG	Num 7	Language Mainly Spoken at Home Question	SPEAKLNG	1 2 3 4 7	English Spanish Chinese Russian Some other language (please specify)	*Starting from Cohort 21 follow up, added 4 (Russian) and 7 (some other language, formerly 4)
278	SPEAKOTH	Char 20	Specify Other Language Spoken				
	The following MHOS question was first asked on the 2019 Cohort 20 Follow Up Survey.						
279	SV_GNDOTH	Char	Open-ended response for Survey Gender "other"				New telephone response as a second part of the Survey Gender "other" response, added in 2019
	New field added starting cohort 23 follow-up, 2021						
280	PFADL	Num 8	PFADL Scale Score, 0-16 Higher is Better.		0-16		
	The following variables are Survey Administration Fields						
281	ESVDAT	Num 8	SAS Date of Survey	MMDDYYYY8			
282	SVLANG	Num 8	Survey Language	SVLANG	. 1 2 3 4	Missing English Spanish Not applicable Chinese	
					5	Russian	New language option addition in 2019
	The following variables are MHOS beneficiary and plan level characteristics						
283	STATE	Char 2	State SSA Code	$SSA_STA	 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19	Missing Alabama Alaska Arizona Arkansas California Colorado Connecticut Delaware District of Columbia Florida Georgia Hawaii Idaho Illinois Indiana Iowa Kansas Kentucky Louisiana	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
					20	Maine	
					21	Maryland	
					22	Massachusetts	
					23	Michigan	
					24	Minnesota	
					25	Mississippi	
					26	Missouri	
					27	Montana	
					28	Nebraska	
					29	Nevada	
					30	New Hampshire	
					31	New Jersey	
					32	New Mexico	
					33	New York	
					34	North Carolina	
					35	North Dakota	
					36	Ohio	
					37	Oklahoma	
					38	Oregon	
					39	Pennsylvania	
					40	Puerto Rico	
					41	Rhode Island	
					42	South Carolina	
					43	South Dakota	
					44	Tennessee	
					45	Texas	
					46	Utah	
					47	Vermont	
					48	Virgin Islands	
					49	Virginia	
					50	Washington	
					51	West Virginia	
					52	Wisconsin	
					53	Wyoming	
					65	Guam	
					99	Unknown	
284	COUNTY	Char 3	County SSA Code				
285	STABV	Char 2	State Abrv. from State SSA Code				
286	CTNAME	Char 25	County Name from County SSA code				
287	INSTUT	Num 8	Institutional Status	INSTUT	.	Missing	
					0	Out of institution	
					1	Institutionalized	
					2	Eligible for nursing home care	
288	MEDICD	Num 8	Medicaid Status	MEDICD	.	Missing	
					0	Out of Medicaid	
					1	In Medicaid (Full or Partial Benefit in March)	
289	ESRD	Num 8	End Stage Renal Disease (ESRD)	ESRDID	.	Missing	
					0	No ESRD	
					1	ESRD	

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
290	HOSPICE	Num 8	Hospice Status	HOSPIC	. 0 1	Missing No hospice start date present Hospice start date present	
291	ENTITLE	Num 8	Reason for entitlement	RSENT	Blank 10 11 20 21 31	Not Enrolled Aged without ESRD Aged with ESRD Disabled without ESRD Disabled with ESRD ESRD only	
292	ENCZIP_SV	Num 5	Encrypted zip code				
293	PLANID	Char 6	Encrypted Plan ID				
294	P_CNTRNM	Char 5	Encrypted Unique Plan Contract Number at the time of performance measurement reporting. This was the plan level unit of analysis for the Performance Measurement Report. (not in cohorts 1 & 2)				
295	CNTRNM	Char 5	Encrypted Contract Number				
296	MARKET	Char 2	Market Area				
297	MANAME	Char 30	Market Area Name (not in cohort 6 baseline and cohorts 4,5,6 follow-up)				
298	P_PLANNM	Char 50	Plan name as listed in the CMS Monthly Report of Managed Care Health Plans at the time of Performance Measurement Analysis (not in cohort 1)		Special permission required for release		In the absence of Plan Name from the Performance Measurement Report, as in HOS 2.0, the plan name was taken from the Follow-up survey, if available; otherwise from the baseline survey data.
299	P_PLANST	Char 2	Two letter state abbreviation as listed in the CMS Monthly Report of Managed Care Health Plans at the time of Performance Measurement reporting. This was the state level unit of analysis for the Performance Measurement Report.				

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
300	P_PLTYPE	Char 3	Plan type as listed in the CMS Monthly Report of Managed Care Health Plans at the time of Performance Measurement Analysis				*PLTYPE information changed over time as to how the field was constructed and defined. It would not be easy to equate the definitions across the cohorts since they were unique to the point in time in which they were obtained. For instance, the designation of a plan as a SHMO (Social HMO) has been dropped at some point in time. Another issue is that some plan types were not required to report HOS some years, but were required or could volunteer to report in other years.
301	P_PLTXST	Char 3	Plan tax status as listed in the CMS Monthly Report of Managed Care Health Plans at the time of Performance Measurement Analysis				Used PnPLTAXST for cohorts 11 and 12.
302	P_PHOUT	Num 3	Physical Health Outlier Indicator - Plan Level		1 2 3	Worse than expected Same as expected Better than expected	
303	P_MHOUT	Num 3	Mental Health Outlier Indicator - Plan Level		1 2 3	Worse than expected Same as expected Better than expected	
	New field added starting cohort 20 baseline, 2017						
304	DUAL	Num 8	Dual Status	DUAL	0 1	Not Dual Status Dual Status (Full Benefit any time during the year)	
	New field added starting cohort 24 follow-up, 2022						
305	GEOCAT	Num 8	HOS Geographic County Designation		1 2 3	Metropolitan Micropolitan Rural	
	Beginning in 2006 for the MHOS, the SF-36 instrument was replaced by the VR-12 instrument. This resulted in changes (variable name and definition) to the database.						
	The following variables (465-482) are MHOS derived scale scores using algorithms developed by Boston University (March, 2016) to re-score the 8 scale (PF, RP, BP, GH,						
	MH, RE, SF, VT) scores to make the VR-12 scores comparable to the SF-36 scores. You can request a copy of the Boston University Bridge program by submitting a						
	query to SEER-MHOS@hsag.com, and for more information, see: http://healthcaredelivery.cancer.gov/seer-mhos/program/recode.html.						
	Note from BU: The PCS/MCS scores are meant to be mean 50 SD 10 in a general population, so they are not restricted to 0/100.						
	For the items/scales, the negative numbers are needed to properly balance the results for groups, especially for the role items.						
	Group averages should lie in (0,100). If they don't they could be limited, but individual scores should not be limited.						
	Incorporated Boston University November 2018 Algorithm to adjust the 8 scales by survey mode and language.						
	Description of the SF36/VR12 Scales						
306	PF	Num 8	Physical functioning scale, incorporating the Boston University March 2016 Bridge Algorithm and November 2018 Algorithm for adjusting by survey mode and language				

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
307	RP	Num 8	Role limitation physical scale, incorporating the Boston University March 2016 Bridge Algorithm and November 2018 Algorithm for adjusting by survey mode and language				
308	BP	Num 8	SF-36 Pain scale, incorporating the Boston University March 2016 Bridge Algorithm and November 2018 Algorithm for adjusting by survey mode and language				
309	GH	Num 8	SF-36 General health scale, incorporating the Boston University March 2016 Bridge Algorithm and November 2018 Algorithm for adjusting by survey mode and language				
310	MH	Num 8	Emotional well-being scale, incorporating the Boston University March 2016 Bridge Algorithm and November 2018 Algorithm for adjusting by survey mode and language				
311	RE	Num 8	Role limitation emotional scale, incorporating the Boston University March 2016 Bridge Algorithm and November 2018 Algorithm for adjusting by survey mode and language				
312	SF	Num 8	Social functioning scale, incorporating the Boston University March 2016 Bridge Algorithm and November 2018 Algorithm for adjusting by survey mode and language				
313	VT	Num 8	Energy/fatigue scale, incorporating the Boston University March 2016 Bridge Algorithm and November 2018 Algorithm for adjusting by survey mode and language				

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
314	PCS_T	Num 8	Physical Component Summary T-score - Linear transformation of the 0-100 versions of the scale that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms. For more details, refer to the Boston University March 2016 Bridge Program.				
315	MCS_T	Num 8	Mental Component Summary T-score - Linear transformation of the 0-100 versions of the scale that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms. For more details, refer to the Boston University March 2016 Bridge Program.				
316	PF_T	Num 8	Physical functioning T-score Linear transformation of the 0-100 versions of the scale (PF) that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms				
317	RP_T	Num 8	Role limitation physical T-score Linear transformation of the 0-100 versions of the scale (RP) that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms				
318	BP_T	Num 8	Pain T-score Linear transformation of the 0-100 versions of the scale (BP) that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms				

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
319	GH_T	Num 8	General health T-score Linear transformation of the 0-100 versions of the scale (GH) that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms				
320	MH_T	Num 8	Emotional well-being T-score Linear transformation of the 0-100 versions of the scale (MH) that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms				
321	RE_T	Num 8	Role limitation emotional T-score Linear transformation of the 0-100 versions of the scale (RE) that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms				
322	SF_T	Num 8	Social functioning T-score Linear transformation of the 0-100 versions of the scale (SF) that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms				
323	VT_T	Num 8	Energy/fatigue T-score Linear transformation of the 0-100 versions of the scale (VT) that yields a population mean of 50 and a standard deviation of 10, based on 1990 population norms				
	Note: SF-36 PCS/MCS scores for Cohorts 1-6 baseline/follow up, and Cohorts 7-8 baseline were rescored, using a 36-item MRE equivalent algorithm from Boston University, so that scores are comparable to the VR-12 scores for cohorts 7-8 follow up, Cohorts 9-22 baseline and follow up. For analyses that use the bridging algorithm to pool data from both eras, it is important to use the PCS12 and MCS12 summary measures which use imputation methods to account for missing data on items and therefore cannot be transformed to a T-score metric. The PCS12 and MCS12 measures have similar properties to the PCS_T and MCS_T summary metrics. Incorporated Boston University November 2018 Algorithm to adjust the PCS12 and MCS12 scores by survey mode and language.						
	The following variables are 12-item Health Survey Scores (VR-12 scores)						
324	PCS12	Num 8	NORM90 PCS Adjusted by Survey Mode and Language				

	NAME	TYPE	LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
325	MCS12	Num 8	NORM90 MCS Adjusted by Survey Mode and Language				
326	RUCCode	Char 2	Rural-Urban Continuum Code from SEER*Stat based on State/county of residence at time of survey.	$RUCCODE	01	Counties of metro areas of 1 million population or more. Central and Fringe Counties on 1998 surveys were combined; also see Note below.	Survey year 1998: use 1993 Rural-Urban Continuum Code; Survey years 1999-2008: use 2003 Rural-Urban Continuum Code; Survey Year 2009-2018: use 2013 Rural-Urban Continuum Code.
					02	Counties in metro areas of 250,000 - 1,000,000 population	
					03	Counties in metro areas of fewer than 250,000 population	
					04	Urban population of 20,000 or more, adjacent to a metro area	
					05	Urban population of 20,000 or more, not adjacent to a metro area	
					06	Urban population of 2,500-19,999, adjacent to a metro area	
					07	Urban population of 2,500-19,999, not adjacent to a metro area	
					08	Completely rural or less than 2,500 urban population, adjacent to a metro area	
					09	Completely rural or less than 2,500 urban population, not adjacent to a metro area	
					88	Missing/Unknown Alaska/Hawaii	
					99	Missing Value	
					blank	Not available. Majority of respondents from Puerto Rico	
	NOTE:						
	In earlier versions of the Rural-Urban Continuum Codes, metro areas with 1 million population or more were subdivided between central						
	counties (Code 0) and fringe counties (Code 1).						
	The Code 1 group has become much less meaningful in the last two censuses as more and more counties of large metro areas have been						
	rated as central counties by OMB procedures.						
	In 2000, only 1.6 percent of the population of large metro areas was in fringe counties. Therefore, this distinction has been dropped.						
	Codes 0 and 1 have been combined, and the new code 1 represents all counties in metro areas of 1 million or more population.						
	For more information, go to https://seer.cancer.gov/seerstat/variables/countyattribs/ruralurban.html						
327	RUCCodeR	Num 8	Recodes for Rural-Urban Continuum Code RUCCode	RUCCODER	1 2 3 4 5 9	Big Metro (RUCCode=01) Metro (RUCCode=02, 03) Urban (RUCCode = 04, 05) Less Urban (RUCCode = 06, 07) Rural (RUCCode = 08, 09) Unknown (RUCCode = 88, 99)	
					blank	Not available. Majority of respondents from Puerto Rico	
328	US_YOST	Num 8	Yost Index (Across State)				
329	US_YOST_QUINTILE	Num 8	Yost Quintile (Across State)		1 5	Low High	
330	ST_YOST	Num 8	Yost Index (State Specific)				

	NAME	TYPE		LABEL	FORMAT	VALUE	LEVEL	Recodes / Comments
331	ST_YOST_QUINTILE	Num	8	Yost Quintile (State Specific)		1 5	Low High	
332	CENSA4	Num	8	Census urban-area based cat	CENSF	1 2 3 4 8	All Urban Mostly Urban Mostly Rural All Rural No Population	
333	RUCAC2	Num	8	RUCA based categorization C	RUCAF	1 2 8	Urban Rural Not coded	
	The following variables are added to the user requested analysis file for cancer of interest							
334	CA_SEQ_INDX	Char	2	Sequence number for the first occurrence of the selected cancer			SEER file: sequence_number	
335	CATEXT	Char	20	Name for the selected cancer				
336	CA_SITE	Char	5	Cancer site			SEER file: Site_recode_ICD_O_3_WHO_2008	
337	CA_YEAR	Char	4	Year of cancer diagnosis			SEER file: year_of_diagnosis	
338	CA_MON	Char	2	Month of cancer diagnosis			SEER file: month_of_diagnosis_recode	
339	FIRSTCA	Num	8	Is the selected cancer the first cancer (SEQUENCE_NUMBER = 00 or 01)?		0 1	No Yes	
340	ONLYPRIM	Num	8	Is the selected cancer the only cancer (SEQUENCE_NUMBER = 00)?		0 1	No Yes	
341	MOSTRECTCA	Num	8	Is the selected cancer the most recent cancer before the survey (SEQUENCE_NUMBER = SEQCABEF)		0 1	No Yes	