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2020 Health Care Survey of DoD Beneficiaries:

Adult Technical Manual

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> Defense Health Agency
> 7700 Arlington Boulevard, Suite 5101
> Falls Church, VA 22042-5101
> (703) 681-3636

Task Order Officer:
> Melissa Gliner, Ph. D.

Submitted by:

> Mathematica, Inc.
> 1100 First Street, NE, 12th Floor
> Washington, DC 20002-4221
> (202) 484-9220

Project Director:
> Nancy A. Clusen

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1

Introduction

The 2020 Adult Health Care Survey of Department of Defense Beneficiaries (HCSDB) is the primary tool with which the Defense Health Agency (DHA) of the Assistant Secretary of Defense (Health Affairs) monitors the opinions and experiences of military health system (MHS) beneficiaries. Specifically, the HCSDB is designed to answer the following questions:

- How *satisfied* are DoD beneficiaries with their health care and their health plan?

- How does overall satisfaction with military treatment facilities (MTFs) compare with satisfaction with civilian treatment facilities (CTFs)?

- Does *access* to military and civilian facilities meet TRICARE standards?

- Is beneficiaries' use of preventive health care services in line with national goals, such as those outlined in *Healthy People 2020*?

- Has beneficiaries' use of MHS services changed over time?

- What aspects of MHS care contribute most to beneficiary satisfaction with their health care experiences? With which aspects are beneficiaries least satisfied?

- What are the demographic characteristics of MHS beneficiaries?

The HCSDB was conducted annually from 1995 to 2000, after which time the survey was administered quarterly. The current HCSDB is a quarterly internet and mail survey of a representative sample of MHS beneficiaries. It is sponsored by the DHA in the Office of the Assistant Secretary of Defense (Health Affairs) [OASD (HA)] under authority of the National Defense Authorization Act for Fiscal Year 1993 (P.L. 102-484). Altarum Institute prepares the sampling frame, which consists of variables specified by Mathematica for each MHS beneficiary in the Defense Enrollment Eligibility Reporting System (DEERS) database on a specified reference date. DEERS includes everyone who is eligible for a MHS benefit (i.e., everyone in the Uniformed Services — Army, Air Force, Navy, Marine Corps, Coast Guard, the Commissioned Corps of the Public Health Service, National Oceanic and Atmospheric Administration, Guard/Reserve personnel who are activated for more than 30 days – and other special categories of people who qualify for benefits). DEERS includes those on active duty, those retired from military careers, immediate family members of people in the previous two categories, and surviving family members of people in these categories.

In the first three quarters of FY 2020, Mathematica identified a representative sample of approximately 100,000 adult beneficiaries. Altarum administers the web survey each quarter. Ipsos, the survey contractor, administers the paper survey each quarter. Mathematica analyzes the survey data, reports on the results and prepares a quarterly public use file, as well as a Codebook and Users' Guide to describe the quarterly dataset. Mathematica also prepares an annual public use dataset and relevant documentation each year.

This manual is designed to serve as a reference for analysts in OASD (HA) as they interpret the survey findings and prepare briefings. This manual provides detailed documentation on the following: naming conventions for variables, editing procedures, selection of records, computation of response rates, recoding of variables, computation of weights, variance estimation, and construction of tables

and charts for the reports. This manual also enables an analyst to follow, and if desired, to replicate the step-by-step processing of the raw survey data to produce the final database.

A.   OVERVIEW OF THE HCSDB

1.   Sample Design

The 2020 adult sample is comprised of 100,000 adult beneficiaries selected each quarter via stratified random sample. Stratification is based on three variables: analytical group, geographic area, and enrollment/beneficiary type. The *analytical group* stratification is determined in cooperation with DHA staff, and is important to data users and policymakers. The criteria for the analytical group stratification is the following: (1) beneficiaries younger than 65, enrolled with a military primary care manager (PCM), or active duty beneficiaries; (2) beneficiaries younger than 65, who use Managed Care Support Contractors; (3) beneficiaries younger than 65, who use TRICARE Select; (4) beneficiaries enrolled in TRICARE Reserve Select; (5) beneficiaries age 65 or older. Note that on January 1, 2018, TRICARE Select replaced TRICARE Standard/Extra. This change is reflected in the questionnaires for FY 2020.

The *geographic area* stratification includes military treatment facilities (MTFs) in which DHA is interested, TNEX regions for those enrolled in other MTFs, and TNEX regions for all other beneficiaries.

The *enrollment/beneficiary* type includes (1) active duty; (2) active duty family members enrolled in Prime with a civilian PCM; (3) active duty family members enrolled in Prime with a military PCM; (4) active duty family members not enrolled in Prime; (5) retirees and their family members younger than 65 enrolled in Prime with a civilian PCM; (6) retirees and their family members younger than 65 enrolled in Prime with a military PCM; (7) retirees and their family members younger than 65 not enrolled in Prime; (8) retirees and their family members age 65 and older; and (9) beneficiaries enrolled in TRICARE Reserve Select.

The sample selection process involves five steps: (1) construction of the sampling frame and definition of sampling strata; (2) allocation of the sample to strata to satisfy the study's precision goals; (3) selection of the survey sample using a permanent random number sample selection algorithm; (4) creation of the sampling weights, which reflect the probability of selection; and (5) verification of results to ensure that sampling was implemented as specified. Please see Mathematica's "Health Care Survey of DoD Beneficiaries: 2020 Adult Sampling Report" (2020) for details on sample design.

2.   2020 Adult HCSDB

The HCSDB questionnaire was converted from an annual to a quarterly survey in 2000, and is fielded each quarter to a representative sample of MHS beneficiaries. Beginning with 2006, reporting and documentation of the HCSDB has been performed on a fiscal year basis, whereas in previous years, it was based on calendar years. In FY 2020, surveys were fielded in three quarters instead of four, describing a period from October 2019 to June 2020. Thus, this document, the "2020 Health Care Survey of DoD Beneficiaries: Adult Technical Manual", describes Quarters I-III of fiscal year 2020. Throughout this document, Quarter I, 2020 refers to Quarter I of fiscal year 2020. The adult questionnaires for Quarters I-III are reproduced in Appendix A. The 2020 survey consists of an unchanging core questionnaire with different quarterly supplements.

The core adult questionnaire includes the following topics:

- Use of health care

- Use of preventive health care

- Type of health plan covering the beneficiary

- Satisfaction with health plan

- Satisfaction with health care

- Access to health care

- Demographic characteristics

Beginning in 2002, the survey naming convention was changed. Prior to 2000, the year in the survey's name reflected the year that respondents were asked to think about when answering the questions. For example, although the 2000 HCSDB was fielded in 2001, it asked beneficiaries to think about the prior 12 months (mostly 2000) as the reference period for their answer. Under the new naming convention, the survey title refers to the year the questionnaires are fielded, so last year's survey was the 2019 HCSDB and this year's survey is the 2020 HCSDB. Because of the name change, there is no "2001" survey, even though the questionnaire was administered continuously in each quarter of 2001.

3. Survey Response – Quarters I-III

In each of the three quarters in 2020 in which the survey was fielded, Ipsos sent survey invitation letters to a random sample of approximately 100,000 adult MHS beneficiaries. The letters instructed sampled beneficiaries to complete the survey on a website hosted by Altarum. During the survey field period in all three quarters of the 2020 HCSDB, Mathematica selected a sample of nonrespondents, and Ipsos mailed surveys to this group. All other beneficiaries were asked to complete the survey on a website. By the end of the fielding period in Quarter I, 8.4 percent of the sample members completed the survey. In Quarter II, 8.5 percent of the sample members completed surveys. In Quarter III, 10.5 percent of the sample members completed surveys. Information pertaining to how Mathematica calculated these response rates is presented in Chapter 3.

It should be noted that the above cited response rates do not reflect late arriving responses from the surveys fielded in the first quarter. The response rates are based on the number of completed surveys returned to the survey vendor at the end of the fielding period. The annual combined dataset, however, includes the surveys returned after the end of the fielding period. Therefore, the revised annual response rates were 8.4 percent for Quarter I and 9.2 percent for the combined annual dataset.

4. Database Development

Mathematica cleans the data, selects records for inclusion in the final database, and constructs variables to be used in reports. To ensure that the survey data are representative of the DEERS population, Mathematica develops weights to take account of the initial sampling, the sampled individuals who chose not to respond to the survey, and post-stratification if the beneficiary's key information is updated.

5. Reports

Mathematica analyzes the data and produces several reports explaining findings on topics including satisfaction, access to care, health care use, and use of preventive services. These reports will be available on the TRICARE website at http://www.TRICARE.mil:

- 2020 TRICARE Beneficiary Reports and Purchased Care TRICARE Beneficiary Reports

- 2020 TRICARE Consumer Watch and Purchased Care TRICARE Consumer Watch

- Health Care Survey of DoD Beneficiaries: Issue Briefs

- Health Care Survey of DoD Beneficiaries: Annual Report (not available on TRICARE website)

B.   ORGANIZATION OF THIS MANUAL

Chapter 2 explains how the database was developed. It covers naming conventions, cleaning procedures, record selection criteria, descriptions of all variable types, definitions of each constructed variable, and weighting procedures. Chapter 3 describes how the database was analyzed. This includes rules for calculating response rates, the development of table and chart specifications for the Health Care Survey of DoD Beneficiaries (The HCSDB Annual Report, TRICARE Beneficiary Reports and TRICARE Consumer Watch), an explanation of the dependent variables and independent variables used in regression analyses, and the methodology for estimating the variance of estimates. The manual concludes with a series of technical appendices:

- Appendix A: Annotated questionnaires – Quarters I-III

- Appendix B: Coding Scheme and Coding Tables – Quarters I-III

- Appendix C: Mapping the Military Treatment Facility (MTF) to the Catchment Area

- Appendix D: Response Rate Tables – Quarters I-III and Combined Annual

- Appendix E: Technical Description of the 2020 TRICARE Beneficiary Reports

- Appendix F: SAS Code for File Development – Quarters I-III

- Appendix G: SAS Code for Statistical and Web Specifications for the 2020 TRICARE Beneficiary Reports and Purchased Care Beneficiary Reports

- Appendix H: SAS Code for 2020 TRICARE Consumer Watch – Quarters I-III and Combined Annual

- Appendix I: SAS Code for 2020 TRICARE Purchased Care Consumer Watch – Quarters I-III

Chapter
2

Database

This chapter explains the process of developing a final database free of inconsistencies and ready for analysis from the raw survey data. We discuss the design of the database; cleaning, editing, and implementation of the Coding Scheme; record selection; and variable construction.

A.   DATABASE DESIGN

The 2020 Adult HCSDB consists of variables from various sources. When Ipsos delivers the file to Mathematica after fielding the sample, the following types of variables are present:

- DEERS information on beneficiary group, social security number (SSN), sex, age, etc.
- Sampling variables used to place beneficiaries in appropriate strata
- Core and supplemental questionnaire responses
- Ipsos' information from fielding the sample, such as scan date and flags developed during the fielding to assist us in determining eligibility

Mathematica removes all identifying information such as SSN to protect the confidentiality of the respondents. Mathematica then adds the following types of variables to the database:

- Coding Scheme flags - The coding scheme program checks for consistencies in responses and skip patterns. If there are inconsistencies found or skip patterns that do not match the directions specified in the questionnaire then responses will be recoded to match the coding scheme specifications. Coding scheme flags are created to crosswalk original responses to possible recodes in order to understand how skip logic is being filled out.
- Constructed variables for analysis
- Weights

In addition, Mathematica updates and cleans the questionnaire responses using the Coding Scheme tables found in Appendix B. The final public use database each quarter will contain only the recoded responses, to prevent usage of an uncleaned response for analysis. We structured the final database so that all variables from a particular source are grouped by position. Table 2.1 lists all variables with the exception of the replicate weights in the 2020 Adult HCSDB database by source. For specific information on variable location within the database, refer to the "2020 Health Care Survey of DoD Beneficiaries: Adult Codebook and User's Guide."

1.   Data Sources

a.   DEERS

Altarum provided the sampling frame to Mathematica prior to the selection of the sample. DEERS information such as sex, date of birth, and service are retained in the database; this data is current as of the time of sample selection.

b. **Sampling Variables**

Mathematica developed variables during the sample selection procedure that were instrumental in placing beneficiaries in appropriate strata. Many of the variables are retained in the database.

c. **Questionnaire Responses**

These variables represent the cleaned values for all responses to the questionnaire. The original values scanned in by Ipsos are cleaned and recoded, as necessary, to ensure that responses are consistent throughout the questionnaire. The Coding Scheme tables found in Appendix B are the basis for insuring data quality.

d. **Survey Fielding Variables**

In the process of fielding the survey, Ipsos created a number of variables that we retain in the database. Some of these variables, for example, information that came in by phone, assist us in determining eligibility.

e. **Coding Scheme Flags**

Each table of the Coding Scheme (see Appendix B) has a flag associated with it that indicates the pattern of original responses and any recoding that was done. For example, the table for Note 5 has a flag N5.

f. **Constructed Variables**

Mathematica constructed additional variables that were used in the TRICARE Beneficiary Reports, TRICARE Consumer Watch, and the "Health Care Survey of DoD Beneficiaries: Annual Report." Often these variables were regroupings of questionnaire responses or the creation of a binary variable to indicate whether or not a TRICARE standard was met. Complete information on each constructed variable is found in Chapter 2, Section D.

g. **Weights**

Mathematica developed weights for each record in the final database. Weights are required for the following reasons:

- To compensate for variable probabilities of selection

- To adjust for differential response rates

- To improve the precision of survey-based estimates through post stratification, a method for adjusting the sampling weights such that the joint distribution of a set of post-stratifying variables matches the known population joint distribution.

Weighting procedures are discussed in Chapter 2, Section E.

TABLE 2.1

VARIABLES IN THE 2020 ADULT HCSDB DATA FILE – QUARTERS I-III

SAMPLE VARIABLES	VARIABLE LABEL
MPRID	Unique MPR Identifier
SVCSMPL	SVCSMPL - Branch of Service
SEXSMPL	SEXSMPL - Sex
STRATUM	Sampling STRATUM
ENBGSMPL	Revised enrollee/beneficiary group (w/o TRS)
MPCSMPL	MPCSMPL - Military Personnel Category
NHFF	NHFF - Stratum Sample Size
QUARTER	Survey Quarter
D_HEALTH	Health Service Region
TNEXREG	TNEX Region - Based on Address

DEERS VARIABLES	VARIABLE LABEL
RACEETHN	Race/Ethnic Code
PNSEXCD	Person Gender
RDAGEQY	Age at sampling-Capped(18 and below, 65 and above)
RFLDAGE	Age at fielding-Capped(18 and below, 65 and above)
PCM	Primary Manager Code (CIV or MIL)
DBENCAT	Beneficiary Category
DSPONSVC	Derived Sponsor Branch of Service
PATCAT	Aggregated Beneficiary Category
PNTYPCD	Person Type Code
DELGENRC	DEERS Eligibility-Enrollment Code
DENRGRPC	DEERS Enroll Group Code

QUESTIONNAIRE RESPONSES	VARIABLE LABEL
H20001	Are you the person listed on envelope
H20002A	Health plan(s) covered: TRICARE Prime
H20002C	Health plan(s) covered: TRICARE Select
H20002N	Health plan(s) covered: TRICARE Plus
H20002O	Health plan(s) covered: TRICARE For Life
H20002P	Health plan(s) covered: TRICARE Supplmntl Ins
H20002Q	Health plan(s) covered: TRICARE Reserve Select
H20002S	Health plan(s) covered: TRICARE Retired Reserve
H20002T	Health plan(s) covered: TRICARE Young Adult Prime
H20002V	Health plan(s) covered: TRICARE Young Adult Select
H20002K	Health plan(s) covered: USFHP
H20002U	Health plan(s) covered: CHCBP
H20002F	Health plan(s) covered: Medicare
H20002G	Health plan(s) covered: FEHBP
H20002H	Health plan(s) covered: Medicaid or other state insurance
H20002I	Health plan(s) covered: civilian HMO
H20002J	Health plan(s) covered: other civilian
H20002M	Health plan(s) covered: veterans
H20002R	Health plan(s) covered: gov hlth ins-other cntry
H20002L	Health plan(s) covered: not sure
H20003	Which health plan did you use most
H20004	Yrs in a row with health plan

QUESTIONNAIRE RESPONSES	VARIABLE LABEL
H20005	In lst yr:fclty use most for health care
H20006	In lst yr:ill/injry/cond care right away
H20007	In lst yr:get urgnt care as soon as wntd
H20008	In lst yr:wait btwn try get care,see prv
H20009	In lst yr:make appts non-urgnt hlth care
H20010	In lst yr:non-urg hlth cre appt whn wntd
H20011	In lst yr:days btwn appt & see prvder
H20012	In lst yr:go to emrgncy rm for own care
H20013	In lst yr:go to Dr office/clinic for care
H20014	Lst yr: how often talk to doctor about illness prvntn
H20015	Lst yr: did doctor tell you more than 1 choice for trtmnt
H20016	Lst yr: did talk to doctor about pros/cons of trtmnt
H20017	Lst yr: did doctor ask which trtmnt option best for you
H20018	Rating of all health care in lst yr
H20019	Have one person think of as personal Dr
H20020	Lst yr: how often visit prsnl doctor for care for yourself
H20021	Lst yr: how oftn Drs listen to you
H20022	Lst yr: how oftn Drs explain things
H20023	Lst yr: how oftn Drs show respect
H20024	Lst yr: how oftn Drs spend enough time
H20025	Lst yr: did get care from doctor other than prsnl doctor
H20026	Lst yr: how often prsnl doctor seemed infrmd of care from other doctors
H20027	Rating of your personal Dr
H20028	Lst yr: did make any appointments to see spclst
H20029	Lst yr: how often easy to get appointments with spclsts
H20030	Lst yr: how many spclsts seen
H20031	Rating of specialist seen in lst yr
H20033	Lst yr: how often easy to get care, test, or trtmnt
H20034	Lst yr: did look for info from written material/Internet
H20035	Lst yr: how often written material/Internet provide needed info
H20036	Lst yr: did look for info from health plan on cost of service/equipment
H20037	Lst yr: how often able to find out cost of service/equipment
H20038	Lst yr: did look for info from health plan on cost of prescription meds
H20039	Lst yr: how often able to find out cost of prescription meds
H20040	Lst yr: did try to get info/help from health plan's cstmr service
H20041	Lst yr: how often did cstmr service give needed info/help
H20042	Lst yr: how often did cstmr service treat with courtesy/respect
H20043	Lst yr: did health plan give any forms to fill out
H20044	Lst yr: how often were forms easy to fill out
H20045	Lst yr: send in any claims
H20046	Lst yr: how often did health plan handle claims quickly
H20047	Lst yr: how oftn handle claims correctly
H20048	Rating of all experience with hlth plan
H20049	Blood pressure: when lst reading
H20050	Blood pressure: know if too high or not
H20051	When did you lst have a flu shot
H20052	Smoked at least 100 cigarettes in life
H20053	Smoke or use tobacco everyday, some days or not at all
H20054	Lst yr: how often advised to quit smoking or use tobacco
H20055	Lst yr: how often recom medic assist quit smoking or using tobacco
H20056	Lst yr: how often discu meth/strag asst quit smoking or using tobacco
H20057A	Do you smoke or use: cigarettes

Questionnaire Responses	Variable Label
H20057B	Do you smoke or use: dip, chewing tobacco, snuff, or snus
H20057C	Do you smoke or use: cigars
H20057D	Do you smoke or use: pipes, bidis, or kreteks
H20058	Are you male or female
H20059B	Lst have a Pap smear test
H20060	Are you under age 40
H20061	Lst time: breasts checked mammography
H20062	Been pregnant in lst yr or pregnant now
H20063	In what trimester is your pregnancy
H20064	Trimester first received prenatal care
H20065	In gnrl, how would you rate ovrall hlth
H20073	Are you Spanish/Hispanic/Latino
H20073A	Not Spanish/Hispanic/Latino
H20073B	Mexican, Mexican American, Chicano
H20073C	Puerto Rican
H20073D	Cuban or Other Spanish, Hispanic, or Latino
SREDA	Highest grade completed
SRRACEA	Race: White
SRRACEB	Race: Black or African American
SRRACEC	Race: American Indian or Alaska Native or Native Hawaiian/other Pacific Isl.
SRRACED	Race: Asian
SRAGE	What is your age now
S20009	Same prsnl doctor/nurse before this hlth plan
S20010	Prblm getting prsnl doctor/nurse you are happy with
S20011	Agree/disagree: able to see provider when needed
S20014	How satisfied with health care during last visit
S20B01	Self rate of overall mental/emotional health
S20B02	Lst yr: needed treatmnt/cnslng-prsnl prob
S20B03	Lst yr: prblm gttng needed treatmnt/cnslng
S20B04	Lst yr: rate of treatmnt/cnslng received
S20BF2	Have you ever used an e-cigarette
S20BF3	How many times in your life have you used an e-cigarette
S20BF4	Often do you use e-cigarettes
S20BF5	Did you use flavored e-cigarettes in the past 30 days
S20BF7	How old were you when you first tried vaping or using an e-cigarette, even once or twice
S20BF8A	Reasons you vaped or used e-cigarettes: Friend or family member used them
S20BF8B	Reasons you vaped or used e-cigarettes: To try to quit using other tobacco products
S20BF8C	Reasons you vaped or used e-cigarettes: Cost less than other tobacco products
S20BF8D	Reasons you vaped or used e-cigarettes: Easier to get than other tobacco products
S20BF8E	Reasons you vaped or used e-cigarettes: Less harmful than other forms of tobacco products
S20BF8F	Reasons you vaped or used e-cigarettes: Available in flavors
S20BF8G	Reasons you vaped or used e-cigarettes: Can be used where other tobacco products are not allowed
S20BF8H	Reasons you vaped or used e-cigarettes: No lasting odor
S20BF8I	Reasons you vaped or used e-cigarettes: Vapor causes less harm to friends and family than secondhand smoke
S20BF8J	Reasons you vaped or used e-cigarettes: I use them for some other reason
S20BF9	Do you think you will vape or use an e-cigarette in the next year
S20BF10	How much do you think people risk harming themselves if they vape or use e-cigarettes regularly (almost daily)

QUESTIONNAIRE RESPONSES	VARIABLE LABEL
S20BF11	How much do you think people risk harming themselves if they smoke one or more packs of cigarettes per day
S20BG01	How many days was phys health not good in past 30 days
S20BG02	How many days was mental health not good in past 30 days
S20BG03	How many days did poor health stop usual activities in past 30 days
S20BI02A	In last 6 mos, when you needed care right away, did you go to an urgent care center?
S20BI02B	In last 6 mos, when you needed care right away, did you go to a hospital ER?
S20BI02C	In last 6 mos, when you needed care right away, did you go to a doctor's office?
S20BI02D	In last 6 mos, when you needed care right away, did you go someplace else?
S20BI02E	In last 6 mos, I didn't need care right away for an illness, injury, or condition
S20BI03	Urgent care center: Location is more convenient than my normal place of care
S20BI04	Urgent care center: Urgent care was low cost or no cost to me
S20BI06	Urgent care center: I could just walk in for care without an appt
S20BI07	Urgent care center: I trust the urgent care center provider(s)
S20BI08	Urgent care center: The urgent care center would process my TRICARE claim without problems
S20BI09	Urgent care center: Would have used appt with regular provider if had been available
S20BI12	Urgent care center: My condition was not a medical emergency requiring a hospital ER
S20BI14	Urgent care center: I thought it would take less time than at my usual place of care
S20BI15	Urgent care center, did you or someone else call a nurse advice line before going to urgent care
S20BI16	Did the nurse advise you to seek urgent care?
S20BI19	On most recent visit to urgent care center, what was the main reason you went?
S20BI20	What number would you use to rate your care during this urgent care center visit?
S20BI21	Was your personal doctor's office open during your most recent visit to urgent care?
S20BI22	Did staff at urgent care advise you to seek follow-up care with your personal doctor?
S20BI23	Did you seek follow-up care with your personal doctor?
S20BJ01	Do you have any children under the age of 18 living at home with you?
S20BJ02	How much of a problem is it for you to make child care arrangements?
S20BJ03	How concerned are you about your child's/children's education?
S20BJ04	How concerned are you about: Your health problems?
S20BJ05	How concerned are you about: The health problems of a family member?
S20BJ06	How concerned are you about: Managing household expenses?
S20BJ07	How concerned are you about: Major financial hardship or bankruptcy in your family?
S20BJ08	How concerned are you about: The demands of your job?
S20BJ09	How concerned are you about: The demands of going to school?
S20BJ10	Are you married?
S20BJ11	How concerned are you about: Poor communication with your spouse?
S20BJ12	How concerned are you about: Arguments with your spouse?
S20BJ13	How concerned are you about: Marital problems between you and your spouse?
S20BJ14	Has your spouse been on deployment during the past 30 days?

SURVEY FIELDING VARIABLES	VARIABLE LABEL
ONTIME	Responded Within 8 weeks of Mail-Out
FLAG_FIN	Final Disposition
DUPFLAG	Multiple Response Indicator
FNSTATUS	Final Status
KEYCOUNT	# Key Questions Answered
WEB	Web survey indicator
SURVTYPE	Web or Mail Survey

CODING SCHEME FLAGS AND COUNTS	VARIABLE LABEL
N1	Coding Scheme Note 1
N2	Coding Scheme Note 2
N3	Coding Scheme Note 3
N4	Coding Scheme Note 4
N5	Coding Scheme Note 5
N5_BI2	Coding Scheme Note 5_BI2
N5_BI3	Coding Scheme Note 5_BI3
N5_BI5	Coding Scheme Note 5_BI5
N6	Coding Scheme Note 6
N7	Coding Scheme Note 7
N8	Coding Scheme Note 8
N8_01	Coding Scheme Note 8_01
N9	Coding Scheme Note 9
N10	Coding Scheme Note 10
N10_B1	Coding Scheme Note 10_B1
N12	Coding Scheme Note 12
N13	Coding Scheme Note 13
N14	Coding Scheme Note 14
N15	Coding Scheme Note 15
N16	Coding Scheme Note 16
N17	Coding Scheme Note 17
N18	Coding Scheme Note 18
N18_BF1	Coding Scheme Note 18_BF1
N18_BF2	Coding Scheme Note 18_BF2
N19A	Coding Scheme Note 19A
N19B	Coding Scheme Note 19B
N20	Coding Scheme Note 20
N21	Coding Scheme Note 21
N21_BG1	Coding Scheme Note 21_BG1
N21_BG2	Coding Scheme Note 21_BG2
N21_BG3	Coding Scheme Note 21_BG3
N23_HT	Coding Scheme Note 23_HT
N23_WT	Coding Scheme Note 23_WT
N24	Coding Scheme Note 24
N24_BJ1	Coding Scheme Note 24_BJ1
N24_BJ2	Coding Scheme Note 24_BJ2
MISS_1	Count of original survey responses (pre-cleaning): violates skip pattern
MISS_4	Count of original survey responses (pre-cleaning): incomplete grid error
MISS_5	Count of original survey responses (pre-cleaning): scalable response of don't know
MISS_6	Count of original survey responses (pre-cleaning): not applicable - valid skip
MISS_7	Count of original survey responses (pre-cleaning): out-of-range error
MISS_9	Count of original survey responses (pre-cleaning): no response - invalid skip
MISS_TOT	Total number of missing responses (pre-cleaning)

CONSTRUCTED VARIABLES	VARIABLE LABEL
DHAFLAG	DHA Flag
XENRLLMT	Enrollment in TRICARE Prime
XENR_PCM	Enrollment by PCM type
XINS_COV	Insurance Coverage
XBENCAT	Beneficiary Category

CONSTRUCTED VARIABLES	VARIABLE LABEL
XENR_RSV	Enrollment by PCM type - Reservist
XINS_RSV	Insurance Coverage - Reservist
XREGION	XREGION - Region
XTNEXRG2	Revised TNEX Region - Definitions changed as of FY2019
USA	USA - USA/OCONUS Indicator
XOCONUS	Overseas Europe/Pacific/Latin Indicator
OUTCATCH	Out of catchment area indicator
XSEXA	Male or Female - R
XBMICAT	Body Mass Index Category
XBNFGRP	Beneficiary Group
XSERVAFF	Service Affiliation
KMILOPQY	Outpat. visits-use Military fclty most
KCIVOPQY	Outpat. visits-use Civilian fclty most
KCIVINS	Beneficiary coverd by civilian insurance
HP_PRNTL	Prgnt in lst yr, receivd cre 1st trimstr
HP_MAMOG	Women 40>=, mammography in pst 2 yrs
HP_MAM50	Women 50>=, mammography in pst 2 yrs
HP_PAP	All women, Pap smear in last 3 yrs
HP_BP	Bld prsre chck in last 2 yrs,know rslts
HP_FLU	65 and older, flu shot in last 12 mnths
HP_OBESE	Obese/Morbidly obese
HP_SMOKE	Advised to quit smoking in last 12 mnths
HP_SMKH3	Smoker under HEDIS definition (modified)
HP_CESH3	Had smoking cessation counseling - HEDIS (modified)

POST-STRATIFICATION VARIABLES	VARIABLE LABEL
POSTCELL	Poststratification cell for new wts - for all 3 quarters

WEIGHTS	VARIABLE LABEL
BWT	BWT - Basic Sampling Weight
FWRWT	Final NEW Weight
CFWT	Combined Annual NEW Weight

2. Variable Naming Conventions

To preserve continuity with survey data from previous years, Mathematica followed the same variable naming conventions for the core questions used for all years of the survey data. Variable naming conventions for the 2020 Adult HCSDB core and supplemental questions, shown in Table 2.2, correspond to those of previous years. The suffix "_O" will be used to distinguish the original version of the variable from the recoded version. The public use files for the adult survey will contain only recoded variables.

Variables created from most core survey questions begin with the character "H." The next two characters are the third and fourth digits of the survey year. A small number of self-reported demographic variables begin with the characters "SR."

Each quarter, the questionnaire includes a battery of questions on specific health care topics concerning services offered to MHS beneficiaries. Supplemental questions contain the same

number of alphanumeric characters as the core questions; each variable begins with an "S" to distinguish it as a supplemental question.

TABLE 2.2

NAMING CONVENTIONS FOR 2020 HCSDB VARIABLES – QUARTERS I-III
(VARIABLES REPRESENTING SURVEY QUESTIONS)

1st Character: Survey Type	2nd – 3rd Characters: Survey Year	4th – 6th Characters: Question #	Additional Characters: Additional Information
H= Health Beneficiaries (18 and older, Adult Questionnaire) ------------------------- S = Supplemental Question	20	001-031, 033-065, 071-073 ------------------------------- Quarter I 009-011, 014 – Supplemental questions about visits to the respondent's healthcare provider. BF4 – Supplemental question about electronic cigarettes B01-B04 – Supplemental questions about mental health treatment and counseling Quarter II 009-011, 014 – Supplemental questions about visits to the respondent's healthcare provider. BF4 – Supplemental question about electronic cigarettes B01-B04 – Supplemental questions about mental health treatment and counseling Quarter III 009-011, 014 – Supplemental questions about visits to the respondent's healthcare provider. B01-B04 – Supplemental questions about mental health and counseling BF2-BF5, BF7-BF11 – Supplemental questions about electronic cigarettes	A to V are used to label responses associated with a multiple response question A to J are used to label responses associated with a multiple response question

1st Character: Survey Type	2nd – 3rd Characters: Survey Year	4th – 7th Characters: Question #	Additional Characters: Additional Information
S = Supplemental Question	20	**Quarter I** BI02-BI04, BI06-BI09, BI12, BI14-BI16, BI19-BI23 – Supplemental questions about use of urgent care **Quarter II** BG01-BG03 – Supplemental questions about poor physical and mental health BJ01-BJ14 – Supplemental questions about respondent's personal life	A to E are used to label responses associated with a multiple response question

1st Characters: Variable Group	Additional Characters: Additional Information
SR = Self-reported demographic data	Descriptive text, e.g., SREDA (Highest grade completed)
N = Coding scheme notes	Number referring to Note, e.g., N2
X = Constructed independent variable	Descriptive text, e.g., XREGION
R = Constructed restricted use variables	Descriptive text, e.g., RDAGEQY (Age at time of data collection-capped, 18 and below, 65 and above)
HP = Constructed *Healthy People 2020* variable	Descriptive text, e.g., HP_BP (had blood pressure screening in past two years and know the results)
K = Constructed dependent variables	Descriptive text, e.g., KMILOPQY (total number of outpatient visits to military facility)
FW = Weighting variables	Descriptive text, e.g., FWRWT for the overall final quarterly weight, Number referring to replicate weights, e.g., FWRWT10
CFW = Combined annual weighting variables	Descriptive text, e.g., CFWT for the final annual weight; Number referring to replicate weights, e.g., CFWT10

3.   Missing Value Conventions

The 2020 conventions for missing variable values are the same as the 2019 conventions. All missing value conventions used in the 2020 HCSDB are shown in Table 2.3.

TABLE 2.3

CODING OF MISSING DATA AND "NOT APPLICABLE" RESPONSES

ASCII or Raw Source Data Numeric	Edited and Cleaned SAS Data Numeric	Description
-9	.	No response
-7	.O	Out of range error
-6	.N	Not applicable or valid skip
-5	.D	Scalable response of "Don't know" or "Not sure"
-4	.I	Incomplete grid error
-1	.C	Question should have been skipped, not answered
	.B	No survey received

B.   CLEANING AND EDITING

Data cleaning and editing procedures ensure that the data are free of inconsistencies and errors. Standard edit checks include the following:

- Checks for multiple surveys returned for any one person
- Range checks for appropriate values within a single question
- Logic checks for consistent responses throughout the questionnaire

We computed frequencies and cross tabulations of values at various stages in the process to verify the accuracy of the data. Data editing and cleaning proceeded in the following way:

1.   Additional Ipsos Editing and Coding

In preparing the database for Mathematica, Ipsos used variable names and response values provided by Mathematica in the annotated questionnaires (see Appendix A). Ipsos delivered to Mathematica a database in SAS format. In this database, any questions with no response were encoded with a SAS missing value code of '.'.

2.   Removal of Sensitive or Confidential Information

The file that Mathematica received from Ipsos contained sensitive information such as Social Security Number (SSN). Any confidential information was immediately removed from the file. Each beneficiary had already been given a generic ID (MPRID) substitute during sample selection, and the MPRID was retained as a means to uniquely identify each individual.

3.   Initial Frequencies

Mathematica computed frequencies for all fields in the original data file. These tabulations served as a reference for the file in its original form and allowed comparison to final frequencies from previous years, helping to pinpoint problem areas that needed cleaning and editing. Mathematica examined these frequencies and cross-tabulations, using the results to adapt and modify the cleaning and editing specifications as necessary.

4. Data Cleaning and Recoding of Variables

Mathematica's plan for data quality is found in the 2020 Adult Coding Scheme for Quarters I-III. It contains detailed instructions for all editing procedures used to correct data inconsistencies and errors. The Coding Scheme tables for Quarters I-III are found in Appendix B. These tables outline in detail the approach for recoding self-reported fields, range checks, logic checks, and skip pattern checks to insure that responses are consistent throughout the questionnaire. The Coding Scheme tables specify all possible original responses and any recoding, also indicating if backward coding or forward coding was used. Every skip pattern is assigned a note number shown in the annotated questionnaire (Appendix A). This note number defines the flag (for example, the Note 5 flag is N5) that is set to indicate the pattern of the original responses and any recoding. Thus, if the value of N5 is 2, the reader can look at line 2 in the Note 5 table for the original and recoded response values.

The SAS programs implementing the Coding Scheme for each quarter are found in Appendix F.

a. Check Self-Reported Fields

Several survey questions seek information that can be verified with DEERS data and/or sampling variables. Nevertheless, in recoding these self-reported fields (such as sex and TRICARE enrollment) we used the questionnaire responses. However, if responses were missing, we used the DEERS data. For example, if the question on the sex of the beneficiary was not answered, the recoded variable for self-reported sex was not considered missing but was given the DEERS value for sex. If there was any disagreement between questionnaire responses and DEERS data, the questionnaire response generally took precedence.

In many tables and charts in the reports, the DEERS information was used for active duty status and TRICARE enrollment.

b. Skip Pattern Checks

At several points in the survey, the respondent should skip certain questions that are not applicable. If the response pattern is inconsistent with the skip pattern, each response in the series was checked to determine which was most accurate, given the answers to other questions. Questions that were appropriately skipped were set to the SAS missing value of '.N'. Inconsistent responses, such as answering questions that should be skipped or not answering questions that should be answered, were examined for patterns that could be resolved. Frequently, responses to subsequent questions provide the information needed to infer the response to a question that was left blank. The 2020 Adult Coding Scheme for Quarters I-III (see Appendix B) specifically addresses every skip pattern and shows the recoded values for variables within each pattern; we back coded and/or forward coded to ensure that all responses are consistent within a sequence.

c. Missing Values

Ipsos initially encoded any question with a missing response to a SAS missing value code of '.'. After verifying skip patterns, Mathematica recoded some of these responses to reflect valid skips (SAS missing value code of '.N'). The complete list of codes for types of missing values, such as incomplete grids or questions that should not have been answered, is shown in Table 2.3.

Occasionally, missing questionnaire responses can be inferred by examining other responses. For example, if a respondent fails to answer H20025 about getting care from a doctor or other health provider besides his/her personal doctor, but goes on to answer how often his/her personal doctor seemed informed and up-to-date about the care received from these doctors or providers, then we assume that the answer to H20025 should have been "yes." Using this technique, we recoded some missing questionnaire responses to legitimate responses.

d.   Logic Checks

Most logic problems are due to inconsistent skip patterns, for example, when a male answers a question intended for females only. These types of internal inconsistencies were resolved in the same manner as skip pattern inconsistencies — by looking at the answers to all related questions. For instance, several questions related to smoking were examined as a group to determine the most appropriate response pattern so that any inconsistent response could be reconciled to the other responses in the group.

5.   Quality Assurance

Mathematica created an edit flag for each Coding Scheme table that indicates what edits, if any, were made during the cleaning and editing process. This process was also used in previous years; variables such as N5 (see Appendix B) indicate exactly what pattern of the Coding Scheme was followed for a particular set of responses. These edit flags have a unique value for each set of original and recoded values, allowing us to match original values and recoded values for any particular sequence.

In order to validate the editing and cleaning process, Mathematica prepared cross-tabulations between the original variables and the recoded variables with the corresponding edit flag. This revealed any discrepancies that needed to be addressed. In addition, we compared unweighted frequencies of each variable with the frequencies from the original file to verify that each variable was accurately recoded. Mathematica reviewed these tabulations for each variable in the survey. If necessary, the earlier edit procedures were modified and the Coding Scheme program rerun. Additionally, all programs and program output files were code reviewed by Mathematica. The resulting file was clean and ready for analysis.

C.   RECORD SELECTION

To select final records, we first defined a code that classifies each sampled beneficiary as to his/her final response status. To determine this response status, we used postal delivery information provided by Ipsos for each sampled beneficiary. This information is contained in the FLAG_FIN variable which is described in Table 2.4

TABLE 2.4

FLAG FIN VARIABLE FOR 2020 HCSDB

Value	Questionnaire Return Disposition	Reason/Explanation Given	Eligibility
1	Returned survey	Completed and returned	Eligible
2	Returned ineligible	Returned with at least one question marked and information that the beneficiary was ineligible	Ineligible
3	Returned blank	Information sent that beneficiary is temporarily ill or incapacitated	Eligible
4	Returned blank	Information sent that beneficiary is deceased	Ineligible
5	Returned blank	Information sent that beneficiary is incarcerated or permanently incapacitated	Ineligible
6	Returned blank	Information sent that beneficiary left military, or divorced after date of initial sample pull, or retired	Eligible
7	Returned blank	Information sent that beneficiary was not eligible on date of initial sample pull	Ineligible
8	Returned blank	Blank form accompanied by reason for not participating	Eligible
9	Returned blank	No reason given	Unknown
10	No return	Temporarily ill or incapacitated	Eligible
11	No return	Active refuser	Eligible
12	No return	Deceased	Ineligible
13	No return	Incarcerated or permanently incapacitated	Ineligible
14	No return	Left military or divorced after date of initial sample pull, or retired	Eligible
15	No return	Not eligible on date of initial sample pull	Ineligible
16	No return	Other eligible	Eligible
17	No return	No reason	Unknown
18	Postal Non-Deliverables (PND)	No address remaining	Unknown
19	PND	Address remaining at the close of field	Unknown
20	Original Non-Locatable	No address at start of mailing	Unknown
21	No return or returned blank	Written documentation declining participation, no reason given	Eligible
22	No return or returned blank	Hospitalized but no indication if temporary or permanent	Unknown
23	Returned blank	Deployed	Eligible
24	No return	Deployed	Eligible
25	Deceased	Updating process identified beneficiary as deceased	Ineligible
26	Ineligible	Updating process identified beneficiary as not eligible for Military Health System plan	Ineligible

Using the above variables in Table 2.4, we classified all sampled beneficiaries into four groups:

- **Group 1**: Eligible, Questionnaire Returned. Beneficiaries who were eligible for the survey and returned a questionnaire with at least one question answered (FLAG_FIN = 1)

- **Group 2**: Eligible, Questionnaire Not Returned (or returned blank). Beneficiaries who did not complete a questionnaire but who were determined to be eligible for military health care by the reference date, that is, not deceased, not incarcerated, not permanently hospitalized (FLAG_FIN = 3, 6, 8, 10, 11, 14, 16, 21, 23, 24)

- **Group 3:** Ineligible Beneficiaries who were ineligible because of death, institutionalization, or no longer being in the MHS as of the reference date (FLAG_FIN = 2, 4, 5, 7, 12, 13, 15, 25, 26)

- **Group 4:** Eligibility Unknown. Beneficiaries who did not complete a questionnaire and for whom survey eligibility could not be determined (FLAG_FIN = 9, 17, 18, 19, 20, 22)

Group 1 was then divided into two subgroups according to the number of survey items completed (or legitimately skipped), out of 20 key questions:

- G1-1. Complete questionnaire returned – at least 50% (more than 9) of the key questions completed

- G1-2. Incomplete questionnaire returned – completed fewer than 50% of the key questions

The 20 key questions for HCSDB were adapted from the complete questionnaire rule developed by Agency for Healthcare Research and Quality (AHRQ) for Consumer Assessment of Healthcare Providers and Systems (CAHPS) V5 surveys. The key survey variables for the 2020 HCSDB are: H20003, H20005, H20006, H20009, H20013, H20018, H20019, H20027, H20028, H20031, H20033, H20040, H20043, H20048, H20051, H20052, H20065, H20073, SREDA, and the race indicator variables (SRRACEA-SRRACEE).

Group 3 was also divided into two subgroups according to how ineligible beneficiaries were identified:

- G3-1. Returned ineligible or no return ineligible (FLAG_FIN = 2, 4, 5, 7, 12, 13, 15)

- G3-2. Ineligible at time of Altarum address update (FLAG_FIN = 25, 26)

G3-1 consists of ineligible beneficiaries who responded to the survey request, but told us they were ineligible. G3-2 consists of beneficiaries identified as ineligible during the updating process.

Furthermore, we also subdivided Group 4 into the following:

- G4-1 for locatable-blank return/no reason or no return/no reason (FLAG_FIN = 9, 17, 22)

- G4-2 for nonlocatable-postal nondeliverable/no address, postal nondeliverable/had address, or original nonlocatable (FLAG_FIN = 18, 19, 20).

With these groups defined, we can calculate the location rate (see Chapter 3.A).

We classified all sampled beneficiaries using the following values for the final response/eligible status (FNSTATUS):

- 11 for G1-1
- 12 for G1-2
- 20 for Group 2
- 31 for G3-1
- 32 for G3-2
- 41 for G4-1
- 42 for G4-2

Only beneficiaries with FNSTATUS = 11 were retained in the final database. All other records were dropped. In Quarters I-III, we retained 27,521 respondents.

D.   CONSTRUCTED VARIABLES

One of the most important aspects of database development is the formation of constructed variables and scale variables to support analysis. Constructed variables are formed when no single question in the survey defines the construct of interest. Table 2.1 lists all constructed variables for 2020. Each constructed variable is discussed in this section and the relevant piece of SAS code is shown. All SAS programs can be found in Appendix F.

1.   Demographic Variables

a.   Region (XREGION)

Catchment area codes are used to classify beneficiaries into lead agent's regions (CACSMPL is not retained in public use file to maintain confidentiality). These regions correspond to the administrative organization of TRICARE before reorganization in 2004. The XREGION variable partitions all catchment areas into non-overlapping regions and allows for reporting of catchment-level estimates in the catchment reports. The regions are defined as follows:

1 = Northeast

2 = Mid-Atlantic

3 = Southeast

4 = Gulfsouth

5 = Heartland

6 = Southwest

7, 8 = Central

9 = Southern California

10 = Golden Gate

11 = Northwest

12 = Hawaii

13 = Europe

14 = Western Pacific Command (Asia)

15 = TRICARE Latin America

16 = Alaska

17 = TNEX Region East

18 = TNEX Region West

. = Unassigned (CACSMPL = 9999)

For the purposes of our analysis, Region 7 and Region 8 were combined.

```
IF     CACSMPL IN (0035, 0036, 0037, 0066, 0067,
               0068, 0069, 0081, 0086, 0100,
               0123, 0306, 0310, 0321, 0326,
               0330, 0385, 0413, 6201, 6223) THEN XREGION= 1;
ELSE IF CACSMPL IN (0089, 0090, 0091, 0092, 0120,
               0121, 0122, 0124, 0335, 0378, 0387, 0432,
               0433, 0508, 7143, 7286, 7294) THEN XREGION= 2;
ELSE IF CACSMPL IN (0039, 0041, 0045, 0046, 0047,
               0048, 0049, 0050, 0051, 0101,
```

```
                0103, 0104, 0105, 0337, 0356,
                0405, 0422, 0511, 5191, 5185, 5199  ) THEN XREGION= 3;
     ELSE IF CACSMPL IN (0001, 0002, 0003, 0004, 0038,
                0042, 0043, 0073, 0074, 0107,
                0297, 7139        ) THEN XREGION= 4;
     ELSE IF CACSMPL IN (0055, 0056, 0060, 0061, 0095,
                5195, 9905, 0783       ) THEN XREGION= 5;
     ELSE IF CACSMPL IN (0013, 0062, 0064, 0096, 0097,
                0098, 0109, 0110, 0112, 0113,
                0114, 0117, 0118, 0338, 0363,
                0364, 0365, 0366, 1350, 1587, 1592, 7236, 9906, 5187     ) THEN XREGION= 6;
     ELSE IF CACSMPL IN (0008, 0009, 0010, 0079, 0083,
                0084, 0085, 0108, 9907     ) THEN XREGION= 7;
     ELSE IF CACSMPL IN (0031, 0032, 0033, 0053, 0057,
                0058, 0059, 0075, 0076, 0077,
                0078, 0093, 0094, 0106, 0119,
                0129, 0252, 7200, 7293, 9908        ) THEN XREGION= 8;
     ELSE IF CACSMPL IN (0018, 0019, 0024, 0026, 0029, 0030,
                0131, 0213, 0231, 0248, 0407, 5205,
                6215, 9909, 5189  ) THEN XREGION= 9;
     ELSE IF CACSMPL IN (0014, 0015, 0028, 0235, 0250,
                9910               ) THEN XREGION=10;
     ELSE IF CACSMPL IN (0125, 0126, 0127, 0128, 0395, 1646,
                9911               ) THEN XREGION=11;
     ELSE IF CACSMPL IN (0052, 0280, 0287, 0534, 7043, 9912 ) THEN XREGION=12;
     ELSE IF CACSMPL IN (0606, 0607, 0609, 0617, 0618,
                0623, 0624, 0629, 0633, 0635,
                0653, 0805, 0806, 0808, 0814,
                8931, 8982, 9913, 0799        ) THEN XREGION=13;
     ELSE IF CACSMPL IN (0610, 0612, 0620, 0621, 0622,
                0637, 0638, 0639, 0640, 0802,
                0804, 0853, 0862, 9914, 0625      ) THEN XREGION=14;
     ELSE IF CACSMPL IN (0449, 0613, 0615, 0616, 9915 ) THEN XREGION=15;
     ELSE IF CACSMPL IN (0005, 0006, 0203, 9916     ) THEN XREGION=16;
     ELSE IF CACSMPL = 9999               THEN XREGION= 17;
     ELSE IF CACSMPL IN (6923     ) THEN XREGION=18;
     ELSE IF CACSMPL IN (6924     ) THEN XREGION=19;
     ELSE XREGION = .;

     IF CACSMPL IN (9901,9902,9903,9904) THEN DO;
       IF D_HEALTH NOT IN ('00','17','18','19','23','24') THEN DO;
         XREGION=INPUT(D_HEALTH,8.)+0;
       END;
       ELSE DO;
         IF  DCATCH IN ('0037', '0067', '0123', '0781', '0907',
                 '0908', '0920', '0921', '0922', '0930',
                 '0931', '0933', '0939', '0940', '0946',
                 '0995')
         THEN XREGION=1;
         ELSE IF DCATCH IN ('0124', '0934', '0996')
            THEN XREGION=2;
         ELSE IF DCATCH IN ('0039', '0048', '0105', '0911', '0941',
                   '0987')
            THEN XREGION=3;
         ELSE IF DCATCH IN ('0003', '0787', '0901', '0925', '0943',
```

```
                    '0988', '0989')
            THEN XREGION=4;
        ELSE IF DCATCH IN ('0055', '0056', '0061', '0782', '0783',
                    '0789', '0914', '0915', '0918', '0923',
                    '0936', '0950')
            THEN XREGION=5;
        ELSE IF DCATCH IN ('0113', '0904', '0937', '0990', '0993')
            THEN XREGION=6;
        ELSE IF DCATCH IN ('0785', '0929', '0932', '0994'/*Added for West Texas*/)
            THEN XREGION=7;
        ELSE IF DCATCH IN ('0078', '0784', '0788', '0906', '0917',
                    '0924', '0927', '0928', '0935', '0942',
                    '0945', '0951', '0974')
            THEN XREGION=8;
        ELSE IF DCATCH IN ('0029', '0786', '0986')
            THEN XREGION=9;
        ELSE IF DCATCH IN ('0014', '0985')
            THEN XREGION=10;
        ELSE IF DCATCH IN ('0125', '0938', '0948', '0973')
            THEN XREGION=11;
        ELSE IF DCATCH IN ('0912')
            THEN XREGION=12;
        ELSE IF DCATCH IN ('0957', '0958', '0960', '0964', '0966',
                    '0967', '0976', '0977', '0979',
                    '0982')
            THEN XREGION=13;
        ELSE IF DCATCH IN ('0006', '0052', '0640', '0961', '0963',
                    '0965', '0978', '0983')
            THEN XREGION=14;
        ELSE IF DCATCH IN ('0075', '0120', '0615', '0622','0953',
                    '0970', '0971', '0972', '0975')
            THEN XREGION=15;
        ELSE IF DCATCH IN ('0902')
            THEN XREGION=16;
     END;
   END;

  IF D_PAR = '0902' THEN XREGION=16;
  IF XREGION = 0 THEN XREGION = .;
```

b.   United States (USA)

XREGION is used to create USA, which classifies beneficiaries as residing either in the United States or overseas.

1 = USA (including Alaska and Hawaii)
0 = Overseas

```
IF    XREGION IN (1,2,3,4,5,6,7,8,9,10,11,12,16,18) THEN USA=1;
ELSE IF XREGION IN (13,14,15)              THEN USA=0;
ELSE IF XREGION IN (. 17)                  THEN USA=.;
```

c.   Overseas (XOCONUS)

XREGION is used to create XOCONUS, which classifies overseas beneficiaries by region, as follows:

  1 = Europe
  2 = Western Pacific
  3 = Latin America
  . = In USA/Missing Region

IF   XREGION=13 THEN XOCONUS=1;
ELSE IF XREGION=14 THEN XOCONUS=2;
ELSE IF XREGION=15 THEN XOCONUS=3;

d.   TRICARE Next Generation of Contracts Region (XTNEXRG2)

XREGION is used to create XTNEXRG2, the TRICARE Next Generation of Contracts Region grouping, as follows:

1 = East
2 = West
3 = Overseas

IF XREGION IN (1,2,5,18) THEN XTNEXREG=1;
ELSE IF XREGION IN (3,4,6) THEN XTNEXREG=2;
ELSE IF XREGION IN (7,8,9,10,11,12,16,19) THEN XTNEXREG=3;
ELSE IF XREGION IN (13,14,15) THEN XTNEXREG=4;
ELSE IF XREGION IN (. 17) THEN DO;
  IF TNEXREG = 'N' THEN XTNEXREG=1;
  ELSE IF TNEXREG = 'S' THEN XTNEXREG=2;
  ELSE IF TNEXREG = 'W' THEN XTNEXREG=3;
  ELSE IF TNEXREG = 'O' THEN XTNEXREG=4;
  ELSE XTNEXREG=.;
END;

IF XTNEXREG >1 THEN XTNEXRG2=XTNEXREG-1;
  ELSE XTNEXRG2=XTNEXREG;

e.   Out of Catchment Area (OUTCATCH)

CACSMPL is used create OUTCATCH, which classifies beneficiaries as residing either in or outside a catchment area.

1 = Out of catchment area
0 = In catchment area

/* OUTCATCH – OUT OF CATCHMENT AREA */
IF 9900 < CACSMPL < 9999 THEN OUTCATCH=1;   /* Out of catchment area */
  ELSE IF CACSMPL = 9999 THEN OUTCATCH=.;
  ELSE OUTCATCH=0;   /* Catchment area   */

f.   Defense Health Agency Service Flag (DHAFLAG)

DHAFLAG is used to classify facilities as being DHA service or not DHA service.

1 = DHA
0 = Not DHA

```
              /* Create DHA flag */
                IF PUT(CACSMPL, DHASRV.)='1' THEN DHAFLAG=1;
                ELSE DHAFLAG=0;
```

g.   **Sex of Beneficiary (XSEXA)**

XSEXA is constructed using self-reported sex, sex identified on the DEERS database (SEX), and answers to sex-specific questions.

```
          1 = Male
          2 = Female

          /** Note 19a - gender H&YR.058, SEX, H&YR.059B--H&YR.064,
                  XSEXA */

          /* 1/21/98 use SRSEX & responses to gender specific questions
            if there is discrepancy between SRSEX and SEX */
          /* set imputed FMALE and MALE based on gender specific questions */

            ARRAY fmaleval H&YR.059B H&YR.060 H&YR.061 H&YR.062 H&YR.063 H&YR.064
                    ;

          cntfmale=0;
          DO OVER fmaleval;          /* mammogram/pap smear/PREGNANT*/
            IF fmaleval>0 THEN cntfmale=cntfmale+1;
          END;

          IF cntfmale>0 THEN FMALE=1;
          ELSE FMALE = 0;

          IF H&YR.058=. THEN DO;
            IF (SEX='F' AND FMALE) THEN DO;
              N19a=1;
              XSEXA=2;
            END;
            ELSE IF (SEX='F' AND FMALE=0) THEN DO;
              N19a=2;
              XSEXA=2;
            END;
            ELSE IF (SEX='M' AND FMALE) THEN DO;
              N19a=3;
              XSEXA=1;
            END;
            ELSE IF (SEX='M' AND FMALE=0) THEN DO;
              N19a=4;
              XSEXA=1;
            END;
            ELSE IF ((SEX IN ('Z',' ') AND FMALE)) THEN DO;
              N19a=5;
              XSEXA=2;
            END;
            ELSE IF (SEX='Z' AND FMALE=0) THEN DO;
              N19a=6;
              XSEXA=.;
            END;
            ELSE IF (SEX=' ' AND FMALE=0) THEN DO;
```

```
                N19a=7;
                 XSEXA=.;
               END;
            END;
          ELSE IF (H&YR.058=1) THEN DO;
            IF FMALE=0 THEN DO;
              N19a=8;
               XSEXA=1;
            END;
            ELSE IF FMALE THEN DO;
              IF SEX='F' THEN DO;
                N19a=9;
                 XSEXA=2;
              END;
              ELSE DO;
                N19a=10;
                 XSEXA=1;
              END;
            END;
          END;
          ELSE IF (H&YR.058=2) THEN DO;
            IF FMALE THEN DO;
              N19a=11;
               XSEXA=2;
            END;
            ELSE IF FMALE=0 THEN DO;
              IF SEX='M' THEN DO;
                N19a=12;
                 XSEXA=1;
              END;
              ELSE DO;
                N19a=13;
                 XSEXA=2;
              END;
            END;
          END;
        END;
```

h.   **Beneficiary Group (XBNFGRP)**

We redefined beneficiary groups to exclude any active duty personnel and any active duty family members who were age 65 or older at the time of survey administration. The variable XBNFGRP reconstructs beneficiary groups into the following values:

1 = Active Duty, under 65
2 = Family members of active duty, under 65
3 = Retirees, survivors, and family members, under 65
4 = Retirees, survivors, and family members, 65 or over
 .= Unknown/other

```
/* XBNFGRP-Beneficiary Group that excludes those 65 and over-Active Duty
       and Family Members of Active Duty */
IF ENBGSMPL ^="b" THEN DO;
IF INPUT(FIELDAGE,8.)  >= 65 AND INPUT(ENBGSMPL,8.) IN (1, 2, 3, 4) THEN XBNFGRP = .;
  ELSE IF INPUT(ENBGSMPL,8.) = 1 THEN XBNFGRP = 1;            /* Active Duty <65 */
  ELSE IF INPUT(ENBGSMPL,8.) IN (2, 3, 4) THEN XBNFGRP = 2;    /* Family of Active <65 */
  ELSE IF INPUT(ENBGSMPL,8.) IN (5, 6, 7) THEN XBNFGRP = 3;    /* Ret/Surv/Fam <65 */
  ELSE IF INPUT(ENBGSMPL,8.) IN (8, 9, 10) THEN XBNFGRP = 4;    /* Ret/Surv/Fam 65+ */
```

```
        ELSE IF INPUT(ENBGSMPL,8.) IN (11)     THEN XBNFGRP = .;
END;
```

i.   Service Affiliation (XSERVAFF)

We redefined service affiliation to collapse Coast Guard, administrative, support contractor, Uniformed Services Treatment Facility (USTF), noncatchment, other, not available, missing/unknown service affiliations into a single other category. The variable XSERVAFF reconstructs service affiliation into the following values:
1 = Army
2 = Air Force
3 = Navy
4 = Other
5 = DHA

```
IF SERVAFF='A' THEN XSERVAFF=1; *Army;
IF SERVAFF='F' THEN XSERVAFF=2; *Air Force;
IF SERVAFF='N' THEN XSERVAFF=3; *Navy;

/***Coast Guard, Administrative, Support Contractor, USTF, Noncatchment,
 Other, Not available, Missing/unknown will collapsed to other  ***/

IF SERVAFF IN ('C' 'J' 'M' 'T' 'S' 'O' 'X' ' ') THEN XSERVAFF=4; *Other;
IF SERVAFF ='P' THEN XSERVAFF=5; *DHA;
```

2.   TRICARE Prime Enrollment and Insurance Coverage

a.   TRICARE Prime Enrollment Status (XENRLLMT)

For reporting purposes, a person is considered enrolled in TRICARE Prime if they are under 65 and the poststratification enrollment type (ENBGSMPL), based on DEERS information, indicates that they were enrolled at the time of data collection. Because it is important to view the experiences of active duty personnel separately from other enrollees, there is a separate category for active duty (under 65), who are automatically enrolled in Prime. The five categories for TRICARE Prime enrollment are as follows:

1 = Active duty, under 65
2 = Other enrollees, under 65
3 = Not enrolled in TRICARE Prime, under 65
4 = Not enrolled in TRICARE Prime, 65 or over
5 = Enrolled in TRICARE Prime, 65 or over
. = Unknown

```
 /* XENRLLMT--ENROLLMENT STATUS */
 IF ENBGSMPL ^= "b" THEN DO;
 IF 17 <= INPUT(FIELDAGE,8.) < 65 THEN DO;
   IF INPUT(ENBGSMPL,8.) = 1 THEN XENRLLMT = 1;            /* Active duty (<65) */
   ELSE IF INPUT(ENBGSMPL,8.) IN (2, 3, 5, 6) THEN XENRLLMT = 2;    /* Non-active duty
 enrolled (<65)*/
   ELSE IF INPUT(ENBGSMPL,8.) IN (4, 7,11) THEN XENRLLMT = 3;    /* Not Enrolled (<65)*/
 END;
 ELSE IF INPUT(FIELDAGE,8.) > = 65 THEN DO;
   IF INPUT(ENBGSMPL,8.) = 10 THEN XENRLLMT = 4;            /* Not Enrolled (65+)*/
   ELSE IF INPUT(ENBGSMPL,8.) IN (8,9) THEN XENRLLMT = 5;       /* Enrolled (65+)   */
 END;
```

b.   TRICARE Prime Enrollment Status by Primary Care Manager (XENR_PCM)

Similar to the previous variable XENRLLMT, this variable separates the enrollees other than the active duty category into those with a military PCM and those with a civilian PCM. Active duty personnel are automatically enrolled and always have a military PCM. XENR_PCM has seven possible values:

1 = Active duty, under 65, military PCM
2 = Other enrollees, under 65, military PCM
3 = Other enrollees, under 65, civilian PCM
4 = Not enrolled in TRICARE Prime, under 65
5 = Not enrolled in TRICARE Prime, 65 or over
6 = Enrolled in TRICARE Prime, 65 or over, military PCM
7 = Enrolled in TRICARE Prime, 65 or over, civilian PCM
 . = Unknown

```
/* XENR_PCM--ENROLLMENT BY PCM TYPE */
IF 17 <= INPUT(FIELDAGE,8.) < 65 THEN DO;
   IF INPUT(ENBGSMPL,8.) = 1 THEN XENR_PCM = 1;           /*  Active duty (<65)     */
   ELSE IF INPUT(ENBGSMPL,8.) IN (3, 6) THEN XENR_PCM = 2;  /* Enrolled (<65) - mil PCM */
   ELSE IF INPUT(ENBGSMPL,8.) IN (2, 5) THEN XENR_PCM = 3;  /*  Enrolled (<65) - civ PCM */
   ELSE IF INPUT(ENBGSMPL,8.) IN (4, 7,11) THEN XENR_PCM = 4;  /*  Not Enrolled (<65)     */
END;
 ELSE IF INPUT(FIELDAGE,8.) > = 65 THEN DO;
   IF INPUT(ENBGSMPL,8.) = 10 THEN XENR_PCM = 5;          /*  Not Enrolled (65+)     */
   IF INPUT(ENBGSMPL,8.) = 9 THEN XENR_PCM = 6;           /*  Enrolled (65+)-mil PCM  */
   IF INPUT(ENBGSMPL,8.) = 8 THEN XENR_PCM = 7;           /*  Enrolled (65+)-civ PCM  */
 END;
END;
```

c.   Most–Used Health Plan (XINS_COV)

The respondent's most–used health plan is derived from variable H20003 (unless the respondent is active duty, in which case they are automatically enrolled in Prime) and the respondent's age, with categories as follows:

1 = Active duty, under 65
2 = Other TRICARE Prime enrollees, under 65
3 = TRICARE Select (Civilian Health and Medical Program of the Uniformed Services: CHAMPUS, formerly known as TRICARE Standard/Extra)
4 = Medicare Part A and/or Part B
5 = Other civilian health insurance or civilian HMO
6 = Prime, 65 or over
7 = TRICARE Plus and Medicare
8 = Veterans Administration (VA)
9 = TRICARE Reserve Select
10 = TRICARE Retired Reserve
12 = Continued Health Care Benefit Program (CHCBP)
13 = TRICARE Young Adult Prime
14 = TRICARE Young Adult Select
 . = Unknown

```
/* XINS_COV–INSURANCE COVERAGE */
IF XENRLLMT = 1 THEN XINS_COV =1;                        /* Prime <65-Active Duty */
  ELSE IF 17 <= INPUT(FIELDAGE,8.)  < 65 AND H&YR.003 IN (1) THEN XINS_COV = 2; /* Prime
<65-Non-active Duty */
  ELSE IF H&YR.003 = 3 THEN XINS_COV = 3;                 /* Select */
```

```
              ELSE IF H&YR.003 = 11 THEN XINS_COV = 7;             /* Plus and Medicare */
              ELSE IF H&YR.003 = 4 THEN XINS_COV = 4;               /* Medicare*/
              ELSE IF H&YR.003 IN (5,6,7, 8,9, 13) THEN XINS_COV = 5;   /* Other civilian health insurance*/
              ELSE IF H&YR.003 = 10 THEN XINS_COV = 8;              /* Veterans Administration (VA) */
              ELSE IF H&YR.003 = 12 THEN XINS_COV = 9;              /* TRICARE Reserve Select */
              ELSE IF H&YR.003 = 14 THEN XINS_COV = 10; /* TRICARE Retired Reserve - MER 06/21/11 */
              ELSE IF 21 <= INPUT(FIELDAGE,8.) <= 26
                 AND H&YR.003 = 15 THEN XINS_COV = 13;              /* TRICARE Young Adult Prime
          - AMK 2/10/14 new categor since now specific for prime */
              ELSE IF H&YR.003 = 16 THEN XINS_COV = 12;             /* CHCBP - MER 06/21/11 */
              ELSE IF 21 <= INPUT(FIELDAGE,8.) <= 26
                 AND H&YR.003 = 17 THEN XINS_COV = 14;              /* TRICARE Young Adult Select */
               ELSE IF (INPUT(FIELDAGE,8.)>= 65 AND XENRLLMT = 5 and H&YR.003 = 1) THEN XINS_COV
          = 6;   /* Prime, >= 65 */
```

d.   Insurance Coverage Distinguishing Reservists From Active Duty (XINS_RSV)

This variable is similar to XINS_COV but separates reservists from other active duty.
XINS_RSV has these possible values:

```
   1 = Prime <65-Active Duty (Non reservists)
   2 = Prime <65-Non-active Duty
   3 = Select
   4 = Medicare
   5 = Other civilian health insurance
   6 = Prime, >= 65
   7 = Plus and Medicare
   8 = Veterans Administration (VA)
   9 = TRICARE Reserve Select
  10 = Prime <65-Active Duty (Reservists)
  11 = TRICARE Retired Reserve
  13 = CHCBP
  14 = TRICARE Young Adult Prime
  15 = TRICARE Young Adult Select
   . = Unknown
```

```
/*  XINS_RSV--INSURANCE COVERAGE DISTINGUISHING RESERVISTS FROM ACTIVE
DUTY*/
  IF XENRLLMT = 1 THEN DO;
    IF XBENCAT IN (1) THEN XINS_RSV =1;          /* Prime <65-Active Duty (Non reservists) */
     ELSE IF XBENCAT IN (3,5) THEN XINS_RSV=10;     /* Prime <65-Active Duty (Reservists) */
  END;
  ELSE IF 17 <= INPUT(FIELDAGE,8.)  < 65 AND H&YR.003 IN (1) THEN XINS_RSV = 2; /* Prime
<65-Non-active Duty */
    ELSE IF H&YR.003 =3 THEN XINS_RSV = 3;                  /* Select */
    ELSE IF H&YR.003 = 11 THEN XINS_RSV = 7;                /* Plus and Medicare */
    ELSE IF H&YR.003 = 4 THEN XINS_RSV = 4;                 /* Medicare*/
    ELSE IF H&YR.003 IN (5,6, 7, 8, 9, 13) THEN XINS_RSV = 5;   /* Other civilian health insurance*/
    ELSE IF H&YR.003 = 10 THEN XINS_RSV = 8;                /* Veterans Administration (VA) */
    ELSE IF H&YR.003 = 12 THEN XINS_RSV = 9;                /* TRICARE Reserve Select */
    ELSE IF H&YR.003 = 14 THEN XINS_RSV = 11; /* TRICARE Retired Reserve - MER 06/21/11 */
    ELSE IF 21 <= INPUT(FIELDAGE,8.) <= 26
       AND H&YR.003 = 15 THEN XINS_RSV = 14;/* TRICARE Young Adult Prime - MER 06/21/11 */
    ELSE IF H&YR.003 = 16 THEN XINS_RSV = 13;               /* CHCBP - MER 06/21/11 */
    ELSE IF 21 <= INPUT(FIELDAGE,8.) <= 26
       AND H&YR.003 = 17 THEN XINS_RSV = 15;   /* TRICARE Young Adult Standard/Extra- AMK
02/06/14 */
```

ELSE IF (INPUT(FIELDAGE,8.)>= 65 AND XENRLLMT = 5 and H&YR.003 = 1) THEN XINS_RSV = 6;   /* Prime, >= 65 */
ELSE IF (INPUT(FIELDAGE,8.)>= 65 AND XENRLLMT = 5 and H&YR.003 = 1) THEN XINS_RSV = 6;   /* Prime, >= 65 */

e.   Enrollment Distinguishing Reservists From Active Duty (XENR_RSV)

This variable is similar to XENR_PCM but separates reservists from other active duty. XINS_RSV has 8 possible values:

1 = Active duty (<65) Non reservists
2 = Enrolled (<65) - mil PCM
3 = Enrolled (<65) - civ PCM
4 = Not Enrolled (<65)
5 = Not Enrolled (65+)
6 = Enrolled (65+)-mil PCM
7 = Enrolled (65+)-civ PCM
8 = Active duty (<65) Reservists
. = Unknown

```
/* XENR_RSV--ENROLLMENT DISTINGUISHING RESERVISTS FROM ACTIVE DUTY */
IF 17 <= INPUT(FIELDAGE,8.) < 65 THEN DO;
  IF INPUT(ENBGSMPL,8.) = 1 THEN DO;
    IF XBENCAT IN (1) THEN XENR_RSV = 1;              /*  Active duty (<65) Non reservists */
    ELSE IF XBENCAT IN (3,5) THEN XENR_RSV = 8;        /*  Active duty (<65) Reservists */
  END;
  ELSE IF INPUT(ENBGSMPL,8.) IN (3, 6) THEN XENR_RSV = 2;   /* Enrolled (<65) - mil PCM */
  ELSE IF INPUT(ENBGSMPL,8.) IN (2, 5) THEN XENR_RSV = 3;   /* Enrolled (<65) - civ PCM */
  ELSE IF INPUT(ENBGSMPL,8.) IN (4, 7,11) THEN XENR_RSV = 4;  /*  Not Enrolled (<65)      */
END;
ELSE IF INPUT(FIELDAGE,8.) > = 65 THEN DO;
  IF INPUT(ENBGSMPL,8.) = 10 THEN XENR_RSV = 5;        /*  Not Enrolled (65+)      */
  IF INPUT(ENBGSMPL,8.) = 9 THEN XENR_RSV = 6;         /*  Enrolled (65+)-mil PCM  */
  IF INPUT(ENBGSMPL,8.) = 8 THEN XENR_RSV = 7;         /*  Enrolled (65+)-civ PCM  */
END;
```

f.   Beneficiary Category (XBENCAT)

This variable was created because of the increasing presence of inactive reservists and their dependents in the data. XBENCAT has eight possible values:

1 = Active Duty
2 = Dependent of Active Duty
3 = Active Reservist
4 = Dependent of Active Reservist
5 = Inactive Reservist
6 = Dependent of Inactive Reservist
7 = Retired or dependent<65
8 = Retired or dependent>65
. = Missing/Other

/* TRICARE Reserve Select and the increasing presence of inactive reservists and their dependents in our data. In order to accommodate them, we will need to create additional variables. */

```
IF DBENCAT='ACT' THEN XBENCAT=1;    *Active duty;
ELSE IF DBENCAT='DA'  THEN XBENCAT=2; *Active Duty family member;
ELSE IF DBENCAT='GRD' THEN XBENCAT=3; *Active reservist;
```

ELSE IF DBENCAT='DGR' THEN XBENCAT=4; *Dependent of Reservist;
ELSE IF DBENCAT='IGR' THEN XBENCAT=5; *Inactive Reservist";
ELSE IF DBENCAT='IDG' THEN XBENCAT=6; *Dependent of Inactive Guard";
ELSE IF DBENCAT IN ('RET','DR','DS') THEN DO;
   IF 17 <= INPUT(FIELDAGE,8.) < 65 THEN XBENCAT=7; *Retired or Dependent of Retiree <65;
   ELSE IF INPUT(FIELDAGE,8.) > = 65 THEN XBENCAT=8; *Retired or Dependent of Retiree
>=65;
END;

g.   **Types of Coverage (KCIVINS)**

A binary variable was created to indicate the type of insurance that respondents use:

- Is the respondent covered by private civilian insurance (KCIVINS)

This variable has the following values:
1 = Yes
2 = No

IF H&YR.002G=1 OR H&YR.002I=1 OR H&YR.002J=1 THEN KCIVINS=1;   /* YES */
  ELSE KCIVINS=2;   /* NO */

3.   **Preventive Care**
(HP_PRNTL, HP_MAMOG, HP_MAM50, HP_PAP, HP_BP, HP_FLU, HP_SMOKE,
HP_SMKH3, HP_CESH3, HP_OBESE, XBMICAT)

Preventive care analyses compare the percentage of respondents who received services within the recommended time period to the TRICARE standard/federal Healthy People 2020 goal. We constructed new binary variables from the responses to indicate whether the respondent received the preventive care service within the recommended time period. See Table 2.5 for the list of the variables developed for analysis of preventive care. With the exception of XBMICAT, the new preventive care variables have the following values:

1 = Received service within the recommended time period
2 = Did not receive service within the recommended time period
 .= Missing information

TABLE 2.5
PREVENTIVE CARE STANDARDS

Preventive Care Delivered	Relevant Question	Variable Name	Outcome Measure with Recommended Time Period (Numerator)	Population Involved (Denominator)	Standard
Blood Pressure Check	H20049 & H20050	HP_BP	Number with care in the past 24 months and know the results	Adults	95% within past 2 years
Flu Shot	H20051	HP_FLU	Number with care in the past 12 months	Adults age 65 and older	90% in past year, age 65 and over
Pap Smear	H20059B	HP_PAP	Number with care in the past 36 months	Adult females	93% in the past 36 months
Mammography	H20061	HP_MAMOG	Number with care in the past 24 months	Females age 40 and over	81% in the past 24 months
Mammography	H20061	HP_MAM50	Number with care in the past 24 months	Females age 50 and over	81% in the past 24 months
Smoker	H20054	HP_SMOKE	Advised to quit smoking in past 12 months	Adults	12% in the last 12 months
Smoker	H20052, H20053, H20057A	HP_SMKH3	Number that smoked in the past 12 months	Adults	12% in the last 12 months
Smoking Cessation	H20053 & H20054	HP_CESH3	Number that smoked in the past 12 months and received smoking cessation counseling	All current adult smokers and those who quit smoking within the past year	None
Prenatal Care	H20062, H20063, H20064	HP_PRNTL	Number with care in the first trimester	Currently pregnant adult females and all adult females who were pregnant in the past 12 months, excluding those less than 3 months pregnant who haven't received care	85% had care in first trimester
Non-Obese Weight	H20071F, H20071I & H20072	HP_OBESE	Number of people who are not obese	Adults	69% are not obese

```
/* HP_PRNTL--IF PREGNANT LAST YEAR, RECEIVED PRENATAL CARE IN 1ST TRIMESTER
*/
IF H&YR.062 IN (1,2) THEN DO;                          /*  Pregnant in last 12 months  */
   IF H&YR.064 = 4 THEN HP_PRNTL = 1;                  /*  Yes  */
      ELSE IF (H&YR.063 = 1 AND H&YR.064 = 1) THEN HP_PRNTL = .;  /* <3 months pregnant
now */
      ELSE IF H&YR.064 IN (1,2,3) THEN HP_PRNTL = 2;            /*  No */
END;
ELSE IF H&YR.062 IN (.C,.N) THEN HP_PRNTL = .N; /* Male */

/* HP_MAMOG--FOR WOMEN AGE 40 AND OVER, HAD MAMMOGRAM W/IN PAST 2 YEARS
*/
IF XSEXA = 2 AND INPUT(FIELDAGE,8.) >= 40 THEN DO;
   IF H&YR.061 IN (5, 4) THEN HP_MAMOG = 1;         /* Yes */
   ELSE IF H&YR.061 IN (1, 2, 3) THEN HP_MAMOG = 2;    /* No */
END;

/* HP_MAM50--FOR WOMEN AGE 50 AND OVER, HAD MAMMOGRAM W/IN PAST 2 YEARS
*/
IF XSEXA = 2 AND INPUT(FIELDAGE,8.) >= 50 THEN DO;
   IF H&YR.061 IN (5, 4) THEN HP_MAM50 = 1;          /* Yes */
```

```
      ELSE IF H&YR.061 IN (1, 2, 3) THEN HP_MAM50 = 2;   /* No */
   END;

   /* HP_PAP--FOR ALL WOMEN, HAD PAP SMEAR IN LAST 3 YEARS */
   IF XSEXA = 2 THEN DO;
      IF H&YR.059B IN (4, 5, 6) THEN HP_PAP = 1;          /* Yes */
      ELSE IF H&YR.059B IN (1, 2, 3) THEN HP_PAP = 2;      /* No */
   END;

   /* HP_BP--HAD BLOOD PRESSURE SCREENING IN LAST 2 YEARS AND KNOW RESULT */
   IF H&YR.049 IN (2,3) AND H&YR.050 IN (1,2) THEN HP_BP = 1;  /* Yes    */
      ELSE IF H&YR.049 = 1 THEN HP_BP = 2;                /* No     */
      ELSE IF H&YR.049 < 0 OR H&YR.050 < 0 THEN HP_BP = .;     /* Unknown */
      ELSE HP_BP = 2;                                     /* No     */

   /* HP_FLU--FOR PERSON AGE 65 OR OVER, HAD FLU SHOT IN LAST 12 MONTHS */
   IF INPUT(FIELDAGE,8.) >= 65 THEN DO;
      IF H&YR.051 = 4 THEN HP_FLU = 1;                    /* Yes */
      ELSE IF H&YR.051 IN (1, 2, 3) THEN HP_FLU = 2;      /* No */
   END;

   /* HP_SMOKE--ADVISED TO QUIT SMOKING IN PAST 12 MONTHS */
   IF H&YR.054 IN (2, 3, 4) THEN HP_SMOKE = 1;            /* Yes   */
      ELSE IF H&YR.054 = 1 THEN HP_SMOKE = 2;             /* No    */

   /* Add code for smoking and smoking cessation counseling according to the HEDIS */
   IF H&YR.052 IN (1,2) THEN DO;
      IF H&YR.052=1 AND (H&YR.053=3 OR H&YR.053=4) AND H&YR.057A=1 THEN
   HP_SMKH3=1; /* Yes */
      ELSE IF H&YR.052=2 OR H&YR.053=2 OR H&YR.057A NE 1 THEN HP_SMKH3=2;    /* No
   */
   END;

   IF (H&YR.053=3 OR H&YR.053=4) AND H&YR.054>0 THEN DO;
      IF H&YR.054>1 THEN HP_CESH3=1;  /* Yes */
      ELSE HP_CESH3=2;           /* No */
   END;

   **********************************************************************************
   * Calculate XBMICAT- Body Mass Index Category
   * BMI=Weight(in pounds)*703 divide by Height(in inch)*Height(in inch)
   *********************************************************************************,

   IF H&YR.071F IN (.A,.O,.I,.B) THEN TSRHGTF=.; ELSE TSRHGTF=H&YR.071F;
   IF H&YR.071I IN (.A,.O,.I,.B) THEN TSRHGTI =.; ELSE TSRHGTI=H&YR.071I;
   IF H&YR.072  IN (.A,.O,.I,.B) THEN TSRWGT =.; ELSE TSRWGT =H&YR.072;

   IF TSRHGTF IN (.) OR
      TSRWGT  IN (.) THEN XBMI=.;
   ELSE DO;
      XBMI = ROUND((TSRWGT*703)/
             (SUM(TSRHGTF*12,TSRHGTI)*SUM(TSRHGTF*12,TSRHGTI)), .1);
   END;

   IF XBMI < 12 OR XBMI > 70 THEN XBMI=.;

   DROP TSRHGTF TSRHGTI TSRWGT;
```

```
/* Same category as Healthy People 2010 where there is no sex distinction */
  IF XBMI = .       THEN XBMICAT=.;
  ELSE IF XBMI < 18.5 THEN XBMICAT=1;  *Underweight;
  ELSE IF XBMI < 25   THEN XBMICAT=2;  *Normal Weight;
  ELSE IF XBMI < 30   THEN XBMICAT=3;  *Overweight;
  ELSE IF XBMI < 40   THEN XBMICAT=4;  *Obese;
  ELSE              XBMICAT=5;  *Morbidly Obese;

IF XBMICAT=. THEN HP_OBESE=.;
ELSE IF XBMICAT IN (4,5) THEN HP_OBESE=1;   *OBESE ;
ELSE HP_OBESE=2;
```

4.   Utilization

a.   Outpatient Utilization (KMILOPQY, KCIVOPQY)

KMILOPQY reflects the total number of outpatient visits. For those receiving care at military facilities, we adjust KMILOPQY to reflect zero visits for those with no care or those who get their care from civilian facilities. KCIVOPQY is the comparable variable for those who receive care at civilian facilities.

```
/* KMILOPQY--OUTPATIENT VISITS TO MILITARY FACILITY
   KCIVOPQY--OUTPATIENT VISITS TO CIVILIAN FACILITY */
IF H&YR.005 = 1 THEN DO;
  KMILOPQY=H&YR.013;
  KCIVOPQY=1;
END;
ELSE IF H&YR.005 IN  (2, 3, 4) THEN DO;
  KCIVOPQY=H&YR.013;
  KMILOPQY=1;
END;
ELSE IF H&YR.005 = 5 THEN DO;
  KMILOPQY=1;
  KCIVOPQY=1;
END;
```

E.   WEIGHTING PROCEDURES

Quarterly and annual tabulations and analyses of the 2020 HCSDB must account for the survey's complex sample design and adjust for possible bias due to nonresponse. As part of sample selection, Mathematica constructed sampling weights (BWT) that reflect the differential selection probabilities used when sampling beneficiaries across strata. With the level of nonresponse present in the HCSDB and the likelihood that respondents and nonrespondents will differ in terms of their responses to survey questions, the issue of nonresponse bias is potentially a serious one. Prior to 2005, we compensated for potential nonresponse bias by adjusting for nonresponse independently within weighting classes, defined by the stratification variables — enrollment status, beneficiary group, and geographic area. In other words, it was assumed that both response likelihood and characteristics related to survey outcome variables were homogeneous within these weighting classes.

However, because the HCSDB sample is selected from the DEERS, a great deal is known about both respondents and nonrespondents. Consequently, a large number of variables are available for the nonresponse weighting adjustments. As described above, in surveys prior to 2005, the only auxiliary variables used in developing the nonresponse weighting adjustments were the stratification variables, which represented a small subset of the available variables. Beginning with the 2005 HCSDB, we developed a new weighting adjustment procedure to incorporate more information

about respondents and nonrespondents. The first stage in this process identified variables from the frame that were most related to whether or not a beneficiary responded to the survey. After initial screening of variables, the Chi-squared Automatic Interaction Detection (CHAID) (Biggs et al. 1991) technique was used for this purpose. Secondly, we incorporated the chosen auxiliary variables into a weighting class adjustment procedure using a response propensity model.

1.   Constructing the Sampling Weight

In the 2020 HCSDB, stratified sampling was used to select the sample of beneficiaries that would receive the questionnaire. Sampling was independently executed within strata defined by combinations of three domains: enrollment status groups; beneficiary groups; and geographic areas. The sample was selected with differential probability of selection across strata. Sample sizes were driven by predetermined precision requirements. For further details of the 2020 adult sample design, see Mathematica's "Health Care Survey of DoD Beneficiaries: 2020 Adult Sampling Report (2020)."

Our first step in constructing sampling weights was to ensure that they reflected the unequal sampling rates across strata. These sampling weights can be viewed as the number of population elements each sampled beneficiary represents. The sampling weight was defined as the inverse of the beneficiary's selection probability:

$$W_s(h,i) = \frac{N_h}{n_h}$$

where:

$W_s(h,i)$ is the sampling weight for the i th sampled beneficiary in stratum h,

N_h is the total number of beneficiaries in stratum h, and

n_h is the number of sampled beneficiaries in stratum h.

The sum of the sampling weights over selected beneficiaries i, from stratum h equals the total population size of stratum h or N_h.

2.   Adjustment for Total Nonresponse

Survey estimates obtained from respondents only can be biased with respect to describing characteristics of the total population (Lessler and Kalsbeek 1992). The choice of an appropriate method for adjusting for potential nonresponse bias depends on the response mechanism that underlies the study population. We adjusted for nonresponse independently within weighting classes, with the assumption that both response and characteristics directly or indirectly related to survey variables are homogeneous within these classes. Two types of nonresponse were associated with the 2020 HCSDB:

▪ Unit or total nonresponse occurred when a sampled beneficiary did not respond to the survey questionnaire (e.g., refusals, no questionnaire returned, blank questionnaire returned, bad address).

▪ Item nonresponse occurred when a question that should have been answered was not answered (e.g., refusal to answer, no response).

Because item response rates in previous surveys were high, statistical imputation, a technique used to compensate for item nonresponse, was not used in the 2020 HCSDB. To account for unit or total

nonresponse, we implemented a weighting class adjustment procedure where the weighting classes are formed from a response propensity model (see Section 4 below).

3. Weighting Class Adjustments for Non-Response

The 2020 HCSDB weighting was implemented by using a method instituted in 2005. This method partitions the sample into groups, called weighting classes, using the propensity scores from the propensity model. Weights of respondents are then adjusted within each class so that they sum to the weight total for nonrespondents and respondents from that class. Implicit in the weighting class adjustment is the assumption that, had the nonrespondents responded, their responses would have been distributed in the same way as the responses of the other respondents in their weighting class.

Nonresponse adjustment factors for the 2020 HCSDB were calculated in two steps. First, we adjusted the sampling weights to account for sampled beneficiaries for whom eligibility status could not be determined. Sampled beneficiaries were then grouped as follows according to their response status d:

$d = 1$ Eligible — complete questionnaire returned (FNSTATUS = 11)

$d = 2$ Eligible — incomplete or no questionnaire returned (FNSTATUS = 12 or 20)

$d = 3$ Ineligible — deceased, incarcerated or permanently incapacitated beneficiary (FNSTATUS = 31)

$d = 4$ Eligibility unknown — no questionnaire or eligibility data (FNSTATUS = 41 or 42)

$d = 5$ Ineligible — ineligible at time of Altarum address update (FNSTATUS = 32)

Within weighting class c, the weights of the $d = 4$ nonrespondents with unknown eligibility were redistributed to the cases for which eligibility was known ($d = 1, 2, 3$)[1], using an adjustment factor $A_{wc1}(c,d)$ that was defined to be zero for $d = 4$, one for $d = 5$, and defined as:

$$A_{wc1}(c,d) = \frac{\sum_{i \in S(c)} W_s(c,i)}{\sum_{i \in S(c)} I_1(i)W_s(c,i) + \sum_{i \in S(c)} I_2(i)W_s(c,i) + \sum_{i \in S(c)} I_3(i)W_s(c,i)} \text{ for d = 1, 2, 3}$$

where:

$A_{wc1}(c,d)$ is the eligibility-status adjustment factor for weighting class c and response status code d,

$I_d(i)$ is the indicator function that has a value of 1 if sampled unit i has a response status code of d and value of 0 otherwise,

$S(c)$ is the set of sample members belonging to weighting class c, and

$W_s(c,i)$ is the sampling weight (BWT) for the ith sample beneficiary from weighting class c before adjustment.

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[1] Because we determine all cases in the sample that are $d = 5$, none of the weights of the $d = 4$ nonrespondents are redistributed to $d = 5$.

The adjustment $A_{wc1}(c,d)$ was then applied to the sampling weights to obtain the eligibility-status adjusted weight. Beneficiaries in weighting class c with response status code of d were assigned the eligibility-status adjusted weight:

$$W_{wc1}(c,d,i) = A_{wc1}(c,d)\, W_s(c,i) \text{ for } d = 1, 2, 3, 4, 5$$

The next step in weighting was to adjust for incomplete or missing questionnaires from beneficiaries known to be eligible. For this adjustment, the weighting class method is again used. Within weighting class c the sample was again partitioned into groups according to the beneficiary's response status code d. Within weighting class c, the weights of the $d = 2$ nonresponding eligibles were redistributed to the responding eligibles $d = 1$, using an adjustment factor $A_{wc2}(c,d)$ that was defined to be zero for $d = 2, 4$. For Group 1 ($d = 1$), the questionnaire-completion adjustment or $A_{wc2}(c, 1)$ factor for class c was computed as:

$$A_{wc2}(c,1) = \frac{\displaystyle\sum_{i \in S(c)} I_1(i) W_{wc1}(c,i) + \sum_{i \in S(c)} I_2(i) W_{wc1}(c,i)}{\displaystyle\sum_{i \in S(c)} I_1(i) W_{wc1}(c,i)}$$

By definition, all $d = 3$ and $d = 5$ ineligible beneficiaries "respond," so the $d = 3$ and $d = 5$ adjustment factor (based on response propensity) is 1, or $A_{wc2}(c,3) = A_{wc2}(c,5) = 1$. The questionnaire-completion adjusted weight was calculated as the product of the questionnaire-completion adjustment $A_{wc2}(c,d)$ and the previous eligibility-status adjusted weight $W_{wc1}(c,d,i)$, or:

$$W_{wc2}(c,d,i) = A_2(c,d) W_{wc1}(c,d,i)$$

As a result of this step, all nonrespondents ($d = 2, 4$) had questionnaire-completion adjusted weights of zero, while the weight for ineligible cases ($d = 3, 5$) remained unchanged, or $W_{wc2}(c,3,i) = W_{wc1}(c,3,i)$ and $W_{wc2}(c,5,i) = W_{wc1}(c,5,i)$.

4. Response Propensity Model for Non-Response

It is common practice to use weighting adjustments to compensate for unit nonresponse in sample surveys. There are numerous methods developed to make these adjustments (Kalton and Maligalig 1991; Holt and Smith 1979; Oh and Scheuren 1983; Little and Vartivarian 2003; Vartivarian and Little 2003). Moreover, a number of studies have evaluated multiple weighting methods to adjust for nonresponse. Carlson and Williams (2001) found nearly identical results with respect to the design effects and the weighted estimates for two weighting approaches: 1) weighting classes using the design features (strata and sampling units), and 2) propensity models containing numerous variables identified as predictors of response. They conjectured that the propensity model approach might perform better for estimates in key geographic subdomains because there would be many fewer weighting cells than for the national estimates. Rizzo et al. (1994) investigated several alternative methods for panel nonresponse in the Survey of Income and Program Participation (SIPP), including nonresponse adjustment cells, logistic regression, CHAID methods, and generalized raking methods. They found a number of variables related to panel nonresponse that are not employed in the standard SIPP nonresponse adjustment cells methodology. These variables were used in the alternative weighting methods and were found to result in similar weights regardless of method. Therefore, Rizzo et al. conclude that the choice of model variables is more important than the weighting methodology.

a. **Predictors of Response Propensity**

The first step in developing nonresponse adjustments is deciding which of the large number of variables available from the HCSDB sample frame would be best to use in the adjustment procedures. We do this by evaluating each variable and its relationship to response. Segmentation analysis using the CHAID software was used to allow for a model-building process that focuses on segments showing different response propensities.[2] This analysis avoids the problem of examining "all possible interactions" that is typical of regression modeling. The unweighted segmentation algorithm split the sample into subgroups based on response rates. The splitting process continued until either no other predictors were found or the segment size fell below a minimum size of 50. For ease of interpretation, we also limited the splitting process to three levels. We ran the CHAID analysis twice, once to predict eligibility determination and again to predict survey completion among eligible beneficiaries

b. **Response Propensity Weighting Classes**

The nonresponse adjustments involved developing weighting classes using sample design characteristics and the response propensity model developed in the modeling stage. The usual HCSDB approach computes the response weight adjustment cells based on fully observed variables from the sample frame. However, in order to avoid empty or sparsely populated cells, we limited our classification to the stratification variables, catchment area, enrollment, and beneficiary group, and collapsed these cells as necessary.

The alternative approach we used to reduce the number of cells was to stratify based on response propensity. The method used a model of the relationship between a set of beneficiary characteristics and a response outcome. We used logistic regression to model this relationship because the response outcome is dichotomous: beneficiaries either respond or they do not. If the characteristics in the model predict response well and if the characteristics are correlated with the substantive variables of the survey, then the model-based adjustment factors applied to the sampling weights greatly reduce the potential for nonresponse bias. Like the previous weighting class adjustment method, we make two separate weighting adjustments to attempt to compensate for nonresponse: an eligibility determination adjustment and a completion adjustment.

The overall probability of having a known eligibility status is estimated with a logistic regression model. The probability that sample beneficiary *i* has a known eligibility status is:

$$\hat{\lambda}_i = P\left[E_i = 1 \mid X_i\hat{\beta} \right]$$

$$= \left[1 + \exp\left(-X_i\hat{\beta}\right) \right]^{-1}$$

where

$$E_i = \begin{cases} 1 \text{ if sample beneficiary } i \text{ has eligibility status determined} \\ 0 \text{ otherwise} \end{cases}$$

---

[2] Using as a criterion the significance of a chi-squared test, CHAID evaluates all of the values of a potential predictor variable. It merges values that are judged to be statistically homogeneous (similar) with respect to response and maintains all other values that are heterogeneous (dissimilar). It then selects the best predictor variable to form the first branch in the decision tree, such that each node is made of a group of homogeneous values of response. This process continues recursively until the tree is fully grown.

and X_i is a vector of HCSDB response predictors (main effects and interaction terms) and $\hat{\beta}$ are the estimated regression coefficients.

To determine the best set of response predictors, we fit models using forward and backward stepwise selection logistic regression procedures with normalized weights in SAS. We developed automated models separately for Continental U.S. (CONUS) and Outside of Continental U.S. (OCONUS) and included as response predictors an indicator variable for each TNEX region. Besides TNEX region, an indicator of whether a beneficiary is in a catchment area or not was added to the model. In the full model, we included as response predictors all nine variables (TNEX region, age, beneficiary group, PCM, personnel category (enlisted, warranted officer, or officer), military rank, sex, branch of service, and an indicator for being in a catchment area) and interactions identified by the CHAID analysis. We re-ran the two sets of resulting unweighted models using weights and the sample design characteristics in SUDAAN. We estimated the coefficients using a weighted logistic regression procedure in SUDAAN, which incorporates the stratified design in estimating standard errors for the coefficients. We selected the model with the best Hosmer and Lemeshow (H-L) goodness-of-fit test from both SAS and SUDAAN since all models have similar concordance-discordance rates.

For each eligibility determination model, we ordered the list of response propensity scores and then divided them into groups. Five weighting classes were formed from the quintiles of the propensity scores for CONUS. For OCONUS, we formed four classes using the quartiles of the propensity scores.

For the completion adjustment stage, we formed the weighting classes using the results from the CHAID trees; the number of weighting classes was determined by the number of the terminal nodes in the CHAID trees. Because we observed little variation in the questionnaire-completion adjustment stage, statistical modeling was unnecessary, and instead the weighting classes were formed directly from the CHAID trees.

In addition, we poststratified the nonresponse-adjusted weights to the frame totals to obtain specific domain weighted totals equal to population totals. The poststrata were defined by stratification variables — TNEX region, catchment area, and enrollment status, and were collapsed to form poststrata of sufficient size. Due to the possibly insufficient sample size constraint within each TNEX region, we stratified by catchment area only for those enrolled with military primary care manager. The poststratification adjustment factor for the hth poststratum is defined as:

$$A_h^{PS} = \frac{N_h}{\sum_{i \in h} W_i^C}$$

where W_i^C is the nonresponse-adjusted weights, and N_h is the total number of beneficiaries in the DEERS frame associated with the hth poststratum for the ith beneficiary. We calculated the poststratified adjusted weight for the ith beneficiary sampled from the hth poststratum by the following:

$$W_{hi}^{PS} = A_h^{PS} \times W_i^C$$

Therefore, when summed over all respondents in poststratum h, the poststratified weights total N_h.

Lastly, we evaluated the weights and trimmed extreme weights to reduce excessive effect of extreme weights to variance inflation. Whenever some weights were trimmed, we redid the post-stratification of the weights to produce the final survey weights.

5.   Calculation of Combined Annual Weights

As a final step, we combined the three consecutive quarterly data files. Because there were a total of 44 late respondents who were not included in the Quarters I, 2020 file, the first quarter was re-weighted before they were merged into the combined annual dataset. The new Quarter I dataset contains the responses of respondents who "trickled" in past the deadline for the survey. After reweighting the Quarter I dataset, the Quarters I dataset and the Quarters II and III datasets were merged to form a combined annual dataset with data for all three quarters.

Since the combined annual dataset sample sizes are sufficiently large to provide statistically reliable estimates, users will be able to calculate survey estimates for subdomains, such as catchment areas (XCATCH). Construction of an appropriate annual weight will allow users to treat the combined data as coming from a single survey. Quarterly weights are still included so that users may continue to calculate quarterly estimates and retain the ability to combine any sequential three quarters into a combined data set.

Combined estimates can be calculated from the three independent samples by averaging the estimates for the three quarters. This method for combining the three quarters of data and calculating combined estimates assumes that the variance in estimates from one quarter to the next is merely due to sampling variation. These combined estimates will, in fact, be more precise than the quarterly estimates because they average out the variation across quarters (for a further discussion, see Friedman, et al. 2002).

We calculated the final survey weight for each quarter (Q1, Q2, and Q3) within the combined dataset. To retain the sum of the weights from the combined data as the population count, we average the population over the three quarters, by rescaling each quarterly survey weight (denoted as WQ1, WQ2, and WQ3) as follows in order to develop a combined annual weight:

(1) $$WCOM = q_i \times WQi$$

where q_i is between 0 and 1 with the constraint $q_1 + q_2 + q_3 = 1$. The choice of the appropriate value for each of the q_i's can be based on various assumptions. We decided that each quarterly contribution to the annual weight should be equal, and therefore assigned the value of each q_i as follows:

$$q_1 = 0.33; q_2 = 0.33; q_3 = 0.33$$

Then, the weight for the combined annual data in (1) will be *WCOM*.

The final data file retains the quarterly sampling stratum variables and quarterly weight as calculated using the response propensity (FWRWT) and the combined weights (CFWT). The file also contains an indicator variable for the quarters. From this combined dataset, one can calculate both combined data and revised quarterly estimates.

6.   Calculation of Quarterly Jackknife Replicate Weights

Calculation of variance estimates in the HCSDB requires a design-based variance estimation technique that is available in most statistical software packages for analysis from a complex survey data, such as WesVarPC® (Brick et al. 1996), SUDAAN®, SAS/STAT® version 8 or higher, and STATA®. The Taylor series linearization technique requires sample design information, including the sampling weight and stratification information. As an alternative, a replication technique such as the Jackknife method can be used to calculate variance estimates. In the HCSDB, a series of jackknife replicate weights are calculated and attached to each beneficiary record in the database. In jackknife replication, deleting selected cases from the full sample generates the prescribed number of replicates.

To construct the HCSDB replicate weights, the entire file of sampled beneficiaries is first sorted by sampling strata. Next, 60 mutually exclusive and exhaustive systematic subsamples of the full sample are identified in the sorted file. A jackknife replicate is then obtained by dropping one subsample from the full sample. As each subsample is dropped in turn, 60 sets of jackknife replicates are produced. The weighting process after the modeling is applied to the full sample is then applied separately to each of the jackknife replicates to produce a set of replicate weights for each record. We did not model the propensity scores for each replicate. Instead the weighting cells from the propensity scores from the full sample weight were adopted in the replicate weights construction. Then, a series of jackknife replicate weights (FWRWT1-FWRWT60) was attached to the final data in order to construct jackknife replication variance estimates. These replicate weights should be used to estimate variances of quarterly estimates.

7. Calculation of Annual Jackknife Replicates

Since 60 quarterly replicate weights were available in each quarter, a total of 180 annual replicate weights (CFWT1 – CFWT180) were constructed across the three quarters.

Figure 1: Construction of Annual replicate weights based on the quarterly replicate weights
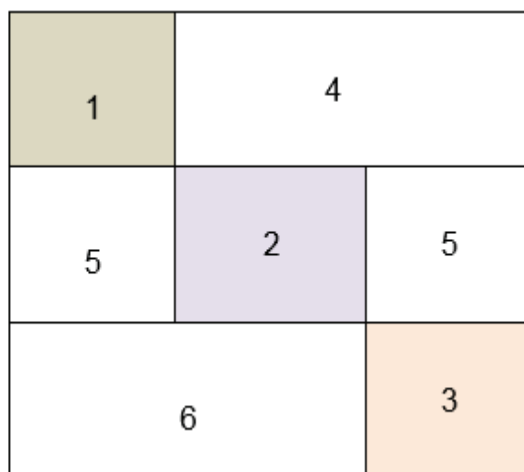
1 – Q1 Replicate Weights
2 – Q2 Replicate Weights
3 – Q3 Replicate Weights
4 – Q1 Final weights
5 – Q2 Final weights
6 – Q3 Final weights

Each quarterly replicate weight was put into the data set as a form of block diagonal (1, 2, 3), and the quarterly final weights were put into the dataset for off-diagonal (4, 5, 6). This construction was based on the assumption that each quarterly sample was independent. The use of the quarterly final weights as the replicate weights for off-diagonal units in the dataset does not introduce variability into the variance. In fact, the replicate estimates from the off-diagonal are equal to the full sample estimate, because the replicate weights on the off-diagonal are the same as the quarterly final weight. Thus, the values of variance factor $(\hat{\theta}_{hi} - \hat{\theta})^2$, i.e., the differences between the estimates calculated from the replicate *r* and those calculated on the basis of full sample, are zero for replicates with off-diagonal units only.

The general formula for the jackknife variance estimator in SUDAAN (RTI 2002) can be expressed as:

$$v_{Jack}\left(\hat{\theta}\right) = \sum_h \frac{N_h - D_h}{D_h R_h} \sum_i \left(\hat{\theta}_{hi} - \hat{\theta}\right)^2$$

where

N_h is the number of PSUs or clusters within the stratum *h*,

D_h is the number of PSUs or clusters deleted in creating the replicate,

R_h is the number of replicates selected,

$\hat{\theta}_{hi}$ is the estimate of the parameter θ from the *i*-th replicate of the *h*-th stratum,

$\hat{\theta}$ is the estimate based on the entire sample.

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Chapter

3

Analysis

This chapter explains how the HCSDB variables were processed during the analysis phase of the project. It covers the procedures for calculating response rates, developing dependent and independent variables for the analysis, and estimating the variance of the statistics. The "Health Care Survey of DoD Beneficiaries: Annual Report" is described briefly along with an outline of the steps involved in creating charts for the reports.

A.   RESPONSE RATES

In this section, we present the procedures for response rate calculations along with a brief analysis of response rates for domains of interest. Response rate calculations for the 2020 HCSDB were consistent with methods used since 2006. The procedure is based on the guidelines established by the Council of American Survey Research Organizations (CASRO 1982) for defining a response rate.

1.   Definition of Response Rates

In calculating response rates and related measures, we considered two different rates: *unweighted* and *weighted*. The unweighted version of the response rate represents the counted proportion of respondents among all sampled units, and the weighted version indicates the estimated proportion of respondents among all population units. When sampling rates across all strata are equal, these two approaches yield the same result. However, for the 2020 HCSDB, we used different sampling rates across strata, and thus it is useful to report both "unweighted" and "weighted" response rates. As presented in Chapter 2, all sampled beneficiaries were completely classified into the following four main (seven detailed) groups:

- Group 1 (G1-1): eligible and complete questionnaire returned;

- Group 1 (G1-2): eligible and incomplete questionnaire returned;

- Group 2: eligible and questionnaire not returned;

- Group 3 (G3-1): returned ineligible;

- Group 3 (G3-2): ineligible at time of Altarum address update;

- Group 4 (G4-1): eligibility unknown and locatable; and

- Group 4 (G4-2): eligibility unknown and unlocatable.

The unweighted counts reflect the number of sampled cases (n_i for Group i, where $i =1,2,3,4$), and the weighted counts reflect the estimated population size[3] ($\hat{N}_i$ for Group i, where $i =1,2,3,4$) for the four main response categories.

These weighted and unweighted counts were also calculated for the subgroups G1-1, G1-2, G3-1, G4-1, and G4-2, where we denote the unweighted counts by $n_{1,1}$, $n_{1,2}$, $n_{3,1}$, $n_{4,1}$, and $n_{4,2}$, and the

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[3] The weighted sum of sampled units can be regarded as an estimated population size. The base weight (BWT) was used in calculating weighted counts, where BWT is the inverse of selection probability.

weighted counts by $\hat{N}_{1,1}, \hat{N}_{1,2}, \hat{N}_{3,1}, \hat{N}_{4,1},$ and $\hat{N}_{4,2}$. With these values, we calculated response rates as follows.

Response rates can be partitioned into two measures: the location rate and the completion rate. To calculate the location rate, we first estimated the number of Group 4 "located" beneficiaries who were expected to be eligible for the survey:

(1)

$$ l = \left(\frac{n_1 + n_2}{n_1 + n_2 + n_{3,1}} \right) n_{4,1} \qquad \text{and} \qquad l_w = \left(\frac{\hat{N}_1 + \hat{N}_2}{\hat{N}_1 + \hat{N}_2 + \hat{N}_{3,1}} \right) \hat{N}_{4,1} $$

where l and l_w are unweighted and weighted estimates of the number of "located" beneficiaries among Group 4. Then, the unweighted and weighted "location rates" are defined by:

(2)

$$ LR = \frac{n_1 + n_2 + l}{n_1 + n_2 + n_4 \left(\dfrac{n_1 + n_2}{n_1 + n_2 + n_{3,1}} \right)} \qquad \text{and} \qquad LR_w = \frac{\hat{N}_1 + \hat{N}_2 + l_w}{\hat{N}_1 + \hat{N}_2 + \hat{N}_4 \left(\dfrac{\hat{N}_1 + \hat{N}_2}{\hat{N}_1 + \hat{N}_2 + \hat{N}_{3,1}} \right)}. $$

And the corresponding unweighted and weighted "completion rates" are defined by:

(3)

$$ CR = \frac{n_{1,1}}{n_1 + n_2 + l} \qquad \text{and} \qquad CR_w = \frac{\hat{N}_{1,1}}{\hat{N}_1 + \hat{N}_2 + l_w}. $$

The final response rates in Equation (4) can be obtained by multiplying the location rate in Equation (2) by the completion rate in Equation (3).

(4)

$$ FRR = LR \times CR \text{ and } FRR_w = LR_w \times CR_w $$

In the definitions in Equations (1) through (4), the subscript "w" indicates that all calculations involve weighted counts. The method used to calculate response rates is consistent with the CASRO guidelines.

2. Reporting

We examined response rates to identify patterns across different domains or characteristics. Whereas analysts prefer weighted rates that reflect the estimated proportion of respondents among all population beneficiaries, operational staff are often interested in receiving unweighted measures. Accordingly, all tables include both unweighted and weighted values. In the following pages, we focus on discussing unweighted response rates for domains of interest.

Table 3.1 includes overall response rates for the 2020 HCSDB for Quarters I-III individually and combined. It also contains response rates by beneficiary groups, and by enrollment status:

- Overall: The overall unweighted response rate for the combined 2020 Adult HCSDB was 9.2 percent (which is found in Table 3.1 in the "Overall" row and COMBINED column). This rate is higher than the 8.9 percent response rate achieved in the combined 2019 Adult HCSDB.

- Beneficiary group and enrollment status: All response rates calculated by beneficiary group and enrollment status show similar patterns to the 2019 survey, with family members of active duty beneficiaries having the lowest response rates and beneficiaries 65 years and older having the highest rates.[4]

- The response rates for the first quarter includes late respondents (respondents whose survey "trickled-in" after the deadline).

TABLE 3.1

RESPONSE RATES OVERALL AND BY ENROLLEE BENEFICIARY GROUP: QUARTERS I-III, 2020

Category	Q1 2020 Unweighted Percent	Q1 2020 Weighted Percent	Q2 2020 Unweighted Percent	Q2 2020 Weighted Percent	Q3 2020 Unweighted Percent	Q3 2020 Weighted Percent	Combined Unweighted Percent	Combined Weighted Percent
Overall	8.4	14.3	8.5	14.8	10.5	18.1	9.2	15.8
Active Duty	11.8	10.0	12.6	10.7	14.5	12.6	13.0	11.1
Active Duty family, Prime, civilian PCM	4.0	4.1	3.9	4.0	6.4	6.7	4.8	5.0
Active Duty family, Prime, military PCM	3.8	4.4	3.5	3.6	4.7	5.2	4.0	4.4
Active Duty family, non-enrollee	3.4	4.5	3.5	3.4	5.2	5.2	4.0	4.4
Retired,<65, civilian PCM	15.2	15.0	14.4	13.9	19.4	19.3	16.3	16.1
Retired,<65, military PCM	12.7	12.4	12.2	12.2	15.7	15.7	13.6	13.4
Retired,<65, non-enrollee	10.3	12.3	9.8	12.4	10.3	15.3	10.1	13.3
Retired,65+, enrollee	20.0	20.0	28.8	28.8	25.4	25.4	25.0	25.0
Retired,65+, non-enrollee	23.7	23.7	24.1	24.1	30.0	30.0	25.9	25.9
TRICARE Reserve Select	8.4	14.3	8.5	14.8	10.5	18.1	9.2	15.8

Appendix D (Response Rate Tables) contains tables showing unweighted and weighted response rates for all three quarters and the combined annual dataset. A summary of results based on unweighted response rates for selected domains follows:

- Regions: Combined response rates across regions range from 8.5 percent Overseas to 9.5 percent in the East (Table D.9).

- Sex: Combined response rate for women is 7.1 percent as compared to 12.0 percent for men (Table D.3).

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[4] However, response patterns vary considerably across beneficiary and enrollment groups. The relatively low level of response for active duty persons and their family members could be due to frequent relocations and our inability to receive new addresses in a timely manner.

- OCONUS: Combined response rate for Western Pacific is 7.9 percent as compared to 9.1 percent for Europe (Table D.2).

- Catchment areas: Combined response rates across catchment areas that were represented in all quarters range from 4.6 percent for NH Beaufort to 14.5 percent for 45th Med Grp-Patrick (Table D.6).

- Beneficiary groups by sex: Women respond at a higher rate than men for both Active Duty and Active Duty family members, 15.2 percent versus 12.5 percent and 4.2 percent versus 2.8 percent, respectively. The opposite pattern emerges for retirees, survivors and family members 65 and older, 20.3 percent for women versus 32.1 percent for men. The response rates for retirees less than 65 are 14.4 for men vs 11.7 for women (Table D.11).

- Beneficiary group by service affiliation (Army, Navy, Air Force, Marine Corps, Coast Guard, Other/Unknown): Among service affiliations with responses in all quarters of 2020, the smallest combined response rate comes from dependents of Active Duty in the Marine Corps with 3.3 percent and the largest from retirees, survivors, and family members 65 and older in the Air Force with 29.7 percent (Table D.12).

B.   VARIANCE ESTIMATION

Due to the complex sample design, variance estimation for the 2020 HCSDB was not simple, and could most easily be achieved using one of two methods. The first – the Taylor series linearization via SUDAAN (Shah et al. 1996) or SAS/STAT version 8 or higher – is a direct variance estimation method that can be used to calculate the standard errors (the square root of the variance) of estimates. This method was used for the 2020 HCSDB analyses. For analysts who prefer a replication method of variance estimation, replicate weights for jackknife replication are provided in the public use file. This section details the two approaches to calculating variance estimates of the characteristics of interest associated with the 2020 HCSDB.

1.   Taylor Series Linearization

Mathematica uses Taylor series linearization to produce standard errors for the estimates from the 2020 HCSDB. For most sample designs, including the 2020 HCSDB, design-based variance estimates for linear estimators of totals and means can be obtained via explicit formulas. However, estimators for nonlinear parameters, such as ratios, do not have exact expressions for the variance. The Taylor series linearization method can be used to approximate the variance of a nonlinear estimator with the variances of the linear terms from the Taylor series expansion for the estimator (Woodruff 1971). To calculate variance estimates based on the Taylor series linearization method given HCSDB's stratified sampling design, we needed to identify stratum as well as the final analysis weight for each data record. We have included these variables in the final database. For variance estimation, we used the general-purpose statistical software package SUDAAN to produce Taylor series variance estimates. SUDAAN is the most widely used of the publicly available software packages for the Taylor series linearization method. In SUDAAN, the user specifies the sample design and includes the stratum variables and the analysis weight for each record. Unlike WesVarPC, SUDAAN allows for unlimited strata, so stratification effects can be incorporated when calculating standard errors.

2.   Jackknife Replication

Resampling methods are often used in estimating the variance for surveys with complex designs. In resampling, the sample is treated as if it were a population, and many smaller subsamples are drawn from the original sample (Lohr 1999, pages 298-308). These subsamples are then used to compute the variance. Replication methods have been recommended for surveys in which the sample design is complex, nonresponse adjustments are needed, and statistics of interest are complicated. In such surveys, the usual design-based estimation formula is extremely difficult or impossible to develop

(see, for example, Wolter 1985, pages 317-318). Jackknife replicate weights can be used to calculate the standard errors of estimates. An estimate of a characteristic of interest is calculated (with the same formula as the full sample estimate) using each set of replicate weights; these replicate estimates are used to derive the variance of the full sample statistic.

The jackknife variance of the full sample statistic of interest is estimated from the variability among the replicated estimates. When the replicate weights are produced according to the aforementioned procedure, jackknife replicate standard errors can be produced using custom publicly available statistical software. For instance, WesVarPC® (Brick et al. 1996) is a popular software package that calculates standard errors based on replication methods. It produces standard errors for functions of survey estimates, such as differences and ratios, as well as simple estimates such as means, proportions, and totals. Additional details about the jackknife replication approach can be found in Wolter (1985). Like other replication methods, the jackknife variance estimation can be easily implemented for any form of estimate without further algebraic manipulation.

C. SIGNIFICANCE TESTS

In certain charts in the Beneficiary Reports and the "Health Care Survey of DoD Beneficiaries: Annual Report", statistical testing is performed to show which columns of the chart (values of the independent variable) are statistically different from the CAHPS benchmark. Footnotes and differently colored, bolded, or italicized fonts indicate if a region performed significantly better than the CAHPS benchmark (bold green font) or significantly worse than the CAHPS benchmark (italicized red font); no change in font indicates no statistically significant difference.

The null hypothesis for this significance test is that the mean for the column is essentially equal to the CONUS mean, and the alternative hypothesis is that the mean for the column is different from the CONUS mean. That is, we are testing:

$$H_0:\ \mu_1 = \mu_2 \quad \text{vs.} \quad H_a:\ \mu_1 \neq \mu_2$$

For instance, μ_1 might represent the characteristic of interest for the active duty group while μ_2 might represent the same characteristic for all CONUS regions. Another way to formulate that $\mu_1 = \mu_2$ is that $\mu_1 - \mu_2 = 0$.

With large sample sizes, the estimator $\overline{y}_1 - \overline{y}_2$ approximately follows a normal distribution with mean zero and variance $\sigma^2_{\overline{y}_1 - \overline{y}_2}$ under the null hypothesis. In testing the hypothesis, a test statistic T is thus calculated as:

$$T = \frac{\overline{y}_1 - \overline{y}_2}{\hat{\sigma}_{\overline{y}_1 - \overline{y}_2}}.$$

With a type I error rate of $\alpha = 0.05$, the null hypothesis should be rejected if $|T| > 1.96$. The denominator of T (i.e., the standard error of $\overline{y}_1 - \overline{y}_2$) can be calculated as the square root of the variance estimator $\hat{\sigma}^2_{\overline{y}_1 - \overline{y}_2}$, where:

$$\hat{\sigma}^2_{\overline{y}_1 - \overline{y}_2} = \text{var}(\overline{y}_1) + \text{var}(\overline{y}_2) - 2\,\text{cov}(\overline{y}_1, \overline{y}_2).$$

If $\overline{y}_1$ and $\overline{y}_2$ are independent, then the covariance term equals zero and thus the variance estimator can be easily obtained as the sum of two individual variance estimators. However, there are some cases in which the condition of independence does not hold. For example, the active duty MTF group is not independent of the CONUS region because these two domains share active duty

group within the CONUS regions. In this case, the covariance term should be incorporated into the variance formula. With suitable algebra and program modification, these covariance terms were calculated for all such cases. All detailed programs are included in Appendix G.

D. DEMOGRAPHIC ADJUSTMENTS

All scores in the TRICARE Beneficiary Reports are adjusted for patient characteristics affecting their scores. Scores can be adjusted for a wide range of socioeconomic and demographic variables.

The purpose of risk adjustment is to make comparisons of outcomes, either internally or to external benchmarks, after controlling for characteristics beyond the health care provider's control. Based on previous work with satisfaction scales derived from the CAHPS Health Plan Survey, we have observed that satisfaction increases with age and decreases with poor health across social classes and insurance types. The methodology is an adaptation of that found in CAHPS 2.0 Survey and Reporting Kit (DHHS, 1999). In addition to controlling for these factors, the methodology used for the 2020 HCSDB achieves the following:

- Permits risk-adjusted comparisons among regions and catchment areas within and across beneficiary and enrollment groups

- Permits testing the hypothesis that the difference in risk-adjusted scores between a region or catchment area and a benchmark is due to chance

- Is appropriate for CAHPS composites and global satisfaction ratings.

The model used for demographic adjustment is:

$$Y_{ijkl} = \beta_{1l}A_{1l} + \beta_{2l}A_{2l} + ... + \beta_{5l}A_{5l} + \beta_{6l}P_l + \varepsilon_{ijkl},$$

where Y_{ijkl} is a dependent variable, β_{ql}'s are parameters to be estimated, A_{ql}'s are age dummy variables (A_{ql} = 1 if the beneficiary is in age group q, and 0 otherwise; A_l = age 18-24, A_2 = age 25-34, A_3 = age 35-44, A_4 = age 45-54, A_5 = age 55-64), P_l is health status. The subscripts *i, j, k and l* refer to the service/region, MTF, beneficiary, and beneficiary's enrollment group, respectively.

Given 24 region and service combinations and *J*+1 catchment areas, the specifications that we used for the error term were:

$$\varepsilon_{ijkl} = \delta_{0l} + \delta_{1l}R_{1l} + \delta_{2l}R_{2l} + ... + \delta_{24l}R_{24l} + w_{ijkl}, \quad (1)$$

where R_i's are service/region dummy variables (R_{il} = 1 if the beneficiary is in service/region *i* and beneficiary group *l*, and 0 otherwise) when catchment are values were not reported, and and

$$\varepsilon_{ijkl} = \gamma_{0l} + \gamma_{1l}H_{1l} + \gamma_{2l}H_{2l} + ... + \gamma_{Jl}H_{Jl} + w_{ijkl}, \quad (2)$$

where H_{ij}'s are catchment area dummy variables (H_{jl} = 1 if the beneficiary is in catchment area *j* and beneficiary group *l*, and 0 otherwise) when catchment areas were reported.

The methods for calculating demographically adjusted values and testing hypotheses of differences in demographically adjusted scores among geographic areas vary with the way ε_{ijkl} is defined. For specification (1), the adjusted mean of the dependent variable *Y* for region *i* can be obtained as:

$$\overline{y_i} = \hat{\delta}_0 + \hat{\delta}_i + \hat{\beta}_1\hat{A}_1 + \hat{\beta}_2\hat{A}_2 + ... + \hat{\beta}_5\hat{A}_5 + \hat{\beta}_6\hat{P},$$

where $\hat{\beta}_i$'s are estimated model parameters, $\hat{A}_i$'s are weighted proportions of age group *i* among the total U.S. population, and $\hat{P}$ is the weighted MHS mean of the variable *P.* For beneficiary group *l,* the adjusted regional value is:

$$\overline{y_{il}} = \hat{\delta}_{0l} + \hat{\delta}_{il} + \hat{\beta}_{1l}\hat{A} + \hat{\beta}_{2l}\hat{A}_{2l} + ... + \hat{\beta}_{5l}\hat{A}_{5l} + \hat{\beta}_{6l}\hat{P}_l,$$

where $\hat{A}_{ql}$'s are weighted proportions of age group *q* in the MHS.

For specification (2), an adjusted catchment area value can be calculated as:

$$\overline{y_{ijl}} = \hat{\gamma}_{0l} + \hat{\gamma}_{ijl} + \hat{\beta}_{1l}\hat{A}_{1l} + \hat{\beta}_{2l}\hat{A}_{2l} + ... + \hat{\beta}_{5l}\hat{A}_{5l} + \hat{\beta}_{6l}\hat{P}_l,$$

while the regional value is calculated using specification 1.

Standard errors can then be estimated using SUDAAN as the standard error of residuals for catchment areas or regions. These standard errors can be used in hypothesis tests comparing adjusted values to other adjusted values or to external benchmarks. Composite values are calculated as averages of regional or catchment area adjusted values of questions making up the composites, in which each question is equally weighted.

Benchmarks can also be adjusted for age and health status, as can scores taken from survey responses. If the benchmark data set contains age and health status information, we fit a model of the form

$$y = \alpha + \beta_1 A_1 + \beta_2 A_2 + ... + \beta_5 A_5 + \beta_6 P$$

where the A's are age groups and P is health status. Then the adjusted benchmark is

$$\hat{y}_l = \hat{\alpha} + \hat{\beta}_1 \overline{A}_{1l} + \hat{\beta}_2 \overline{A}_{2l} + ... + \hat{\beta}_5 \overline{A}_{5l} + \hat{\beta}_6 \overline{P}_l$$

using the mean values of A and P for beneficiary group l.

The adjusted values for that beneficiary group can then be compared to a benchmark appropriate for their age distribution and health status.

In some cases, it may be desirable for a single benchmark to be presented for comparison with multiple beneficiary groups. We accomplish this by re-centering scores for beneficiary groups. In the Beneficiary Reports, described below, the benchmark presented is the all-users beneficiary group, but scores for many other beneficiary groups are also presented. Each score and benchmark is calculated for the appropriate beneficiary group. Then, a re-centering factor for each beneficiary group is calculated as the difference in adjusted benchmarks between a beneficiary group and the all-users group. For the all-users group, that re-centering factor is zero. The re-centering factor is added to the score for each region or catchment area for that beneficiary group. Thus, beneficiary groups can also be compared controlling for age and health status and can be compared to the same benchmark.

E.   CALCULATING SCORES

Beneficiary Reports (see below) include four types of scores: CAHPS composites, ratings, a preventive care composite, and a healthy behaviors composite. Beginning Q1 FY 2014, the HCSDB survey transitioned from CAHPS version 4.0 to version 5.0. Additionally, benchmark data from the National Committee for Quality Assurance (NCQA) for FY 2017 were used in calculating benchmarks for FY 2020.

Composites and Ratings

The preventive care composite is calculated as $P_i = \Sigma w_i r_i$, where w is the proportion of the eligible population for whom the preventive care measure is relevant, and r is the proportion of that eligible group receiving preventive care.

CAHPS composites are calculated as:

$$S_i = (1/n_i)\, \Sigma(q_j/k_j),$$

where n_i is the number of questions in the composite i, q_j is the number giving a favorable response to question j in the composite i, and k_j is the number responding to that question j. CAHPS ratings are calculated as

$$S_i = q_i/k_i,$$

where q_i is the (weighted) number giving a favorable response and k_i is the (weighted) number responding to rating i. All scores are adjusted for age and health status (see above).

F.   TESTS FOR TREND

In the Beneficiary Reports (see below), we use linear regression to estimate a quarterly rate of change and test if it is statistically significantly different from zero (no change). Our estimate for the rate of change, *T*, is

$$T = \sum_{t=1}^{4} w_t (S_t - \overline{S})(t - \overline{t}) / \sum_{t=1}^{4} w_t (t - \overline{t})^2 ,$$

where t is the quarter, S_i is the score and w_i is the total weight of quarter i's observations. In order to test the hypothesis that trend is zero, we use the standard error for the trend coefficient

$$\sigma = \frac{\sqrt{\sum_{t=1}^{4} w_t^2 \sigma_t^2}}{\sum_{t=1}^{4} w_t} ,\text{ and}$$

$$S = \sigma / \sqrt{\sum_{t=1}^{4} w_t (t - \overline{t})^2 / \sum_{t=1}^{4} w_t}$$

where σ_t is the standard error for quarter t. The hypothesis test is based on a t-test of the hypothesis that T=0, where n is the total number of observations for all 3 quarters p=Prob(abs(T/S)>0,n).

G.   DEPENDENT AND INDEPENDENT VARIABLES

Dependent (i.e., outcome) variables represent the variables to be analyzed to answer the research questions. For example, beneficiary satisfaction and access are dependent variables in this analysis. The research questions are listed in Chapter 1.

Independent (i.e., explanatory) variables are entered into regression models to help to explain differences in one or more of the outcome variables. They may also be correlated with one or more dependent variables. For example, a beneficiary's satisfaction with health care may be correlated with their age and/or TRICARE Prime enrollment status. Each table is designed to help determine whether a particular dependent variable is correlated with a particular independent variable.

In analyzing the relationship between dependent and independent variables, Mathematica produced charts and tables that are found in the reports described below. Generally, dependent variables form the rows of the tables and the vertical axes of the charts. Independent variables form the columns of the tables and the horizontal axes of the charts. Beginning with the HCSDB in a SAS format, Mathematica programmers utilized SAS procedures such as PROC FREQ and PROC MEANS and SAS-callable SUDAAN procedures such as PROC DESCRIPT and PROC CROSSTAB to generate the relevant statistics (e.g., percents, means, and standard errors).

H.   REPORTS

This section lists the three types of reports produced and states the main purpose of each report: 2020 TRICARE Beneficiary Reports, the TRICARE Consumer Watch, and the "Health Care Survey of DoD Beneficiaries: Annual Report." The 2020 TRICARE Beneficiary Reports and the TRICARE Consumer Watch are presented on a quarterly basis (for 3 of 4 quarters) and display results from the most recent quarter. The "Health Care Survey of DoD Beneficiaries: Annual Report" is produced annually and describes findings from all three quarters of survey data. All of these reports are available on the TRICARE website and comply with the standards in Section 508 of the Federal Acquisition Regulation (FAR) to be usable by persons with disabilities.

1.   2020 TRICARE Beneficiary Reports

a.   Purpose

The purpose of the Beneficiary Reports is to provide TRICARE Regional offices, services and MTF commanders with a comprehensive description of TRICARE beneficiaries' satisfaction with care, access to care, and use of preventive care, and to compare such with other regions and catchment areas, and with relevant national benchmarks. MHS scores are adjusted using demographic characteristics. Both quarterly and annual Beneficiary Reports are produced. The quarterly reports present results from the most recent quarter for each region, service and for USA MHS by beneficiary status and enrollment group, making it easy for the reader to compare findings across groups and quarters. The annual report is a cumulative report that combines results from three quarters and previous years and presents results by catchment area, region, and service.

b.   Beneficiary Report Production

1.   Content

The quarterly Beneficiary Reports present 11 scores for all beneficiary groups and all enrollment groups by region and USA MHS overall. Scores are presented in the following areas: getting needed care; getting care quickly; how well doctors communicate; customer service; claims processing; rating of the health plan, health care, personal doctor, and specialist; healthy behavior; and preventive care standards. The first 6 scores are CAHPS composites, which encompass responses

to several related survey questions. The CAHPS composite questions are shown in Appendix E. The scores are presented against national benchmarks.

The four ratings of health care and health care providers are health plan, health care, personal doctor, and specialist. Each rating is based on a scale of 0 to 10, where 0 is the worst and 10 is the best. The scores are adjusted for patient age and health status and are presented relative to national benchmarks.

The DHA Standard Composite for preventive care is based on how beneficiaries compare preventive care services offered through the MHS with the Healthy People 2020 goals. Preventive care indicators include prenatal care, hypertension, mammography, and Pap smears.

Healthy behavior combines the non-smoking rate, the rate at which smokers are counseled to quit, and the percent non-obese.

2. Format

a. Programming Specifications

Data for the Beneficiary Reports are organized in a SAS data set, consisting of records indexed by region, service, catchment area, enrollment group, beneficiary category, and table column. A benchmark corresponding to the MHS population is also included in the SAS data set. Records contain scores and categorical variables showing the existence and directions of significant differences. The benchmark record contains national mean values, where available, for a comparable non-MHS population.

Data files serve as the basis for the electronic reports and quality assurance. The file for the quarterly Beneficiary Reports is updated each quarter and referenced by the report card application. In each quarter, a separate file is created. The quarterly and annual Beneficiary Reports data are uploaded to a SQL database, and ColdFusion queries extract the data that populates webpages corresponding to the cells in the tables of the reports described below. Appendix G contains the programs to generate the Beneficiary Reports.

b. Web Specifications

Quarterly Beneficiary Reports are published in an interactive tabular HTML format on TRICARE's website, allowing users to filter the reports to follow the performance of the MHS over time by enrollment status and beneficiary group. Each report consists of several pages of tables. The first set of tables presents the findings for a single quarter for all enrollment and beneficiary groups, by region and USA MHS. A second set of tables presents the findings for the current quarter and for the past quarters for each enrollment and beneficiary group, by region and USA MHS. Significant differences between the scores and the benchmark are indicated by color, bolding and italics, and footnotes. Scores significantly above the benchmark are green and bold. Scores significantly below the benchmark are red and italicized.

Like the quarterly report, the annual report is presented in HTML tabular format. One set of tables shows cumulative scores for the 2020 HCSDB by region for all beneficiary groups and enrollment groups. Another set shows scores for the questions that make up the composite. A third set shows composites or ratings from prior years. The fourth set of tables shows scores for the catchment areas that comprise the MHS regions.

Starting with FY 2014, users also have the option of generating weighted frequency tables of survey response data, by question or by question and analysis group, using drop down menus on the reporting website. Along with frequencies, we also report standard errors to indicate the precision of the survey estimates.

2. TRICARE Consumer Watch

a. Purpose

Like the TRICARE Beneficiary Reports, the TRICARE Consumer Watch is targeted to TRICARE Regional offices, services, and MTF commanders. TRICARE Consumer Watch presents key results from the quarterly HCSDB in graphical format. The exhibits present TRICARE beneficiaries' experiences with their health care and health plan and utilization rates for preventive services. The TRICARE Consumer Watch is produced on a quarterly basis for all regions and three service affiliations. In the last quarter, the TRICARE Consumer Watch is produced for all catchment areas.

Two versions of the quarterly TRICARE Consumer Watch are produced: one for all Prime Enrollees, and one comparing beneficiaries who are enrolled to military facilities (direct care users) with those who rely on civilian care financed by TRICARE through Prime or Select (purchased care users).

b. 2020 TRICARE Consumer Watch Production

1. Content

The Consumer Watch contains graphs of four ratings and four composite scores. These graphs are based on data from the Beneficiary Reports. Beneficiaries are asked to rate their experiences with their health care and health plan, and their personal provider on a scale of 0 to 10 where 0 is the worst and 10 is the best. Composite scores evaluate beneficiaries' experiences with the following: getting needed care, getting care quickly, how well doctors communicate, and customer service. Using data from the National Committee for Quality Assurance (NCQA), ratings and composites are compared to experiences of individuals in civilian health plans. Ratings and composites are also compared to results from previous surveys.

Utilization of preventive care services are measured against the goals established by Healthy People 2020 as well as results from the prior years. Preventive care indicators include preventive cancer screenings, such as mammography and Pap smears, hypertension screening, and prenatal care. Preventive care also includes an obesity rate, a non-smoking rate and the percentage of smokers counseled to quit.

2. Format

a. Programming Specifications

Data for the Consumer Watch are organized in a SAS data set consisting of records indexed by region, catchment area, enrollment group, and beneficiary category. Graphs of the rating and composite scores were produced using the same programs as for the TRICARE Beneficiary Reports. The data file for the Consumer Watch is updated each quarter. The programs to generate the Consumer Watch are in Appendix H.

b. Report Production Specifications

Though the Consumer Watch files reside on TRICARE's website, they are designed to be accessed primarily in print form. The reports are created in portable document format (PDF). The Consumer Watch key findings are presented as bar and line graphs. Preventive care scores are presented in table format. The last several pages of the report are tables that display the numbers that represent the charts on the first few pages of the report. These tables were added as a supplement for 508 compliance.

3. "Health Care Survey of DoD Beneficiaries: Annual Report"

a. Purpose

The purpose of the "Health Care Survey of DoD Beneficiaries: Annual Report" is to provide OASD (HA) and in particular DHA with a comprehensive national summary of the HCSDB findings. The "Health Care Survey of DoD Beneficiaries: Annual Report" bar charts reflect survey data from all respondents in the MHS and incorporates data from the adult HCSDB for 2019 and previous years.

b. Procedures for Report Production

1. Content

The content reflects areas that are relevant for policy makers. These topics include health plan choice, usual sources of care, health plan and health care ratings, access to care, healthy behaviors, doctor communication, gender differences in perceptions of consistency and quality in provider communication, characteristics and health care experiences of high-usage beneficiaries, differences in care experiences or rural, suburban, and urban beneficiaries, and electronic cigarettes and self-reported health-related quality of life.

2. Programming Specification

Programs for calculating the statistics appearing in the report are written in SAS-callable SUDAAN. Means and proportions and their standard errors are calculated using PROC DESCRIPT or PROC CROSSTAB. Tests for linear trends are performed using PROC REGRESS or PROC RLOGIST. Values are compared with benchmarks from the National Committee for Quality Assurance (NCQA). The benchmarks are readjusted for age and health status using the methods described in Chapter 3, Section D above.

3. Report Production

Numbers and text are presented using publishing software following models developed by importing SUDAAN results into Excel as a text file. Methods used in the Annual Report are also described in the "Health Care Survey of DoD Beneficiaries: Annual Report."

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APPENDIX A

ANNOTATED QUESTIONNAIRES – QUARTERS I-III

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Health Care Survey of DoD Beneficiaries

A world-wide survey of beneficiaries eligible for health care coverage through the military health system

October 2019

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Military Health Care Survey:
Adult Questionnaire
October 2019

Privacy Advisory

Providing information in this Survey is voluntary. There is no penalty nor will your benefits be affected if you choose not to respond, although maximum participation is encouraged so that the data will be complete and representative.

The Survey was written so that answers should not require you to provide any personally identifiable information (PII), but please be assured that any PII provided will be treated as confidential. Your responses are collected via a secure system which does not collect any information that could be used to determine your identity.

Answering the questions is voluntary; you may stop the Survey at any time.

According to the Privacy Act of 1974 (5 U.S.C. §552a), the Department of Defense is required to inform you of the purposes and use of this survey. Please read it carefully.

Authority: 10 U.S.C. §1074 (Medical and Dental Care for Members and Certain Former Members, as amended by National Defense Authorization Act of 1993, Public Law 102-484, §706); 10 U.S.C. §1074f (Medical Tracking System for Members Deployed Overseas); 32 C.F.R. §199.17 (TRICARE Program); 45 C.F.R. Part 160 Subparts A and E of Part 164 (Health Insurance Portability and Accountability Act of 1996, Privacy Rule); DoD 6025.18-R (Department of Defense Health Information Privacy Regulation); DoD 6025.13-R (Military Health System Clinical Quality Assurance Program Regulation); 64 FR 22837 (DHA 08 – Health Affairs Survey Data Base, April 28, 1999); and, E.O. 9397 (as amended, November 20, 2008, for SSN collection).

Purpose: This survey helps health policy makers gauge beneficiary satisfaction with the current military health care system and provides valuable input from beneficiaries that will be used to improve the Military Health System.

Routine Uses: None.

Disclosure: Participation is voluntary. Failure to respond will not result in any penalty to the respondent; however maximum participation is encouraged so that data will be as complete and representative as possible.

SURVEY INSTRUCTIONS

Thank you for taking the time to participate in this online survey.

Please note, if the survey is idle for more than 5 minutes, you will be logged out automatically to protect your privacy. If that happens, simply wait 15 minutes and log back in. Please keep your password because you may need it later.

During the survey, please do not use your browser's FORWARD and BACK buttons. Instead, please always use the buttons below to move backward and forward through the survey.

To begin, just click on the "Next" button below. This will take you right into the survey.

SURVEY STARTS HERE

As an eligible TRICARE beneficiary, <u>please complete this survey even if you did not receive your health care from a military facility</u>.

Please recognize that some specific questions about TRICARE benefits may not apply to you, depending on your entitlement and particular TRICARE program.

This survey is about the health care of the person whose name appears on the cover letter. The questionnaire should be completed by that person. If you are not the addressee, please give this survey to that person.

Question 1: Are you the person whose name appears on the cover letter?
Variable name: H20001
Editing notes: None

Response	Directions	Value	Percent
Yes	Go to Question 2	1	99.8%
No	Please give this questionnaire to the person addressed on the cover letter.	2	0.2%

Question 2: By which of the following health plans are you <u>currently covered</u>?
MARK ALL THAT APPLY
Variable names: H20002A, H20002C, H20002F-H20002V
Editing notes: None

Military Health Plans

Response	Variable Name	Percent Marked
TRICARE Prime (including most Active Duty, TRICARE Prime Remote, and TRICARE Overseas)	H20002A	44.5%
TRICARE Select (previously known as TRICARE Extra or Standard (CHAMPUS))	H20002C	11.6%
TRICARE Plus	H20002N	0.9%
TRICARE for Life	H20002O	34.6%
TRICARE Supplemental Insurance	H20002P	0.7%
TRICARE Reserve Select	H20002Q	3.5%
TRICARE Retired Reserve	H20002S	1.5%
TRICARE Young Adult Prime	H20002T	0.5%
TRICARE Young Adult Select	H20002V	0.3%
Uniformed Services Family Health Plan (USFHP)	H20002K	1.3%
Continued Health Care Benefit Program (CHCBP) (a COBRA-like premium-based health care program)	H20002U	0.0%

Other Health Plans

Response	Variable Name	Percent Marked
Medicare	H20002F	32.9%
Federal Employees Health Benefit Program (FEHBP)	H20002G	1.9%
Medicaid or other state health insurance	H20002H	0.8%
A civilian HMO (such as Kaiser)	H20002I	0.6%
Other civilian health insurance (such as Blue Cross)	H20002J	7.1%
The Veterans Administration (VA)	H20002M	11.1%
Government health insurance from a country other than the U.S.	H20002R	0.1%
Not sure	H20002L	5.8%

Question 3: Which health plan did you <u>use</u> for all or most of your healthcare <u>in the last 12 months</u>?
MARK ONLY ONE ANSWER
Variable name: H20003
Editing notes: See Note 1

Response	Directions	Value	Percent
TRICARE Prime (including most Active Duty, TRICARE Prime Remote, and TRICARE Overseas)		1	40.6%
TRICARE Select (previously known as TRICARE Extra or Standard (CHAMPUS))		3	8.4%
TRICARE Plus		11	0.9%
TRICARE Supplemental Insurance		19	0.3%
TRICARE Reserve Select		12	3.4%
TRICARE Retired Reserve		14	0.4%
TRICARE Young Adult Prime		15	0.1%
TRICARE Young Adult Select		17	0.0%
Uniformed Services Family Health Plan (USFHP)		9	1.2%
Continued Health Care Benefit Program (CHCBP) (a COBRA-like premium-based health care program)		16	0.3%
Medicare		4	27.2%
Federal Employees Health Benefit Program (FEHBP)		5	1.1%
Medicaid or other state health insurance		6	0.3%
A civilian HMO (such as Kaiser)		7	0.5%
Other civilian health insurance (such as Blue Cross)		8	5.4%
The Veterans Administration (VA)		10	6.5%
Government health insurance from a country other than the U.S.		13	0.1%
Not sure	Go to Question 5	-5	3.1%
Did not use any health plan in the last 12 months	Go to Question 5	-6	

For the remainder of this questionnaire, the term <u>health plan</u> refers to the plan you indicated in Question 3.

Question 4: How many months or years in a row have you been in this health plan?
Variable name: H20004
Editing notes: See Note 1

Response	Value	Percent
Less than 6 months	1	1.4%
At least 6 months but less than 12 months	2	4.0%
At least 12 months but less than 24 months	3	6.7%
At least 2 years but less than 5 years	4	16.9%
At least 5 years but less than 10 years	5	25.1%
10 or more years	6	46.0%

YOUR HEALTH CARE IN THE LAST 12 MONTHS

These questions ask about your own health care. Do <u>not</u> include care you got when you stayed overnight in a hospital. Do <u>not</u> include the times you went for dental care visits.

Question 5: In the last 12 months, where did you go most often for your health care?
MARK ONLY ONE
Variable name: H20005
Editing notes: None

Response	Value	Percent
A military facility – This includes:	1	34.4%
Military clinic		
Military hospital		
PRIMUS clinic		
NAVCARE clinic		
A civilian facility – This includes:	2	55.6%
Doctor's office		
Clinic		
Hospital		
Civilian TRICARE contractor		
Uniformed Services Family Health Plan facility (USFHP)	3	0.8%
Veterans Affairs (VA) clinic or hospital	4	6.8%
I went to none of the listed types of facilities in the last 12 months	5	2.5%

Question 6: In the last 12 months, did you have an illness, injury, or condition that <u>needed care right away</u> in a clinic, emergency room, or doctor's office?
Variable name: H20006
Editing notes: See Note 2

Response	Directions	Value	Percent
Yes		1	43.8%
No	Go to Question 9	2	56.2%

Question 7: In the last 12 months, when you <u>needed care right away</u>, how often did you get care as soon as you needed?
Variable name: H20007
Editing notes: See Note 2

Response	Value	Percent
Never	1	3.0%
Sometimes	2	12.4%
Usually	3	18.3%
Always	4	66.3%
I didn't need care right away for an illness, injury or condition in the last 12 months	-6	

Question 8: In the last 12 months, when you <u>needed care right away</u> for an illness, injury, or condition, how long did you usually have to wait between trying to get care and actually seeing a provider?
Variable name: H20008
Editing notes: See Note 2

Response	Value	Percent
Same day	1	62.4%
1 day	2	12.9%
2 days	3	5.4%
3 days	4	4.4%
4-7 days	5	5.8%
8-14 days	6	5.0%
15 days or longer	7	4.0%
I didn't need care right away for an illness, injury or condition in the last 12 months	-6	

Question 9: In the last 12 months, not counting the times you needed health care right away, did you make any <u>appointments</u> for your health care at a doctor's office or clinic?
Variable name: H20009
Editing notes: See Note 3

Response	Directions	Value	Percent
Yes		1	88.0%
No	Go to Question 12	2	12.0%

Question 10: In the last 12 months, how often did you get an appointment for a check-up or routine care at a doctor's office or clinic as soon as you needed?
Variable name: H20010
Editing notes: See Note 3

Response	Value	Percent
Never	1	3.9%
Sometimes	2	18.4%
Usually	3	24.7%
Always	4	53.0%
I had no appointments in the last 12 months	-6	

Question 11: In the last 12 months, not counting the times you needed health care right away, how many <u>days</u> did you usually have to wait between making an <u>appointment</u> and actually <u>seeing a provider</u>?
Variable name: H20011
Editing notes: See Note 3

Response	Value	Percent
Same day	1	8.4%
1 day	2	6.8%
2-3 days	3	20.0%
4-7 days	4	22.6%
8-14 days	5	20.5%
15-30 days	6	14.4%
31 days or longer	7	7.3%
I had no appointments in the last 12 months	-6	

Question 12: In the last 12 months, how many times did you go to an <u>emergency room</u> to get care for yourself?
Variable name: H20012
Editing notes: None

Response	Value	Percent
None	1	70.8%
1	2	16.6%
2	3	7.5%
3	4	3.4%
4	5	1.2%
5 to 9	6	0.3%
10 or more	7	0.2%

Question 13: In the last 12 months (not counting times you went to an emergency room), how many times did you go to a <u>doctor's office or clinic</u> to get health care for yourself?
Variable name: H20013
Editing notes: See Note 4

Response	Directions	Value	Percent
None	Go to Question 18	1	10.7%
1		2	9.6%
2		3	16.1%
3		4	17.1%
4		5	13.8%
5 to 9		6	21.4%
10 or more		7	11.3%

Question 14: In the last 12 months, how often did you and a doctor or other health provider talk about specific things you could do to prevent illness?
Variable name: H20014
Editing notes: See Note 4

Response	Value	Percent
Never	1	12.7%
Sometimes	2	27.6%
Usually	3	26.5%
Always	4	33.2%

Question 15: Choices for your treatment or health care can include choices about medicine, surgery, or other treatment. In the last 12 months, did a doctor or other health provider tell you there was more than one choice for your treatment or health care?
Variable name: H20015
Editing notes: See Notes 4 and 5

Response	Directions	Value	Percent
Yes		1	61.9%
No	Go to Question 18	2	38.1%

Question 16: In the last 12 months, did a doctor or other health provider talk with you about the pros and cons of each choice for your treatment or health care?
Variable name: H20016
Editing notes: See Notes 4 and 5

Response	Value	Percent
Definitely yes	1	67.3%
Somewhat yes	2	27.7%
Somewhat no	3	3.3%
Definitely no	4	1.7%

Question 17: In the last 12 months, when there was more than one choice for your treatment or health care, did a doctor or other health provider ask which choice you thought was best for you?
Variable name: H20017
Editing notes: See Notes 4 and 5

Response	Value	Percent
Definitely yes	1	60.6%
Somewhat yes	2	30.5%
Somewhat no	3	5.6%
Definitely no	4	3.4%

Question 18: Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 12 months?
Variable name: H20018
Editing notes: None

Response	Value	Percent
0 – Worst health care possible	0	0.6%
1	1	0.5%
2	2	0.8%
3	3	2.3%
4	4	2.6%
5	5	4.7%
6	6	4.5%
7	7	11.7%
8	8	20.2%
9	9	19.1%
10 – Best health care possible	10	32.9%
I had no visits in the last 12 months	-6	

Question 19: In the last 12 months, how often was it easy to get the care, tests, or treatment you needed?
Variable name: H20033
Editing notes: None

Response	Value	Percent
Never	1	3.2%
Sometimes	2	16.1%
Usually	3	33.2%
Always	4	47.5%

YOUR URGENT HEALTH CARE IN THE LAST 6 MONTHS

Question 20: In the last 6 months, when you needed care right away, did you seek care in an urgent care center (also called walk-in care, immediate care, and convenient care), a hospital emergency room (ER), a doctor's office, or someplace else?

MARK ALL THAT APPLY
Variable names: S20BI02A-S20BI02E
Editing notes: See Note 5_BI2

Response	Variable Name	Percent Marked
Urgent care center	S20BI02A	20.7%
Hospital emergency room (ER)	S20BI02B	19.7%
Doctor's office	S20BI02C	24.4%
Someplace else	S20BI02D	2.0%
I didn't need care right away for an illness, injury, or condition in the last 6 months	S20BI02E	48.2%

IF YOU *DID NOT* USE AN URGENT CARE CENTER IN THE LAST 6 MONTHS, PLEASE GO TO QUESTION 29

Question 21: Thinking about your most recent visit to an urgent care center, what was the main reason why you went to urgent care?
Variable name: S20BI19
Editing notes: See Note 5_BI2

Response	Value	Percent
An accident or injury	1	19.2%
A new health problem	2	50.6%
An ongoing health condition or concern	3	9.9%
Routine care, such as a flu shot or health screening	4	7.4%
Some other reason	5	12.9%

Question 22: Was your personal doctor's office open during your most recent visit to urgent care?
Variable name: S20BI21
Editing notes: See Note 5_BI2

Response	Value	Percent
Yes	1	41.6%
No	2	48.2%
Don't know	-5	10.2%

Question 23: Thinking about your <u>most recent visit</u> to an urgent care center, did you or someone else call a nurse advice line before going to urgent care?
Variable name: S20BI15
Editing notes: See Notes 5_BI2 and 5_BI3

Response	Directions	Value	Percent
Yes, I called a nurse line and spoke with a nurse		1	20.3%
Yes, I called a nurse line, but did not speak with a nurse	Go to Question 25	2	3.4%
No, I did not call my health plan's nurse advice line	Go to Question 25	3	50.5%
No, my health plan does not have a nurse advice line	Go to Question 25	4	15.8%
Don't know	Go to Question 25	-5	10.0%

Question 24: Did the nurse advise you to seek urgent care?
Variable name: S20BI16
Editing notes: See Notes 5_BI2 and 5_BI3

Response	Value	Percent
Yes	1	95.7%
No	2	3.5%
Don't know	-5	0.8%

Question 25: Thinking about your <u>most recent visit</u> to an urgent care center, tell us if you strongly agree, agree, disagree, or strongly disagree with each statement.

The location is more convenient than my normal place of care.

Variable name: S20BI03
Editing notes: See Note 5_BI2

Response	Value	Percent
Strongly agree	4	31.2%
Agree	3	38.3%
Disagree	2	23.7%
Strongly disagree	1	6.7%

Urgent care was low cost or no cost to me.

Variable name: S20BI04
Editing notes: See Note 5_BI2

Response	Value	Percent
Strongly agree	4	44.7%
Agree	3	38.3%
Disagree	2	11.0%
Strongly disagree	1	6.0%

I could just walk in for care without an appointment.

Variable name: S20BI06
Editing notes: See Note 5_BI2

Response	Value	Percent
Strongly agree	4	57.1%
Agree	3	35.4%
Disagree	2	4.8%
Strongly disagree	1	2.7%

If an appointment with my regular provider had been available, I would have used it instead of the urgent care clinic.

Variable name: S20BI09
Editing notes: See Note 5_BI2

Response	Value	Percent
Strongly agree	4	52.0%
Agree	3	28.6%
Disagree	2	12.7%
Strongly disagree	1	6.7%

I trust the urgent care center provider(s).

Variable name: S20BI07
Editing notes: See Note 5_BI2

Response	Value	Percent
Strongly agree	4	38.2%
Agree	3	50.9%
Disagree	2	7.6%
Strongly disagree	1	3.3%

The urgent care center would process my TRICARE claim without problems.

Variable name: S20BI08
Editing notes: See Note 5_BI2

Response	Value	Percent
Strongly agree	4	52.6%
Agree	3	38.1%
Disagree	2	6.2%
Strongly disagree	1	3.1%

My condition was not a medical emergency requiring a hospital emergency room.

Variable name: S20BI12
Editing notes: See Note 5_BI2

Response	Value	Percent
Strongly agree	4	53.3%
Agree	3	31.6%
Disagree	2	9.0%
Strongly disagree	1	6.1%

I thought it would take less time to be seen and treated than at my usual place of care.

Variable name: S20BI14
Editing notes: See Note 5_BI2

Response	Value	Percent
Strongly agree	4	32.4%
Agree	3	32.1%
Disagree	2	24.6%
Strongly disagree	1	10.9%

Question 26: Thinking about your most recent visit to an urgent care center, did any staff advise you to seek follow-up care with your personal doctor?
Variable name: S20BI22
Editing notes: See Notes 5_BI2 and 5_BI5

Response	Directions	Value	Percent
Yes		1	64.5%
No	Go to Question 28	2	30.4%
Don't know	Go to Question 28	-5	5.1%

Question 27: Did you seek follow-up care with your personal doctor?
Variable name: S20BI23
Editing notes: See Notes 5_BI2 and 5_BI5

Response	Value	Percent
Yes	1	79.2%
No	2	20.8%
I don't have a personal doctor	-6	

Question 28: Using any number from 0 to 10, where 0 is the worst care possible and 10 is the best care possible, what number would you use to rate your care during this urgent care center visit?
Variable name: S20BI20
Editing notes: See Note 5_BI2

Response	Value	Percent
0 – Worst care possible	0	0.3%
1	1	0.1%
2	2	0.6%
3	3	1.0%
4	4	1.4%
5	5	5.9%
6	6	5.5%
7	7	12.2%
8	8	21.6%
9	9	24.2%
10 – Best care possible	10	27.1%
I didn't go to urgent care in the last 6 months	-6	

YOUR PERSONAL DOCTOR

Question 29: A personal doctor is the one you would see if you need a checkup, want advice about a health problem, or get sick or hurt. Do you have a personal doctor?
Variable name: H20019
Editing notes: See Note 6

Response	Directions	Value	Percent
Yes		1	80.7%
No	Go to Question 39	2	19.3%

Question 30: In the last 12 months, how many times did you visit your personal doctor to get care for yourself?
Variable name: H20020
Editing notes: See Notes 6 and 7

Response	Directions	Value	Percent
None	Go to Question 37	0	7.4%
1		1	20.6%
2		2	24.0%
3		3	19.3%
4		4	12.9%
5 to 9		5	12.4%
10 or more		6	3.4%

Question 31: In the last 12 months, how often did your personal doctor listen carefully to you?
Variable name: H20021
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.9%
Sometimes	2	6.3%
Usually	3	17.8%
Always	4	75.0%
I had no visits in the last 12 months	-6	

Question 32: In the last 12 months, how often did your personal doctor explain things in a way that was easy to understand?
Variable name: H20022
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.6%
Sometimes	2	4.1%
Usually	3	17.2%
Always	4	78.1%
I had no visits in the last 12 months	-6	

Question 33: In the last 12 months, how often did your personal doctor show respect for what you had to say?
Variable name: H20023
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.9%
Sometimes	2	4.8%
Usually	3	13.7%
Always	4	80.6%
I had no visits in the last 12 months	-6	

Question 34: In the last 12 months, how often did your personal doctor spend enough time with you?
Variable name: H20024
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	2.1%
Sometimes	2	7.5%
Usually	3	22.3%
Always	4	68.1%
I had no visits in the last 12 months	-6	

Question 35: In the last 12 months, did you get care from a doctor or other health provider besides your personal doctor?
Variable name: H20025
Editing notes: See Notes 6, 7, and 8

Response	Directions	Value	Percent
Yes		1	77.3%
No	Go to Question 37	2	22.7%

Question 36: In the last 12 months, how often did your personal doctor seem informed and up-to-date about the care you got from these doctors or other health providers?
Variable name: H20026
Editing notes: See Notes 6, 7, and 8

Response	Value	Percent
Never	1	6.8%
Sometimes	2	14.1%
Usually	3	32.0%
Always	4	47.2%

Question 37: Using any number from 0 to 10, where 0 is the worst personal doctor possible and 10 is the best personal doctor possible, what number would you use to rate your personal doctor?
Variable name: H20027
Editing notes: See Note 6

Response	Value	Percent
0 – Worst personal doctor possible	0	0.8%
1	1	0.3%
2	2	0.8%
3	3	0.9%
4	4	0.9%
5	5	4.2%
6	6	3.6%
7	7	6.7%
8	8	13.7%
9	9	22.6%
10 – Best personal doctor possible	10	45.4%
I don't have a personal doctor	-6	

Question 38: Did you have the same personal doctor <u>before</u> you joined this health plan?
Variable name: S20009
Editing notes: See Notes 6 and 8_01

Response	Directions	Value	Percent
Yes	Go to Question 40	1	34.8%
No		2	65.2%

Question 39: Since you joined your health plan, how much of a problem, if any, was it to get a personal doctor you are happy with?
Variable name: S20010
Editing notes: See Note 8_01

Response	Value	Percent
A big problem	1	14.9%
A small problem	2	22.8%
Not a problem	3	62.3%

GETTING HEALTH CARE FROM A SPECIALIST

When you answer the next questions, <u>do not</u> include dental visits or care you got when you stayed overnight in a hospital.

Question 40: <u>Specialists</u> are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and other doctors who specialize in one area of health care. In the last 12 months, did you try to make any appointments to see a specialist?
Variable name: H20028
Editing notes: See Note 9

Response	Directions	Value	Percent
Yes		1	67.7%
No	Go to Question 44	2	32.3%

Question 41: In the last 12 months, how often did you get an appointment to see a specialist as soon as you needed?
Variable name: H20029
Editing notes: See Note 9

Response	Value	Percent
Never	1	5.6%
Sometimes	2	15.6%
Usually	3	30.1%
Always	4	48.7%
I didn't need a specialist in the last 12 months	-6	

Question 42: How many specialists have you seen in the last 12 months?
Variable name: H20030
Editing notes: See Notes 9 and 10

Response	Directions	Value	Percent
None	Go to Question 44	0	2.7%
1 specialist		1	34.1%
2		2	36.0%
3		3	15.2%
4		4	7.0%
5 or more specialists		5	5.1%

Question 43: We want to know your rating of the specialist you saw most often in the last 12 months. Using any number from 0 to 10, where 0 is the worst specialist possible and 10 is the best specialist possible, what number would you use to rate the specialist?
Variable name: H20031
Editing notes: See Notes 9 and 10

Response	Value	Percent
0 – Worst specialist possible	0	0.7%
1	1	0.2%
2	2	0.4%
3	3	0.6%
4	4	0.8%
5	5	2.0%
6	6	2.8%
7	7	7.5%
8	8	16.3%
9	9	22.8%
10 – Best specialist possible	10	45.8%
I didn't see a specialist in the last 12 months	-6	

Question 44: Would you say that in general your <u>mental or emotional</u> health is excellent, very good, good, fair, or poor?
Variable name: S20B01
Editing notes: None

Response	Value	Percent
Excellent	1	37.4%
Very good	2	28.9%
Good	3	21.1%
Fair	4	9.9%
Poor	5	2.7%

Question 45: In the last 12 months, did you need any treatment or counseling for a <u>personal</u> or <u>family</u> problem?
Variable name: S20B02
Editing notes: See Note 10_B1

Response	Directions	Value	Percent
Yes		1	15.6%
No	Go to Question 48	2	84.4%

Question 46: In the last 12 months, how much of a problem, if any, was it to get the <u>treatment or counseling</u> you needed through your health plan?
Variable name: S20B03
Editing notes: See Note 10_B1

Response	Value	Percent
A big problem	1	20.1%
A small problem	2	21.1%
Not a problem	3	58.8%

Question 47: Using any number from 0 to 10 where 0 is the worst treatment or counseling possible and 10 is the best treatment or counseling possible, what number would you use to rate your treatment or counseling in the last 12 months?
Variable name: S20B04
Editing notes: See Note 10_B1

Response	Value	Percent
0 – Worst treatment or counseling possible	0	3.2%
1	1	0.8%
2	2	4.1%
3	3	2.1%
4	4	4.5%
5	5	8.6%
6	6	2.7%
7	7	8.5%
8	8	17.2%
9	9	13.7%
10 – Best treatment or counseling possible	10	34.6%
I had no treatment or counseling in the last 12 months	-6	

YOUR HEALTH PLAN

The next questions ask about your experience with <u>your health plan</u>. By your health plan, we mean the health plan you marked in Question 3.

Question 48: In the last 12 months, did you look for any information in written materials or on the Internet about how your health plan works?
Variable name: H20034
Editing notes: See Note 12

Response	Directions	Value	Percent
Yes		1	31.7%
No	Go to Question 50	2	68.3%

Question 49: In the last 12 months, how often did the written material or the Internet provide the information you needed about how your plan works?
Variable name: H20035
Editing notes: See Note 12

Response	Value	Percent
Never	1	5.8%
Sometimes	2	26.3%
Usually	3	48.0%
Always	4	20.0%
I didn't look for information from my health plan in the last 12 months	-6	

Question 50: Sometimes people need services or equipment beyond what is provided in a regular or routine office visit, such as care from a specialist, physical therapy, a hearing aid, or oxygen. In the last 12 months, did you look for information from your health plan on how much you would have to pay for a health care service or equipment?
Variable name: H20036
Editing notes: See Note 13

Response	Directions	Value	Percent
Yes		1	15.7%
No	Go to Question 52	2	84.3%

Question 51: In the last 12 months, how often were you able to find out from your health plan how much you would have to pay for a health care service or equipment?
Variable name: H20037
Editing notes: See Note 13

Response	Value	Percent
Never	1	18.2%
Sometimes	2	27.5%
Usually	3	30.7%
Always	4	23.5%
I didn't need a health care service or equipment from my health plan in the last 12 months	-6	

Question 52: In some health plans, the amount you pay for a prescription medicine can be different for different medicines, or can be different for prescriptions filled by mail instead of at the pharmacy. In the last 12 months, did you look for information from your health plan on how much you would have to pay for specific prescription medicines?
Variable name: H20038
Editing notes: See Note 14

Response	Directions	Value	Percent
Yes		1	19.0%
No	Go to Question 54	2	81.0%

Question 53: In the last 12 months, how often were you able to find out from your health plan how much you would have to pay for specific prescription medications?
Variable name: H20039
Editing notes: See Note 14

Response	Value	Percent
Never	1	9.4%
Sometimes	2	25.4%
Usually	3	25.6%
Always	4	39.6%
I didn't need prescription medications from my health plan in the last 12 months	-6	

Question 54: In the last 12 months, did you try to get information or help from your health plan's customer service?
Variable name: H20040
Editing notes: See Note 15

Response	Directions	Value	Percent
Yes		1	24.4%
No	Go to Question 57	2	75.6%

Question 55: In the last 12 months, how often did your health plan's customer service give you the information or help you needed?
Variable name: H20041
Editing notes: See Note 15

Response	Value	Percent
Never	1	7.1%
Sometimes	2	20.4%
Usually	3	30.2%
Always	4	42.2%
I didn't call my health plan's customer service in the last 12 months	-6	

Question 56: In the last 12 months, how often did your health plan's customer service staff treat you with courtesy and respect?
Variable name: H20042
Editing notes: See Note 15

Response	Value	Percent
Never	1	1.8%
Sometimes	2	6.5%
Usually	3	20.8%
Always	4	70.9%
I didn't call my health plan's customer service in the last 12 months	-6	

Question 57: In the last 12 months, did your health plan give you any forms to fill out?
Variable name: H20043
Editing notes: See Note 16

Response	Directions	Value	Percent
Yes		1	20.0%
No	Go to Question 59	2	80.0%

Question 58: In the last 12 months, how often were the forms from your health plan easy to fill out?
Variable name: H20044
Editing notes: See Note 16

Response	Value	Percent
Never	1	2.4%
Sometimes	2	12.8%
Usually	3	43.2%
Always	4	41.6%
I didn't have any experiences with paperwork for my health plan in the last 12 months	-6	

Question 59: Claims are sent to a health plan for payment. You may send in the claims yourself, or doctors, hospitals, or others may do this for you. In the last 12 months, did you or anyone else send in any claims to your health plan?
Variable name: H20045
Editing notes: See Note 17

Response	Directions	Value	Percent
Yes		1	44.2%
No	Go to Question 62	2	34.8%
Don't know	Go to Question 62	-5	21.0%

Question 60: In the last 12 months, how often did your health plan handle your claims quickly?
Variable name: H20046
Editing notes: See Note 17

Response	Value	Percent
Never	1	3.9%
Sometimes	2	7.5%
Usually	3	29.6%
Always	4	44.2%
Don't know	-5	14.8%
No claims were sent for me in the last 12 months	-6	

Question 61: In the last 12 months, how often did your health plan handle your claims correctly?
Variable name: H20047
Editing notes: See Note 17

Response	Value	Percent
Never	1	2.4%
Sometimes	2	6.3%
Usually	3	26.8%
Always	4	51.4%
Don't know	-5	13.1%
No claims were sent for me in the last 12 months	-6	

Question 62: Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?
Variable name: H20048
Editing notes: None

Response	Value	Percent
0 – Worst health plan possible	0	0.6%
1	1	0.7%
2	2	0.5%
3	3	1.3%
4	4	2.0%
5	5	5.9%
6	6	6.1%
7	7	11.4%
8	8	19.2%
9	9	22.4%
10 – Best health plan possible	10	29.9%

PREVENTIVE CARE

Preventive care is medical care you receive that is intended to maintain your good health or prevent a future medical problem. A physical or blood pressure screening are examples of preventive care.

Question 63: When did you last have a blood pressure reading?
Variable name: H20049
Editing notes: None

Response	Value	Percent
Less than 12 months ago	3	93.0%
1 to 2 years ago	2	4.6%
More than 2 years ago	1	2.4%

Question 64: Do you know if your blood pressure is too high?
Variable name: H20050
Editing notes: None

Response	Value	Percent
Yes, it is too high	1	16.0%
No, it is not too high	2	78.2%
Don't know	3	5.9%

Question 65: When did you last have a flu shot?
Variable name: H20051
Editing notes: None

Response	Value	Percent
Less than 12 months ago	4	67.2%
1 to 2 years ago	3	15.3%
More than 2 years ago	2	9.3%
Never had a flu shot	1	8.2%

Question 66: Have you ever <u>smoked</u> at least 100 cigarettes in your entire life?
Variable name: H20052
Editing notes: None

Response	Value	Percent
Yes	1	34.5%
No	2	63.7%
Don't know	-5	1.8%

Question 67: Do you now smoke cigarettes or use tobacco every day, some days or not at all?
Variable name: H20053
Editing notes: See Note 18

Response	Directions	Value	Percent
Every day		4	4.7%
Some days		3	3.7%
Not at all	Go to Question 72	2	90.9%
Don't know	Go to Question 72	-5	0.7%

Question 68: In the last 12 months, how often were you advised to quit smoking or using tobacco by a doctor or other health provider in your plan?
Variable name: H20054
Editing notes: See Note 18

Response	Value	Percent
Never	1	22.3%
Sometimes	2	23.1%
Usually	3	23.1%
Always	4	31.5%

Question 69: In the last 12 months, how often was medication recommended or discussed by a doctor or health provider to assist you with quitting smoking or using tobacco? Examples of medication are: nicotine gum, patch, nasal spray, inhaler, or prescription medication.
Variable name: H20055
Editing notes: See Note 18

Response	Value	Percent
Never	1	47.1%
Sometimes	2	20.9%
Usually	3	15.8%
Always	4	16.2%

Question 70: In the last 12 months, how often did your doctor or health provider discuss or provide methods and strategies other than medication to assist you with quitting smoking or using tobacco? Examples of methods and strategies are: telephone helpline, individual or group counseling, or cessation program.
Variable name: H20056
Editing notes: See Note 18

Response	Value	Percent
Never	1	53.9%
Sometimes	2	18.8%
Usually	3	13.0%
Always	4	14.4%

Question 71: On the days you smoke or use tobacco products, what type of product do you smoke or use?
MARK ALL THAT APPLY
Variable names: H20057A-H20057D
Editing notes: See Note 18

Response	Variable Name	Percent Marked
Cigarettes	H20057A	63.1%
Dip, chewing tobacco, snuff or snus	H20057B	22.1%
Cigars	H20057C	10.5%
Pipes, bidis, or kreteks (Pipes include hookahs. Bidis are small, brown, hand-rolled cigarettes from India and other Southeast Asian countries. Kreteks are clove cigarettes made in Indonesia that contain clove extract and tobacco.)	H20057D	3.0%

Question 72: Do you now use electronic cigarettes every day, some days, or not at all?
Variable name: S20BF4
Editing notes: None

Response	Value	Percent
Every day	1	1.8%
Some days	2	1.4%
Not at all	3	96.5%
Don't know	-5	0.3%

Question 73: Are you male or female?
Variable name: H20058
Editing notes: See Note 19A

Response	Directions	Value	Percent
Male	Go to Question 80	1	50.6%
Female		2	49.4%

Question 74: When did you last have a Pap smear test?
Variable name: H20059B
Editing notes: See Notes 19A and 19B

Response	Value	Percent
Within the last 12 months	6	32.5%
1 to 2 years ago	5	25.3%
More than 2 but less than 3 years ago	4	8.9%
More than 3 but less than 5 years ago	3	10.7%
5 or more years ago	2	17.9%
Never had a Pap smear test	1	4.7%

Question 75: Are you under age 40?
Variable name: H20060
Editing notes: See Notes 19A, 19B, and 20

Response	Directions	Value	Percent
Yes	Go to Question 77	1	34.8%
No		2	65.2%

Question 76: When was the last time your breasts were checked by mammography?
Variable name: H20061
Editing notes: See Notes 19A, 19B, and 20

Response	Value	Percent
Within the last 12 months	5	65.2%
1 to 2 years ago	4	18.4%
More than 2 but less than 5 years ago	3	5.9%
5 or more years ago	2	7.2%
Never had a mammogram	1	3.3%

Question 77: Have you been pregnant in the last 12 months or are you pregnant now?
Variable name: H20062
Editing notes: See Notes 19A, 19B, and 21

Response	Directions	Value	Percent
Yes, I am currently pregnant		1	2.8%
No, I am not currently pregnant, but have been pregnant in the past 12 months	Go to Question 79	2	4.2%
No, I am not currently pregnant, and have not been pregnant in the past 12 months	Go to Question 80	3	93.0%

Question 78: In what trimester is your pregnancy?
Variable name: H20063
Editing notes: See Notes 19A, 19B, and 21

Response	Directions	Value	Percent
First trimester (up to 12 weeks after 1st day of last period)	Go to Question 80	1	19.6%
Second trimester (13th through 27th week)		2	56.2%
Third trimester (28th week until delivery)		3	24.3%

Question 79: In which trimester did you first receive prenatal care?
Variable name: H20064
Editing notes: See Notes 19A, 19B, and 21

Response	Value	Percent
First trimester (up to 12 weeks after 1st day of last period)	4	87.5%
Second trimester (13th through 27th week)	3	4.5%
Third trimester (28th week until delivery)	2	0.7%
Did not receive prenatal care	1	7.3%

ABOUT YOU

Question 80: Would you say that in general your health is excellent, very good, good, fair, or poor?
Variable name: H20065
Editing notes: None

Response	Value	Percent
Excellent	5	16.3%
Very good	4	36.2%
Good	3	34.8%
Fair	2	10.5%
Poor	1	2.2%

Question 81: How tall are you without your shoes on? Please give your answer in feet and inches.
Variable name: H20071F, H20071I
Editing notes: See Note 23_HT

Response	Example feet	Example inches	Percent of responses
Please give your answer in feet and inches. Please write one number in each box.	5	06	94.8%

Question 82: How much do you weigh without your shoes on? Please give your answer in pounds.
Variable name: H20072
Editing notes: See Note 23_WT

Response	Example pounds	Percent of responses
Please give your answer in pounds. Please write one number in each box.	152	93.5%

Question 83: What is the highest grade or level of school that you have completed?
Variable name: SREDA
Editing notes: None

Response	Value	Percent
8th grade or less	1	0.1%
Some high school, but did not graduate	2	0.5%
High school graduate or GED	3	18.4%
Some college or 2-year degree	4	39.2%
4-year college graduate	5	18.1%
More than 4-year college degree	6	23.7%

Question 84: Are you of Hispanic or Latino origin or descent? (Mark "NO" if not Spanish/Hispanic/Latino.)
MARK ALL THAT APPLY
Variable names: H20073A-H20073E, H20073
Editing notes: See Note 24

Response	Variable Name	H20073 Value	Percent Marked
No, not Spanish, Hispanic, or Latino	H20073A	1	85.4%
Yes, Mexican, Mexican American, Chicano	H20073B	2	4.8%
Yes, Puerto Rican	H20073C	3	3.3%
Yes, Cuban	H20073D	4	0.6%
Yes, other Spanish, Hispanic, or Latino	H20073E	5	3.8%

Question 85: What is your race?
MARK ALL THAT APPLY
Variable names: SRRACEA-SRRACEE
Editing notes: None

Response	Variable Name	Percent Marked
White	SRRACEA	78.5%
Black or African American	SRRACEB	11.6%
American Indian or Alaska Native	SRRACEC	2.5%
Asian (e.g., Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese)	SRRACED	6.1%
Native Hawaiian or other Pacific Islander (e.g., Samoan, Guamanian or Chamorro)	SRRACEE	1.0%

Question 86: What is your age now?
Variable name: SRAGE
Editing notes: None

Response	Value	Percent
18 to 24	1	11.5%
25 to 34	2	15.6%
35 to 44	3	14.0%
45 to 54	4	8.8%
55 to 64	5	18.3%
65 to 74	6	19.1%
75 or older	7	12.7%

Question 87: Using a scale of 1 to 5, with 1 being "strongly disagree" and 5 being "strongly agree", how much do you agree with the following statement: In general, I am able to see my provider(s) when needed?
Variable name: S20011
Editing notes: None

Response	Value	Percent
Strongly disagree	1	6.7%
Disagree	2	6.2%
Neither agree nor disagree	3	9.5%
Agree	4	40.9%
Strongly agree	5	36.7%

Question 88: Using a scale of 1 to 5, with 1 being "completely dissatisfied" and 5 being "completely satisfied", how satisfied are you, overall, with the health care you received during your last visit?
Variable name: S20014
Editing notes: None

Response	Value	Percent
Completely dissatisfied	1	3.2%
Somewhat dissatisfied	2	4.8%
Neither satisfied nor dissatisfied	3	6.7%
Somewhat satisfied	4	23.7%
Completely satisfied	5	61.5%

THANK YOU FOR TAKING THE TIME TO COMPLETE THE SURVEY!

Your generous contribution will greatly aid efforts to improve the health of our military community.

Health Care Survey of DoD Beneficiaries

A world-wide survey of beneficiaries eligible for health care coverage through the military health system

December 2019

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Annotated Questionnaire Quarter II

Military Health Care Survey:

Adult Questionnaire

December 2019

Privacy Advisory

Providing information in this Survey is voluntary. There is no penalty nor will your benefits be affected if you choose not to respond, although maximum participation is encouraged so that the data will be complete and representative.

The Survey was written so that answers should not require you to provide any personally identifiable information (PII), but please be assured that any PII provided will be treated as confidential. Your responses are collected via a secure system which does not collect any information that could be used to determine your identity.

Answering the questions is voluntary; you may stop the Survey at any time.

According to the Privacy Act of 1974 (5 U.S.C. §552a), the Department of Defense is required to inform you of the purposes and use of this survey. Please read it carefully.

Authority: 10 U.S.C. §1074 (Medical and Dental Care for Members and Certain Former Members, as amended by National Defense Authorization Act of 1993, Public Law 102-484, §706); 10 U.S.C. §1074f (Medical Tracking System for Members Deployed Overseas); 32 C.F.R. §199.17 (TRICARE Program); 45 C.F.R. Part 160 Subparts A and E of Part 164 (Health Insurance Portability and Accountability Act of 1996, Privacy Rule); DoD 6025.18-R (Department of Defense Health Information Privacy Regulation); DoD 6025.13-R (Military Health System Clinical Quality Assurance Program Regulation); 64 FR 22837 (DHA 08 – Health Affairs Survey Data Base, April 28, 1999); and, E.O. 9397 (as amended, November 20, 2008, for SSN collection).

Purpose: This survey helps health policy makers gauge beneficiary satisfaction with the current military health care system and provides valuable input from beneficiaries that will be used to improve the Military Health System.

Routine Uses: None.

Disclosure: Participation is voluntary. Failure to respond will not result in any penalty to the respondent; however maximum participation is encouraged so that data will be as complete and representative as possible.

A.39

SURVEY INSTRUCTIONS

Thank you for taking the time to participate in this online survey.

Please note, if the survey is idle for more than 5 minutes, you will be logged out automatically to protect your privacy. If that happens, simply wait 15 minutes and log back in. Please keep your password because you may need it later.

During the survey, please do not use your browser's FORWARD and BACK buttons. Instead, please always use the buttons below to move backward and forward through the survey.

To begin, just click on the "Next" button below. This will take you right into the survey.

SURVEY STARTS HERE

As an eligible TRICARE beneficiary, <u>please complete this survey even if you did not receive your health care from a military facility</u>.

Please recognize that some specific questions about TRICARE benefits may not apply to you, depending on your entitlement and particular TRICARE program.

This survey is about the health care of the person whose name appears on the cover letter. The questionnaire should be completed by that person. If you are not the addressee, please give this survey to that person.

Question 1: Are you the person whose name appears on the cover letter?
Variable name: H20001
Editing notes: None

Response	Directions	Value	Percent
Yes	Go to Question 2	1	99.8%
No	Please give this questionnaire to the person addressed on the cover letter.	2	0.2%

Question 2: By which of the following health plans are you <u>currently covered</u>?
MARK ALL THAT APPLY
Variable names: H20002A, H20002C, H20002F-H20002V
Editing notes: None

Military Health Plans

Response	Variable Name	Percent Marked
TRICARE Prime (including most Active Duty, TRICARE Prime Remote, and TRICARE Overseas)	H20002A	45.5%
TRICARE Select (previously known as TRICARE Extra or Standard (CHAMPUS))	H20002C	12.4%
TRICARE Plus	H20002N	0.7%
TRICARE for Life	H20002O	32.1%
TRICARE Supplemental Insurance	H20002P	0.5%
TRICARE Reserve Select	H20002Q	4.1%
TRICARE Retired Reserve	H20002S	1.9%
TRICARE Young Adult Prime	H20002T	0.2%
TRICARE Young Adult Select	H20002V	0.2%
Uniformed Services Family Health Plan (USFHP)	H20002K	1.5%
Continued Health Care Benefit Program (CHCBP) (a COBRA-like premium-based health care program)	H20002U	0.0%

Other Health Plans

Response	Variable Name	Percent Marked
Medicare	H20002F	31.4%
Federal Employees Health Benefit Program (FEHBP)	H20002G	2.2%
Medicaid or other state health insurance	H20002H	0.9%
A civilian HMO (such as Kaiser)	H20002I	0.7%
Other civilian health insurance (such as Blue Cross)	H20002J	5.7%
The Veterans Administration (VA)	H20002M	9.4%
Government health insurance from a country other than the U.S.	H20002R	0.2%
Not sure	H20002L	5.1%

Question 3: Which health plan did you <u>use</u> for all or most of your healthcare <u>in the last 12 months</u>?
MARK ONLY ONE ANSWER
Variable name: H20003
Editing notes: See Note 1

Response	Directions	Value	Percent
TRICARE Prime (including most Active Duty, TRICARE Prime Remote, and TRICARE Overseas)		1	40.3%
TRICARE Select (previously known as TRICARE Extra or Standard (CHAMPUS))		3	9.2%
TRICARE Plus		11	0.5%
TRICARE Supplemental Insurance		19	0.0%
TRICARE Reserve Select		12	3.6%
TRICARE Retired Reserve		14	1.1%
TRICARE Young Adult Prime		15	0.1%
TRICARE Young Adult Select		17	0.1%
Uniformed Services Family Health Plan (USFHP)		9	1.1%
Continued Health Care Benefit Program (CHCBP) (a COBRA-like premium-based health care program)		16	0.0%
Medicare		4	28.6%
Federal Employees Health Benefit Program (FEHBP)		5	0.8%
Medicaid or other state health insurance		6	0.4%
A civilian HMO (such as Kaiser)		7	1.0%
Other civilian health insurance (such as Blue Cross)		8	4.2%
The Veterans Administration (VA)		10	5.1%
Government health insurance from a country other than the U.S.		13	0.2%
Not sure	Go to Question 5	-5	3.7%
Did not use any health plan in the last 12 months	Go to Question 5	-6	

For the remainder of this questionnaire, the term <u>health plan</u> refers to the plan you indicated in Question 3.

Question 4: How many months or years in a row have you been in this health plan?
Variable name: H20004
Editing notes: See Note 1

Response	Value	Percent
Less than 6 months	1	1.3%
At least 6 months but less than 12 months	2	3.8%
At least 12 months but less than 24 months	3	7.6%
At least 2 years but less than 5 years	4	17.8%
At least 5 years but less than 10 years	5	23.3%
10 or more years	6	46.2%

YOUR HEALTH CARE IN THE LAST 12 MONTHS

These questions ask about your own health care. Do **not** include care you got when you stayed overnight in a hospital. Do **not** include the times you went for dental care visits.

Question 5: In the last 12 months, where did you go most often for your health care?
MARK ONLY ONE
Variable name: H20005
Editing notes: None

Response	Value	Percent
A military facility – This includes:	1	33.4%
Military clinic		
Military hospital		
PRIMUS clinic		
NAVCARE clinic		
A civilian facility – This includes:	2	57.0%
Doctor's office		
Clinic		
Hospital		
Civilian TRICARE contractor		
Uniformed Services Family Health Plan facility (USFHP)	3	0.6%
Veterans Affairs (VA) clinic or hospital	4	5.6%
I went to none of the listed types of facilities in the last 12 months	5	3.5%

Question 6: In the last 12 months, did you have an illness, injury, or condition that <u>needed care right away</u> in a clinic, emergency room, or doctor's office?
Variable name: H20006
Editing notes: See Note 2

Response	Directions	Value	Percent
Yes		1	45.1%
No	Go to Question 9	2	54.9%

Question 7: In the last 12 months, when you <u>needed care right away</u>, how often did you get care as soon as you needed?
Variable name: H20007
Editing notes: See Note 2

Response	Value	Percent
Never	1	2.8%
Sometimes	2	11.7%
Usually	3	20.0%
Always	4	65.5%
I didn't need care right away for an illness, injury or condition in the last 12 months	-6	

Question 8: In the last 12 months, when you <u>needed care right away</u> for an illness, injury, or condition, how long did you usually have to wait between trying to get care and actually seeing a provider?
Variable name: H20008
Editing notes: See Note 2

Response	Value	Percent
Same day	1	59.7%
1 day	2	13.3%
2 days	3	8.2%
3 days	4	2.9%
4-7 days	5	8.6%
8-14 days	6	3.4%
15 days or longer	7	3.9%
I didn't need care right away for an illness, injury or condition in the last 12 months	-6	

Question 9: In the last 12 months, not counting the times you needed health care right away, did you make any <u>appointments</u> for your health care at a doctor's office or clinic?
Variable name: H20009
Editing notes: See Note 3

Response	Directions	Value	Percent
Yes		1	87.2%
No	Go to Question 12	2	12.8%

Question 10: In the last 12 months, how often did you get an appointment for a check-up or routine care at a doctor's office or clinic as soon as you needed?
Variable name: H20010
Editing notes: See Note 3

Response	Value	Percent
Never	1	3.4%
Sometimes	2	18.6%
Usually	3	28.1%
Always	4	49.8%
I had no appointments in the last 12 months	-6	

Question 11: In the last 12 months, not counting the times you needed health care right away, how many <u>days</u> did you usually have to wait between making an <u>appointment</u> and actually <u>seeing a provider</u>?
Variable name: H20011
Editing notes: See Note 3

Response	Value	Percent
Same day	1	7.6%
1 day	2	7.6%
2-3 days	3	21.5%
4-7 days	4	21.6%
8-14 days	5	18.7%
15-30 days	6	14.7%
31 days or longer	7	8.4%
I had no appointments in the last 12 months	-6	

Question 12: In the last 12 months, how many times did you go to an <u>emergency room</u> to get care for yourself?
Variable name: H20012
Editing notes: None

Response	Value	Percent
None	1	70.7%
1	2	19.7%
2	3	5.9%
3	4	2.4%
4	5	0.9%
5 to 9	6	0.3%
10 or more	7	0.2%

Question 13: In the last 12 months (not counting times you went to an emergency room), how many times did you go to a <u>doctor's office or clinic</u> to get health care for yourself?
Variable name: H20013
Editing notes: See Note 4

Response	Directions	Value	Percent
None	Go to Question 18	1	10.6%
1		2	9.1%
2		3	17.0%
3		4	16.8%
4		5	14.6%
5 to 9		6	21.8%
10 or more		7	10.2%

Question 14: In the last 12 months, how often did you and a doctor or other health provider talk about specific things you could do to prevent illness?
Variable name: H20014
Editing notes: See Note 4

Response	Value	Percent
Never	1	12.7%
Sometimes	2	26.2%
Usually	3	29.9%
Always	4	31.1%

Question 15: Choices for your treatment or health care can include choices about medicine, surgery, or other treatment. In the last 12 months, did a doctor or other health provider tell you there was more than one choice for your treatment or health care?
Variable name: H20015
Editing notes: See Notes 4 and 5

Response	Directions	Value	Percent
Yes		1	59.7%
No	Go to Question 18	2	40.3%

Question 16: In the last 12 months, did a doctor or other health provider talk with you about the pros and cons of each choice for your treatment or health care?
Variable name: H20016
Editing notes: See Notes 4 and 5

Response	Value	Percent
Definitely yes	1	68.8%
Somewhat yes	2	27.0%
Somewhat no	3	3.3%
Definitely no	4	0.8%

Question 17: In the last 12 months, when there was more than one choice for your treatment or health care, did a doctor or other health provider ask which choice you thought was best for you?
Variable name: H20017
Editing notes: See Notes 4 and 5

Response	Value	Percent
Definitely yes	1	64.2%
Somewhat yes	2	28.1%
Somewhat no	3	4.8%
Definitely no	4	2.9%

Question 18: Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 12 months?
Variable name: H20018
Editing notes: None

Response	Value	Percent
0 – Worst health care possible	0	0.6%
1	1	0.6%
2	2	0.9%
3	3	1.8%
4	4	2.3%
5	5	5.5%
6	6	5.0%
7	7	11.7%
8	8	19.5%
9	9	20.4%
10 – Best health care possible	10	31.6%
I had no visits in the last 12 months	-6	

Question 19: In the last 12 months, how often was it easy to get the care, tests, or treatment you needed?
Variable name: H20033
Editing notes: None

Response	Value	Percent
Never	1	4.0%
Sometimes	2	14.8%
Usually	3	34.3%
Always	4	46.9%

YOUR PERSONAL DOCTOR

Question 20: A personal doctor is the one you would see if you need a checkup, want advice about a health problem, or get sick or hurt. Do you have a personal doctor?
Variable name: H20019
Editing notes: See Note 6

Response	Directions	Value	Percent
Yes		1	79.1%
No	Go to Question 30	2	20.9%

Question 21: In the last 12 months, how many times did you visit your personal doctor to get care for yourself?
Variable name: H20020
Editing notes: See Notes 6 and 7

Response	Directions	Value	Percent
None	Go to Question 28	0	6.8%
1		1	19.5%
2		2	26.2%
3		3	19.2%
4		4	13.4%
5 to 9		5	12.6%
10 or more		6	2.2%

Question 22: In the last 12 months, how often did your personal doctor listen carefully to you?
Variable name: H20021
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.9%
Sometimes	2	6.6%
Usually	3	15.6%
Always	4	76.9%
I had no visits in the last 12 months	-6	

Question 23: In the last 12 months, how often did your personal doctor explain things in a way that was easy to understand?
Variable name: H20022
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.6%
Sometimes	2	4.7%
Usually	3	17.1%
Always	4	77.6%
I had no visits in the last 12 months	-6	

Question 24: In the last 12 months, how often did your personal doctor show respect for what you had to say?
Variable name: H20023
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.8%
Sometimes	2	4.1%
Usually	3	12.7%
Always	4	82.4%
I had no visits in the last 12 months	-6	

Question 25: In the last 12 months, how often did your personal doctor spend enough time with you?
Variable name: H20024
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	1.6%
Sometimes	2	6.4%
Usually	3	20.5%
Always	4	71.4%
I had no visits in the last 12 months	-6	

Question 26: In the last 12 months, did you get care from a doctor or other health provider besides your personal doctor?
Variable name: H20025
Editing notes: See Notes 6, 7, and 8

Response	Directions	Value	Percent
Yes		1	82.5%
No	Go to Question 28	2	17.5%

Question 27: In the last 12 months, how often did your personal doctor seem informed and up-to-date about the care you got from these doctors or other health providers?
Variable name: H20026
Editing notes: See Notes 6, 7, and 8

Response	Value	Percent
Never	1	7.1%
Sometimes	2	14.6%
Usually	3	28.9%
Always	4	49.5%

Question 28: Using any number from 0 to 10, where 0 is the worst personal doctor possible and 10 is the best personal doctor possible, what number would you use to rate your personal doctor?
Variable name: H20027
Editing notes: See Note 6

Response	Value	Percent
0 – Worst personal doctor possible	0	0.5%
1	1	0.4%
2	2	0.7%
3	3	1.3%
4	4	1.3%
5	5	3.9%
6	6	3.9%
7	7	5.7%
8	8	13.3%
9	9	25.1%
10 – Best personal doctor possible	10	43.9%
I don't have a personal doctor	-6	

Question 29: Did you have the same personal doctor _before_ you joined this health plan?
Variable name: S20009
Editing notes: See Notes 6 and 8_01

Response	Directions	Value	Percent
Yes	Go to Question 31	1	29.4%
No		2	70.6%

Question 30: Since you joined your health plan, how much of a problem, if any, was it to get a personal doctor you are happy with?
Variable name: S20010
Editing notes: See Note 8_01

Response	Value	Percent
A big problem	1	12.7%
A small problem	2	23.2%
Not a problem	3	64.1%

GETTING HEALTH CARE FROM A SPECIALIST

When you answer the next questions, <u>do not</u> include dental visits or care you got when you stayed overnight in a hospital.

Question 31: <u>Specialists</u> are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and other doctors who specialize in one area of health care. In the last 12 months, did you try to make any appointments to see a specialist?
Variable name: H20028
Editing notes: See Note 9

Response	Directions	Value	Percent
Yes		1	66.9%
No	Go to Question 35	2	33.1%

Question 32: In the last 12 months, how often did you get an appointment to see a specialist as soon as you needed?
Variable name: H20029
Editing notes: See Note 9

Response	Value	Percent
Never	1	6.9%
Sometimes	2	15.1%
Usually	3	27.3%
Always	4	50.7%
I didn't need a specialist in the last 12 months	-6	

Question 33: How many specialists have you seen in the last 12 months?
Variable name: H20030
Editing notes: See Notes 9 and 10

Response	Directions	Value	Percent
None	Go to Question 35	0	4.1%
1 specialist		1	35.0%
2		2	29.2%
3		3	17.7%
4		4	7.6%
5 or more specialists		5	6.5%

Question 34: We want to know your rating of the specialist you saw most often in the last 12 months. Using any number from 0 to 10, where 0 is the worst specialist possible and 10 is the best specialist possible, what number would you use to rate the specialist?
Variable name: H20031
Editing notes: See Notes 9 and 10

Response	Value	Percent
0 – Worst specialist possible	0	0.9%
1	1	0.4%
2	2	0.5%
3	3	1.1%
4	4	1.5%
5	5	2.9%
6	6	2.8%
7	7	7.2%
8	8	16.3%
9	9	24.7%
10 – Best specialist possible	10	41.6%
I didn't see a specialist in the last 12 months	-6	

Question 35: Would you say that in general your <u>mental or emotional</u> health is excellent, very good, good, fair, or poor?
Variable name: S20B01
Editing notes: None

Response	Value	Percent
Excellent	1	38.5%
Very good	2	29.5%
Good	3	19.7%
Fair	4	9.4%
Poor	5	3.0%

Question 36: In the last 12 months, did you need any treatment or counseling for a <u>personal</u> or <u>family</u> problem?
Variable name: S20B02
Editing notes: See Note 10_B1

Response	Directions	Value	Percent
Yes		1	14.7%
No	Go to Question 48	2	85.3%

Question 37: In the last 12 months, how much of a problem, if any, was it to get the <u>treatment or counseling</u> you needed through your health plan?
Variable name: S20B03
Editing notes: See Note 10_B1

Response	Value	Percent
A big problem	1	19.7%
A small problem	2	19.8%
Not a problem	3	60.5%

Question 38: Using any number from 0 to 10 where 0 is the worst treatment or counseling possible and 10 is the best treatment or counseling possible, what number would you use to rate your treatment or counseling in the last 12 months?
Variable name: S20B04
Editing notes: See Note 10_B1

Response	Value	Percent
0 – Worst treatment or counseling possible	0	5.5%
1	1	2.0%
2	2	2.0%
3	3	1.3%
4	4	4.3%
5	5	9.7%
6	6	5.2%
7	7	11.9%
8	8	18.7%
9	9	14.3%
10 – Best treatment or counseling possible	10	25.1%
I had no treatment or counseling in the last 12 months	-6	

YOUR HEALTH PLAN

The next questions ask about your experience with <u>your health plan</u>. By your health plan, we mean the health plan you marked in Question 3.

Question 39: In the last 12 months, did you look for any information in written materials or on the Internet about how your health plan works?
Variable name: H20034
Editing notes: See Note 12

Response	Directions	Value	Percent
Yes		1	33.7%
No	Go to Question 41	2	66.3%

Question 40: In the last 12 months, how often did the written material or the Internet provide the information you needed about how your plan works?
Variable name: H20035
Editing notes: See Note 12

Response	Value	Percent
Never	1	5.1%
Sometimes	2	29.6%
Usually	3	44.0%
Always	4	21.2%
I didn't look for information from my health plan in the last 12 months	-6	

Question 41: Sometimes people need services or equipment beyond what is provided in a regular or routine office visit, such as care from a specialist, physical therapy, a hearing aid, or oxygen. In the last 12 months, did you look for information from your health plan on how much you would have to pay for a health care service or equipment?
Variable name: H20036
Editing notes: See Note 13

Response	Directions	Value	Percent
Yes		1	16.8%
No	Go to Question 43	2	83.2%

Question 42: In the last 12 months, how often were you able to find out from your health plan how much you would have to pay for a health care service or equipment?
Variable name: H20037
Editing notes: See Note 13

Response	Value	Percent
Never	1	16.5%
Sometimes	2	27.1%
Usually	3	32.5%
Always	4	23.9%
I didn't need a health care service or equipment from my health plan in the last 12 months	-6	

Question 43: In some health plans, the amount you pay for a prescription medicine can be different for different medicines, or can be different for prescriptions filled by mail instead of at the pharmacy. In the last 12 months, did you look for information from your health plan on how much you would have to pay for specific prescription medicines?
Variable name: H20038
Editing notes: See Note 14

Response	Directions	Value	Percent
Yes		1	20.3%
No	Go to Question 45	2	79.7%

Question 44: In the last 12 months, how often were you able to find out from your health plan how much you would have to pay for specific prescription medications?
Variable name: H20039
Editing notes: See Note 14

Response	Value	Percent
Never	1	12.5%
Sometimes	2	20.1%
Usually	3	24.9%
Always	4	42.5%
I didn't need prescription medications from my health plan in the last 12 months	-6	

Question 45: In the last 12 months, did you try to get information or help from your health plan's customer service?
Variable name: H20040
Editing notes: See Note 15

Response	Directions	Value	Percent
Yes		1	25.4%
No	Go to Question 48	2	74.6%

Question 46: In the last 12 months, how often did your health plan's customer service give you the information or help you needed?
Variable name: H20041
Editing notes: See Note 15

Response	Value	Percent
Never	1	7.3%
Sometimes	2	22.2%
Usually	3	31.4%
Always	4	39.1%
I didn't call my health plan's customer service in the last 12 months	-6	

Question 47: In the last 12 months, how often did your health plan's customer service staff treat you with courtesy and respect?
Variable name: H20042
Editing notes: See Note 15

Response	Value	Percent
Never	1	1.3%
Sometimes	2	7.5%
Usually	3	22.2%
Always	4	69.0%
I didn't call my health plan's customer service in the last 12 months	-6	

Question 48: In the last 12 months, did your health plan give you any forms to fill out?
Variable name: H20043
Editing notes: See Note 16

Response	Directions	Value	Percent
Yes		1	20.5%
No	Go to Question 50	2	79.5%

Question 49: In the last 12 months, how often were the forms from your health plan easy to fill out?
Variable name: H20044
Editing notes: See Note 16

Response	Value	Percent
Never	1	2.2%
Sometimes	2	10.3%
Usually	3	49.1%
Always	4	38.4%
I didn't have any experiences with paperwork for my health plan in the last 12 months	-6	

Question 50: Claims are sent to a health plan for payment. You may send in the claims yourself, or doctors, hospitals, or others may do this for you. In the last 12 months, did you or anyone else send in any claims to your health plan?
Variable name: H20045
Editing notes: See Note 17

Response	Directions	Value	Percent
Yes		1	46.2%
No	Go to Question 53	2	32.9%
Don't know	Go to Question 53	-5	20.9%

Question 51: In the last 12 months, how often did your health plan handle your claims quickly?
Variable name: H20046
Editing notes: See Note 17

Response	Value	Percent
Never	1	3.3%
Sometimes	2	6.2%
Usually	3	27.4%
Always	4	46.4%
Don't know	-5	16.7%
No claims were sent for me in the last 12 months	-6	

Question 52: In the last 12 months, how often did your health plan handle your claims correctly?
Variable name: H20047
Editing notes: See Note 17

Response	Value	Percent
Never	1	1.7%
Sometimes	2	6.7%
Usually	3	25.1%
Always	4	53.7%
Don't know	-5	12.7%
No claims were sent for me in the last 12 months	-6	

Question 53: Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?
Variable name: H20048
Editing notes: None

Response	Value	Percent
0 – Worst health plan possible	0	0.6%
1	1	0.4%
2	2	0.7%
3	3	1.2%
4	4	2.1%
5	5	5.7%
6	6	6.2%
7	7	12.9%
8	8	19.7%
9	9	22.6%
10 – Best health plan possible	10	28.0%

PREVENTIVE CARE

Preventive care is medical care you receive that is intended to maintain your good health or prevent a future medical problem. A physical or blood pressure screening are examples of preventive care.

Question 54: When did you last have a blood pressure reading?
Variable name: H20049
Editing notes: None

Response	Value	Percent
Less than 12 months ago	3	94.2%
1 to 2 years ago	2	3.8%
More than 2 years ago	1	2.0%

Question 55: Do you know if your blood pressure is too high?
Variable name: H20050
Editing notes: None

Response	Value	Percent
Yes, it is too high	1	16.4%
No, it is not too high	2	78.4%
Don't know	3	5.2%

Question 56: When did you last have a flu shot?
Variable name: H20051
Editing notes: None

Response	Value	Percent
Less than 12 months ago	4	77.8%
1 to 2 years ago	3	7.7%
More than 2 years ago	2	7.6%
Never had a flu shot	1	7.0%

Question 57: Have you ever <u>smoked</u> at least 100 cigarettes in your entire life?
Variable name: H20052
Editing notes: None

Response	Value	Percent
Yes	1	33.2%
No	2	65.1%
Don't know	-5	1.6%

Question 58: Do you now smoke cigarettes or use tobacco every day, some days or not at all?
Variable name: H20053
Editing notes: See Note 18

Response	Directions	Value	Percent
Every day		4	5.1%
Some days		3	4.7%
Not at all	Go to Question 63	2	89.7%
Don't know	Go to Question 63	-5	0.5%

Question 59: In the last 12 months, how often were you advised to quit smoking or using tobacco by a doctor or other health provider in your plan?
Variable name: H20054
Editing notes: See Note 18

Response	Value	Percent
Never	1	26.5%
Sometimes	2	25.6%
Usually	3	22.2%
Always	4	25.6%

Question 60: In the last 12 months, how often was medication recommended or discussed by a doctor or health provider to assist you with quitting smoking or using tobacco? Examples of medication are: nicotine gum, patch, nasal spray, inhaler, or prescription medication.
Variable name: H20055
Editing notes: See Note 18

Response	Value	Percent
Never	1	59.1%
Sometimes	2	19.6%
Usually	3	11.5%
Always	4	9.8%

Question 61: In the last 12 months, how often did your doctor or health provider discuss or provide methods and strategies other than medication to assist you with quitting smoking or using tobacco? Examples of methods and strategies are: telephone helpline, individual or group counseling, or cessation program.
Variable name: H20056
Editing notes: See Note 18

Response	Value	Percent
Never	1	57.2%
Sometimes	2	18.1%
Usually	3	13.7%
Always	4	11.0%

Question 62: On the days you smoke or use tobacco products, what type of product do you smoke or use?
MARK ALL THAT APPLY
Variable names: H20057A-H20057D
Editing notes: See Note 18

Response	Variable Name	Percent Marked
Cigarettes	H20057A	56.4%
Dip, chewing tobacco, snuff or snus	H20057B	24.1%
Cigars	H20057C	16.6%
Pipes, bidis, or kreteks (Pipes include hookahs. Bidis are small, brown, hand-rolled cigarettes from India and other Southeast Asian countries. Kreteks are clove cigarettes made in Indonesia that contain clove extract and tobacco.)	H20057D	5.0%

Question 63: Do you now use electronic cigarettes every day, some days, or not at all?
Variable name: S20BF4
Editing notes: None

Response	Value	Percent
Every day	1	1.1%
Some days	2	2.7%
Not at all	3	95.8%
Don't know	-5	0.4%

Question 64: Are you male or female?
Variable name: H20058
Editing notes: See Note 19A

Response	Directions	Value	Percent
Male	Go to Question 71	1	51.5%
Female		2	48.5%

Question 65: When did you last have a Pap smear test?
Variable name: H20059B
Editing notes: See Notes 19A and 19B

Response	Value	Percent
Within the last 12 months	6	31.6%
1 to 2 years ago	5	23.6%
More than 2 but less than 3 years ago	4	10.6%
More than 3 but less than 5 years ago	3	9.7%
5 or more years ago	2	18.8%
Never had a Pap smear test	1	5.8%

Question 66: Are you under age 40?
Variable name: H20060
Editing notes: See Notes 19A, 19B, and 20

Response	Directions	Value	Percent
Yes	Go to Question 68	1	37.7%
No		2	62.3%

Question 67: When was the last time your breasts were checked by mammography?
Variable name: H20061
Editing notes: See Notes 19A, 19B, and 20

Response	Value	Percent
Within the last 12 months	5	63.9%
1 to 2 years ago	4	17.4%
More than 2 but less than 5 years ago	3	5.1%
5 or more years ago	2	7.3%
Never had a mammogram	1	6.3%

Question 68: Have you been pregnant in the last 12 months or are you pregnant now?
Variable name: H20062
Editing notes: See Notes 19A, 19B, and 21

Response	Directions	Value	Percent
Yes, I am currently pregnant		1	2.6%
No, I am not currently pregnant, but have been pregnant in the past 12 months	Go to Question 70	2	4.0%
No, I am not currently pregnant, and have not been pregnant in the past 12 months	Go to Question 71	3	93.4%

Question 69: In what trimester is your pregnancy?
Variable name: H20063
Editing notes: See Notes 19A, 19B, and 21

Response	Directions	Value	Percent
First trimester (up to 12 weeks after 1st day of last period)	Go to Question 71	1	21.9%
Second trimester (13th through 27th week)		2	39.8%
Third trimester (28th week until delivery)		3	38.3%

Question 70: In which trimester did you first receive prenatal care?
Variable name: H20064
Editing notes: See Notes 19A, 19B, and 21

Response	Value	Percent
First trimester (up to 12 weeks after 1st day of last period)	4	94.4%
Second trimester (13th through 27th week)	3	1.5%
Third trimester (28th week until delivery)	2	0.1%
Did not receive prenatal care	1	4.0%

ABOUT YOU

Question 71: Would you say that in general your health is excellent, very good, good, fair, or poor?
Variable name: H20065
Editing notes: None

Response	Value	Percent
Excellent	5	16.7%
Very good	4	38.9%
Good	3	32.6%
Fair	2	10.0%
Poor	1	1.7%

Question 72: Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?
Variable name: S20BG01
Editing notes: See Notes 21_BG1 and 21_BG3

Response	Value	Percent
Number of days	1-30	43.5%
None	0	56.5%

Question 73: Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?
Variable name: S20BG02
Editing notes: See Notes 21_BG2 and 21_BG3

Response	Value	Percent
Number of days	1-30	32.5%
None	0	67.5%

Question 74: During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?
Variable name: S20BG03
Editing notes: See Note 21_BG3

Response	Value	Percent
Number of days	1-30	32.2%
None	0	67.8%

Question 75: Do you have any children under the age of 18 living at home with you?
Variable name: S20BJ01
Editing notes: See Note 24_BJ1

Response	Directions	Value	Percent
Yes		1	24.1%
No	Go to Question 78	2	75.9%

Question 76: Thinking about your child/children, how much of a problem, if any, is it for you to make child care arrangements?
Variable name: S20BJ02
Editing notes: See Note 24_BJ1

Response	Value	Percent
A big problem	1	17.5%
A small problem	2	24.1%
Not a problem	3	58.4%

Question 77: Thinking about your child/children, how concerned are you, if at all, about your child's/ children's education?
Variable name: S20BJ03
Editing notes: See Note 24_BJ1

Response	Value	Percent
Very concerned	1	37.3%
Somewhat concerned	2	22.2%
Not concerned	3	40.5%

Question 78: Thinking about your personal life, how concerned are you about each of the following.
Variable names: S20BJ04-S20BJ09
Editing notes: None

Response	Variable Name	Value Very concerned	Value Somewhat concerned	Value Not concerned	Percent Very concerned	Percent Somewhat concerned	Percent Not concerned
Your health problems	S20BJ04	1	2	3	17.7%	39.0%	43.3%
The health problems of family member	S20BJ05	1	2	3	22.8%	36.1%	41.1%
Managing household expenses	S20BJ06	1	2	3	13.3%	24.8%	61.9%
Major financial hardship or bankruptcy in your family	S20BJ07	1	2	3	6.2%	11.2%	82.5%
The demands of your job	S20BJ08	1	2	3	8.8%	20.0%	71.2%
The demands of going to school	S20BJ09	1	2	3	5.7%	10.1%	84.2%

Question 79: Are you married?
Variable name: S20BJ10
Editing notes: See Note 24_BJ2

Response	Directions	Value	Percent
Yes		1	75.6%
No	Go to Question 82	2	24.4%

Question 80: Thinking about your marriage, how concerned are you about each of the following.
Variable names: S20BJ11-S20BJ13
Editing notes: See Note 24_BJ2

Response	Variable Name	Value Very concerned	Value Somewhat concerned	Value Not concerned	Percent Very concerned	Percent Somewhat concerned	Percent Not concerned
Poor communi-cation with your spouse	S20BJ11	1	2	3	7.7%	19.3%	73.0%
Arguments with your spouse	S20BJ12	1	2	3	5.0%	14.5%	80.4%
Marital problems between you and your spouse	S20BJ13	1	2	3	5.4%	10.2%	84.4%

Question 81: Are you the spouse of a member of the uniformed services who was on deployment during the past 30 days?
Variable name: S20BJ14
Editing notes: See Note 24_BJ2

Response	Value	Percent
Yes	1	3.2%
No	2	96.8%

Question 82: How tall are you without your shoes on? Please give your answer in feet and inches.
Variable name: H20071F, H20071I
Editing notes: See Note 23_HT

Response	Example feet	Example inches	Percent of responses
Please give your answer in feet and inches. Please write one number in each box.	5	06	94.0%

Question 83 : How much do you weigh without your shoes on? Please give your answer in pounds.
Variable name: H20072
Editing notes: See Note 23_WT

Response	Example pounds	Percent of responses
Please give your answer in pounds. Please write one number in each box.	152	93.8%

Question 84: What is the highest grade or level of school that you have completed?
Variable name: SREDA
Editing notes: None

Response	Value	Percent
8th grade or less	1	0.5%
Some high school, but did not graduate	2	1.4%
High school graduate or GED	3	15.8%
Some college or 2-year degree	4	38.2%
4-year college graduate	5	16.8%
More than 4-year college degree	6	27.2%

Question 85: Are you of Hispanic or Latino origin or descent? (Mark "NO" if not Spanish/Hispanic/ Latino.)
MARK ALL THAT APPLY
Variable names: H20073A-H20073E, H20073
Editing notes: See Note 24

Response	Variable Name	H20073 Value	Percent Marked
No, not Spanish, Hispanic, or Latino	H20073A	1	86.7%
Yes, Mexican, Mexican American, Chicano	H20073B	2	4.1%
Yes, Puerto Rican	H20073C	3	2.7%
Yes, Cuban	H20073D	4	0.5%
Yes, other Spanish, Hispanic, or Latino	H20073E	5	3.1%

Question 86: What is your race?
MARK ALL THAT APPLY
Variable names: SRRACEA-SRRACEE
Editing notes: None

Response	Variable Name	Percent Marked
White	SRRACEA	78.4%
Black or African American	SRRACEB	10.8%
American Indian or Alaska Native	SRRACEC	2.1%
Asian (e.g., Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese)	SRRACED	7.1%
Native Hawaiian or other Pacific Islander (e.g., Samoan, Guamanian or Chamorro)	SRRACEE	0.9%

Question 87: What is your age now?
Variable name: SRAGE
Editing notes: None

Response	Value	Percent
18 to 24	1	13.0%
25 to 34	2	16.0%
35 to 44	3	12.9%
45 to 54	4	7.7%
55 to 64	5	18.8%
65 to 74	6	16.7%
75 or older	7	14.8%

Question 88: Using a scale of 1 to 5, with 1 being "strongly disagree" and 5 being "strongly agree", how much do you agree with the following statement: In general, I am able to see my provider(s) when needed?
Variable name: S20011
Editing notes: None

Response	Value	Percent
Strongly disagree	1	5.8%
Disagree	2	5.3%
Neither agree nor disagree	3	11.0%
Agree	4	38.2%
Strongly agree	5	39.8%

Question 89: Using a scale of 1 to 5, with 1 being "completely dissatisfied" and 5 being "completely satisfied", how satisfied are you, overall, with the health care you received during your last visit?
Variable name: S20014
Editing notes: None

Response	Value	Percent
Completely dissatisfied	1	3.9%
Somewhat dissatisfied	2	4.3%
Neither satisfied nor dissatisfied	3	8.0%
Somewhat satisfied	4	22.9%
Completely satisfied	5	60.9%

THANK YOU FOR TAKING THE TIME TO COMPLETE THE SURVEY!

Your generous contribution will greatly aid efforts to improve the health of our military community.

RCS: DD-HA(A) 1942

Health Care Survey of DoD Beneficiaries

A world-wide survey of beneficiaries eligible for health care coverage through the military health system

April 2020

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Military Health Care Survey:

Adult Questionnaire

April 2020

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Privacy Advisory

Providing information in this Survey is voluntary. There is no penalty nor will your benefits be affected if you choose not to respond, although maximum participation is encouraged so that the data will be complete and representative.

The Survey was written so that answers should not require you to provide any personally identifiable information (PII), but please be assured that any PII provided will be treated as confidential. Your responses are collected via a secure system which does not collect any information that could be used to determine your identity.

Answering the questions is voluntary; you may stop the Survey at any time.

According to the Privacy Act of 1974 (5 U.S.C. §552a), the Department of Defense is required to inform you of the purposes and use of this survey. Please read it carefully.

Authority: 10 U.S.C. §1074 (Medical and Dental Care for Members and Certain Former Members, as amended by National Defense Authorization Act of 1993, Public Law 102-484, §706); 10 U.S.C. §1074f (Medical Tracking System for Members Deployed Overseas); 32 C.F.R. §199.17 (TRICARE Program); 45 C.F.R. Part 160 Subparts A and E of Part 164 (Health Insurance Portability and Accountability Act of 1996, Privacy Rule); DoD 6025.18-R (Department of Defense Health Information Privacy Regulation); DoD 6025.13-R (Military Health System Clinical Quality Assurance Program Regulation); 64 FR 22837 (DHA 08 – Health Affairs Survey Data Base, April 28, 1999); and, E.O. 9397 (as amended, November 20, 2008, for SSN collection).

Purpose: This survey helps health policy makers gauge beneficiary satisfaction with the current military health care system and provides valuable input from beneficiaries that will be used to improve the Military Health System.

Routine Uses: None.

Disclosure: Participation is voluntary. Failure to respond will not result in any penalty to the respondent; however maximum participation is encouraged so that data will be as complete and representative as possible.

SURVEY INSTRUCTIONS

Thank you for taking the time to participate in this online survey.

Please note, if the survey is idle for more than 5 minutes, you will be logged out automatically to protect your privacy. If that happens, simply wait 15 minutes and log back in. Please keep your password because you may need it later.

During the survey, please do not use your browser's FORWARD and BACK buttons. Instead, please always use the buttons below to move backward and forward through the survey.

To begin, just click on the "Next" button below. This will take you right into the survey.

SURVEY STARTS HERE

As an eligible TRICARE beneficiary, <u>please complete this survey even if you did not receive your health care from a military facility</u>.

Please recognize that some specific questions about TRICARE benefits may not apply to you, depending on your entitlement and particular TRICARE program.

This survey is about the health care of the person whose name appears on the cover letter. The questionnaire should be completed by that person. If you are not the addressee, please give this survey to that person.

Question 1: Are you the person whose name appears on the cover letter?
Variable name: H20001
Editing notes: None

Response	Directions	Value	Percent
Yes	Go to Question 2	1	99.7%
No	Please give this questionnaire to the person addressed on the cover letter.	2	0.3%

Question 2: By which of the following health plans are you <u>currently covered</u>?
MARK ALL THAT APPLY
Variable names: H20002A, H20002C, H20002F-H20002V
Editing notes: None

Military Health Plans

Response	Variable Name	Percent Marked
TRICARE Prime (including most Active Duty, TRICARE Prime Remote, and TRICARE Overseas)	H20002A	44.9%
TRICARE Select (previously known as TRICARE Extra or Standard (CHAMPUS))	H20002C	12.5%
TRICARE Plus	H20002N	1.1%
TRICARE for Life	H20002O	31.8%
TRICARE Supplemental Insurance	H20002P	1.1%
TRICARE Reserve Select	H20002Q	3.9%
TRICARE Retired Reserve	H20002S	1.7%
TRICARE Young Adult Prime	H20002T	0.2%
TRICARE Young Adult Select	H20002V	0.3%
Uniformed Services Family Health Plan (USFHP)	H20002K	2.2%
Continued Health Care Benefit Program (CHCBP) (a COBRA-like premium-based health care program)	H20002U	0.0%

Other Health Plans

Response	Variable Name	Percent Marked
Medicare	H20002F	31.4%
Federal Employees Health Benefit Program (FEHBP)	H20002G	2.8%
Medicaid or other state health insurance	H20002H	0.7%
A civilian HMO (such as Kaiser)	H20002I	0.6%
Other civilian health insurance (such as Blue Cross)	H20002J	5.1%
The Veterans Administration (VA)	H20002M	8.5%
Government health insurance from a country other than the U.S.	H20002R	0.3%
Not sure	H20002L	5.1%

Question 3: Which health plan did you <u>use</u> for all or most of your healthcare <u>in the last 12 months</u>?
MARK ONLY ONE ANSWER
Variable name: H20003
Editing notes: See Note 1

Response	Directions	Value	Percent
TRICARE Prime (including most Active Duty, TRICARE Prime Remote, and TRICARE Overseas)		1	40.0%
TRICARE Select (previously known as TRICARE Extra or Standard (CHAMPUS))		3	8.6%
TRICARE Plus		11	0.8%
TRICARE Supplemental Insurance		19	0.3%
TRICARE Reserve Select		12	3.6%
TRICARE Retired Reserve		14	0.9%
TRICARE Young Adult Prime		15	0.1%
TRICARE Young Adult Select		17	0.3%
Uniformed Services Family Health Plan (USFHP)		9	1.9%
Continued Health Care Benefit Program (CHCBP) (a COBRA-like premium-based health care program)		16	0.2%
Medicare		4	27.1%
Federal Employees Health Benefit Program (FEHBP)		5	1.6%
Medicaid or other state health insurance		6	0.6%
A civilian HMO (such as Kaiser)		7	0.5%
Other civilian health insurance (such as Blue Cross)		8	4.6%
The Veterans Administration (VA)		10	4.7%
Government health insurance from a country other than the U.S.		13	0.2%
Not sure	Go to Question 5	-5	4.1%
Did not use any health plan in the last 12 months	Go to Question 5	-6	

For the remainder of this questionnaire, the term <u>health plan</u> refers to the plan you indicated in Question 3.

Question 4: How many months or years in a row have you been in this health plan?
Variable name: H20004
Editing notes: See Note 1

Response	Value	Percent
Less than 6 months	1	1.2%
At least 6 months but less than 12 months	2	3.6%
At least 12 months but less than 24 months	3	7.7%
At least 2 years but less than 5 years	4	19.4%
At least 5 years but less than 10 years	5	20.8%
10 or more years	6	47.3%

YOUR HEALTH CARE IN THE LAST 12 MONTHS

These questions ask about your own health care. Do **not** include care you got when you stayed overnight in a hospital. Do **not** include the times you went for dental care visits.

Question 5: In the last 12 months, where did you go most often for your health care?
MARK ONLY ONE
Variable name: H20005
Editing notes: None

Response	Value	Percent
A military facility – This includes:	1	33.1%
Military clinic		
Military hospital		
PRIMUS clinic		
NAVCARE clinic		
A civilian facility – This includes:	2	56.4%
Doctor's office		
Clinic		
Hospital		
Civilian TRICARE contractor		
Uniformed Services Family Health Plan facility (USFHP)	3	1.3%
Veterans Affairs (VA) clinic or hospital	4	6.0%
I went to none of the listed types of facilities in the last 12 months	5	3.2%

Question 6: In the last 12 months, did you have an illness, injury, or condition that needed care right away in a clinic, emergency room, or doctor's office?
Variable name: H20006
Editing notes: See Note 2

Response	Directions	Value	Percent
Yes		1	41.1%
No	Go to Question 9	2	58.9%

Question 7: In the last 12 months, when you needed care right away, how often did you get care as soon as you needed?
Variable name: H20007
Editing notes: See Note 2

Response	Value	Percent
Never	1	2.6%
Sometimes	2	8.5%
Usually	3	17.7%
Always	4	71.2%
I didn't need care right away for an illness, injury or condition in the last 12 months	-6	

Question 8: In the last 12 months, when you <u>needed care right away</u> for an illness, injury, or condition, how long did you usually have to wait between trying to get care and actually seeing a provider?
Variable name: H20008
Editing notes: See Note 2

Response	Value	Percent
Same day	1	62.2%
1 day	2	12.7%
2 days	3	6.6%
3 days	4	4.8%
4-7 days	5	7.1%
8-14 days	6	3.5%
15 days or longer	7	3.1%
I didn't need care right away for an illness, injury or condition in the last 12 months	-6	

Question 9: In the last 12 months, not counting the times you needed health care right away, did you make any <u>appointments</u> for your health care at a doctor's office or clinic?
Variable name: H20009
Editing notes: See Note 3

Response	Directions	Value	Percent
Yes		1	85.9%
No	Go to Question 12	2	14.1%

Question 10: In the last 12 months, how often did you get an appointment for a check-up or routine care at a doctor's office or clinic as soon as you needed?
Variable name: H20010
Editing notes: See Note 3

Response	Value	Percent
Never	1	3.3%
Sometimes	2	18.2%
Usually	3	27.0%
Always	4	51.5%
I had no appointments in the last 12 months	-6	

Question 11: In the last 12 months, not counting the times you needed health care right away, how many <u>days</u> did you usually have to wait between making an <u>appointment</u> and actually <u>seeing a provider</u>?
Variable name: H20011
Editing notes: See Note 3

Response	Value	Percent
Same day	1	7.1%
1 day	2	8.5%
2-3 days	3	19.4%
4-7 days	4	24.8%
8-14 days	5	19.1%
15-30 days	6	14.2%
31 days or longer	7	6.9%
I had no appointments in the last 12 months	-6	

Question 12: In the last 12 months, how many times did you go to an <u>emergency room</u> to get care for yourself?
Variable name: H20012
Editing notes: None

Response	Value	Percent
None	1	71.7%
1	2	19.3%
2	3	6.1%
3	4	1.7%
4	5	0.6%
5 to 9	6	0.6%
10 or more	7	0.0%

Question 13: In the last 12 months (not counting times you went to an emergency room), how many times did you go to a <u>doctor's office or clinic</u> to get health care for yourself?
Variable name: H20013
Editing notes: See Note 4

Response	Directions	Value	Percent
None	Go to Question 18	1	11.9%
1		2	13.3%
2		3	17.2%
3		4	16.1%
4		5	14.4%
5 to 9		6	18.6%
10 or more		7	8.6%

Question 14: In the last 12 months, how often did you and a doctor or other health provider talk about specific things you could do to prevent illness?
Variable name: H20014
Editing notes: See Note 4

Response	Value	Percent
Never	1	13.6%
Sometimes	2	24.8%
Usually	3	28.4%
Always	4	33.2%

Question 15: Choices for your treatment or health care can include choices about medicine, surgery, or other treatment. In the last 12 months, did a doctor or other health provider tell you there was more than one choice for your treatment or health care?
Variable name: H20015
Editing notes: See Notes 4 and 5

Response	Directions	Value	Percent
Yes		1	59.3%
No	Go to Question 18	2	40.7%

Question 16: In the last 12 months, did a doctor or other health provider talk with you about the pros and cons of each choice for your treatment or health care?
Variable name: H20016
Editing notes: See Notes 4 and 5

Response	Value	Percent
Definitely yes	1	71.4%
Somewhat yes	2	25.3%
Somewhat no	3	2.3%
Definitely no	4	1.0%

Question 17: In the last 12 months, when there was more than one choice for your treatment or health care, did a doctor or other health provider ask which choice you thought was best for you?
Variable name: H20017
Editing notes: See Notes 4 and 5

Response	Value	Percent
Definitely yes	1	61.2%
Somewhat yes	2	31.3%
Somewhat no	3	4.8%
Definitely no	4	2.7%

Question 18: Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 12 months?
Variable name: H20018
Editing notes: None

Response	Value	Percent
0 – Worst health care possible	0	0.6%
1	1	0.2%
2	2	0.6%
3	3	1.2%
4	4	1.6%
5	5	5.4%
6	6	5.0%
7	7	10.2%
8	8	20.0%
9	9	20.7%
10 – Best health care possible	10	34.5%
I had no visits in the last 12 months	-6	

Question 19: In the last 12 months, how often was it easy to get the care, tests, or treatment you needed?
Variable name: H20033
Editing notes: None

Response	Value	Percent
Never	1	3.0%
Sometimes	2	14.3%
Usually	3	34.7%
Always	4	48.0%

YOUR PERSONAL DOCTOR

Question 20: A personal doctor is the one you would see if you need a checkup, want advice about a health problem, or get sick or hurt. Do you have a personal doctor?
Variable name: H20019
Editing notes: See Note 6

Response	Directions	Value	Percent
Yes		1	77.0%
No	Go to Question 30	2	23.0%

Question 21: In the last 12 months, how many times did you visit your personal doctor to get care for yourself?
Variable name: H20020
Editing notes: See Notes 6 and 7

Response	Directions	Value	Percent
None	Go to Question 28	0	8.4%
1		1	21.4%
2		2	26.0%
3		3	17.4%
4		4	13.8%
5 to 9		5	11.5%
10 or more		6	1.6%

Question 22: In the last 12 months, how often did your personal doctor listen carefully to you?
Variable name: H20021
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.8%
Sometimes	2	4.7%
Usually	3	16.2%
Always	4	78.4%
I had no visits in the last 12 months	-6	

Question 23: In the last 12 months, how often did your personal doctor explain things in a way that was easy to understand?
Variable name: H20022
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.4%
Sometimes	2	3.5%
Usually	3	16.3%
Always	4	79.8%
I had no visits in the last 12 months	-6	

Question 24: In the last 12 months, how often did your personal doctor show respect for what you had to say?
Variable name: H20023
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	0.7%
Sometimes	2	3.5%
Usually	3	12.5%
Always	4	83.3%
I had no visits in the last 12 months	-6	

Question 25: In the last 12 months, how often did your personal doctor spend enough time with you?
Variable name: H20024
Editing notes: See Notes 6 and 7

Response	Value	Percent
Never	1	1.3%
Sometimes	2	5.9%
Usually	3	21.8%
Always	4	71.0%
I had no visits in the last 12 months	-6	

Question 26: In the last 12 months, did you get care from a doctor or other health provider besides your personal doctor?
Variable name: H20025
Editing notes: See Notes 6, 7, and 8

Response	Directions	Value	Percent
Yes		1	73.2%
No	Go to Question 28	2	26.8%

Question 27: In the last 12 months, how often did your personal doctor seem informed and up-to-date about the care you got from these doctors or other health providers?
Variable name: H20026
Editing notes: See Notes 6, 7, and 8

Response	Value	Percent
Never	1	4.5%
Sometimes	2	12.0%
Usually	3	31.5%
Always	4	52.0%

Question 28: Using any number from 0 to 10, where 0 is the worst personal doctor possible and 10 is the best personal doctor possible, what number would you use to rate your personal doctor?
Variable name: H20027
Editing notes: See Note 6

Response	Value	Percent
0 – Worst personal doctor possible	0	0.3%
1	1	0.1%
2	2	0.6%
3	3	0.7%
4	4	1.0%
5	5	3.9%
6	6	2.4%
7	7	6.0%
8	8	14.7%
9	9	23.6%
10 – Best personal doctor possible	10	46.5%
I don't have a personal doctor	-6	

Question 29: Did you have the same personal doctor <u>before</u> you joined this health plan?
Variable name: S20009
Editing notes: See Notes 6 and 8_01

Response	Directions	Value	Percent
Yes	Go to Question 31	1	31.7%
No		2	68.3%

Question 30: Since you joined your health plan, how much of a problem, if any, was it to get a personal doctor you are happy with?
Variable name: S20010
Editing notes: See Note 8_01

Response	Value	Percent
A big problem	1	11.1%
A small problem	2	21.3%
Not a problem	3	67.6%

GETTING HEALTH CARE FROM A SPECIALIST

When you answer the next questions, <u>do not</u> include dental visits or care you got when you stayed overnight in a hospital.

Question 31: <u>Specialists</u> are doctors like surgeons, heart doctors, allergy doctors, skin doctors, and other doctors who specialize in one area of health care. In the last 12 months, did you try to make any appointments to see a specialist?
Variable name: H20028
Editing notes: See Note 9

Response	Directions	Value	Percent
Yes		1	61.3%
No	Go to Question 35	2	38.7%

Question 32: In the last 12 months, how often did you get an appointment to see a specialist as soon as you needed?
Variable name: H20029
Editing notes: See Note 9

Response	Value	Percent
Never	1	4.9%
Sometimes	2	16.0%
Usually	3	28.7%
Always	4	50.3%
I didn't need a specialist in the last 12 months	-6	

Question 33: How many specialists have you seen in the last 12 months?
Variable name: H20030
Editing notes: See Notes 9 and 10

Response	Directions	Value	Percent
None	Go to Question 35	0	3.3%
1 specialist		1	36.4%
2		2	33.7%
3		3	16.2%
4		4	5.1%
5 or more specialists		5	5.3%

Question 34: We want to know your rating of the specialist you saw most often in the last 12 months. Using any number from 0 to 10, where 0 is the worst specialist possible and 10 is the best specialist possible, what number would you use to rate the specialist?
Variable name: H20031
Editing notes: See Notes 9 and 10

Response	Value	Percent
0 – Worst specialist possible	0	0.3%
1	1	0.2%
2	2	0.2%
3	3	1.2%
4	4	0.6%
5	5	2.3%
6	6	3.9%
7	7	6.2%
8	8	15.8%
9	9	25.7%
10 – Best specialist possible	10	43.8%
I didn't see a specialist in the last 12 months	-6	

Question 35: Would you say that in general your <u>mental or emotional</u> health is excellent, very good, good, fair, or poor?
Variable name: S20B01
Editing notes: None

Response	Value	Percent
Excellent	1	38.7%
Very good	2	32.0%
Good	3	19.0%
Fair	4	8.3%
Poor	5	2.0%

Question 36: In the last 12 months, did you need any treatment or counseling for a <u>personal</u> or <u>family</u> problem?
Variable name: S20B02
Editing notes: See Note 10_B1

Response	Directions	Value	Percent
Yes		1	13.2%
No	Go to Question 39	2	86.8%

Question 37: In the last 12 months, how much of a problem, if any, was it to get the <u>treatment or counseling</u> you needed through your health plan?
Variable name: S20B03
Editing notes: See Note 10_B1

Response	Value	Percent
A big problem	1	16.9%
A small problem	2	22.0%
Not a problem	3	61.2%

Question 38: Using any number from 0 to 10 where 0 is the worst treatment or counseling possible and 10 is the best treatment or counseling possible, what number would you use to rate your treatment or counseling in the last 12 months?
Variable name: S20B04
Editing notes: See Note 10_B1

Response	Value	Percent
0 – Worst treatment or counseling possible	0	2.5%
1	1	0.8%
2	2	1.5%
3	3	2.6%
4	4	2.0%
5	5	8.1%
6	6	6.3%
7	7	11.8%
8	8	14.9%
9	9	16.2%
10 – Best treatment or counseling possible	10	33.3%
I had no treatment or counseling in the last 12 months	-6	

YOUR HEALTH PLAN

The next questions ask about your experience with <u>your health plan</u>. By your health plan, we mean the health plan you marked in Question 3.

Question 39: In the last 12 months, did you look for any information in written materials or on the Internet about how your health plan works?
Variable name: H20034
Editing notes: See Note 12

Response	Directions	Value	Percent
Yes		1	31.2%
No	Go to Question 41	2	68.8%

Question 40: In the last 12 months, how often did the written material or the Internet provide the information you needed about how your plan works?
Variable name: H20035
Editing notes: See Note 12

Response	Value	Percent
Never	1	3.5%
Sometimes	2	26.3%
Usually	3	42.9%
Always	4	27.3%
I didn't look for information from my health plan in the last 12 months	-6	

Question 41: Sometimes people need services or equipment beyond what is provided in a regular or routine office visit, such as care from a specialist, physical therapy, a hearing aid, or oxygen. In the last 12 months, did you look for information from your health plan on how much you would have to pay for a health care service or equipment?
Variable name: H20036
Editing notes: See Note 13

Response	Directions	Value	Percent
Yes		1	16.4%
No	Go to Question 43	2	83.6%

Question 42: In the last 12 months, how often were you able to find out from your health plan how much you would have to pay for a health care service or equipment?
Variable name: H20037
Editing notes: See Note 13

Response	Value	Percent
Never	1	13.4%
Sometimes	2	22.3%
Usually	3	33.0%
Always	4	31.3%
I didn't need a health care service or equipment from my health plan in the last 12 months	-6	

Question 43: In some health plans, the amount you pay for a prescription medicine can be different for different medicines, or can be different for prescriptions filled by mail instead of at the pharmacy. In the last 12 months, did you look for information from your health plan on how much you would have to pay for specific prescription medicines?
Variable name: H20038
Editing notes: See Note 14

Response	Directions	Value	Percent
Yes		1	17.7%
No	Go to Question 45	2	82.3%

Question 44: In the last 12 months, how often were you able to find out from your health plan how much you would have to pay for specific prescription medications?
Variable name: H20039
Editing notes: See Note 14

Response	Value	Percent
Never	1	13.4%
Sometimes	2	17.7%
Usually	3	25.7%
Always	4	43.3%
I didn't need prescription medications from my health plan in the last 12 months	-6	

Question 45: In the last 12 months, did you try to get information or help from your health plan's customer service?
Variable name: H20040
Editing notes: See Note 15

Response	Directions	Value	Percent
Yes		1	21.9%
No	Go to Question 48	2	78.1%

Question 46: In the last 12 months, how often did your health plan's customer service give you the information or help you needed?
Variable name: H20041
Editing notes: See Note 15

Response	Value	Percent
Never	1	5.7%
Sometimes	2	21.2%
Usually	3	29.7%
Always	4	43.3%
I didn't call my health plan's customer service in the last 12 months	-6	

Question 47: In the last 12 months, how often did your health plan's customer service staff treat you with courtesy and respect?
Variable name: H20042
Editing notes: See Note 15

Response	Value	Percent
Never	1	1.5%
Sometimes	2	7.4%
Usually	3	19.0%
Always	4	72.1%
I didn't call my health plan's customer service in the last 12 months	-6	

Question 48: In the last 12 months, did your health plan give you any forms to fill out?
Variable name: H20043
Editing notes: See Note 16

Response	Directions	Value	Percent
Yes		1	17.5%
No	Go to Question 50	2	82.5%

Question 49: In the last 12 months, how often were the forms from your health plan easy to fill out?
Variable name: H20044
Editing notes: See Note 16

Response	Value	Percent
Never	1	2.0%
Sometimes	2	12.6%
Usually	3	44.2%
Always	4	41.2%
I didn't have any experiences with paperwork for my health plan in the last 12 months	-6	

Question 50: Claims are sent to a health plan for payment. You may send in the claims yourself, or doctors, hospitals, or others may do this for you. In the last 12 months, did you or anyone else send in any claims to your health plan?
Variable name: H20045
Editing notes: See Note 17

Response	Directions	Value	Percent
Yes		1	42.7%
No	Go to Question 53	2	37.1%
Don't know	Go to Question 53	-5	20.2%

Question 51: In the last 12 months, how often did your health plan handle your claims quickly?
Variable name: H20046
Editing notes: See Note 17

Response	Value	Percent
Never	1	2.2%
Sometimes	2	6.9%
Usually	3	31.5%
Always	4	47.5%
Don't know	-5	11.9%
No claims were sent for me in the last 12 months	-6	

Question 52: In the last 12 months, how often did your health plan handle your claims correctly?
Variable name: H20047
Editing notes: See Note 17

Response	Value	Percent
Never	1	1.3%
Sometimes	2	6.2%
Usually	3	26.1%
Always	4	55.3%
Don't know	-5	11.2%
No claims were sent for me in the last 12 months	-6	

Question 53: Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?
Variable name: H20048
Editing notes: None

Response	Value	Percent
0 – Worst health plan possible	0	0.7%
1	1	0.1%
2	2	0.4%
3	3	1.0%
4	4	1.3%
5	5	5.7%
6	6	4.8%
7	7	10.8%
8	8	18.5%
9	9	22.9%
10 – Best health plan possible	10	33.7%

PREVENTIVE CARE

Preventive care is medical care you receive that is intended to maintain your good health or prevent a future medical problem. A physical or blood pressure screening are examples of preventive care.

Question 54: When did you last have a blood pressure reading?
Variable name: H20049
Editing notes: None

Response	Value	Percent
Less than 12 months ago	3	93.4%
1 to 2 years ago	2	4.7%
More than 2 years ago	1	1.8%

Question 55: Do you know if your blood pressure is too high?
Variable name: H20050
Editing notes: None

Response	Value	Percent
Yes, it is too high	1	16.8%
No, it is not too high	2	77.8%
Don't know	3	5.4%

Question 56: When did you last have a flu shot?
Variable name: H20051
Editing notes: None

Response	Value	Percent
Less than 12 months ago	4	75.5%
1 to 2 years ago	3	7.1%
More than 2 years ago	2	10.8%
Never had a flu shot	1	6.6%

Question 57: Have you ever <u>smoked</u> at least 100 cigarettes in your entire life?
Variable name: H20052
Editing notes: None

Response	Value	Percent
Yes	1	34.6%
No	2	63.8%
Don't know	-5	1.5%

Question 58: Do you now smoke cigarettes or use tobacco every day, some days or not at all?
Variable name: H20053
Editing notes: See Note 18

Response	Directions	Value	Percent
Every day		4	5.2%
Some days		3	4.0%
Not at all	Go to Question 63	2	90.2%
Don't know	Go to Question 63	-5	0.5%

Question 59: In the last 12 months, how often were you advised to quit smoking or using tobacco by a doctor or other health provider in your plan?
Variable name: H20054
Editing notes: See Note 18

Response	Value	Percent
Never	1	23.3%
Sometimes	2	21.7%
Usually	3	20.0%
Always	4	35.0%

Question 60: In the last 12 months, how often was medication recommended or discussed by a doctor or health provider to assist you with quitting smoking or using tobacco? Examples of medication are: nicotine gum, patch, nasal spray, inhaler, or prescription medication.
Variable name: H20055
Editing notes: See Note 18

Response	Value	Percent
Never	1	46.4%
Sometimes	2	26.2%
Usually	3	12.6%
Always	4	14.7%

Question 61: In the last 12 months, how often did your doctor or health provider discuss or provide methods and strategies other than medication to assist you with quitting smoking or using tobacco? Examples of methods and strategies are: telephone helpline, individual or group counseling, or cessation program.
Variable name: H20056
Editing notes: See Note 18

Response	Value	Percent
Never	1	51.3%
Sometimes	2	20.6%
Usually	3	15.8%
Always	4	12.3%

Question 62: On the days you smoke or use tobacco products, what type of product do you smoke or use?
MARK ALL THAT APPLY
Variable names: H20057A-H20057D
Editing notes: See Note 18

Response	Variable Name	Percent Marked
Cigarettes	H20057A	57.3%
Dip, chewing tobacco, snuff or snus	H20057B	20.1%
Cigars	H20057C	14.2%
Pipes, bidis, or kreteks (Pipes include hookahs. Bidis are small, brown, hand-rolled cigarettes from India and other Southeast Asian countries. Kreteks are clove cigarettes made in Indonesia that contain clove extract and tobacco.)	H20057D	2.4%

Question 63: Electronic cigarettes, or e-cigarettes as they are often called, are battery-operated devices that simulate smoking a cigarette, but do not involve the burning of tobacco. The heated vapor produced by an e-cigarette often contains nicotine. You may also know them as e-cigs, vapes, vape-pens, hookah-pens, e-hookahs, or mods. Some brand examples include JUUL, Blu, Vuse, and Puff Bar. Have you ever vaped or used an e-cigarette, even just one time in your entire life?
Variable name: S20BF2
Editing notes: See Note 18_BF1

Response	Directions	Value	Percent
Yes		1	13.8%
No	Go to Question 69	2	85.6%
Don't know	Go to Question 69	-5	0.6%

Question 64: How old were you when you first tried vaping or using an e-cigarette, even once or twice?
Variable name: S20BF7
Editing notes: See Note 18_BF1

Response	Value	Percent
17 years old or younger	1	10.3%
18 – 24 years old	2	41.7%
25 – 34 years old	3	20.9%
35 – 44 years old	4	7.8%
45 – 54 years old	5	6.9%
55 – 64 years old	6	10.4%
65 years old or older	7	1.9%

Question 65: How many times in total do you think you have vaped or used an e-cigarette?
Variable name: S20BF3
Editing notes: See Note 18_BF1

Response	Value	Percent
1 – 10	1	42.6%
11 – 20	2	13.1%
21 – 50	3	8.7%
Over 50 times	4	28.7%
Don't know	-5	7.0%

Question 66: Do you now vape or use e-cigarettes every day, some days, or not at all?
Variable name: S20BF4
Editing notes: See Note 18_BF1 and Note18_BF2

Response	Value	Percent
Every day	1	9.8%
Some days	2	12.4%
Not at all	3	76.2%
Don't know	-5	1.6%

Question 67: Were any of the e-cigarettes that you used in the past 30 days flavored to taste like menthol, mint, clove, spice, candy, fruit, chocolate, or other sweets?
Variable name: S20BF5
Editing notes: See Note 18_BF1 and Note18_BF2

Response	Value	Percent
Yes	1	88.5%
No	2	9.1%
Don't know	-5	2.4%
I didn't use any e-cigarettes in the past 30 days	-6	

Question 68: What are the reasons you have vaped or used e-cigarettes?
MARK ALL THAT APPLY
Variable names: S20BF8A-S20BF8J
Editing notes: See Note 18_BF1 and Note18_BF2

Response	Variable Name	Percent Marked
Friend or family member used them	S20BF8A	15.7%
To try to quit using other tobacco products, such as cigarettes	S20BF8B	42.5%
They cost less than other tobacco products	S20BF8C	24.4%
They are easier to get than other tobacco products	S20BF8D	5.3%
They are less harmful than other forms of tobacco products	S20BF8E	23.7%
They are available in flavors, such as mint, candy, fruit, or chocolate	S20BF8F	22.7%
They can be used in areas where other tobacco products are not allowed	S20BF8G	21.2%
There is no lasting odor	S20BF8H	38.8%
The vapor from e-cigarettes causes less harm to friends and family than secondhand smoke	S20BF8I	23.7%
I use them for some other reason	S20BF8J	12.9%

Question 69: Do you think you will vape or use an e-cigarette in the next year? Would you say…?
Variable name: S20BF9
Editing notes: None

Response	Value	Percent
Definitely yes	1	0.8%
Probably yes	2	2.6%
Probably not	3	7.1%
Definitely not	4	89.5%

Question 70: How much do you think people risk harming themselves if they vape or use e-cigarettes regularly (almost daily)?
Variable name: S20BF10
Editing notes: None

Response	Value	Percent
No risk	1	0.7%
Slight risk	2	4.3%
Moderate risk	3	15.4%
Great risk	4	67.8%
Not sure	5	11.8%

Question 71: How much do you think people risk harming themselves if they smoke one or more packs of cigarettes per day?
Variable name: S20BF11
Editing notes: None

Response	Value	Percent
No risk	1	0.3%
Slight risk	2	0.6%
Moderate risk	3	8.4%
Great risk	4	87.0%
Not sure	5	3.7%

Question 72: Are you male or female?
Variable name: H20058
Editing notes: See Note 19A

Response	Directions	Value	Percent
Male	Go to Question 79	1	50.6%
Female		2	49.4%

Question 73: When did you last have a Pap smear test?
Variable name: H20059B
Editing notes: See Notes 19A and 19B

Response	Value	Percent
Within the last 12 months	6	31.0%
1 to 2 years ago	5	25.1%
More than 2 but less than 3 years ago	4	9.5%
More than 3 but less than 5 years ago	3	8.5%
5 or more years ago	2	18.9%
Never had a Pap smear test	1	6.9%

Question 74: Are you under age 40?
Variable name: H20060
Editing notes: See Notes 19A, 19B, and 20

Response	Directions	Value	Percent
Yes	Go to Question 76	1	36.7%
No		2	63.3%

Question 75: When was the last time your breasts were checked by mammography?
Variable name: H20061
Editing notes: See Notes 19A, 19B, and 20

Response	Value	Percent
Within the last 12 months	5	61.6%
1 to 2 years ago	4	18.9%
More than 2 but less than 5 years ago	3	6.6%
5 or more years ago	2	8.2%
Never had a mammogram	1	4.6%

Question 76: Have you been pregnant in the last 12 months or are you pregnant now?
Variable name: H20062
Editing notes: See Notes 19A, 19B, and 21

Response	Directions	Value	Percent
Yes, I am currently pregnant		1	3.0%
No, I am not currently pregnant, but have been pregnant in the past 12 months	Go to Question 78	2	4.3%
No, I am not currently pregnant, and have not been pregnant in the past 12 months	Go to Question 79	3	92.7%

Question 77: In what trimester is your pregnancy?
Variable name: H20063
Editing notes: See Notes 19A, 19B, and 21

Response	Directions	Value	Percent
First trimester (up to 12 weeks after 1st day of last period)	Go to Question 79	1	18.9%
Second trimester (13th through 27th week)		2	35.9%
Third trimester (28th week until delivery)		3	45.3%

Question 78: In which trimester did you first receive prenatal care?
Variable name: H20064
Editing notes: See Notes 19A, 19B, and 21

Response	Value	Percent
First trimester (up to 12 weeks after 1st day of last period)	4	87.0%
Second trimester (13th through 27th week)	3	8.2%
Third trimester (28th week until delivery)	2	0.0%
Did not receive prenatal care	1	4.9%

ABOUT YOU

Question 79: Would you say that in general your health is excellent, very good, good, fair, or poor?
Variable name: H20065
Editing notes: None

Response	Value	Percent
Excellent	5	18.0%
Very good	4	39.3%
Good	3	29.6%
Fair	2	11.1%
Poor	1	2.1%

Question 80: How tall are you without your shoes on? Please give your answer in feet and inches.
Variable name: H20071F, H20071I
Editing notes: See Note 23_HT

Response	Example feet	Example inches	Percent of responses
Please give your answer in feet and inches. Please write one number in each box.	5	06	95.1%

Question 81: How much do you weigh without your shoes on? Please give your answer in pounds.
Variable name: H20072
Editing notes: See Note 23_WT

Response	Example pounds	Percent of responses
Please give your answer in pounds. Please write one number in each box.	152	95.2%

Question 82: What is the highest grade or level of school that you have completed?
Variable name: SREDA
Editing notes: None

Response	Value	Percent
8th grade or less	1	0.5%
Some high school, but did not graduate	2	0.8%
High school graduate or GED	3	19.3%
Some college or 2-year degree	4	34.8%
4-year college graduate	5	19.5%
More than 4-year college degree	6	25.1%

Question 83: Are you of Hispanic or Latino origin or descent? (Mark "NO" if not Spanish/Hispanic/Latino.)
MARK ALL THAT APPLY
Variable names: H20073A-H20073E, H20073
Editing notes: See Note 24

Response	Variable Name	H20073 Value	Percent Marked
No, not Spanish, Hispanic, or Latino	H20073A	1	84.8%
Yes, Mexican, Mexican American, Chicano	H20073B	2	5.4%
Yes, Puerto Rican	H20073C	3	3.0%
Yes, Cuban	H20073D	4	0.2%
Yes, other Spanish, Hispanic, or Latino	H20073E	5	4.6%

Question 84: What is your race?
MARK ALL THAT APPLY
Variable names: SRRACEA-SRRACEE
Editing notes: None

Response	Variable Name	Percent Marked
White	SRRACEA	77.0%
Black or African American	SRRACEB	12.6%
American Indian or Alaska Native	SRRACEC	2.5%
Asian (e.g., Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese)	SRRACED	7.2%
Native Hawaiian or other Pacific Islander (e.g., Samoan, Guamanian or Chamorro)	SRRACEE	1.1%

Question 85: What is your age now?
Variable name: SRAGE
Editing notes: None

Response	Value	Percent
18 to 24	1	13.3%
25 to 34	2	15.3%
35 to 44	3	12.8%
45 to 54	4	8.1%
55 to 64	5	18.8%
65 to 74	6	18.3%
75 or older	7	13.4%

Question 86: Using a scale of 1 to 5, with 1 being "strongly disagree" and 5 being "strongly agree", how much do you agree with the following statement: In general, I am able to see my provider(s) when needed?
Variable name: S20011
Editing notes: None

Response	Value	Percent
Strongly disagree	1	5.1%
Disagree	2	4.5%
Neither agree nor disagree	3	10.4%
Agree	4	40.4%
Strongly agree	5	39.7%

Question 87: Using a scale of 1 to 5, with 1 being "completely dissatisfied" and 5 being "completely satisfied", how satisfied are you, overall, with the health care you received during your last visit?
Variable name: S20014
Editing notes: None

Response	Value	Percent
Completely dissatisfied	1	3.3%
Somewhat dissatisfied	2	3.7%
Neither satisfied nor dissatisfied	3	6.5%
Somewhat satisfied	4	23.0%
Completely satisfied	5	63.5%

THANK YOU FOR TAKING THE TIME TO COMPLETE THE SURVEY!

Your generous contribution will greatly aid efforts to improve the health of our military community.

APPENDIX B

CODING SCHEME AND CODING TABLES – QUARTERS I-III

2020 HEALTH CARE SURVEY OF DOD BENEFICIARIES (HCSDB)
CODING SCHEME AND CODING TABLES

BASIC SAS AND ASCII/EBCDIC MISSING DATA AND NOT APPLICABLE CODES

SAS Numeric	ASCII/EBCDIC Numeric	Description
.	-9	No response
.O	-7	Out of range error
.N	-6	Not applicable or valid skip
.D	-5	Scalable response of "don't know" or "not sure"
.I	-4	Incomplete grid error
.C	-1	Question should have been skipped

Missing values '.' and incomplete grids '.I' are encoded prior to implementation of the Coding Scheme Notes (see below).

Coding Table for Note 1:
H20003, H20004

N1	H20003 is:	H20004 is:	H20003 is coded as:	H20004 is coded as:	*
1	1-17: Health plan	Marked or missing response	Stands as original value	Stands as original value	
2	-6: No usage in past 12 months or -5: not sure	Marked response	Stands as original value	.C: Question should be skipped	F
3	-6: No usage in past 12 months or -5: not sure	Missing response	Stands as original value	.N: Valid skip	F
4	Missing response	Marked or missing response	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 2:
H20006, H20007, H20008

N2	H20006 is:	H20007-H20008 are:	H20006 is coded as:	H20007-H20008 are coded as:	*
1	1: Yes	"All are blank"	Stands as original value	Stand as original value	
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	1: Yes	"One marked and one NA"	Stands as original value	.: Missing if –6; stand as original value otherwise	F
4	1: Yes	At least one is "marked"	Stands as original value	Stand as original value	
5	2: No	"One marked and one NA"	Stands as original value	.C: Question should be skipped	F
6	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
7	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 2:
Responses to H20007-H20008 are all missing.

Definition of "blank or NA" in Coding Table for Note 2:
All of the following are true: H20007-H20008 are a combination of not applicable (-6) or missing.

Definition of "one marked and one NA" in Coding Table for Note 2:
H20007-H20008 have one response marked not applicable (-6) and one marked response (other than not applicable).

Definition of "marked" in Coding Table for Note 2:
Any pattern of marks outside the definitions "all are blank", "one marked and one NA", and "blank or NA".

Coding Table for Note 3:
H20009, H20010, H20011

N3	H20009 is:	H20010-H20011 are:	H20009 is coded as:	H20010-H20011 are coded as:	*
1	1: Yes	"All are blank"	Stands as original value	Stand as original value	
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	1: Yes	"One marked and one NA"	Stands as original value	.: Missing if −6; stand as original value otherwise	F
4	1: Yes	At least one is "marked"	Stands as original value	Stand as original value	
5	2: No	"One marked and one NA"	Stands as original value	.C: Question should be skipped	F
6	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if −6; stand as original value otherwise	B F
7	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 3:
Responses to H20010-H20011 are all missing.

Definition of "blank or NA" in Coding Table for Note 3:
All of the following are true: H20010-H20011 are a combination of not applicable (-6) or missing.

Definition of "one marked and one NA" in Coding Table for Note 3:
H20010-H20011 have one response marked not applicable (-6) and one marked response (other than not applicable).

Definition of "marked" in Coding Table for Note 3:
Any pattern of marks outside the definitions "all are blank", "one marked and one NA", and "blank or NA".

Coding Table for Note 4:
H20013, H20014-H20017

N4	H20013 is:	H20014-H20017 are:	H20013 is coded as:	H20014-H20017 are coded as:	*
1	1: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
2	2-7: Visits	"All are blank"	1: None	.N: Valid skip if missing	B F
3	2-7: Visits	At least one is "marked"	Stands as original value	Stand as original value	
4	.: Missing	Any value	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 4:
Responses to H20014-H20017 are all missing.

Definition of "marked" in Coding Table for Note 4:
Any pattern of marks outside the definition "all are blank".

Coding Table for Note 5:
H20015, H20016-H20017

N5	H20015 is:	H20016 is:	H20017 is:	H20015 is coded as:	H20016 is coded as:	H20017 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	Stands as original value	
2	1: Yes	Any value	Any value	Stands as original value	Stands as original value	Stands as original value	
3	2: No or .: missing	1: Definitely yes 2: somewhat yes	Any value	1: Yes	Stands as original value	Stands as original value	B
4	2: No or .: missing	3: Somewhat no, 4: definitely no, or .: missing	1: Definitely yes 2: somewhat yes	1: Yes	Stands as original value	Stands as original value	B
5	2: No	3: Somewhat no, 4: definitely no, or .: missing	3: Somewhat no, 4: definitely no, or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	3: Somewhat no, 4: definitely no, or .: missing	3: Somewhat no, 4: definitely no, or .: missing	Stands as original value	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 5_BI2:
S20BI02-S20BI23

N5_BI2	S20BI02A is:	S20BI02B-S20BI02D is:	S20BI02E is:	S20BI03-S20BI23 are:	S20BI02A is coded as:	S20BI02E is coded as:	S20BI03-S20BI23 are coded as:	*
1	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	
2	Marked	Any value	Any value	At least one is "marked"	Stands as original value	Unmarked	Stands as original value	F
3	Marked	At least one is "marked"	Any value	"All are blank" or "Blank or don't know"	Unmarked	Unmarked	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	Marked	"All are blank"	Any value	"All are blank" or "Blank or don't know"	Unmarked	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	Unmarked or .: missing	Any value	Any value	At least one is "marked"	Marked	Unmarked	Stands as original value	F
6	Unmarked or .: missing	"All are blank"	Any value	"All are blank" or "Blank or don't know"	Stands as original value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	B F
7	Unmarked or .: missing	At least one is "marked"	Any value	"All are blank" or "Blank or don't know"	Stands as original value	Unmarked	.N: Valid skip if missing; .C: question should be skipped if marked	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 5_BI2
Responses to S20BI02B-S20BI02E or S20BI03-S20BI23 are all missing.

Definition of "blank or don't know" in Coding Table for Note 5_BI2:
All of the following are true: S20BI03-S20BI23 are a combination of don't know (-5) or missing.

Definition of "marked" in Coding Table for Note 5_BI2:
Any pattern of marks outside the definitions "all are blank" and "blank or don't know".

Coding Table for Note 5_BI3:
S20BI15-S20BI16

N5_BI3	S20BI15 is:	S20BI16 are:	S20BI15 is coded as:	S20BI16 are coded as:	*
1	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	
2	1: Yes I spoke with a nurse	Any value	Stands as original value	Stands as original value	F
3	2-4, -5: Did not speak with nurse	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	B F
4	.: Missing	1-2	1: Yes I spoke with a nurse	Stand as original value	
5	.: Missing	-5 or missing	Stands as original value	Stand as original value	F

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 5_BI5:
S20BI22-S20BI23

N5_BI5	S20BI22 is:	S20BI23 are:	S20BI22 is coded as:	S20BI23 are coded as:	*
1	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	
2	1: Yes	Any value	Stands as original value	Stands as original value	F
3	2: No or -5: don't know	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	B F
4	.: Missing	1: Yes	Stands as original value	Stand as original value	
5	.: Missing	2: No, -6: don't have a personal dr or .: missing	Stands as original value	Stand as original value	F

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 6:
H20019, H20020-H20027, S20009

N6	H20019 is:	H20020-H20024 are:	H20025-H20026, S20009 are:	H20027 is:	H20019 is coded as:	H20020-H20026, S20009 are coded as:	H20027 is coded as:	*
1	1: Yes	Any value	Any value	Any value	Stands as original value	Stand as original value	.: Missing if –6; stands as original value otherwise	F
2	2: No or .: missing	Any value	Any value	0-10	1: Yes	Stand as original value	Stands as original value	B
3	2: No or .: missing	At least one is "marked"	Any value	.: Missing	1: Yes	Stand as original value	Stands as original value	B
4	2: No	At least one is "marked"	Any value	-6: No personal doctor	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.C: Question should be skipped	F
5	2: No	"Blank or NA"	Any value	-6: No personal doctor or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	Any value	Any value	-6: No personal doctor	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	.C: Question should be skipped	B F
7	.: Missing	"Blank or NA"	Any value	.: Missing	Stands as original value	Stand as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "blank or NA" in Coding Table for Note 6:
All of the following are true: H20020 is either 0: None or missing and H20021-H20024 are either not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 6:
Any pattern of marks for H20020-H20024 outside the definition "blank or NA".

Coding Table for Note 7:
H20020, H20021-H20026

N7	H20020 is:	H20021-H20026 are:	H20020 is coded as:	H20021-H20026 are coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stand as original value	
2	0: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	1-6: Visits, or .: missing	"Blank or NA"	0: None	.N: Valid skip if missing; .C: question should be skipped if marked	B F
4	1-6: Visits, or .: missing	At least one is "marked" or "all are blank"	Stands as original value	.: Missing if −6; stand as original value otherwise	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 7:
Responses to H20021-H20026 are all missing.

Definition of "blank or NA" in Coding Table for Note 7:
Responses to H20021-H20026 are a combination of not applicable (-6) or missing or a response of "2: No" to H20025.

Definition of "marked" in Coding Table for Note 7:
Any pattern of marks for H20021-H20026 outside the definition "all are blank" and "blank or NA".

Coding Table for Note 8:
H20025, H20026

N8	H20025 is:	H20026 is:	H20025 is coded as:	H20026 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	1: Yes	Any value	Stands as original value	Stands as original value	
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	.: Missing	Stands as original value	.N: Valid skip	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 8_01:
S20009, S20010

N8_01	S20009 is:	S20010 is:	S20009 is coded as:	S20010 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	Any value	Stands as original value	Stands as original value	
2	1: Yes	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: No	Any value	Stands as original value	Stands as original value	
4	.: Missing	Any value	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 9:
H20028, H20029-H20031

N9	H20028 is:	H20029-H20031 are:	H20028 is coded as:	H20029 is coded as:	H20030-H20031 are coded as:	*
1	1: Yes	Any value	Stands as original value	.: Missing if –6; stands as original value otherwise	Stand as original value	F
2	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stands as original value otherwise	Stand as original value	B
3	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	.: Missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	B F
5	.: Missing	"All are blank"	Stands as original value	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 9:
Responses to H20029-H20031 are all missing.

Definition of "blank or NA" in Coding Table for Note 9:
All of the following are true: H20029 and H20031 are a combination of not applicable (-6) or missing. H20030 is either missing or 0: None.

Definition of "marked" in Coding Table for Note 9:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 10:
H20030, H20031

N10	H20030 is:	H20031 is:	H20030 is coded as:	H20031 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	1-5: Specialists	0-10 or .: missing	Stands as original value	Stands as original value	
3	1-5: Specialists or .: missing	-6: Didn't see a specialist in the last 12 months	0: None	.C: Question should be skipped	B F
4	0: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	0-10 or .: missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 10_B1:
S20B02, S20B03-S20B04

N10_B1	S20B02 is:	S20B03-S20B04 are:	S20B02 is coded as:	S20B03-S20B04 are coded as:	*
1	1: Yes	Any value	Stands as original value	.: Missing if –6; stand as original value otherwise	F
2	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
3	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	.: Missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
5	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 10_B1:
Responses to S20B03-S20B04 are all missing.

Definition of "blank or NA" in Coding Table for Note 10_B1:
All of the following are true: S20B03-S20B04 are a combination of not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 10_B1:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 12:
H20034, H20035

N12	H20034 is:	H20035 is:	H20034 is coded as:	H20035 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't look for information	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't look for information or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 13:
H20036, H20037

N13	H20036 is:	H20037 is:	H20036 is coded as:	H20037 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't need service or equipment	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't need service or equipment or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 14:
H20038, H20039

N14	H20038 is:	H20039 is:	H20038 is coded as:	H20039 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't need prescription meds	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't need prescription meds or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 15:
H20040, H20041-H20042

N15	H20040 is:	H20041-H20042 are:	H20040 is coded as:	H20041-H20042 are coded as:	*
1	1: Yes	At least one is "marked" or "all are blank"	Stands as original value	.: Missing if –6; stand as original value otherwise	F
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
4	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 15:
Responses to H20041-H20042 are all missing.

Definition of "blank or NA" in Coding Table for Note 15:
All of the following are true: H20041-H20042 are a combination of not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 15:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 16:
H20043, H20044

N16	H20043 is:	H20044 is:	H20043 is coded as:	H20044 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't receive forms to fill out	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't receive forms to fill out or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 17:
H20045, H20046-H20047

N17	H20045 is:	H20046-H20047 are:	H20045 is coded as:	H20046-H20047 are coded as:	*
1	1: Yes	At least one is "marked", "all are blank" or "blank or don't know"	Stands as original value	.: Missing if –6; stands as original value otherwise	F
2	1: Yes, -5: don't know or .: missing	"Blank or NA" or "NA or don't know"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	2: No, -5: don't know or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stands as original value otherwise	B F
4	2: No	None are "marked"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	-5: Don't know	"Blank or don't know" or "all are blank"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	"Blank or don't know" or "all are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 17:
Responses to H20046-H20047 are all missing.

Definition of "blank or NA" in Coding Table for Note 17:
Responses to H20046-H20047 are either all not applicable (-6) or a combination of missing and not applicable (-6).

Definition of "blank or don't know" in Coding Table for Note 17:
Responses to H20046-H20047 are either all don't know (-5) or a combination of missing and don't know (-5).

Definition of "NA or don't know" in Coding Table for Note 17:
Responses to H20046-H20047 are a combination of not applicable (-6) and don't know (-5).

Definition of "marked" in Coding Table for Note 17:
Any pattern of marks outside the definitions "all are blank," "blank or NA," "blank or don't know," or "NA or don't know".

Coding Table for Note 18:
H20053, H20054-H20056, H20057A-H20057D

N18	H20053 is:	H20054-H20056 are:	H20057A-H20057D are:	H20053 is coded as:	H20054-H20056, H20057A-H20057D are coded as:	*
1	3: Some days, 4: every day, or .: missing	Any value	Any value	Stands as original value	Stand as original value	
2	2: Not at all or -5: don't know	Any value	"All are unmarked"	Stands as original value	.N: Valid skip if missing or unmarked; .C: question should be skipped if marked	F
3	2: Not at all	Any value	At least one is "marked"	.: Missing	Stand as original value	B
4	-5: Don't know	Any value	At least one is "marked"	Stands as original value	.N: Valid skip if missing or unmarked; .C: question should be skipped if marked	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are unmarked" in Coding Table for Note 18:
Responses to H20057A-H20057D are all missing or unmarked.

Definition of "marked" in Coding Table for Note 18:
Any pattern of marks outside the definition "all are unmarked".

Coding Table for Note 19:

Note 19 (Part A)
H20058, H20059B, H20060-H20064, SEX, XSEXA

N19A	H20058 is:	SEX is:	H20059B--H20064 are:	XSEXA is coded as:
1	.: Missing	F	Any marked	2: Female
2	.: Missing	F	All missing	2: Female
3	.: Missing	M	Any marked	1: Male
4	.: Missing	M	All missing	1: Male
5	.: Missing	Z or .: missing	Any marked	2: Female
6	.: Missing	Z	All missing	.: Missing
7	.: Missing	.: Missing	All missing	.: Missing
8	1: Male	Any value	All missing	1: Male
9	1: Male	F	Any marked	2: Female
10	1: Male	M, Z, or .: missing	Any marked	1: Male
11	2: Female	Any value	Any marked	2: Female
12	2: Female	M	All missing	1: Male
13	2: Female	F, Z, or .: missing	All missing	2: Female

SEX (PNSEXCD) is the gender from the DEERS file. This variable is not used to override questionnaire responses, but to clear up any omissions or discrepancies in the responses.

XSEXA is the recoded gender variable after taking into account the self-reported response (H20058), any responses to gender-specific questions, and the gender of the sample beneficiary from DEERS.

Note 19 (Part B):
XSEXA, H20059B, H20060-H20064

N19B	XSEXA is:	H20059B—H20064 are:	H20059B--H20064 are coded as:	*
1	1: Male	"All are blank"	.N: Valid skip	F
2	1: Male	At least one is "marked"	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: Female	"All are blank" or at least one is "marked"	Stand as original value	
4	.: Missing	"All are blank" or at least one is "marked"	Missing value	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 19b:
All variables H20059B--H20064 are missing.

Definition of "marked" in Coding Table for Note 19b:
Any pattern of marks outside the definition "all are blank".

Coding Table for Note 20
XSEXA, AGE, H20060, H20061

N20	XSEXA is:	AGE is:	H20060 is:	H20061 is:	H20060 is coded as:	H20061 is coded as:	*
1	1: Male	Any value	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	2: Female	Any value	2: 40 or over	Any value	Stands as original value	Stands as original value	
3	2: Female	Any value	1: Under 40	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	2: Female	Any value	.: Missing	Marked	2: >= 40	Stands as original value	B
5	2: Female	< 40	.: Missing	.: Missing	1: < 40	.N: Valid skip	F B
6	2: Female	>=40	.: Missing	.: Missing	2: >= 40	Stands as original value	B
7	2: Female	.: Missing	.: Missing	.: Missing	Stands as original value	Stands as original value	
8	.: Missing	Any value	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

AGE (DAGEQY) is from the DEERS file. This variable is not used to override questionnaire responses, but to clear up any omissions or discrepancies in the responses.

Coding Table for Note 21:
XSEXA, H20062-H20064

N21	XSEXA is:	H20062 is:	H20063 is:	H20064 is:	H20062 is coded as:	H20063 is coded as:	H20064 is coded as:	*
1	1: Male	Any value	Any value	Any value	Stands as original value	Stands as original value	Stands as original value	
2	2: Female	1: Pregnant now	1: First trimester	Any value	Stands as original value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: Female	1: Pregnant now	2: Second trimester	2: Third trimester	Stands as original value	Stands as original value	.: Missing	F
4	2: Female	1: Pregnant now	2: Second trimester	4: First trimester, 3: second trimester, 1: did not receive prenatal care, or .: missing	Stands as original value	Stands as original value	Stands as original value	
5	2: Female	1: Pregnant now	3: Third trimester or .: missing	Any value	Stands as original value	Stands as original value	Stands as original value	
6	2: Female	2: Pregnant in last 12 months	Any value	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	Stands as original value	F
7	2: Female	3: Not pregnant in past 12 months	Any value	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	2: Female	.: Missing	1: First trimester	Any value	1: Pregnant now	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	B F
9	2: Female	.: Missing	2: Second trimester	2: Third trimester	1: Pregnant now	Stands as original value	.: Missing	B F
10	2: Female	.: Missing	2: Second trimester	4: First trimester, 3: second trimester, 1: did not receive prenatal care, or .: missing	1: Pregnant now	Stands as original value	Stands as original value	B
11	2: Female	.: Missing	3: Third trimester	Any value	1: Pregnant now	Stands as original value	Stands as original value	B
12	2: Female	.: Missing	.: Missing	Any value	Stands as original value	Stands as original value	Stands as original value	F
13	.: Missing	.: Missing	Marked or .: missing	Any value	Stands as original value	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F)

Coding Table for Note 23_HT:
XSEXA, H20071F, H20071I

N23_HT	XSEXA is:	H20071F and H20071I is:	H20071F and H20071I are coded as:	*
1	1: Male or 2: female	"Height within range for gender" or .: missing	Stands as original value	
2	1: Male or 2: female	"Height out of range for gender"	.O: Out of range	F
3	.: Missing	"Height within range for either gender" or .: missing	Stands as original value	
4	.: Missing	"Height out of range for either gender"	.O: Out of range	F

* Indication of backward coding (B) or forward coding (F).

Definition of "Height within range for gender" in Coding Table for Note 23_HT:
From 2006 NHIS, height for men is 63"-76" (5'3"-6'4"), height for woman is 59"-70" (4'11"-5'10").

Definition of "Height out of range for gender" in Coding Table for Note 23_HT:
Any height outside the definition of "Height within range for gender".

Definition of "Height within range for either gender" in Coding Table for Note 23_HT:
Use lowest and highest height from either gender to set range: 59"-76" (4'11"-6'4").

Definition of "Height out of range for either gender" in Coding Table for Note 23_HT:
Any height outside the definition of "Height within range for either gender".

Coding Table for Note 23_WT:
XSEXA, H20072

N23_WT	XSEXA is:	H20072 is:	H20072 is coded as:	*
1	1: Male or 2: female	"Weight within range for gender" or .: missing	Stands as original value	
2	1: Male or 2: female	"Weight out of range for gender"	.O: Out of range	F
3	.: Missing	"Weight within range for either gender" or .: missing	Stands as original value	
4	.: Missing	"Weight out of range for either gender"	.O: Out of range	F

* Indication of backward coding (B) or forward coding (F).

Definition of "Weight within range for gender" in Coding Table for Note 23_WT:
From 2006 NHIS, weight for men is 126-299 pounds, weight for woman is 100-274 pounds.

Definition of "Weight out of range for gender" in Coding Table for Note 23_WT:
Any height outside the definition of "Weight within range for gender".

Definition of "Weight within range for either gender" in Coding Table for Note 23_WT:
Use lowest and highest weight from either gender to set range: 100-299 pounds.

Definition of "Weight out of range for either gender" in Coding Table for Note 23_WT:
Any height outside the definition of "Weight within range for either gender".

Coding Table for Note 24:
H20073, H20073A-H20073E

N24	H20073A is:	H20073B is:	H20073C is:	H20073D is:	H20073E is:	H20073 is coded as:	H20073A-E are coded as:	*
1	Any value	1: Marked	Any value	Any value	Any value	2: Yes, Mexican, Mexican American, Chicano	Stand as original value	F
2	Any value	2: Unmarked	Any value	Any value	1: Marked	5: Yes, other Spanish, Hispanic, or Latino	Stand as original value	F
3	Any value	2: Unmarked	1: Marked	Any value	2: Unmarked	3: Yes, Puerto Rican	Stand as original value	F
4	Any value	2: Unmarked	2: Unmarked	1: Marked	2: Unmarked	4: Yes, Cuban	Stand as original value	F
5	1: Marked	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	1: No, not Spanish, Hispanic, or Latino	Stand as original value	F
6	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	.: Missing	Stand as original value	F

* Indication of backward coding (B) or forward coding (F).

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2020 HEALTH CARE SURVEY OF DOD BENEFICIARIES (HCSDB)
CODING SCHEME AND CODING TABLES

BASIC SAS AND ASCII/EBCDIC MISSING DATA AND NOT APPLICABLE CODES

SAS Numeric	ASCII/EBCDIC Numeric	Description
.	-9	No response
.O	-7	Out of range error
.N	-6	Not applicable or valid skip
.D	-5	Scalable response of "don't know" or "not sure"
.I	-4	Incomplete grid error
.C	-1	Question should have been skipped

Missing values '.' and incomplete grids '.I' are encoded prior to implementation of the Coding Scheme Notes (see below).

Coding Table for Note 1:
H20003, H20004

N1	H20003 is:	H20004 is:	H20003 is coded as:	H20004 is coded as:	*
1	1-17: Health plan	Marked or missing response	Stands as original value	Stands as original value	
2	-6: No usage in past 12 months or -5: not sure	Marked response	Stands as original value	.C: Question should be skipped	F
3	-6: No usage in past 12 months or -5: not sure	Missing response	Stands as original value	.N: Valid skip	F
4	Missing response	Marked or missing response	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 2:
H20006, H20007, H20008

N2	H20006 is:	H20007-H20008 are:	H20006 is coded as:	H20007-H20008 are coded as:	*
1	1: Yes	"All are blank"	Stands as original value	Stand as original value	
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	1: Yes	"One marked and one NA"	Stands as original value	.: Missing if –6; stand as original value otherwise	F
4	1: Yes	At least one is "marked"	Stands as original value	Stand as original value	
5	2: No	"One marked and one NA"	Stands as original value	.C: Question should be skipped	F
6	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
7	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 2:
Responses to H20007-H20008 are all missing.

Definition of "blank or NA" in Coding Table for Note 2:
All of the following are true: H20007-H20008 are a combination of not applicable (-6) or missing.

Definition of "one marked and one NA" in Coding Table for Note 2:
H20007-H20008 have one response marked not applicable (-6) and one marked response (other than not applicable).

Definition of "marked" in Coding Table for Note 2:
Any pattern of marks outside the definitions "all are blank", "one marked and one NA", and "blank or NA".

Coding Table for Note 3:
H20009, H20010, H20011

N3	H20009 is:	H20010-H20011 are:	H20009 is coded as:	H20010-H20011 are coded as:	*
1	1: Yes	"All are blank"	Stands as original value	Stand as original value	
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	1: Yes	"One marked and one NA"	Stands as original value	.: Missing if –6; stand as original value otherwise	F
4	1: Yes	At least one is "marked"	Stands as original value	Stand as original value	
5	2: No	"One marked and one NA"	Stands as original value	.C: Question should be skipped	F
6	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
7	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 3:
Responses to H20010-H20011 are all missing.

Definition of "blank or NA" in Coding Table for Note 3:
All of the following are true: H20010-H20011 are a combination of not applicable (-6) or missing.

Definition of "one marked and one NA" in Coding Table for Note 3:
H20010-H20011 have one response marked not applicable (-6) and one marked response (other than not applicable).

Definition of "marked" in Coding Table for Note 3:
Any pattern of marks outside the definitions "all are blank", "one marked and one NA", and "blank or NA".

Coding Table for Note 4:
H20013, H20014-H20017

N4	H20013 is:	H20014-H20017 are:	H20013 is coded as:	H20014-H20017 are coded as:	*
1	1: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
2	2-7: Visits	"All are blank"	1: None	.N: Valid skip if missing	B F
3	2-7: Visits	At least one is "marked"	Stands as original value	stand as original value	
4	.: Missing	Any value	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 4:
Responses to H20014-H20017 are all missing.

Definition of "marked" in Coding Table for Note 4:
Any pattern of marks outside the definition "all are blank".

Coding Table for Note 5:
H20015, H20016-H20017

N5	H20015 is:	H20016 is:	H20017 is:	H20015 is coded as:	H20016 is coded as:	H20017 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	Stands as original value	
2	1: Yes	Any value	Any value	Stands as original value	Stands as original value	Stands as original value	
3	2: No or .: missing	1: Definitely yes 2: somewhat yes	Any value	1: Yes	Stands as original value	Stands as original value	B
4	2: No or .: missing	3: Somewhat no, 4: definitely no, or .: missing	1: Definitely yes 2: somewhat yes	1: Yes	Stands as original value	Stands as original value	B
5	2: No	3: Somewhat no, 4: definitely no, or .: missing	3: Somewhat no, 4: definitely no, or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	3: Somewhat no, 4: definitely no, or .: missing	3: Somewhat no, 4: definitely no, or .: missing	Stands as original value	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 6:
H20019, H20020-H20027, S20009

N6	H20019 is:	H20020-H20024 are:	H20025-H20026, S20009 are:	H20027 is:	H20019 is coded as:	H20020-H20026, S20009 are coded as:	H20027 is coded as:	*
1	1: Yes	Any value	Any value	Any value	Stands as original value	Stand as original value	.: Missing if −6; stands as original value otherwise	F
2	2: No or .: missing	Any value	Any value	0-10	1: Yes	Stand as original value	Stands as original value	B
3	2: No or .: missing	At least one is "marked"	Any value	.: Missing	1: Yes	Stand as original value	Stands as original value	B
4	2: No	At least one is "marked"	Any value	-6: No personal doctor	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.C: Question should be skipped	F
5	2: No	"Blank or NA"	Any value	-6: No personal doctor or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	Any value	Any value	-6: No personal doctor	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	.C: Question should be skipped	B F
7	.: Missing	"Blank or NA"	Any value	.: Missing	Stands as original value	Stand as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "blank or NA" in Coding Table for Note 6:
All of the following are true: H20020 is either 0: None or missing and H20021-H20024 are either not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 6:
Any pattern of marks for H20020-H20024 outside the definition "blank or NA".

Coding Table for Note 7:
H20020, H20021-H20026

N7	H20020 is:	H20021-H20026 are:	H20020 is coded as:	H20021-H20026 are coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stand as original value	
2	0: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	1-6: Visits, or .: missing	"Blank or NA"	0: None	.N: Valid skip if missing; .C: question should be skipped if marked	B F
4	1-6: Visits, or .: missing	At least one is "marked" or "all are blank"	Stands as original value	.: Missing if −6; stand as original value otherwise	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 7:
Responses to H20021-H20026 are all missing.

Definition of "blank or NA" in Coding Table for Note 7:
Responses to H20021-H20026 are a combination of not applicable (-6) or missing or a response of "2: No" to H20025.

Definition of "marked" in Coding Table for Note 7:
Any pattern of marks for H20021-H20026 outside the definition "all are blank" and "blank or NA".

Coding Table for Note 8:
H20025, H20026

N8	H20025 is:	H20026 is:	H20025 is coded as:	H20026 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	1: Yes	Any value	Stands as original value	Stands as original value	
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	.: Missing	Stands as original value	.N: Valid skip	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 8_01:
S20009, S20010

N8_01	S20009 is:	S20010 is:	S20009 is coded as:	S20010 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	Any value	Stands as original value	Stands as original value	
2	1: Yes	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: No	Any value	Stands as original value	Stands as original value	
4	.: Missing	Any value	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 9:
H20028, H20029-H20031

N9	H20028 is:	H20029-H20031 are:	H20028 is coded as:	H20029 is coded as:	H20030-H20031 are coded as:	*
1	1: Yes	Any value	Stands as original value	.: Missing if –6; stands as original value otherwise	Stand as original value	F
2	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stands as original value otherwise	Stand as original value	B
3	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	.: Missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	B F
5	.: Missing	"All are blank"	Stands as original value	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 9:
Responses to H20029-H20031 are all missing.

Definition of "blank or NA" in Coding Table for Note 9:
All of the following are true: H20029 and H20031 are a combination of not applicable (-6) or missing. H20030 is either missing or 0: None.

Definition of "marked" in Coding Table for Note 9:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 10:
H20030, H20031

N10	H20030 is:	H20031 is:	H20030 is coded as:	H20031 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	1-5: Specialists	0-10 or .: missing	Stands as original value	Stands as original value	
3	1-5: Specialists or .: missing	-6: Didn't see a specialist in the last 12 months	0: None	.C: Question should be skipped	B F
4	0: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	0-10 or .: missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 10_B1:
S20B02, S20B03-S20B04

N10_B1	S20B02 is:	S20B03-S20B04 are:	S20B02 is coded as:	S20B03-S20B04 are coded as:	*
1	1: Yes	Any value	Stands as original value	.: Missing if –6; stand as original value otherwise	F
2	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
3	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	.: Missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
5	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 10_B1:
Responses to S20B03-S20B04 are all missing.

Definition of "blank or NA" in Coding Table for Note 10_B1:
All of the following are true: S20B03-S20B04 are a combination of not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 10_B1:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 12:
H20034, H20035

N12	H20034 is:	H20035 is:	H20034 is coded as:	H20035 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't look for information	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't look for information or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 13:
H20036, H20037

N13	H20036 is:	H20037 is:	H20036 is coded as:	H20037 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't need service or equipment	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't need service or equipment or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 14:
H20038, H20039

N14	H20038 is:	H20039 is:	H20038 is coded as:	H20039 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't need prescription meds	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't need prescription meds or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 15:
H20040, H20041-H20042

N15	H20040 is:	H20041-H20042 are:	H20040 is coded as:	H20041-H20042 are coded as:	*
1	1: Yes	At least one is "marked" or "all are blank"	Stands as original value	.: Missing if −6; stand as original value otherwise	F
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if −6; stand as original value otherwise	B F
4	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 15:
Responses to H20041-H20042 are all missing.

Definition of "blank or NA" in Coding Table for Note 15:
All of the following are true: H20041-H20042 are a combination of not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 15:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 16:
H20043, H20044

N16	H20043 is:	H20044 is:	H20043 is coded as:	H20044 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't receive forms to fill out	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't receive forms to fill out or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 17:
H20045, H20046-H20047

N17	H20045 is:	H20046-H20047 are:	H20045 is coded as:	H20046-H20047 are coded as:	*
1	1: Yes	At least one is "marked", "all are blank" or "blank or don't know"	Stands as original value	.: Missing if –6; stands as original value otherwise	F
2	1: Yes, -5: don't know or .: missing	"Blank or NA" or "NA or don't know"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	2: No, -5: don't know or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stands as original value otherwise	B F
4	2: No	None are "marked"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	-5: Don't know	"Blank or don't know" or "all are blank"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	"Blank or don't know" or "all are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 17:
Responses to H20046-H20047 are all missing.

Definition of "blank or NA" in Coding Table for Note 17:
Responses to H20046-H20047 are either all not applicable (-6) or a combination of missing and not applicable (-6).

Definition of "blank or don't know" in Coding Table for Note 17:
Responses to H20046-H20047 are either all don't know (-5) or a combination of missing and don't know (-5).

Definition of "NA or don't know" in Coding Table for Note 17:
Responses to H20046-H20047 are a combination of not applicable (-6) and don't know (-5).

Definition of "marked" in Coding Table for Note 17:
Any pattern of marks outside the definitions "all are blank," "blank or NA," "blank or don't know," or "NA or don't know".

Coding Table for Note 18:
H20053, H20054-H20056, H20057A-H20057D

N18	H20053 is:	H20054-H20056 are:	H20057A-H20057D are:	H20053 is coded as:	H20054-H20056, H20057A-H20057D are coded as:	*
1	3: Some days, 4: every day, or .: missing	Any value	Any value	Stands as original value	Stand as original value	
2	2: Not at all or -5: don't know	Any value	"All are unmarked"	Stands as original value	.N: Valid skip if missing or unmarked; .C: question should be skipped if marked	F
3	2: Not at all	Any value	At least one is "marked"	.: Missing	Stand as original value	B
4	-5: Don't know	Any value	At least one is "marked"	Stands as original value	.N: Valid skip if missing or unmarked; .C: question should be skipped if marked	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are unmarked" in Coding Table for Note 18:
Responses to H20057A-H20057D are all missing or unmarked.

Definition of "marked" in Coding Table for Note 18:
Any pattern of marks outside the definition "all are unmarked"

Coding Table for Note 19:

Note 19 (Part A)
H20058, H20059B, H20060-H20064, SEX, XSEXA

N19A	H20058 is:	SEX is:	H20059B--H20064 are:	XSEXA is coded as:
1	.: Missing	F	Any marked	2: Female
2	.: Missing	F	All missing	2: Female
3	.: Missing	M	Any marked	1: Male
4	.: Missing	M	All missing	1: Male
5	.: Missing	Z or .: missing	Any marked	2: Female
6	.: Missing	Z	All missing	.: Missing
7	.: Missing	.: Missing	All missing	.: Missing
8	1: Male	Any value	All missing	1: Male
9	1: Male	F	Any marked	2: Female
10	1: Male	M, Z, or .: missing	Any marked	1: Male
11	2: Female	Any value	Any marked	2: Female
12	2: Female	M	All missing	1: Male
13	2: Female	F, Z, or .: missing	All missing	2: Female

SEX (PNSEXCD) is the gender from the DEERS file. This variable is not used to override questionnaire responses, but to clear up any omissions or discrepancies in the responses.

XSEXA is the recoded gender variable after taking into account the self-reported response (H20058), any responses to gender-specific questions, and the gender of the sample beneficiary from DEERS.

Note 19 (Part B):
XSEXA, H20059B, H20060-H20064

N19B	XSEXA is:	H20059B--H16064 are:	H20059B--H20064 are coded as:	*
1	1: Male	"All are blank"	.N: Valid skip	F
2	1: Male	At least one is "marked"	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: Female	"All are blank" or at least one is "marked"	Stand as original value	
4	.: Missing	"All are blank" or at least one is "marked"	Missing value	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 19b:
All variables H20059B--H20064 are missing.

Definition of "marked" in Coding Table for Note 19b:
Any pattern of marks outside the definition "all are blank".

Coding Table for Note 20
XSEXA, AGE, H20060, H20061

N20	XSEXA is:	AGE is:	H20060 is:	H20061 is:	H20060 is coded as:	H20061 is coded as:	*
1	1: Male	Any value	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	2: Female	Any value	2: 40 or over	Any value	Stands as original value	Stands as original value	
3	2: Female	Any value	1: Under 40	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	2: Female	Any value	.: Missing	Marked	2: >= 40	Stands as original value	B
5	2: Female	< 40	.: Missing	.: Missing	1: < 40	.N: Valid skip	F B
6	2: Female	>=40	.: Missing	.: Missing	2: >= 40	Stands as original value	B
7	2: Female	.: Missing	.: Missing	.: Missing	Stands as original value	Stands as original value	
8	.: Missing	Any value	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

AGE (DAGEQY) is from the DEERS file. This variable is not used to override questionnaire responses, but to clear up any omissions or discrepancies in the responses.

Coding Table for Note 21:
XSEXA, H20062-H20064

N21	XSEXA is:	H20062 is:	H20063 is:	H20064 is:	H20062 is coded as:	H20063 is coded as:	H20064 is coded as:	*
1	1: Male	Any value	Any value	Any value	Stands as original value	Stands as original value	Stands as original value	
2	2: Female	1: Pregnant now	1: First trimester	Any value	Stands as original value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: Female	1: Pregnant now	2: Second trimester	2: Third trimester	Stands as original value	Stands as original value	.: Missing	F
4	2: Female	1: Pregnant now	2: Second trimester	4: First trimester, 3: second trimester, 1: did not receive prenatal care, or .: missing	Stands as original value	Stands as original value	Stands as original value	
5	2: Female	1: Pregnant now	3: Third trimester or .: missing	Any value	Stands as original value	Stands as original value	Stands as original value	
6	2: Female	2: Pregnant in last 12 months	Any value	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	Stands as original value	F
7	2: Female	3: Not pregnant in past 12 months	Any value	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	2: Female	.: Missing	1: First trimester	Any value	1: Pregnant now	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	B F
9	2: Female	.: Missing	2: Second trimester	2: Third trimester	1: Pregnant now	Stands as original value	.: Missing	B F
10	2: Female	.: Missing	2: Second trimester	4: First trimester, 3: second trimester, 1: did not receive prenatal care, or .: missing	1: Pregnant now	Stands as original value	Stands as original value	B
11	2: Female	.: Missing	3: Third trimester	Any value	1: Pregnant now	Stands as original value	Stands as original value	B
12	2: Female	.: Missing	.: Missing	Any value	Stands as original value	Stands as original value	Stands as original value	F
13	.: Missing	.: Missing	Marked or .: missing	Any value	Stands as original value	Stands as original value	Stands as original value	

*   Indication of backward coding (B) or forward coding (F)

Coding Table for Note 21_BG1:
S20BG01

N21_BG1	S20BG01 is:	S20BG01 is coded as:	*
1	"Number within range"	Stands as original value	
2	88	0	F
3	"Number out of range"	.O	F

*   Indication of backward coding (B) or forward coding (F).

Definition of "Number within range" in Coding Table for Note 21_BG1:
Any value not greater than 30.

Definition of "Number out of range" in Coding Table for Note 21_BG1:
Any value greater than 30 except 88.

Coding Table for Note 21_BG2:
S20BG02

N21_BG2	S20BG02 is:	S20BG02 is coded as:	*
1	"Number within range"	Stands as original value	
2	88	0	F
3	"Number out of range"	.O	F

*   Indication of backward coding (B) or forward coding (F).

Definition of "Number within range" in Coding Table for Note 22_BG2:
Any value not greater than 30.

Definition of "Number out of range" in Coding Table for Note 22_BG2:
Any value greater than 30 except 88.

Coding Table for Note 21_BG3:
S20BG01, S20BG02, S20BG03

N21_BG3	S20BG01 is:	S20BG02 is:	S20BG03 is:	S20BG03 is coded as:	*
1	0	0	.: Missing	0	
2	Any nonzero value	Any nonzero value	"Number within range"	Stands as original value	
3	Any nonzero value	Any nonzero value	88	0	F
4	Any nonzero value	Any nonzero value	"Number out of range"	.O	F

*   Indication of backward coding (B) or forward coding (F).

Definition of "Number within range" in Coding Table for Note 23_BG3:
Any value not greater than 30.

Definition of "Number out of range" in Coding Table for Note 23_BG3:
Any value greater than 30 except 88.

Coding Table for Note 23_HT:
XSEXA, H20071F, H20071I

N23_HT	XSEXA is:	H20071F and H20071I is:	H20071F and H20071I are coded as:	*
1	1: Male or 2: female	"Height within range for gender" or .: missing	Stands as original value	
2	1: Male or 2: female	"Height out of range for gender"	.O: Out of range	F
3	.: Missing	"Height within range for either gender" or .: missing	Stands as original value	
4	.: Missing	"Height out of range for either gender"	.O: Out of range	F

* Indication of backward coding (B) or forward coding (F).

Definition of "Height within range for gender" in Coding Table for Note 23_HT:
From 2006 NHIS, height for men is 63"-76" (5'3"-6'4"), height for woman is 59"-70" (4'11"-5'10").

Definition of "Height out of range for gender" in Coding Table for Note 23_HT:
Any height outside the definition of "Height within range for gender".

Definition of "Height within range for either gender" in Coding Table for Note 23_HT:
Use lowest and highest height from either gender to set range: 59"-76" (4'11"-6'4").

Definition of "Height out of range for either gender" in Coding Table for Note 23_HT:
Any height outside the definition of "Height within range for either gender".

Coding Table for Note 23_WT:
XSEXA, H20072

N23_WT	XSEXA is:	H20072 is:	H20072 is coded as:	*
1	1: Male or 2: female	"Weight within range for gender" or .: missing	Stands as original value	
2	1: Male or 2: female	"Weight out of range for gender"	.O: Out of range	F
3	.: Missing	"Weight within range for either gender" or .: missing	Stands as original value	
4	.: Missing	"Weight out of range for either gender"	.O: Out of range	F

* Indication of backward coding (B) or forward coding (F).

Definition of "Weight within range for gender" in Coding Table for Note 23_WT:
From 2006 NHIS, weight for men is 126-299 pounds, weight for woman is 100-274 pounds.

Definition of "Weight out of range for gender" in Coding Table for Note 23_WT:
Any height outside the definition of "Weight within range for gender".

Definition of "Weight within range for either gender" in Coding Table for Note 23_WT:
Use lowest and highest weight from either gender to set range: 100-299 pounds.

Definition of "Weight out of range for either gender" in Coding Table for Note 23_WT:
Any height outside the definition of "Weight within range for either gender".

Coding Table for Note 24:
H20073, H20073A-H20073E

N24	H20073A is:	H20073B is:	H20073C is:	H20073D is:	H20073E is:	H20073 is coded as:	H20073A-E are coded as:	*
1	Any value	1: Marked	Any value	Any value	Any value	2: Yes, Mexican, Mexican American, Chicano	Stand as original value	F
2	Any value	2: Unmarked	Any value	Any value	1: Marked	5: Yes, other Spanish, Hispanic, or Latino	Stand as original value	F
3	Any value	2: Unmarked	1: Marked	Any value	2: Unmarked	3: Yes, Puerto Rican	Stand as original value	F
4	Any value	2: Unmarked	2: Unmarked	1: Marked	2: Unmarked	4: Yes, Cuban	Stand as original value	F
5	1: Marked	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	1: No, not Spanish, Hispanic, or Latino	Stand as original value	F
6	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	.: Missing	Stand as original value	F

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 24_BJ1:
S20BJ01-S20BJ03

N24_BJ1	S20BJ01 is:	S20BJ02-S20BJ03 is:	S20BJ01 is coded as:	S20BJ02-S20BJ03 are coded as:	*
1	1: Yes	Marked	Stand as original value	Stand as original value	F
2	1: Yes	Unmarked	Stand as original value	Stand as original value	F
3	2: No	Unmarked	Stand as original value	.N: Valid skip if missing	
4	2: No	Marked	Stand as original value	.C: Should have been skipped	B
5	.: Missing	BJ02: Marked only	1: Yes	Stand as original value	B
6	.: Missing	BJ03: Marked only	Stand as original value	Stand as original value	B
7	.: Missing	Unmarked	Stand as original value	Stand as original value	F

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 24_BJ2:
S20BJ05-S20BJ07

N24_BJ2	S20BJ10 is:	S20BJ11-S20BJ14 are:	S20BJ10 is coded as:	S20BJ11-S20BJ14 are coded as:	*
1	1: Yes	Marked	Stand as original value	Stand as original value	F
2	1: Yes	Unmarked	Stand as original value	Stand as original value	F
3	2: No	Unmarked	Stand as original value	.N: Valid skip if missing	
4	2: No, or .: Missing	BJ11-13: Marked BJ14: Yes	1: Yes	Stand as original value	B
5	2: No	BJ11-13: Marked BJ14: No	Stand as original value	.C: Should have been skipped	B
6	.: Missing	06: marked, 07: no	1: Yes	Stand as original value	
7	.: Missing	Unmarked	Stand as original value	Stand as original value	F

* Indication of backward coding (B) or forward coding (F).

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2020 HEALTH CARE SURVEY OF DOD BENEFICIARIES (HCSDB)
CODING SCHEME AND CODING TABLES

BASIC SAS AND ASCII/EBCDIC MISSING DATA AND NOT APPLICABLE CODES

SAS Numeric	ASCII/EBCDIC Numeric	Description
.	-9	No response
.O	-7	Out of range error
.N	-6	Not applicable or valid skip
.D	-5	Scalable response of "don't know" or "not sure"
.I	-4	Incomplete grid error
.C	-1	Question should have been skipped

Missing values '.' and incomplete grids '.I' are encoded prior to implementation of the Coding Scheme Notes (see below).

Coding Table for Note 1:
H20003, H20004

N1	H20003 is:	H20004 is:	H20003 is coded as:	H20004 is coded as:	*
1	1-17: Health plan	Marked or missing response	Stands as original value	Stands as original value	
2	-6: No usage in past 12 months or -5: not sure	Marked response	Stands as original value	.C: Question should be skipped	F
3	-6: No usage in past 12 months or -5: not sure	Missing response	Stands as original value	.N: Valid skip	F
4	Missing response	Marked or missing response	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 2:
H20006, H20007, H20008

N2	H20006 is:	H20007-H20008 are:	H20006 is coded as:	H20007-H20008 are coded as:	*
1	1: Yes	"All are blank"	Stands as original value	Stand as original value	
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	1: Yes	"One marked and one NA"	Stands as original value	.: Missing if –6; stand as original value otherwise	F
4	1: Yes	At least one is "marked"	Stands as original value	Stand as original value	
5	2: No	"One marked and one NA"	Stands as original value	.C: Question should be skipped	F
6	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
7	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 2:
Responses to H20007-H20008 are all missing.

Definition of "blank or NA" in Coding Table for Note 2:
All of the following are true: H20007-H20008 are a combination of not applicable (-6) or missing.

Definition of "one marked and one NA" in Coding Table for Note 2:
H20007-H20008 have one response marked not applicable (-6) and one marked response (other than not applicable).

Definition of "marked" in Coding Table for Note 2:
Any pattern of marks outside the definitions "all are blank", "one marked and one NA", and "blank or NA".

Coding Table for Note 3:
H20009, H20010, H20011

N3	H20009 is:	H20010-H20011 are:	H20009 is coded as:	H20010-H20011 are coded as:	*
1	1: Yes	"All are blank"	Stands as original value	Stand as original value	
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	1: Yes	"One marked and one NA"	Stands as original value	.: Missing if –6; stand as original value otherwise	F
4	1: Yes	At least one is "marked"	Stands as original value	Stand as original value	
5	2: No	"One marked and one NA"	Stands as original value	.C: Question should be skipped	F
6	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
7	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 3:
Responses to H20010-H20011 are all missing.

Definition of "blank or NA" in Coding Table for Note 3:
All of the following are true: H20010-H20011 are a combination of not applicable (-6) or missing.

Definition of "one marked and one NA" in Coding Table for Note 3:
H20010-H20011 have one response marked not applicable (-6) and one marked response (other than not applicable).

Definition of "marked" in Coding Table for Note 3:
Any pattern of marks outside the definitions "all are blank", "one marked and one NA", and "blank or NA".

Coding Table for Note 4:
H20013, H20014-H20017

N4	H20013 is:	H20014-H20017 are:	H20013 is coded as:	H20014-H20017 are coded as:	*
1	1: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
2	2-7: Visits	"All are blank"	1: None	.N: Valid skip if missing	B F
3	2-7: Visits	At least one is "marked"	Stands as original value	stand as original value	
4	.: Missing	Any value	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 4:
Responses to H20014-H20017 are all missing.

Definition of "marked" in Coding Table for Note 4:
Any pattern of marks outside the definition "all are blank".

Coding Table for Note 5:
H20015, H20016-H20017

N5	H20015 is:	H20016 is:	H20017 is:	H20015 is coded as:	H20016 is coded as:	H20017 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	Stands as original value	
2	1: Yes	Any value	Any value	Stands as original value	Stands as original value	Stands as original value	
3	2: No or .: missing	1: Definitely yes 2: somewhat yes	Any value	1: Yes	Stands as original value	Stands as original value	B
4	2: No or .: missing	3: Somewhat no, 4: definitely no, or .: missing	1: Definitely yes 2: somewhat yes	1: Yes	Stands as original value	Stands as original value	B
5	2: No	3: Somewhat no, 4: definitely no, or .: missing	3: Somewhat no, 4: definitely no, or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	3: Somewhat no, 4: definitely no, or .: missing	3: Somewhat no, 4: definitely no, or .: missing	Stands as original value	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 6:
H20019, H20020-H20027, S20009

N6	H20019 is:	H20020-H20024 are:	H20025-H20026, S20009 are:	H20027 is:	H20019 is coded as:	H20020-H20026, S20009 are coded as:	H20027 is coded as:	*
1	1: Yes	Any value	Any value	Any value	Stands as original value	Stand as original value	.: Missing if –6; stands as original value otherwise	F
2	2: No or .: missing	Any value	Any value	0-10	1: Yes	Stand as original value	Stands as original value	B
3	2: No or .: missing	At least one is "marked"	Any value	.: Missing	1: Yes	Stand as original value	Stands as original value	B
4	2: No	At least one is "marked"	Any value	-6: No personal doctor	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.C: Question should be skipped	F
5	2: No	"Blank or NA"	Any value	-6: No personal doctor or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	Any value	Any value	-6: No personal doctor	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	.C: Question should be skipped	B F
7	.: Missing	"Blank or NA"	Any value	.: Missing	Stands as original value	Stand as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "blank or NA" in Coding Table for Note 6:
All of the following are true: H20020 is either 0: None or missing and H20021-H20024 are either not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 6:
Any pattern of marks for H20020-H20024 outside the definition "blank or NA".

Coding Table for Note 7:
H20020, H20021-H20026

N7	H20020 is:	H20021-H20026 are:	H20020 is coded as:	H20021-H20026 are coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stand as original value	
2	0: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	1-6: Visits, or .: missing	"Blank or NA"	0: None	.N: Valid skip if missing; .C: question should be skipped if marked	B F
4	1-6: Visits, or .: missing	At least one is "marked" or "all are blank"	Stands as original value	.: Missing if –6; stand as original value otherwise	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 7:
Responses to H20021-H20026 are all missing.

Definition of "blank or NA" in Coding Table for Note 7:
Responses to H20021-H20026 are a combination of not applicable (-6) or missing or a response of "2: No" to H20025.

Definition of "marked" in Coding Table for Note 7:
Any pattern of marks for H20021-H20026 outside the definition "all are blank" and "blank or NA".

Coding Table for Note 8:
H20025, H20026

N8	H20025 is:	H20026 is:	H20025 is coded as:	H20026 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	1: Yes	Any value	Stands as original value	Stands as original value	
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	.: Missing	Stands as original value	.N: Valid skip	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 8_01:
S20009, S20010

N8_01	S20009 is:	S20010 is:	S20009 is coded as:	S20010 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	Any value	Stands as original value	Stands as original value	
2	1: Yes	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: No	Any value	Stands as original value	Stands as original value	
4	.: Missing	Any value	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 9:
H20028, H20029-H20031

N9	H20028 is:	H20029-H20031 are:	H20028 is coded as:	H20029 is coded as:	H20030-H20031 are coded as:	*
1	1: Yes	Any value	Stands as original value	.: Missing if –6; stands as original value otherwise	Stand as original value	F
2	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stands as original value otherwise	Stand as original value	B
3	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	.: Missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	B F
5	.: Missing	"All are blank"	Stands as original value	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 9:
Responses to H20029-H20031 are all missing.

Definition of "blank or NA" in Coding Table for Note 9:
All of the following are true: H20029 and H20031 are a combination of not applicable (-6) or missing. H20030 is either missing or 0: None.

Definition of "marked" in Coding Table for Note 9:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 10:
H20030, H20031

N10	H20030 is:	H20031 is:	H20030 is coded as:	H20031 is coded as:	*
1	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	1-5: Specialists	0-10 or .: missing	Stands as original value	Stands as original value	
3	1-5: Specialists or .: missing	-6: Didn't see a specialist in the last 12 months	0: None	.C: Question should be skipped	B F
4	0: None	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	0-10 or .: missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 10_B1:
S20B02, S20B03-S20B04

N10_B1	S20B02 is:	S20B03-S20B04 are:	S20B02 is coded as:	S20B03-S20B04 are coded as:	*
1	1: Yes	Any value	Stands as original value	.: Missing if –6; stand as original value otherwise	F
2	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
3	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	.: Missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
5	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 10_B1:
Responses to S20B03-S20B04 are all missing.

Definition of "blank or NA" in Coding Table for Note 10_B1:
All of the following are true: S20B03-S20B04 are a combination of not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 10_B1:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 12:
H20034, H20035

N12	H20034 is:	H20035 is:	H20034 is coded as:	H20035 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't look for information	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't look for information or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 13:
H20036, H20037

N13	H20036 is:	H20037 is:	H20036 is coded as:	H20037 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't need service or equipment	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't need service or equipment or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 14:
H20038, H20039

N14	H20038 is:	H20039 is:	H20038 is coded as:	H20039 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't need prescription meds	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't need prescription meds or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 15:
H20040, H20041-H20042

N15	H20040 is:	H20041-H20042 are:	H20040 is coded as:	H20041-H20042 are coded as:	*
1	1: Yes	At least one is "marked" or "all are blank"	Stands as original value	.: Missing if –6; stand as original value otherwise	F
2	1: Yes or .: missing	"Blank or NA"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	2: No or .: missing	At least one is "marked"	1: Yes	.: Missing if –6; stand as original value otherwise	B F
4	2: No	"All are blank" or "blank or NA"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	"All are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 15:
Responses to H20041-H20042 are all missing.

Definition of "blank or NA" in Coding Table for Note 15:
All of the following are true: H20041-H20042 are a combination of not applicable (-6) or missing.

Definition of "marked" in Coding Table for Note 15:
Any pattern of marks outside the definitions "all are blank" and "blank or NA".

Coding Table for Note 16:
H20043, H20044

N16	H20043 is:	H20044 is:	H20043 is coded as:	H20044 is coded as:	*
1	1: Yes	1-4: How often or .: missing	Stands as original value	Stands as original value	
2	1: Yes or .: missing	-6: Didn't receive forms to fill out	2: No	.C: Question should be skipped	B F
3	2: No or .: missing	1-4: How often	1: Yes	Stands as original value	B
4	2: No	-6: Didn't receive forms to fill out or .: missing	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 17:
H20045, H20046-H20047

N17	H20045 is:	H20046-H20047 are:	H20045 is coded as:	H20046-H20047 are coded as:	*
1	1: Yes	At least one is "marked", "all are blank" or "blank or don't know"	Stands as original value	.: Missing if −6; stands as original value otherwise	F
2	1: Yes, -5: don't know or .: missing	"Blank or NA" or "NA or don't know"	2: No	.N: Valid skip if missing; .C: question should be skipped if marked	B F
3	2: No, -5: don't know or .: missing	At least one is "marked"	1: Yes	.: Missing if −6; stands as original value otherwise	B F
4	2: No	None are "marked"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
5	-5: Don't know	"Blank or don't know" or "all are blank"	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
6	.: Missing	"Blank or don't know" or "all are blank"	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 17:
Responses to H20046-H20047 are all missing.

Definition of "blank or NA" in Coding Table for Note 17:
Responses to H20046-H20047 are either all not applicable (-6) or a combination of missing and not applicable (-6).

Definition of "blank or don't know" in Coding Table for Note 17:
Responses to H20046-H20047 are either all don't know (-5) or a combination of missing and don't know (-5).

Definition of "NA or don't know" in Coding Table for Note 17:
Responses to H20046-H20047 are a combination of not applicable (-6) and don't know (-5).

Definition of "marked" in Coding Table for Note 17:
Any pattern of marks outside the definitions "all are blank," "blank or NA," "blank or don't know," or "NA or don't know".

Coding Table for Note 18:
H20053, H20054-H20056, H20057A-H20057D

N18	H20053 is:	H20054-H20056 are:	H20057A-H20057D are:	H20053 is coded as:	H20054-H20056, H20057A-H20057D are coded as:	*
1	3: Some days, 4: every day, or .: missing	Any value	Any value	Stands as original value	Stand as original value	
2	2: Not at all or -5: don't know	Any value	"All are unmarked"	Stands as original value	.N: Valid skip if missing or unmarked; .C: question should be skipped if marked	F
3	2: Not at all	Any value	At least one is "marked"	.: Missing	Stand as original value	B
4	-5: Don't know	Any value	At least one is "marked"	Stands as original value	.N: Valid skip if missing or unmarked; .C: question should be skipped if marked	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are unmarked" in Coding Table for Note 18:
Responses to H20057A-H20057D are all missing or unmarked.

Definition of "marked" in Coding Table for Note 18:
Any pattern of marks outside the definition "all are unmarked"

Coding Table for Note 18_BF1:
S20BF2, S20BF3-S20BF5, S20BF7, S20BF8A-S20BF8J

N18_BF1	S20BF2 is:	S20BF3-S20BF5, S20BF7, and S20BF8A-S20BF8J are:	S20BF2 is coded as:	S20BF3-S20BF5, S20BF7, and S20BF8A-S20BF8J are coded as:	*
1	1: Yes	Any value	Stands as original value	Stand as original value	
2	2: No or -5: don't know	Any value	Stands as original value	.N: Valid skip if missing or unmarked; .C: question should be skipped if marked	F
3	.: Missing	Any "affirmative" value	1: Yes	Stand as original value	B
4	.: Missing	No "affirmative" values	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Definition of "affirmative" in Coding Table for Note 18_BF1:
Response to S20BF3 is 1-4, or response to S20BF4 is 1: every day or 2: some days, or response to S20BF5 is 1: yes, or response to S20BF7 is 1-7, or response to any of S20BF8A-S20BF8J is 1: marked.

Coding Table for Note 18_BF2:
S20BF4, S20BF5-S20BF6

N18_BF2	S20BF4 is:	S20BF5 is:	S20BF8A-S20BF8J are:	S20BF4 is coded as:	S20BF5 and S20BF8A-S20BF8J are coded as:	*
1	1: Every day, 2: some days or .: missing	Any value	Any value	Stands as original value	Stand as original value	
2	3: Not at all or -5: don't know	Any value	Any value	Stands as original value	.N: Valid skip if missing or unmarked; .C: question should be skipped if marked	F
3	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stand as original value	

* Indication of backward coding (B) or forward coding (F).

Coding Table for Note 19:

Note 19 (Part A)
H20058, H20059B, H20060-H20064, SEX, XSEXA

N19A	H20058 is:	SEX is:	H20059B--H20064 are:	XSEXA is coded as:
1	.: Missing	F	Any marked	2: Female
2	.: Missing	F	All missing	2: Female
3	.: Missing	M	Any marked	1: Male
4	.: Missing	M	All missing	1: Male
5	.: Missing	Z or .: missing	Any marked	2: Female
6	.: Missing	Z	All missing	.: Missing
7	.: Missing	.: Missing	All missing	.: Missing
8	1: Male	Any value	All missing	1: Male
9	1: Male	F	Any marked	2: Female
10	1: Male	M, Z, or .: missing	Any marked	1: Male
11	2: Female	Any value	Any marked	2: Female
12	2: Female	M	All missing	1: Male
13	2: Female	F, Z, or .: missing	All missing	2: Female

SEX (PNSEXCD) is the gender from the DEERS file. This variable is not used to override questionnaire responses, but to clear up any omissions or discrepancies in the responses.

XSEXA is the recoded gender variable after taking into account the self-reported response (H20058), any responses to gender-specific questions, and the gender of the sample beneficiary from DEERS.

Note 19 (Part B):
XSEXA, H20059B, H20060-H20064

N19B	XSEXA is:	H20059B--H16064 are:	H20059B--H20064 are coded as:	*
1	1: Male	"All are blank"	.N: Valid skip	F
2	1: Male	At least one is "marked"	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: Female	"All are blank" or at least one is "marked"	Stand as original value	
4	.: Missing	"All are blank" or at least one is "marked"	Missing value	F

* Indication of backward coding (B) or forward coding (F).

Definition of "all are blank" in Coding Table for Note 19b:
All variables H20059B--H20064 are missing.

Definition of "marked" in Coding Table for Note 19b:
Any pattern of marks outside the definition "all are blank".

Coding Table for Note 20
XSEXA, AGE, H20060, H20061

N20	XSEXA is:	AGE is:	H20060 is:	H20061 is:	H20060 is coded as:	H20061 is coded as:	*
1	1: Male	Any value	.N: Valid skip, or .C: question should be skipped	.N: Valid skip, or .C: question should be skipped	Stands as original value	Stands as original value	
2	2: Female	Any value	2: 40 or over	Any value	Stands as original value	Stands as original value	
3	2: Female	Any value	1: Under 40	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
4	2: Female	Any value	.: Missing	Marked	2: >= 40	Stands as original value	B
5	2: Female	< 40	.: Missing	.: Missing	1: < 40	.N: Valid skip	F B
6	2: Female	>=40	.: Missing	.: Missing	2: >= 40	Stands as original value	B
7	2: Female	.: Missing	.: Missing	.: Missing	Stands as original value	Stands as original value	
8	.: Missing	Any value	.: Missing	.: Missing	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F).

AGE (DAGEQY) is from the DEERS file. This variable is not used to override questionnaire responses, but to clear up any omissions or discrepancies in the responses.

Coding Table for Note 21:
XSEXA, H20062-H20064

N21	XSEXA is:	H20062 is:	H20063 is:	H20064 is:	H20062 is coded as:	H20063 is coded as:	H20064 is coded as:	*
1	1: Male	Any value	Any value	Any value	Stands as original value	Stands as original value	Stands as original value	
2	2: Female	1: Pregnant now	1: First trimester	Any value	Stands as original value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	F
3	2: Female	1: Pregnant now	2: Second trimester	2: Third trimester	Stands as original value	Stands as original value	.: Missing	F
4	2: Female	1: Pregnant now	2: Second trimester	4: First trimester, 3: second trimester, 1: did not receive prenatal care, or .: missing	Stands as original value	Stands as original value	Stands as original value	
5	2: Female	1: Pregnant now	3: Third trimester or .: missing	Any value	Stands as original value	Stands as original value	Stands as original value	
6	2: Female	2: Pregnant in last 12 months	Any value	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	Stands as original value	F
7	2: Female	3: Not pregnant in past 12 months	Any value	Any value	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	.N: Valid skip if missing; .C: question should be skipped if marked	F
8	2: Female	.: Missing	1: First trimester	Any value	1: Pregnant now	Stands as original value	.N: Valid skip if missing; .C: question should be skipped if marked	B F
9	2: Female	.: Missing	2: Second trimester	2: Third trimester	1: Pregnant now	Stands as original value	.: Missing	B F
10	2: Female	.: Missing	2: Second trimester	4: First trimester, 3: second trimester, 1: did not receive prenatal care, or .: missing	1: Pregnant now	Stands as original value	Stands as original value	B
11	2: Female	.: Missing	3: Third trimester	Any value	1: Pregnant now	Stands as original value	Stands as original value	B
12	2: Female	.: Missing	.: Missing	Any value	Stands as original value	Stands as original value	Stands as original value	F
13	.: Missing	.: Missing	Marked or .: missing	Any value	Stands as original value	Stands as original value	Stands as original value	

* Indication of backward coding (B) or forward coding (F)

Coding Table for Note 23_HT:
XSEXA, H20071F, H20071I

N23_HT	XSEXA is:	H20071F and H20071I is:	H20071F and H20071I are coded as:	*
1	1: Male or 2: female	"Height within range for gender" or .: missing	Stands as original value	
2	1: Male or 2: female	"Height out of range for gender"	.O: Out of range	F
3	.: Missing	"Height within range for either gender" or .: missing	Stands as original value	
4	.: Missing	"Height out of range for either gender"	.O: Out of range	F

* Indication of backward coding (B) or forward coding (F).

Definition of "Height within range for gender" in Coding Table for Note 23_HT:
From 2006 NHIS, height for men is 63"-76" (5'3"-6'4"), height for woman is 59"-70" (4'11"-5'10").

Definition of "Height out of range for gender" in Coding Table for Note 23_HT:
Any height outside the definition of "Height within range for gender".

Definition of "Height within range for either gender" in Coding Table for Note 23_HT:
Use lowest and highest height from either gender to set range: 59"-76" (4'11"-6'4").

Definition of "Height out of range for either gender" in Coding Table for Note 23_HT:
Any height outside the definition of "Height within range for either gender".

Coding Table for Note 23_WT:
XSEXA, H20072

N23_WT	XSEXA is:	H20072 is:	H20072 is coded as:	*
1	1: Male or 2: female	"Weight within range for gender" or .: missing	Stands as original value	
2	1: Male or 2: female	"Weight out of range for gender"	.O: Out of range	F
3	.: Missing	"Weight within range for either gender" or .: missing	Stands as original value	
4	.: Missing	"Weight out of range for either gender"	.O: Out of range	F

* Indication of backward coding (B) or forward coding (F).

Definition of "Weight within range for gender" in Coding Table for Note 23_WT:
From 2006 NHIS, weight for men is 126-299 pounds, weight for woman is 100-274 pounds.

Definition of "Weight out of range for gender" in Coding Table for Note 23_WT:
Any height outside the definition of "Weight within range for gender".

Definition of "Weight within range for either gender" in Coding Table for Note 23_WT:
Use lowest and highest weight from either gender to set range: 100-299 pounds.

Definition of "Weight out of range for either gender" in Coding Table for Note 23_WT:
Any height outside the definition of "Weight within range for either gender".

Coding Table for Note 24:
H20073, H20073A-H20073E

N24	H20073A is:	H20073B is:	H20073C is:	H20073D is:	H20073E is:	H20073 is coded as:	H20073A-E are coded as:	*
1	Any value	1: Marked	Any value	Any value	Any value	2: Yes, Mexican, Mexican American, Chicano	Stand as original value	F
2	Any value	2: Unmarked	Any value	Any value	1: Marked	5: Yes, other Spanish, Hispanic, or Latino	Stand as original value	F
3	Any value	2: Unmarked	1: Marked	Any value	2: Unmarked	3: Yes, Puerto Rican	Stand as original value	F
4	Any value	2: Unmarked	2: Unmarked	1: Marked	2: Unmarked	4: Yes, Cuban	Stand as original value	F
5	1: Marked	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	1: No, not Spanish, Hispanic, or Latino	Stand as original value	F
6	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	2: Unmarked	.: Missing	Stand as original value	F

* Indication of backward coding (B) or forward coding (F).

APPENDIX C

MAPPING THE MILITARY TREATMENT FACILITY (MTF) TO THE CATCHMENT AREA

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
0001	0001	AHC FOX-REDSTONE ARSENAL	1737
0003	0003	AHC LYSTER-RUCKER	1760
0004	0004	AF-C-42nd MEDGRP-MAXWELL	2977
0005	0005	ACH BASSETT-WAINWRIGHT	1118
0005	0202	AHC-GREELY	47
0005	0204	THC RICHARDSON	287
0005	6033	KAMISH CLINIC-WAINWRIGHT	344
0006	0006	AF-H-673rd MEDGRP JBER-ELMNDRF	1849
0008	0008	AHC R W BLISS-HUACHUCA	2900
0009	0009	AF-C-56th MEDGRP-LUKE	1769
0010	0010	AF-C-355th MEDGRP-DM	2041
0013	0013	AF-C-19th MEDGRP-LITTLE ROCK	2535
0014	0014	AF-MC-60th MEDGRP-TRAVIS	1761
0018	0018	AF-C-30th MEDGRP-VANDENBERG	3235
0019	0019	AF-C-412th MEDGRP-EDWARDS	2994
0024	0024	NH CAMP PENDLETON	1113
0024	0208	BMC MCB CAMP PENDLETON	67
0024	0210	BMC EDSON RANGE ANNEX	34
0024	0217	NBHC NAS POINT MUGU	9
0024	0269	BMC YUMA	203
0024	1406	BMC MCMH HORNO 53-PENDLTN	34
0024	1407	BMC MCMH MARGARITA 33-PENDLTN	9
0024	1408	BMC MCMH LAS PULGAS 43-PENDLTN	38
0024	1409	BMC MCMH LAS FLORES 41-PENDLTN	8
0024	1412	NBHC TEMECULA	110
0024	1657	BMC CAMP DELMAR MCB	39
0024	1659	BMC SAN ONOFRE MCB	36
0024	1974	BMC MCMH CHAPPO 22-PENDLTN	69
0024	6225	BMC MCMH SAN MATEO 62-PENDLTN	27
0028	0028	NHC LEMOORE	1452
0028	0319	NBHC FALLON	298
0029	0029	NMC SAN DIEGO	692
0029	0230	NBHC MCRD SAN DIEGO	82
0029	0232	BMC MCAS MIRAMAR	426
0029	0233	NBHC CORONADO	1
0029	0239	NBHC EL CENTRO	32
0029	0410	NBHC EASTLAKE	152
0029	0701	NBHC NAVSTA SAN DIEGO	93
0029	6207	TRICARE OUTPATIENT-CLAIREMONT	440
0030	0030	NH TWENTYNINE PALMS	1630
0030	0212	NBHC NAVWPNCEN CHINA LAKE	204
0032	0032	ACH EVANS-CARSON	1294
0032	6082	SCMH BUTTS AIRFIELD-CARSON	163
0032	7293	TMC ROBINSON-CARSON	116
0032	7300	TMC DIRAIMONDO-CARSON	178
0033	0033	AF-ASU-10th MEDGRP-ACADEMY	1796
0038	0038	NH PENSACOLA	639
0038	0107	NBHC NSA MID-SOUTH	175
0038	0260	NBHC NAS PENSACOLA	103
0038	0261	NBHC MILTON WHITING FIELD	158

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
0038	0262	NBHC NATTC PENSACOLA	88
0038	0265	NBHC NAVCOASTSYSC PANAMA CITY	84
0038	0316	NBHC GULFPORT	206
0038	0317	NBHC MERIDIAN	68
0038	0436	NBHC NAS BELLE CHASE	205
0038	0513	NBHC NTTC PENSACOLA	51
0039	0039	NH JACKSONVILLE	1164
0039	0266	NBHC NAS JACKSONVILLE	99
0039	0275	NBHC ALBANY	37
0039	0337	NBHC KINGS BAY	383
0039	0517	NBHC KEY WEST	91
0042	0042	AF-H-96th MEDGRP-EGLIN	1753
0043	0043	AF-C-325th MEDGRP-TYNDALL	1589
0045	0045	AF-C-6th MEDGRP-MACDILL	1060
0045	1946	AF-CB-SABAL PARK CLINIC-MIL	718
0046	0046	AF-C-45th MEDGRP-PATRICK	3270
0047	0047	AMC EISENHOWER-GORDON	1298
0047	1550	TMC-4-GORDON	134
0047	7197	CONNELLY HLTH CLIN-GORDON	85
0047	7239	SOUTHCOM CLINIC-GORDON	140
0047	8924	AHC RODRIGUEZ-BUCHANAN	108
0048	0048	ACH MARTIN-BENNING	1161
0048	1315	CTMC-BENNING	158
0048	1316	FPC WINDER-BENNING	1
0048	1330	CTMC 2-HARMONY CHURCH-BENNING	7
0048	1332	TMC 9-7TH SPECIAL FORCES-EGLIN	64
0048	1553	CTMC SLEDGEHAMMER-BENNING	129
0048	6124	CBMH NORTH COLUMBUS-BENNING	262
0049	0049	ACH WINN-STEWART	705
0049	0272	AHC TUTTLE-HUNTER ARMY AIRFLD	382
0049	6122	CBMH RICHMOND HILL-STEWART	257
0049	7344	TMC-STEWART	139
0049	7443	TMC LLOYD C HAWKS-STEWART	270
0051	0051	AF-C-78th MEDGRP-ROBINS	2673
0052	0052	AMC TRIPLER-SHAFTER	887
0052	0437	DESMOND DOSS-SCHOFIELD BARRACK	466
0052	0534	SCMH DDHC-SCHOFIELD BARRACKS	296
0052	6120	CBMH WARRIOR OHANA-SHAFTER	121
0053	0053	AF-C-366th MEDGRP-MT HOME	2432
0055	0055	AF-C-375th MEDGRP-SCOTT	1753
0056	0056	JAMES A LOVELL FHCC	1675
0056	1660	NBHC NCTC INPR GREAT LAKES	46
0056	1959	NBHC NTC GREAT LAKES	114
0057	0057	ACH IRWIN-RILEY	1028
0057	1539	AVIATION CLINIC-RILEY	87
0057	6104	CBMH FLINT HILLS-RILEY	255
0057	7289	CUSTER HILL HC-RILEY	161
0057	7337	AMH FARRELLY AHC-RILEY	229
0058	0058	AHC MUNSON-LEAVENWORTH	1717
0058	1488	TMC #2-USDB 2-LEAVENWORTH	19

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
0058	1530	TMC #1-USDB-LEAVENWORTH	10
0060	0060	ACH BLANCHFIELD-CAMPBELL	699
0060	0290	AHC ROCK ISLAND ARSENAL	41
0060	1506	AVIATION MEDICINE C-CAMPBELL	118
0060	6108	CBMH SCREAMING EAGLE-CAMPBELL	326
0060	7307	LA POINTE HLTH CLINIC-CAMPBELL	287
0060	7341	BYRD HEALTH CLINIC-CAMPBELL	301
0061	0061	AHC IRELAND-KNOX	2193
0061	7198	NELSON MEDICAL CLINIC-KNOX	4
0062	0062	AF-C-2nd MEDGRP-BARKSDALE	2477
0064	0064	ACH BAYNE-JONES-POLK	1241
0064	6081	SCMH PATRIOT BRIGADE-POLK	291
0064	7199	SCMH-POLK	215
0066	0066	AF-ASU-11th MEDGRP-ANDREWS	1185
0066	0413	AF-C-11th MED SQ JBAB-BOLLING	506
0066	1746	AF-C-USAF CLINIC PENTAGON	58
0067	0067	WALTER REED NATL MIL MED CNTR	1765
0068	0068	NHC PATUXENT RIVER	1811
0068	0301	NBHC INDIAN HEAD	447
0068	0386	NBHC DAHLGREN	430
0068	0522	NBHC ANDREWS AFB	123
0069	0069	KIMBROUGH AMB CAR CEN-MEADE	681
0069	0255	AHC MCNAIR-MYER-HENDERSON HALL	33
0069	0308	AHC KIRK-ABERDEEN PRVNG GD	200
0069	0309	AHC BARQUIST-DETRICK	215
0069	0352	AHC DUNHAM-CARLISLE BARRACKS	174
0069	0390	AHC ANDREW RADER-MYER-HENDERSN	383
0069	0441	AHC FILLMORE-NEW CUMBERLAND	72
0069	0545	OHC EDGEWOOD ARS	1
0073	0073	AF-MC-81st MEDGRP-KEESLER	2379
0074	0074	AF-C-14th MEDGRP-COLUMBUS	2352
0075	0075	ACH LEONARD WOOD	1760
0075	6115	CBMH OZARK-LEONARD WOOD	3
0076	0076	AF-C-509th MEDGRP-WHITEMAN	2473
0077	0077	AF-C-341st MEDGRP-MALMSTROM	2495
0078	0078	AF-C-55th MEDGRP-OFFUTT	1754
0079	0079	AF-MC-99th MEDGRP-NELLIS	1718
0079	1271	AF-EC-CREECH AID STATN-NELLIS	52
0083	0083	AF-C-377th MEDGRP-KIRTLAND	2377
0086	0086	ACH KELLER-WEST POINT	1376
0086	1815	TMC MOLOGNE-WEST POINT	474
0086	7154	MILLS TROOP CLINIC-DIX	78
0089	0089	AMC WOMACK-BRAGG	365
0089	6105	CBMH FAYETTEVILLE-BRAGG	134
0089	6106	CBMH HOPE MILLS-BRAGG	174
0089	6107	CBMH LINDEN OAKS-BRAGG	189
0089	7143	ROBINSON CLINIC-BRAGG	433
0089	7286	JOEL CLINIC-BRAGG	197
0089	7294	CLARK CLINIC-BRAGG	265
0090	0090	AF-C-4th MEDGRP-SJ	2182

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
0091	0091	NMC CAMP LEJEUNE	1507
0091	0333	BMC MCMH NEW RIVER-LEJEUNE	66
0091	1410	BMC MCMH MAIN SIDE-LEJEUNE	118
0091	1662	BMC CAMP GEIGER MCB	20
0091	1663	BMC CAMP JOHNSON MCB	15
0091	1664	BMC MCMH COURTHOUSE BAY-LEJEUN	16
0091	1992	BMC BLDG 15 MCB CAMP LEJEUNE	44
0091	1995	BMC MCMH FRENCH CREEK-LEJEUNE	69
0091	6232	INTREPID SPIRIT CNTR-LEJEUNE	1
0092	0092	NHC CHERRY POINT	1759
0094	0094	AF-C-5th MEDGRP-MINOT	2142
0095	0095	AF-MC-88th MEDGRP-WRIGHT-PAT	1783
0096	0096	AF-C-72nd MEDGRP-TINKER	1757
0098	0098	AHC REYNOLDS-SILL	1748
0100	0035	NBHC GROTON	862
0100	0100	NHC NEW ENGLAND	533
0100	0321	NBHC PORTSMOUTH	220
0100	0328	NBHC SARATOGA SPRINGS	140
0101	0101	AF-C-20th MEDGRP-SHAW	2013
0103	0103	NHC CHARLESTON	1779
0104	0104	NH BEAUFORT	1483
0104	0358	NBHC MCRD PARRIS ISLAND	141
0104	0360	NBHC MCAS BEAUFORT	202
0105	0105	AHC MONCRIEF-JACKSON	1185
0105	6114	CBMH MONCRIEF-JACKSON	559
0108	0108	AMC WILLIAM BEAUMONT-BLISS	145
0108	0327	AHC MCAFEE-WHITE SANDS MSL RAN	33
0108	1259	EAST BLISS CLINIC-BLISS	115
0108	1481	MENDOZA SOLDIER FAM CC-BLISS	802
0108	1617	TMC MEDICAL EXAM STATION-BLISS	401
0108	6103	CBMH-RIO BRAVO-BLISS	197
0108	6126	CBMH DESERT SAGE-BLISS	76
0109	0109	AMC BAMC-FSH	455
0109	1585	TAYLOR BURK H C-BAMC-BULLIS	152
0109	1587	TMC-MCWETHY-BAMC-FSH	5
0109	6095	CPT JENNFR MORENO PCC-BAMC-FSH	691
0109	6118	CBMH BAMC-WESTOVER	274
0109	6119	CBMH BAMC-SCHERTZ	230
0110	0110	AMC DARNALL-HOOD	424
0110	1592	MONROE CONSOLIDATED-HOOD	129
0110	1599	TMC-12-HOOD	43
0110	1601	TMC-14-HOOD	2
0110	6014	CHARLES MOORE HLTH CLN-HOOD	161
0110	6076	RUSSELL COLLIER HLTH CLIN-HOOD	196
0110	6109	CBMH WEST KILLEEN-HOOD	266
0110	6111	CBMH HARKER HEIGHTS-HOOD	140
0110	6112	CBMH KILLEEN-HOOD	145
0110	6113	CBMH COPPERAS COVE-HOOD	124
0110	7236	BENNETT FAM CARE CLINIC-HOOD	135
0112	0112	AF-C-7th MEDGRP-DYESS	2013

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
0113	0113	AF-C-82nd MEDGRP-SHEPPARD	1984
0117	0117	AF-ASU-59th MDW-WHASC-LACKLAND	1453
0117	1350	AF-C-559th MDG-REID-JBSA-LACK	23
0117	6125	AF-CB-59th MDW-BULVERDE CLINIC	294
0118	0118	NHC CORPUS CHRISTI	1908
0118	0369	NBHC KINGSVILLE	305
0118	0370	NBHC FORT WORTH	300
0119	0119	AF-C-75th MEDGRP-HILL	1748
0120	0120	AF-H-633rd MEDGRP JBLE-LANGLEY	1763
0121	0121	AHC MCDONALD-EUSTIS	1225
0121	0464	AHC-STORY	87
0121	0554	TMC-2-EUSTIS	235
0121	6127	CBMH WILLIAMSBURG-EUSTIS	242
0122	0122	AHC KENNER-LEE	1754
0123	0123	FT BELVOIR COMMUNITY HOSP-FBCH	870
0123	0256	DILORENZO HEALTH CLINIC	96
0123	6200	FAIRFAX HEALTH CENTER	374
0123	6201	DUMFRIES HEALTH CENTER	419
0124	0124	NMC PORTSMOUTH	822
0124	0380	NBHC NSY NORFOLK	7
0124	0381	NBHC YORKTOWN	37
0124	0382	NBHC DAM NECK	94
0124	0519	NBHC CHESAPEAKE	52
0124	6214	TRICARE OUTPATIENT CL VA BEACH	315
0124	6221	TRICARE OUTPATIENT CHESAPEAKE	267
0124	6240	TRICARE OUTPATIENT CL-SUFFOLK	207
0125	0125	AMC MADIGAN-LEWIS	589
0125	0247	AHC MONTEREY	85
0125	1485	AHC-MCCHORD AFB	157
0125	1646	WINDER FAMILY MEDICAL CL-JBLM	323
0125	1649	SCMH OKUBO-JBLM	148
0125	6071	AHC-VA MG GOURLEY CL-MONTEREY	88
0125	6094	SCMH ALLEN-JBLM	71
0125	6116	CBMH MADIGAN-PUYALLUP	142
0125	6117	CBMH SOUTH SOUND-MADIGAN	148
0126	0126	NH BREMERTON	1229
0126	0398	NBHC PUGET SOUND	2
0126	1656	NBHC BANGOR	260
0126	7138	NHCL EVERETT	266
0127	0127	NHC OAK HARBOR BIRTHING CTR	1754
0128	0128	AF-C-92nd MEDGRP-FAIRCHILD	2575
0129	0129	AF-C-90th MEDGRP-FE WARREN	2400
0131	0131	ACH WEED-IRWIN	1669
0131	0206	AHC YUMA PROVING GROUND	195
0131	1644	TMC-1-IRWIN	345
0248	0248	AF-C-61st MEDGRP-LOS ANGELES	1828
0248	7232	AF-CB-FT MACARTHUR CLINIC-LA	491
0252	0252	AF-C-21st MEDGRP-PETERSON	1541
0252	1497	AF-C-SCHRIEVER MED SQ-PETERSON	204
0280	0280	NHC HAWAII	1320

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
0280	0284	NBHC NAVCAMS EASTPAC	111
0280	0285	BMC MCAS KANEOHE BAY	645
0280	1987	NBHC MCB CAMP H M SMITH	40
0306	0306	NHC ANNAPOLIS	1189
0306	0322	BMC COLTS NECK EARLE	221
0306	0348	BMC MECHANICSBURG	2
0306	0525	NBHC BANCROFT HALL	472
0310	0310	AF-C-66th MEDGRP-HANSCOM	3011
0330	0330	AHC GUTHRIE-DRUM	1111
0330	7113	CTMC CONNER-DRUM	717
0356	0356	AF-C-628th MEDGRP-CHARLESTON	2601
0364	0364	AF-C-17th MEDGRP-GOODFELLOW	1955
0385	0385	NHC QUANTICO	1261
0385	0703	NBHC WASHINGTON NAVY YARD	180
0385	1670	BMC OCS BROWN FIELD	55
0385	1671	NBHC THE BASIC SCHOOL	264
0405	0405	NBHC MAYPORT	1743
0407	0407	NBHC NTC SAN DIEGO	1785
0607	0607	LANDSTUHL REGIONAL MEDCEN	494
0607	0611	AHC-VICENZA	410
0607	0614	AHC SHAPE	102
0607	1126	AHC BAUMHOLDER	241
0607	1128	AHC KAISERSLAUTERN	233
0607	1147	AHC WIESBADEN	270
0607	8977	AHC BRUSSELS	26
0609	1015	AHC ANSBACH	185
0609	1016	AHC GRAFENWOEHR	422
0609	1017	AHC VILSECK	466
0609	1019	AHC HOHENFELS	202
0609	8987	AHC PATCH BKS-STUTTGART	587
0612	0612	ACH BRIAN D ALLGOOD-PYONGTAEK	408
0612	1157	AHC CAMP CASEY-TONGDUCHON	205
0612	8901	AHC-SGT SHIN WOO KIM-HUMPHREYS	304
0612	8903	SCMH-JENKINS-HUMPHREYS	602
0612	8907	AHC-CAMP WALKER-TAEGU	181
0612	8913	AHC-CAMP CARROLL-KOREA	59
0612	8916	AHC-K16-SEOUL	12
0620	0620	NH GUAM-AGANA	1884
0620	0871	BMC NAVSTA GUAM	589
0620	6339	OP FORCES-NH GUAM-AGANA	91
0621	0621	NH OKINAWA	827
0621	0861	BMC MCAS FUTENMA	76
0621	0862	BMC EVANS-CAMP FOSTER	163
0621	1269	BMC CAMP KINSER	228
0621	6340	OP FORCES-OKINAWA	1
0621	7032	BMC CAMP BUSH/COURTNEY	352
0621	7033	BMC CAMP HANSEN	179
0621	7107	BMC CAMP SCHWAB-OKINAWA	43
0622	0622	NH YOKOSUKA	878
0622	0625	BMC IWAKUNI BIRTHING CTR	527

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
0622	0852	NBHC COMFLEACT SASEBO	182
0622	0853	NBHC NAF ATSUGI	221
0622	0873	BMA CAMP FUJI	30
0622	6341	OP FORCES-NH YOKOSUKA	124
0622	8934	NBHC NSF DIEGO GARCIA	17
0622	8939	BMC CHINHAE	11
0633	0633	AF-H-48th MEDGRP-LAKENHEATH	2049
0804	0804	AF-C-18th MEDGRP-KADENA	1965
0805	0805	AF-C-52nd MEDGRP-SPANGDAHLEM	3239
0806	0806	AF-C-86th MEDGRP-RAMSTEIN	2012
6034	6034	TROOP & FAMILY MED CL-BRAGG	1768
7139	7139	AF-C-1st SPCL OPS MED-HURLBURT	1948
9001	0006	AF-H-673rd MEDGRP JBER-ELMNDRF	1
9001	0015	AF-C-9th MEDGRP-BEALE	1
9001	0026	NBHC PORT HUENEME	1
9001	0034	USCG CLINIC NEW LONDON	23
9001	0036	AF-C-436th MEDGRP-DOVER	161
9001	0038	NH PENSACOLA	218
9001	0039	NH JACKSONVILLE	634
9001	0042	AF-H-96th MEDGRP-EGLIN	389
9001	0047	AMC EISENHOWER-GORDON	189
9001	0048	ACH MARTIN-BENNING	233
9001	0049	ACH WINN-STEWART	299
9001	0050	AF-C-23rd MEDGRP-MOODY	130
9001	0055	AF-C-375th MEDGRP-SCOTT	1
9001	0056	JAMES A LOVELL FHCC	218
9001	0059	AF-C-22nd MEDGRP-MCCONNELL	2
9001	0060	ACH BLANCHFIELD-CAMPBELL	347
9001	0064	ACH BAYNE-JONES-POLK	57
9001	0066	AF-ASU-11th MEDGRP-ANDREWS	1
9001	0067	WALTER REED NATL MIL MED CNTR	892
9001	0073	AF-MC-81st MEDGRP-KEESLER	154
9001	0084	AF-C-49th MEDGRP-HOLLOMAN	4
9001	0085	AF-C-27th SPCLOPS MDGRP-CANNON	2
9001	0086	ACH KELLER-WEST POINT	183
9001	0089	AMC WOMACK-BRAGG	758
9001	0090	AF-C-4th MEDGRP-SJ	1
9001	0091	NMC CAMP LEJEUNE	590
9001	0092	NHC CHERRY POINT	1
9001	0093	AF-C-319th MEDGRP-GRAND FORKS	2
9001	0095	AF-MC-88th MEDGRP-WRIGHT-PAT	237
9001	0097	AF-C-97th MEDGRP-ALTUS	50
9001	0098	AHC REYNOLDS-SILL	3
9001	0104	NH BEAUFORT	90
9001	0105	AHC MONCRIEF-JACKSON	2
9001	0106	AF-C-28th MEDGRP-ELLSWORTH	1
9001	0109	AMC BAMC-FSH	558
9001	0110	AMC DARNALL-HOOD	464
9001	0114	AF-C-47th MEDGRP-LAUGHLIN	39
9001	0117	AF-ASU-59th MDW-WHASC-LACKLAND	5

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
9001	0120	AF-H-633rd MEDGRP JBLE-LANGLEY	346
9001	0121	AHC MCDONALD-EUSTIS	3
9001	0122	AHC KENNER-LEE	1
9001	0123	FT BELVOIR COMMUNITY HOSP-FBCH	910
9001	0124	NMC PORTSMOUTH	1361
9001	0130	USCG CLINIC KODIAK	2
9001	0203	AF-C-354th MEDGRP-EIELSON	2
9001	0231	NBHC NAS NORTH ISLAND	5
9001	0287	AF-C-15th MEDGRP JBHP-HICKAM	2
9001	0308	AHC KIRK-ABERDEEN PRVNG GD	1
9001	0326	AF-C-87th MEDGRP JBMDL-MCGUIRE	251
9001	0338	AF-C-71st MEDGRP-VANCE	58
9001	0352	AHC DUNHAM-CARLISLE BARRACKS	1
9001	0366	AF-C-359 MDG-JBSA-RANDOLPH	216
9001	0378	NBHC LITTLE CREEK	277
9001	0387	NBHC OCEANA	141
9001	0390	AHC ANDREW RADER-MYER-HENDERSN	1
9001	0395	AF-LS-62nd MED FLT-JBLM-MCHORD	1
9001	0416	USCG CLINIC MOBILE	10
9001	0418	USCG CLINIC ALAMEDA	1
9001	0419	USCG CLINIC PETALUMA	6
9001	0420	USCG CLINIC DISTRICT OF COLUMB	20
9001	0421	USCG CLINIC AIR STATION MIAMI	6
9001	0422	USCG CLINIC CLEARWATER	11
9001	0423	USCG CLINIC NEW ORLEANS	8
9001	0424	USCG CLINIC BALTIMORE	6
9001	0425	USCG CLINIC CAPE COD	10
9001	0426	USCG CLINIC BOSTON	12
9001	0428	USCG CLINIC CAPE MAY	25
9001	0430	USCG CLINIC ELIZABETH CITY	11
9001	0432	USCG CLINIC PORTSMOUTH	31
9001	0433	USCG CLINIC YORKTOWN	6
9001	0508	NBHC NAVSTA SEWELLS	183
9001	0610	AHC BG CRAWFORD SAMS-CAMP ZAMA	3
9001	0615	NH GUANTANAMO BAY	13
9001	0617	NH NAPLES	4
9001	0618	NH ROTA	3
9001	0624	NH SIGONELLA	1
9001	0638	AF-H-51st MEDGRP-OSAN	3
9001	0639	AF-H-35th MEDGRP-MISAWA	1
9001	0640	AF-H-374th MEDGRP-YOKOTA	7
9001	0653	AF-LS-422nd MED FLT-CROUGHTON	1
9001	0779	KENTUCKY-FT CAMPBELL AREA	28
9001	0780	KENTUCKY-EXCL FT CAMPBELL AREA	592
9001	0781	NORTHEAST WEST VIRGINIA	71
9001	0782	WESTERN WEST VIRGINIA	240
9001	0783	EASTERN MISSOURI-ST LOUIS AREA	246
9001	0787	GEORGIA-FORMER NOBLE CATCHMENT	4
9001	0789	IOWA-QUAD CITIES AREA	29
9001	0802	AF-C-36th MEDGRP-ANDERSEN	2

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
9001	0808	AF-ASU-31st MEDGRP-AVIANO	3
9001	0814	AF-LS-423rd MDS-RAF ALCONBURY	3
9001	0901	ALABAMA	909
9001	0904	ARKANSAS	448
9001	0907	CONNECTICUT	349
9001	0908	DELAWARE	135
9001	0911	GEORGIA	1501
9001	0914	ILLINOIS	616
9001	0915	INDIANA	732
9001	0920	MAINE	248
9001	0921	MARYLAND	255
9001	0922	MASSACHUSETTS	461
9001	0923	MICHIGAN	728
9001	0925	MISSISSIPPI	509
9001	0930	NEW HAMPSHIRE	225
9001	0931	NEW JERSEY	464
9001	0933	NEW YORK	980
9001	0934	NORTH CAROLINA	1110
9001	0936	OHIO	910
9001	0937	OKLAHOMA	797
9001	0939	PENNSYLVANIA	1047
9001	0940	RHODE ISLAND	136
9001	0941	SOUTH CAROLINA	1081
9001	0943	TENNESSEE	931
9001	0946	VERMONT	116
9001	0950	WISCONSIN	582
9001	0953	PUERTO RICO	1
9001	0987	EASTERN FLORIDA	2000
9001	0988	WESTERN FLORIDA	207
9001	0989	EASTERN LOUISIANA	339
9001	0990	WESTERN LOUISIANA	287
9001	0993	EASTERN TEXAS	2403
9001	0995	NORTHERN VIRGINIA	118
9001	0996	SOUTHERN VIRGINIA	461
9001	0999	UNKNOWN LOCATION	186
9001	1017	AHC VILSECK	1
9001	1170	NBHC NSA BAHRAIN	7
9001	1585	TAYLOR BURK H C-BAMC-BULLIS	1
9001	1946	AF-CB-SABAL PARK CLINIC-MIL	1
9001	5185	USCG CLINIC JACKSONVILLE	3
9001	5187	USCG CLINIC CORPUS CHRISTI	3
9001	5195	USCG CLINIC DETROIT	6
9001	5196	USCG CLINIC NEW YORK	11
9001	5199	USCG CLINIC KEY WEST	8
9001	6095	CPT JENNFR MORENO PCC-BAMC-FSH	2
9001	6106	CBMH HOPE MILLS-BRAGG	1
9001	6118	CBMH BAMC-WESTOVER	1
9001	6119	CBMH BAMC-SCHERTZ	1
9001	6200	FAIRFAX HEALTH CENTER	1
9001	6201	DUMFRIES HEALTH CENTER	4

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
9001	6335	OP FORCES-NH SIGONELLA	8
9001	6339	OP FORCES-NH GUAM-AGANA	1
9001	6341	OP FORCES-NH YOKOSUKA	4
9001	6342	OP FORCES-BAHRAIN	2
9001	7032	BMC CAMP BUSH/COURTNEY	1
9001	7043	USCG CLINIC BARBERS POINT	1
9001	7045	USCG CLINIC NORTH BEND	1
9001	7048	USCG CLINIC BASE MIAMI	7
9001	7082	USCG CLINIC HOUSTON/GALVESTON	7
9001	7143	ROBINSON CLINIC-BRAGG	1
9001	7200	AF-C-460th MEDGRP-BUCKLEY	1
9001	7286	JOEL CLINIC-BRAGG	3
9001	7294	CLARK CLINIC-BRAGG	2
9001	7913	REMOTE 13(EUROPE)	1
9001	7915	REMOTE 15(TLAC)	2
9001	7917	REMOTE 17(NORTH)	11
9001	7918	REMOTE 18(SOUTH)	5
9001	7919	REMOTE 19(WEST)	1
9001	7923	REMOTE 23(EAST) 1JAN2018	25
9001	7924	REMOTE 24(WEST) 1JAN2018	6
9003	0005	ACH BASSETT-WAINWRIGHT	94
9003	0006	AF-H-673rd MEDGRP JBER-ELMNDRF	253
9003	0008	AHC R W BLISS-HUACHUCA	2
9003	0014	AF-MC-60th MEDGRP-TRAVIS	632
9003	0015	AF-C-9th MEDGRP-BEALE	196
9003	0019	AF-C-412th MEDGRP-EDWARDS	2
9003	0024	NH CAMP PENDLETON	1549
9003	0026	NBHC PORT HUENEME	173
9003	0029	NMC SAN DIEGO	2939
9003	0030	NH TWENTYNINE PALMS	106
9003	0032	ACH EVANS-CARSON	1143
9003	0033	AF-ASU-10th MEDGRP-ACADEMY	4
9003	0034	USCG CLINIC NEW LONDON	2
9003	0036	AF-C-436th MEDGRP-DOVER	1
9003	0050	AF-C-23rd MEDGRP-MOODY	1
9003	0052	AMC TRIPLER-SHAFTER	895
9003	0057	ACH IRWIN-RILEY	224
9003	0058	AHC MUNSON-LEAVENWORTH	1
9003	0059	AF-C-22nd MEDGRP-MCCONNELL	253
9003	0075	ACH LEONARD WOOD	151
9003	0078	AF-C-55th MEDGRP-OFFUTT	1
9003	0079	AF-MC-99th MEDGRP-NELLIS	592
9003	0084	AF-C-49th MEDGRP-HOLLOMAN	280
9003	0085	AF-C-27th SPCLOPS MDGRP-CANNON	242
9003	0093	AF-C-319th MEDGRP-GRAND FORKS	93
9003	0106	AF-C-28th MEDGRP-ELLSWORTH	262
9003	0108	AMC WILLIAM BEAUMONT-BLISS	537
9003	0117	AF-ASU-59th MDW-WHASC-LACKLAND	1
9003	0125	AMC MADIGAN-LEWIS	1118
9003	0126	NH BREMERTON	418

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
9003	0127	NHC OAK HARBOR BIRTHING CTR	181
9003	0130	USCG CLINIC KODIAK	15
9003	0131	ACH WEED-IRWIN	53
9003	0203	AF-C-354th MEDGRP-EIELSON	126
9003	0231	NBHC NAS NORTH ISLAND	285
9003	0287	AF-C-15th MEDGRP JBHP-HICKAM	325
9003	0326	AF-C-87th MEDGRP JBMDL-MCGUIRE	3
9003	0335	AF-LS-43rd MED SQ-JBBP-POPE	1
9003	0338	AF-C-71st MEDGRP-VANCE	1
9003	0366	AF-C-359 MDG-JBSA-RANDOLPH	3
9003	0378	NBHC LITTLE CREEK	4
9003	0387	NBHC OCEANA	3
9003	0395	AF-LS-62nd MED FLT-JBLM-MCHORD	74
9003	0416	USCG CLINIC MOBILE	2
9003	0417	USCG CLINIC KETCHIKAN	4
9003	0418	USCG CLINIC ALAMEDA	36
9003	0419	USCG CLINIC PETALUMA	20
9003	0420	USCG CLINIC DISTRICT OF COLUMB	2
9003	0426	USCG CLINIC BOSTON	2
9003	0428	USCG CLINIC CAPE MAY	11
9003	0430	USCG CLINIC ELIZABETH CITY	3
9003	0431	USCG CLINIC ASTORIA	8
9003	0432	USCG CLINIC PORTSMOUTH	1
9003	0434	USCG CLINIC PORT ANGELES	7
9003	0435	USCG CLINIC SEATTLE	24
9003	0508	NBHC NAVSTA SEWELLS	10
9003	0615	NH GUANTANAMO BAY	13
9003	0617	NH NAPLES	3
9003	0618	NH ROTA	2
9003	0624	NH SIGONELLA	4
9003	0635	AF-ASU-39th MEDGRP-INCIRLIK	4
9003	0637	AF-C-8th MEDGRP-KUNSAN	3
9003	0638	AF-H-51st MEDGRP-OSAN	6
9003	0639	AF-H-35th MEDGRP-MISAWA	3
9003	0640	AF-H-374th MEDGRP-YOKOTA	15
9003	0653	AF-LS-422nd MED FLT-CROUGHTON	1
9003	0783	EASTERN MISSOURI-ST LOUIS AREA	9
9003	0784	WESTERN MISSOURI	1232
9003	0785	ARIZONA-EXCLUDING YUMA AREA	2210
9003	0786	YUMA ARIZONA AREA	123
9003	0788	IOWA-EXCLUDING QUAD CITIES	777
9003	0799	AF-LS-470th MED FLT-GK	1
9003	0802	AF-C-36th MEDGRP-ANDERSEN	2
9003	0808	AF-ASU-31st MEDGRP-AVIANO	1
9003	0902	ALASKA	181
9003	0906	COLORADO	1262
9003	0912	HAWAII	87
9003	0917	KANSAS	971
9003	0924	MINNESOTA	1411
9003	0927	MONTANA	421

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
9003	0928	NEBRASKA	722
9003	0929	NEVADA	303
9003	0932	NEW MEXICO	627
9003	0935	NORTH DAKOTA	346
9003	0938	OREGON	979
9003	0942	SOUTH DAKOTA	467
9003	0945	UTAH	1261
9003	0948	WASHINGTON	1277
9003	0951	WYOMING	209
9003	0953	PUERTO RICO	1
9003	0973	NORTHERN IDAHO	113
9003	0974	SOUTHERN IDAHO	676
9003	0985	NORTHERN CALIFORNIA	1708
9003	0986	SOUTHERN CALIFORNIA	2341
9003	0994	WESTERN TEXAS	156
9003	0999	UNKNOWN LOCATION	178
9003	1153	BMC CAPODICHINO	2
9003	1170	NBHC NSA BAHRAIN	8
9003	1485	AHC-MCCHORD AFB	2
9003	1587	TMC-MCWETHY-BAMC-FSH	1
9003	5184	USCG CLINIC SAN FRANCISCO	2
9003	5188	USCG CLINIC HONOLULU	7
9003	5189	USCG CLINIC SAN DIEGO	1
9003	5194	USCG CLINIC SACRAMENTO	5
9003	5199	USCG CLINIC KEY WEST	4
9003	6207	TRICARE OUTPATIENT-CLAIREMONT	2
9003	6215	TRICARE OUTPATIENT-CHULA VISTA	117
9003	6335	OP FORCES-NH SIGONELLA	3
9003	6339	OP FORCES-NH GUAM-AGANA	1
9003	6341	OP FORCES-NH YOKOSUKA	12
9003	6342	OP FORCES-BAHRAIN	2
9003	7042	USCG CLINIC BORINQUEN	1
9003	7043	USCG CLINIC BARBERS POINT	4
9003	7044	USCG CLINIC JUNEAU	1
9003	7045	USCG CLINIC NORTH BEND	5
9003	7046	USCG CLINIC SAN PEDRO	1
9003	7047	USCG CLINIC SITKA	6
9003	7083	USCG CLINIC HUMBOLDT BAY	1
9003	7200	AF-C-460th MEDGRP-BUCKLEY	180
9003	7913	REMOTE 13(EUROPE)	4
9003	7917	REMOTE 17(NORTH)	4
9003	7918	REMOTE 18(SOUTH)	1
9003	7919	REMOTE 19(WEST)	17
9003	7923	REMOTE 23(EAST) 1JAN2018	7
9003	7924	REMOTE 24(WEST) 1JAN2018	20
9004	0015	AF-C-9th MEDGRP-BEALE	1
9004	0036	AF-C-436th MEDGRP-DOVER	1
9004	0050	AF-C-23rd MEDGRP-MOODY	3
9004	0059	AF-C-22nd MEDGRP-MCCONNELL	2
9004	0061	AHC IRELAND-KNOX	1

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
9004	0084	AF-C-49th MEDGRP-HOLLOMAN	3
9004	0085	AF-C-27th SPCLOPS MDGRP-CANNON	3
9004	0097	AF-C-97th MEDGRP-ALTUS	1
9004	0106	AF-C-28th MEDGRP-ELLSWORTH	2
9004	0125	AMC MADIGAN-LEWIS	1
9004	0203	AF-C-354th MEDGRP-EIELSON	2
9004	0231	NBHC NAS NORTH ISLAND	8
9004	0287	AF-C-15th MEDGRP JBHP-HICKAM	1
9004	0326	AF-C-87th MEDGRP JBMDL-MCGUIRE	3
9004	0366	AF-C-359 MDG-JBSA-RANDOLPH	2
9004	0378	NBHC LITTLE CREEK	1
9004	0387	NBHC OCEANA	2
9004	0422	USCG CLINIC CLEARWATER	1
9004	0424	USCG CLINIC BALTIMORE	1
9004	0430	USCG CLINIC ELIZABETH CITY	1
9004	0433	USCG CLINIC YORKTOWN	1
9004	0508	NBHC NAVSTA SEWELLS	9
9004	0607	LANDSTUHL REGIONAL MEDCEN	365
9004	0610	AHC BG CRAWFORD SAMS-CAMP ZAMA	144
9004	0612	ACH BRIAN D ALLGOOD-PYONGTAEK	255
9004	0615	NH GUANTANAMO BAY	97
9004	0617	NH NAPLES	510
9004	0618	NH ROTA	464
9004	0620	NH GUAM-AGANA	328
9004	0621	NH OKINAWA	192
9004	0622	NH YOKOSUKA	354
9004	0624	NH SIGONELLA	329
9004	0625	BMC IWAKUNI BIRTHING CTR	79
9004	0633	AF-H-48th MEDGRP-LAKENHEATH	179
9004	0635	AF-ASU-39th MEDGRP-INCIRLIK	85
9004	0637	AF-C-8th MEDGRP-KUNSAN	157
9004	0638	AF-H-51st MEDGRP-OSAN	870
9004	0639	AF-H-35th MEDGRP-MISAWA	488
9004	0640	AF-H-374th MEDGRP-YOKOTA	600
9004	0653	AF-LS-422nd MED FLT-CROUGHTON	69
9004	0799	AF-LS-470th MED FLT-GK	124
9004	0802	AF-C-36th MEDGRP-ANDERSEN	424
9004	0805	AF-C-52nd MEDGRP-SPANGDAHLEM	1
9004	0808	AF-ASU-31st MEDGRP-AVIANO	635
9004	0814	AF-LS-423rd MDS-RAF ALCONBURY	138
9004	0858	BMC NAVSUPPACT SOUDA BAY	21
9004	0953	PUERTO RICO	3896
9004	0957	GERMANY	1053
9004	0958	GREECE	23
9004	0960	ITALY	173
9004	0961	JAPAN	138
9004	0963	PHILIPPINES	252
9004	0964	PORTUGAL	29
9004	0965	KOREA	215
9004	0966	SPAIN	26

GEOGRAPHIC SAMPLING STRATA	DMIS ID	FACILITY NAME	# SAMPLED IN 2020
9004	0967	TURKEY	64
9004	0968	UNITED KINGDOM	80
9004	0969	CANADA	7
9004	0970	OTHER CARIBBEAN	16
9004	0971	CENTRAL AMERICA	88
9004	0972	SOUTH AMERICA	39
9004	0975	U.S. VIRGIN ISLANDS	149
9004	0976	AFRICA	25
9004	0977	MIDEAST	306
9004	0978	SOUTHEAST ASIA	150
9004	0979	BELGIUM	76
9004	0982	OTHER EUROPE	107
9004	0983	OTHER PACIFIC	198
9004	0999	UNKNOWN LOCATION	5873
9004	1015	AHC ANSBACH	1
9004	1147	AHC WIESBADEN	1
9004	1153	BMC CAPODICHINO	78
9004	1170	NBHC NSA BAHRAIN	248
9004	5197	USCG CLINIC SAN JUAN	25
9004	6335	OP FORCES-NH SIGONELLA	1
9004	6336	OP FORCES-NH ROTA	71
9004	6337	OP FORCES-NH NAPLES	1
9004	6339	OP FORCES-NH GUAM-AGANA	71
9004	6341	OP FORCES-NH YOKOSUKA	379
9004	6342	OP FORCES-BAHRAIN	39
9004	7042	USCG CLINIC BORINQUEN	30
9004	7200	AF-C-460th MEDGRP-BUCKLEY	1
9004	7913	REMOTE 13(EUROPE)	2
9004	7918	REMOTE 18(SOUTH)	1
			301,638

APPENDIX D

RESPONSE RATE TABLES – QUARTERS I-III

TABLE D.1

RESPONSE RATES BY ENROLLMENT AND BENEFICIARY

	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Active Duty	11.8	10.0	12.6	10.7	14.5	12.6	13.0	11.1
Active Duty fam, Prime, civ PCM	4.0	4.1	3.9	4.0	6.4	6.7	4.8	5.0
Active Duty fam, Prime, mil PCM	3.8	4.4	3.5	3.6	4.7	5.2	4.0	4.4
Active Duty fam, non-enrollee	3.4	4.5	3.5	3.4	5.2	5.2	4.0	4.4
Retired,<65, civ PCM	15.2	15.0	14.4	13.9	19.4	19.3	16.3	16.1
Retired,<65, mil PCM	12.7	12.4	12.2	12.2	15.7	15.7	13.6	13.4
Retired,<65, non-enrollee	10.3	12.3	9.8	12.4	10.3	15.3	10.1	13.3
Retired,65+, enrolled	20.0	20.0	28.8	28.8	25.4	25.4	25.0	25.0
Retired,65+, non-enrollee	23.7	23.7	24.1	24.1	30.0	30.0	25.9	25.9

TABLE D.2

RESPONSE RATES BY XOCONUS

	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Europe	8.8	9.6	9.3	13.8	9.4	14.1	9.1	12.5
In Conus/Missing Region	8.4	14.5	8.6	15.0	10.8	18.4	9.3	16.0
Latin America	7.6	23.0	9.0	11.1	9.7	6.9	8.7	14.4
Western Pacific	8.2	8.8	7.1	9.0	8.4	10.7	7.9	9.5

TABLE D.3

RESPONSE RATES BY SEX

	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Female	6.6	12.4	6.5	12.5	8.4	16.1	7.1	13.7
Male	11.1	16.2	11.4	17.0	13.6	20.1	12.0	17.8

TABLE D.4

RESPONSE RATES BY USA/OVERSEAS INDICATOR

	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
In USA	8.4	14.5	8.6	15.1	10.8	18.5	9.3	16.0
Invalid/Missing	9.0	12.4	7.3	10.6	3.9	12.6	6.7	11.9
Not in USA	8.3	11.7	8.4	11.0	9.8	12.7	8.8	11.8

TABLE D.5

RESPONSE RATES BY BENEFICIARY CATEGORY

	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Active Duty and Guard/Reserve	11.8	10.0	12.6	10.7	14.5	12.6	13.0	11.1
Dependent of Active Duty & Guard/Reserve	3.7	4.4	3.5	3.6	4.9	5.5	4.1	4.5
Retiree/Dependant of Retiree/Survivor/Other 65+	23.3	23.3	24.7	24.7	29.3	29.3	25.8	25.8
Retiree/Dependant of Retiree/Survivor/Other <65	12.3	13.0	11.9	12.7	14.9	16.4	13.0	14.0

TABLE D.6

RESPONSE RATES BY CATCHMENT AREA

Catchment	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
10th Med Grp-USAF Academy CO	9.7	12.9	8.3	21.1	9.7	9.6	9.2	14.7
11th Med Grp-Andrews	9.5	12.1	10.0	12.2	12.1	16.6	10.5	13.6
18th Med Grp-Kadena	8.1	12.7	9.1	14.0	11.5	18.3	9.6	15.0
20th Med Grp-Shaw	8.7	9.9	11.6	15.3	13.9	16.2	11.4	13.9
21st Med Grp-Peterson	8.3	11.1	9.0	11.7	11.1	14.3	9.5	12.4
2nd Med Grp-Barksdale	9.3	12.9	8.6	12.3	12.7	16.0	10.2	13.7
325th Med Grp-Tyndall	11.8	13.0	13.9	15.8	11.3	13.5	12.3	14.1
355th Med Grp-Davis Monthan	9.2	13.7	10.5	11.4	14.0	16.3	11.4	13.8
366th Med Grp-Mountain Home	9.5	11.1	8.7	10.7	12.1	13.6	10.1	11.8
374th Med Grp-Yokota	10.4	11.9	10.9	13.3	14.0	19.9	11.6	14.8
375th Med Grp-Scott	9.8	14.0	12.2	17.3	13.8	15.4	11.9	15.6
377th Med Grp-Kirtland	7.8	10.8	10.4	11.6	14.7	15.0	11.4	12.5
412th Med Grp-Edwards	10.5	9.5	10.0	11.0	11.2	11.2	10.5	10.5
422nd Med Squad-Croughton	13.6	19.4	6.7	9.4	10.5	19.8	9.9	14.8
423rd Med Squad-Alconbury	16.1	33.5	7.1	2.7	14.0	16.9	12.8	12.1
42nd Medical Grp-Maxwell	12.8	13.1	11.6	12.6	14.7	17.7	13.0	14.4
45th Med Grp-Patrick	14.2	14.3	11.9	12.5	17.2	16.2	14.5	14.3
470 Med Flt-Geilenkirchen	9.4	12.5	5.3	6.3	8.8	18.0	8.0	12.0
48th Med Grp-Lakenheath	9.4	10.4	9.7	29.7	9.8	15.5	9.6	18.7
55th Med Grp-Offutt	9.5	11.2	12.9	18.0	13.1	16.4	11.9	15.1
56th Med Grp-Luke	7.2	10.7	9.2	15.0	11.8	17.1	9.4	14.2
59th Med Wing-Lackland	7.3	12.6	8.0	13.2	7.5	9.8	7.6	11.9
60th Med Grp-Travis	7.9	18.0	8.5	16.3	11.2	18.9	9.2	17.9
633rd Med Grp-Langley-Eustis	10.4	17.3	9.5	10.4	11.5	22.6	10.5	16.4
673rd Med Grp-Elmendorf	7.5	7.4	10.1	11.1	10.6	20.3	9.4	13.1
6th Med Grp-MacDill	7.8	10.9	10.5	14.2	11.6	15.5	10.0	13.6
72nd Med Grp-Tinker	9.3	10.7	8.9	11.5	10.9	14.9	9.7	12.4
75th Med Grp-Hill	10.0	12.8	8.9	11.1	11.8	15.3	10.2	13.1
78th Med Grp-Robins	9.9	12.8	10.9	12.9	14.2	16.0	11.7	13.9
7th Med Grp-Dyess	9.8	11.6	7.9	10.5	13.0	16.3	10.2	12.8
81st Med Grp-Keesler	10.7	25.1	11.8	17.4	15.1	20.8	12.8	21.3

Catchment	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
82nd Med Grp-Sheppard	8.5	10.4	9.7	13.2	11.5	12.7	9.9	12.1
86th Med Grp-Ramstein	9.8	13.1	12.7	16.5	13.3	28.4	11.9	19.8
88th Med Grp-Wright-Patterson	10.9	11.6	9.8	10.4	12.8	27.0	11.2	16.8
90th Med Grp-F.E. Warren	9.6	13.6	9.6	12.3	12.2	15.5	10.5	13.9
92nd Med Grp-Fairchild	12.2	14.0	14.6	20.3	14.3	17.8	13.7	17.4
96th Med Grp-Eglin	8.4	16.0	9.3	15.5	10.0	17.3	9.3	16.3
99th Med Grp-Nellis AFB-O'Callaghan MMC	7.1	17.1	7.5	10.6	11.1	14.0	8.5	14.0
BMC Iwakuni	.	.	.	.	6.1	7.9	2.9	4.8
Bassett ACH-Ft. Wainwright	7.2	8.5	5.5	8.2	8.3	12.6	7.0	9.8
Bavaria MEDDAC	6.9	8.3	6.1	8.4	9.6	11.8	7.5	9.6
Bayne-Jones ACH-Ft. Polk	5.3	21.1	4.3	4.3	6.9	10.9	5.5	12.5
Blanchfield ACH-Ft. Campbell	5.5	12.8	3.9	8.6	6.8	8.3	5.4	9.9
Brian Allgood ACH	8.4	7.9	6.3	7.3	7.9	9.6	7.5	8.3
Brooke AMC-Ft. Sam Houston	6.9	6.5	7.1	12.0	9.2	22.0	7.8	14.2
Darnall AMC-Ft. Hood	5.0	9.9	5.4	11.2	8.5	19.5	6.3	13.5
Eastern Missouri-St Louis Area	20.0	31.7	.	.	.	.	11.1	20.4
Eisenhower AMC-Ft. Gordon	8.9	15.4	8.5	19.7	9.0	10.6	8.8	15.1
Evans ACH-Ft. Carson	6.5	23.4	6.0	10.7	7.4	25.7	6.7	19.9
Fort Belvoir CH	10.7	21.5	9.0	18.9	13.7	22.5	11.2	21.1
Fox AHC-Redstone Arsenal	11.7	13.6	11.3	12.5	15.0	16.6	12.6	14.2
Guthrie AHC-Ft. Drum	4.5	5.4	4.0	5.2	6.9	10.0	5.1	6.8
Ireland AHC-Ft. Knox	8.4	11.3	9.9	14.4	10.7	10.2	9.7	11.8
Irwin ACH-Ft. Riley	7.3	15.3	5.4	18.6	5.7	6.4	6.1	13.8
James Lovell FHCC	4.6	7.3	7.5	22.5	10.6	13.0	7.6	15.0
Keller ACH-West Point	7.5	21.2	9.5	12.5	9.9	7.8	9.0	14.4
Kenner AHC-Ft. Lee	9.8	11.8	7.9	11.4	9.0	10.9	8.9	11.3
Kimbrough Amb Car Cen-Ft. Meade	10.6	18.1	11.6	13.6	14.7	19.6	12.3	17.1
L. Wood ACH-Ft. Leonard Wood	8.0	8.2	7.3	16.6	10.2	12.3	8.5	12.6
Landstuhl Regional MEDCEN	8.0	10.2	8.1	9.7	8.2	11.6	8.1	10.5
Lyster AHC-Ft. Rucker	9.9	13.2	9.1	11.4	13.8	17.3	10.9	13.9
Madigan AMC-Ft. Lewis	5.7	16.0	7.9	15.1	7.1	12.4	6.9	14.5
Managed Care East Region	.	.	.	.	.	.	.	.
Martin ACH-Ft. Benning	6.2	10.3	5.1	13.7	9.6	12.2	7.0	12.1

Catchment	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
McDonald AHC-Ft. Eustis	6.8	21.0	10.9	11.8	9.8	12.5	9.2	15.0
Moncrief AHC-Ft. Jackson	8.1	8.9	10.0	13.2	10.8	28.7	9.6	17.1
Munson AHC-Ft. Leavenworth	10.9	12.5	10.8	13.2	12.8	27.5	11.5	18.2
NBHC Little Creek	6.2	9.4	3.5	3.2	13.3	18.0	7.9	10.3
NBHC Mayport	7.8	10.7	7.1	10.1	6.7	9.5	7.2	10.1
NBHC NAS North Island	8.9	11.3	6.5	6.8	10.1	10.3	8.4	9.3
NBHC NTC San Diego	7.5	9.8	7.3	10.0	10.3	13.4	8.4	11.1
NBHC Navsta Sewells	10.1	12.3	14.3	15.1	11.8	12.6	12.0	13.4
NBHC Oceana	6.3	9.9	3.9	7.2	4.3	7.1	4.8	8.1
NBHC Port Hueneme	11.1	13.7	1.8	2.8	6.3	8.3	6.4	8.2
NBHC Portsmouth	12.4	20.7	12.3	25.0	12.1	15.3	12.3	20.4
NH Beaufort	3.4	2.2	4.1	15.7	6.3	22.9	4.6	14.2
NH Bremerton	6.4	7.9	6.8	12.0	6.8	8.4	6.7	9.7
NH Camp Pendleton	4.8	6.3	5.1	5.5	7.7	11.4	5.9	7.8
NH Guam-Agana	7.1	10.5	6.1	8.5	8.8	11.3	7.4	10.1
NH Guantanamo Bay	14.8	13.3	7.9	5.8	14.5	13.6	12.3	10.1
NH Jacksonville	5.9	15.4	5.3	11.6	8.6	23.5	6.6	16.6
NH Naples	6.6	8.8	6.9	11.0	6.5	9.2	6.7	9.7
NH Okinawa	6.1	8.5	6.2	9.6	7.7	11.6	6.7	10.0
NH Pensacola	7.1	8.2	8.2	13.7	9.4	17.2	8.2	13.1
NH Twentynine Palms	3.4	4.3	5.6	17.5	5.3	6.1	4.8	9.8
NH Yokosuka	7.3	8.2	6.1	7.2	7.7	10.8	7.0	8.6
NHC Charleston	7.5	8.8	6.9	7.9	8.5	8.3	7.7	8.3
NHC Cherry Point	7.7	10.4	7.2	24.5	7.0	10.1	7.3	15.6
NHC Corpus Christi	10.4	10.9	9.4	11.1	12.2	13.3	10.7	11.8
NHC Hawaii	9.1	10.2	7.0	8.5	10.3	12.7	8.8	10.5
NHC LeMoore	5.4	8.1	7.7	9.9	7.2	9.3	6.8	9.1
NHC New England	8.2	11.1	10.0	13.3	11.9	18.0	10.0	14.0
NHC Oak Harbor	6.9	5.7	7.1	21.5	9.3	34.6	7.8	19.3
NHC Patuxent River	10.2	10.1	11.1	11.2	15.3	14.6	12.2	11.9
NHC Quantico	10.9	10.2	10.1	9.2	14.3	15.8	11.8	11.7
NMC Camp Lejeune	3.1	6.2	4.4	4.8	7.9	13.2	5.1	8.2
NMC Portsmouth	6.2	11.4	6.1	11.7	7.1	12.7	6.4	11.9
NMC San Diego	4.9	8.9	5.4	9.0	6.8	10.3	5.7	9.4

Catchment	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Out of Catchment East Region	8.4	16.8	8.1	17.4	10.8	20.5	9.1	18.2
Out of Catchment OCONUS Region	8.5	15.6	8.0	8.9	6.6	11.9	7.7	12.2
Out of Catchment West Region	8.0	15.8	8.2	18.1	11.2	23.0	9.1	19.0
R W Bliss AHC-Ft. Huachuca	12.6	10.3	13.7	11.0	14.0	15.9	13.4	12.0
Reynolds AHC-Ft. Sill	7.6	24.5	5.8	8.3	8.2	12.5	7.2	16.1
TRICARE Outpatient-Chula Vista	8.0	4.6	18.8	20.7	2.9	2.1	9.4	6.8
Tripler AMC-Ft. Shafter	6.5	11.8	6.8	20.1	7.6	11.7	7.0	14.6
USCG Clinic Corpus Christi	50.0	50.0	.	.	.	.	33.3	33.1
USCG Clinic Detroit	.	.	.	.	.	.	.	.
USCG Clinic Jacksonville	.	.	.	.	50.0	50.0	33.3	33.6
USCG Clinic Key West	.	.	20.0	22.1	.	.	8.3	9.9
USCG Clinic San Diego	.	.	.	.	.	.	.	.
Walter Reed AMC-Washington DC	44.4	43.8	.	.	37.5	37.5	31.8	31.0
Walter Reed NMMC	8.4	10.4	9.1	20.4	16.3	24.8	11.3	18.8
Weed ACH-Ft. Irwin	6.4	7.2	6.0	10.0	8.5	8.8	7.0	8.7
William Beaumont AMC-Ft. Bliss	6.2	10.1	5.5	10.0	7.6	17.2	6.4	12.4
Winn ACH-Ft. Stewart	5.6	13.3	4.6	5.8	8.6	9.7	6.3	9.8
Womack AMC-Ft. Bragg	7.4	8.5	6.6	9.7	8.0	9.1	7.3	9.1

TABLE D.7

RESPONSE RATES BY SERVICE AFFILIATION

	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Air Force	9.9	15.1	10.2	13.5	12.2	17.5	10.8	15.4
Army	7.6	12.5	7.4	11.9	9.1	13.4	8.0	12.6
Coast Guard	27.2	26.0	20.6	22.6	26.0	26.2	24.6	24.9
Defense Health Agency	8.6	14.3	8.5	16.1	11.5	19.5	9.6	16.7
Missing/unknown	11.1	14.1	2.0	18.1	0.0	0.0	2.3	15.3
Navy	6.7	8.1	6.9	10.6	8.8	12.6	7.5	10.5
Noncatchment	7.0	15.3	7.2	15.7	8.3	19.4	7.5	16.8
Support Contractor	10.1	16.6	9.4	17.7	13.0	22.6	10.8	19.0
Uniformed Services Family Health Plan	14.5	29.1	16.7	26.8	17.2	28.4	16.2	28.0

TABLE D.8

RESPONSE RATES BY BRANCH OF SERVICE

	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Air Force	10.0	18.8	10.3	18.5	12.4	22.3	10.9	19.9
Army	7.5	12.4	7.5	12.6	9.5	15.9	8.2	13.6
Coast Guard	10.8	17.5	9.9	16.7	13.4	18.5	11.4	17.5
Marine Corps	6.1	11.1	5.7	10.5	7.6	11.6	6.4	11.0
Navy	7.5	13.0	7.8	15.2	9.6	18.4	8.3	15.6
Other/Unknown	14.2	20.5	12.1	16.3	19.9	41.9	15.3	28.2

TABLE D.9

RESPONSE RATES BY TRICARE NEXT GENERATION OF CONTRACTS REGION GROUPING

	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
East	8.7	14.8	8.7	15.1	11.1	18.6	9.5	16.2
Overseas	8.3	10.8	8.2	11.2	8.9	11.8	8.5	11.3
West	8.1	13.8	8.4	14.8	10.4	18.2	9.0	15.6

RESPONSE RATES BY COMBINED GEOGRAPHIC AREA

TNEX Reg	Catchment	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
East	11th Med Grp-Andrews	9.5	12.1	10.0	12.2	12.1	16.6	10.5	13.6
East	20th Med Grp-Shaw	8.7	9.9	11.6	15.3	13.9	16.2	11.4	13.9
East	2nd Med Grp-Barksdale	9.3	12.9	8.6	12.3	12.7	16.0	10.2	13.7
East	325th Med Grp-Tyndall	11.8	13.0	13.9	15.8	11.3	13.5	12.3	14.1
East	375th Med Grp-Scott	9.8	14.0	12.2	17.3	13.8	15.4	11.9	15.6
East	42nd Medical Grp-Maxwell	12.8	13.1	11.6	12.6	14.7	17.7	13.0	14.4
East	45th Med Grp-Patrick	14.2	14.3	11.9	12.5	17.2	16.2	14.5	14.3
East	59th Med Wing-Lackland	7.3	12.6	8.0	13.2	7.5	9.8	7.6	11.9
East	633rd Med Grp-Langley-Eustis	10.4	17.3	9.5	10.4	11.5	22.6	10.5	16.4
East	6th Med Grp-MacDill	7.8	10.9	10.5	14.2	11.6	15.5	10.0	13.6
East	72nd Med Grp-Tinker	9.3	10.7	8.9	11.5	10.9	14.9	9.7	12.4
East	78th Med Grp-Robins	9.9	12.8	10.9	12.9	14.2	16.0	11.7	13.9
East	7th Med Grp-Dyess	9.8	11.6	7.9	10.5	13.0	16.3	10.2	12.8
East	81st Med Grp-Keesler	10.7	25.1	11.8	17.4	15.1	20.8	12.8	21.3
East	82nd Med Grp-Sheppard	8.5	10.4	9.7	13.2	11.5	12.7	9.9	12.1
East	88th Med Grp-Wright-Patterson	10.9	11.6	9.8	10.4	12.8	27.0	11.2	16.8
East	96th Med Grp-Eglin	8.4	16.0	9.3	15.5	10.0	17.3	9.3	16.3
East	Bayne-Jones ACH-Ft. Polk	5.3	21.1	4.3	4.3	6.9	10.9	5.5	12.5
East	Blanchfield ACH-Ft. Campbell	5.5	12.8	3.9	8.6	6.8	8.3	5.4	9.9
East	Brooke AMC-Ft. Sam Houston	6.9	6.5	7.1	12.0	9.2	22.0	7.8	14.2
East	Darnall AMC-Ft. Hood	5.0	9.9	5.4	11.2	8.5	19.5	6.3	13.5
East	Eastern Missouri-St Louis Area	20.0	31.7	.	.	.	.	11.1	20.4
East	Eisenhower AMC-Ft. Gordon	8.9	15.4	8.5	19.7	9.0	10.6	8.8	15.1
East	Fort Belvoir CH	10.7	21.5	9.0	18.9	13.7	22.5	11.2	21.1
East	Fox AHC-Redstone Arsenal	11.7	13.6	11.3	12.5	15.0	16.6	12.6	14.2
East	Guthrie AHC-Ft. Drum	4.5	5.4	4.0	5.2	6.9	10.0	5.1	6.8
East	Ireland AHC-Ft. Knox	8.4	11.3	9.9	14.4	10.7	10.2	9.7	11.8
East	James Lovell FHCC	4.6	7.3	7.5	22.5	10.6	13.0	7.6	15.0
East	Keller ACH-West Point	7.5	21.2	9.5	12.5	9.9	7.8	9.0	14.4
East	Kenner AHC-Ft. Lee	9.8	11.8	7.9	11.4	9.0	10.9	8.9	11.3
East	Kimbrough Amb Car Cen-Ft. Meade	10.6	18.1	11.6	13.6	14.7	19.6	12.3	17.1
East	Lyster AHC-Ft. Rucker	9.9	13.2	9.1	11.4	13.8	17.3	10.9	13.9
East	Managed Care East Region	.	.	.	.	.	.	.	.
East	Martin ACH-Ft. Benning	6.2	10.3	5.1	13.7	9.6	12.2	7.0	12.1

TABLE G.10 (continued)

TNEX Reg	Catchment	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
East	McDonald AHC-Ft. Eustis	6.8	21.0	10.9	11.8	9.8	12.5	9.2	15.0
East	Moncrief AHC-Ft. Jackson	8.1	8.9	10.0	13.2	10.8	28.7	9.6	17.1
East	NBHC Little Creek	6.2	9.4	3.5	3.2	13.3	18.0	7.9	10.3
East	NBHC Mayport	7.8	10.7	7.1	10.1	6.7	9.5	7.2	10.1
East	NBHC Navsta Sewells	10.1	12.3	14.3	15.1	11.8	12.6	12.0	13.4
East	NBHC Oceana	6.3	9.9	3.9	7.2	4.3	7.1	4.8	8.1
East	NBHC Portsmouth	12.4	20.7	12.3	25.0	12.1	15.3	12.3	20.4
East	NH Beaufort	3.4	2.2	4.1	15.7	6.3	22.9	4.6	14.2
East	NH Jacksonville	5.9	15.4	5.3	11.6	8.6	23.5	6.6	16.6
East	NH Pensacola	7.1	8.2	8.2	13.7	9.4	17.2	8.2	13.1
East	NHC Charleston	7.5	8.8	6.9	7.9	8.5	8.3	7.7	8.3
East	NHC Cherry Point	7.7	10.4	7.2	24.5	7.0	10.1	7.3	15.6
East	NHC Corpus Christi	10.4	10.9	9.4	11.1	12.2	13.3	10.7	11.8
East	NHC New England	8.2	11.1	10.0	13.3	11.9	18.0	10.0	14.0
East	NHC Patuxent River	10.2	10.1	11.1	11.2	15.3	14.6	12.2	11.9
East	NHC Quantico	10.9	10.2	10.1	9.2	14.3	15.8	11.8	11.7
East	NMC Camp Lejeune	3.1	6.2	4.4	4.8	7.9	13.2	5.1	8.2
East	NMC Portsmouth	6.2	11.4	6.1	11.7	7.1	12.7	6.4	11.9
East	Out of Catchment East Region	8.4	16.8	8.1	17.4	10.8	20.5	9.1	18.2
East	Out of Catchment OCONUS Region	10.7	17.5	8.8	4.5	7.1	16.1	8.7	12.9
East	Out of Catchment West Region	.	.	.	.	.	.	.	.
East	Reynolds AHC-Ft. Sill	7.6	24.5	5.8	8.3	8.2	12.5	7.2	16.1
East	USCG Clinic Corpus Christi	50.0	50.0	.	.	.	.	33.3	33.1
East	USCG Clinic Detroit	.	.	.	.	.	.	.	.
East	USCG Clinic Jacksonville	.	.	.	.	50.0	50.0	33.3	33.6
East	USCG Clinic Key West	.	.	20.0	22.1	.	.	8.3	9.9
East	Walter Reed AMC-Washington DC	44.4	43.8	.	.	37.5	37.5	31.8	31.0
East	Walter Reed NMMC	8.4	10.4	9.1	20.4	16.3	24.8	11.3	18.8
East	Winn ACH-Ft. Stewart	5.6	13.3	4.6	5.8	8.6	9.7	6.3	9.8
East	Womack AMC-Ft. Bragg	7.4	8.5	6.6	9.7	8.0	9.1	7.3	9.1
Overseas	18th Med Grp-Kadena	8.1	12.7	9.1	14.0	11.5	18.3	9.6	15.0
Overseas	374th Med Grp-Yokota	10.4	11.9	10.9	13.3	14.0	19.9	11.6	14.8
Overseas	422nd Med Squad-Croughton	13.6	19.4	6.7	9.4	10.5	19.8	9.9	14.8
Overseas	423rd Med Squad-Alconbury	16.1	33.5	7.1	2.7	14.0	16.9	12.8	12.1
Overseas	470 Med Flt-Geilenkirchen	9.4	12.5	5.3	6.3	8.8	18.0	8.0	12.0
Overseas	48th Med Grp-Lakenheath	9.4	10.4	9.7	29.7	9.8	15.5	9.6	18.7

D.12

TNEX Reg	Catchment	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Overseas	86th Med Grp-Ramstein	9.8	13.1	12.7	16.5	13.3	28.4	11.9	19.8
Overseas	BMC Iwakuni	.	.	.	.	6.1	7.9	2.9	4.8
Overseas	Bavaria MEDDAC	6.9	8.3	6.1	8.4	9.6	11.8	7.5	9.6
Overseas	Brian Allgood ACH	8.4	7.9	6.3	7.3	7.9	9.6	7.5	8.3
Overseas	Landstuhl Regional MEDCEN	8.0	10.2	8.1	9.7	8.2	11.6	8.1	10.5
Overseas	NH Guam-Agana	7.1	10.5	6.1	8.5	8.8	11.3	7.4	10.1
Overseas	NH Guantanamo Bay	14.8	13.3	7.9	5.8	14.5	13.6	12.3	10.1
Overseas	NH Naples	6.6	8.8	6.9	11.0	6.5	9.2	6.7	9.7
Overseas	NH Okinawa	6.1	8.5	6.2	9.6	7.7	11.6	6.7	10.0
Overseas	NH Yokosuka	7.3	8.2	6.1	7.2	7.7	10.8	7.0	8.6
Overseas	Out of Catchment East Region	.	.	.	.	.	.	.	.
Overseas	Out of Catchment OCONUS Region	8.4	13.4	7.9	11.7	6.7	7.3	7.7	10.7
Overseas	Out of Catchment West Region	.	.	.	.	.	.	.	.
West	10th Med Grp-USAF Academy CO	9.7	12.9	8.3	21.1	9.7	9.6	9.2	14.7
West	21st Med Grp-Peterson	8.3	11.1	9.0	11.7	11.1	14.3	9.5	12.4
West	355th Med Grp-Davis Monthan	9.2	13.7	10.5	11.4	14.0	16.3	11.4	13.8
West	366th Med Grp-Mountain Home	9.5	11.1	8.7	10.7	12.1	13.6	10.1	11.8
West	377th Med Grp-Kirtland	7.8	10.8	10.4	11.6	14.7	15.0	11.4	12.5
West	412th Med Grp-Edwards	10.5	9.5	10.0	11.0	11.2	11.2	10.5	10.5
West	55th Med Grp-Offutt	9.5	11.2	12.9	18.0	13.1	16.4	11.9	15.1
West	56th Med Grp-Luke	7.2	10.7	9.2	15.0	11.8	17.1	9.4	14.2
West	60th Med Grp-Travis	7.9	18.0	8.5	16.3	11.2	18.9	9.2	17.9
West	673rd Med Grp-Elmendorf	7.5	7.4	10.1	11.1	10.6	20.3	9.4	13.1
West	75th Med Grp-Hill	10.0	12.8	8.9	11.1	11.8	15.3	10.2	13.1
West	90th Med Grp-F.E. Warren	9.6	13.6	9.6	12.3	12.2	15.5	10.5	13.9
West	92nd Med Grp-Fairchild	12.2	14.0	14.6	20.3	14.3	17.8	13.7	17.4
West	99th Med Grp-Nellis AFB-O'Callaghan MMC	7.1	17.1	7.5	10.6	11.1	14.0	8.5	14.0
West	Bassett ACH-Ft. Wainwright	7.2	8.5	5.5	8.2	8.3	12.6	7.0	9.8
West	Evans ACH-Ft. Carson	6.5	23.4	6.0	10.7	7.4	25.7	6.7	19.9
West	Irwin ACH-Ft. Riley	7.3	15.3	5.4	18.6	5.7	6.4	6.1	13.8
West	L. Wood ACH-Ft. Leonard Wood	8.0	8.2	7.3	16.6	10.2	12.3	8.5	12.6
West	Madigan AMC-Ft. Lewis	5.7	16.0	7.9	15.1	7.1	12.4	6.9	14.5
West	Munson AHC-Ft. Leavenworth	10.9	12.5	10.8	13.2	12.8	27.5	11.5	18.2
West	NBHC NAS North Island	8.9	11.3	6.5	6.8	10.1	10.3	8.4	9.3
West	NBHC NTC San Diego	7.5	9.8	7.3	10.0	10.3	13.4	8.4	11.1
West	NBHC Port Hueneme	11.1	13.7	1.8	2.8	6.3	8.3	6.4	8.2

TABLE G.10 (continued)

TNEX Reg	Catchment	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
West	NH Bremerton	6.4	7.9	6.8	12.0	6.8	8.4	6.7	9.7
West	NH Camp Pendleton	4.8	6.3	5.1	5.5	7.7	11.4	5.9	7.8
West	NH Twentynine Palms	3.4	4.3	5.6	17.5	5.3	6.1	4.8	9.8
West	NHC Hawaii	9.1	10.2	7.0	8.5	10.3	12.7	8.8	10.5
West	NHC LeMoore	5.4	8.1	7.7	9.9	7.2	9.3	6.8	9.1
West	NHC Oak Harbor	6.9	5.7	7.1	21.5	9.3	34.6	7.8	19.3
West	NMC San Diego	4.9	8.9	5.4	9.0	6.8	10.3	5.7	9.4
West	Out of Catchment East Region	.	.	.	.	.	.	.	.
West	Out of Catchment OCONUS Region	16.1	21.1	14.3	6.4	4.9	26.5	11.6	18.4
West	Out of Catchment West Region	8.0	15.8	8.2	18.1	11.2	23.0	9.1	19.0
West	R W Bliss AHC-Ft. Huachuca	12.6	10.3	13.7	11.0	14.0	15.9	13.4	12.0
West	TRICARE Outpatient-Chula Vista	8.0	4.6	18.8	20.7	2.9	2.1	9.4	6.8
West	Tripler AMC-Ft. Shafter	6.5	11.8	6.8	20.1	7.6	11.7	7.0	14.6
West	USCG Clinic San Diego	.	.	.	.	.	.	.	.
West	Weed ACH-Ft. Irwin	6.4	7.2	6.0	10.0	8.5	8.8	7.0	8.7
West	William Beaumont AMC-Ft. Bliss	6.2	10.1	5.5	10.0	7.6	17.2	6.4	12.4

TABLE D.11

RESPONSE RATES BY BENEFICIARY CATEGORY AND SEX

Beneficiary Category	Sex	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Active Duty and Guard/Reserve	Female	14.3	12.4	14.7	12.8	16.6	14.3	15.2	13.2
Active Duty and Guard/Reserve	Male	11.3	9.5	12.1	10.2	14.0	12.2	12.5	10.6
Dependent of Active Duty & Guard/Reserve	Female	3.8	4.7	3.7	3.8	5.2	5.5	4.2	4.6
Dependent of Active Duty & Guard/Reserve	Male	2.7	2.4	2.4	2.5	3.3	5.8	2.8	3.6
Retiree/Dependant of Retiree/Survivor/Other 65+	Female	17.6	17.6	18.9	18.9	24.4	24.4	20.3	20.3
Retiree/Dependant of Retiree/Survivor/Other 65+	Male	30.1	30.1	31.0	31.0	35.1	35.1	32.1	32.1
Retiree/Dependant of Retiree/Survivor/Other <65	Female	11.1	12.3	10.6	11.8	13.4	15.3	11.7	13.1
Retiree/Dependant of Retiree/Survivor/Other <65	Male	13.6	13.8	13.2	13.7	16.4	17.7	14.4	15.1

TABLE D.12

RESPONSE RATES BY BENEFICIARY CATEGORY AND SERVICE

Beneficiary Category	Service	Q1 2020 Unweighted	Q1 2020 Weighted	Q2 2020 Unweighted	Q2 2020 Weighted	Q3 2020 Unweighted	Q3 2020 Weighted	COMBINED Unweighted	COMBINED Weighted
Active Duty and Guard/Reserve	Air Force	15.0	15.5	16.6	16.5	17.8	17.8	16.5	16.6
	Army	9.9	7.6	10.3	8.9	13.1	11.6	11.1	9.4
	Coast Guard	21.9	22.5	16.2	17.6	26.0	25.2	21.2	21.7
	Marine Corps	6.4	5.5	7.2	6.6	10.0	8.6	7.9	6.9
	Navy	8.7	8.6	8.8	8.5	10.2	8.8	9.2	8.6
	Other/Unknown	27.7	39.4	23.7	22.7	36.8	32.1	28.8	31.3
Dependent of Active Duty & Guard/Reserve	Air Force	3.7	4.0	3.5	4.0	5.0	5.2	4.1	4.4
	Army	3.8	4.5	3.5	3.4	5.0	5.9	4.1	4.6
	Coast Guard	5.0	15.3	5.7	5.6	7.2	7.6	6.0	9.5
	Marine Corps	3.3	2.9	2.9	2.8	3.7	3.8	3.3	3.1
	Navy	3.4	3.5	3.7	3.6	4.9	5.1	4.0	4.1
	Other/Unknown	6.3	7.5	4.7	5.5	10.4	11.5	7.1	8.2
Retiree/Dependant of Retiree/Survivor/Other 65+	Air Force	29.3	29.3	27.0	27.0	32.9	32.9	29.7	29.7
	Army	20.3	20.3	21.4	21.4	25.5	25.5	22.4	22.4
	Coast Guard	16.7	16.7	25.0	25.0	20.0	20.0	21.3	21.3
	Marine Corps	28.6	28.6	29.4	29.4	21.9	21.9	26.7	26.7
	Navy	19.0	19.0	25.9	25.9	31.3	31.3	25.5	25.5
	Other/Unknown	.	.	.	.	60.0	60.0	37.5	37.6
Retiree/Dependant of Retiree/Survivor/Other <65	Air Force	12.9	14.0	12.2	14.5	15.8	18.5	13.7	15.8
	Army	11.6	11.9	11.6	11.9	13.9	14.8	12.4	12.9
	Coast Guard	13.8	15.3	12.3	12.9	17.1	17.4	14.4	15.2
	Marine Corps	11.4	11.2	9.0	8.1	12.2	12.9	10.8	10.7
	Navy	12.6	13.9	12.5	13.1	15.2	17.5	13.4	14.8
	Other/Unknown	25.7	23.9	21.6	36.5	31.8	38.8	26.2	33.8

APPENDIX E

TECHNICAL DESCRIPTION OF THE 2020 TRICARE BENEFICIARY REPORTS

The beneficiary reports present 11 scores for each region and catchment area in the MHS and for the MHS overall. Scores will enable users to compare providers to national benchmarks in these areas: getting needed care; getting care quickly; how well doctors communicate; customer service; claims processing; rating of the health plan, health care, personal doctor, and specialist; preventive care standards; and health behavior. These scores are made up of three different types, described in Table E.1: CAHPS composites, ratings, and DHA standard composites. A trend page compares composites and ratings with values from previous quarters, calculates a quarterly trend, and tests the trend for statistical significance in the quarterly version of the beneficiary reports. In the annual version, results from 3 years are presented.

TABLE E.1

CONTENT OF THE 2020 TRICARE BENEFICIARY REPORTS

CAHPS COMPOSITES
The CAHPS composites group together survey responses to a set of related HCSDB questions taken from CAHPS. Scores expressed as CAHPS composites profile TRICARE beneficiaries' satisfaction with their ability to get needed care, the speed with which they receive care, interactions with their doctor, their experience with customer service representatives, and their experience with claims processing. Scores are presented in relation to national benchmarks.
SATISFACTION RATINGS
Scores expressed as ratings reflect beneficiaries' self-rated satisfaction with their health plan, health care, and personal providers. The scores, adjusted for patient age and health status, are presented relative to national benchmarks.
DHA STANDARD COMPOSITES
Two DHA standard composite scores are reported. One score is based on how the preventive care that beneficiaries received compares with Healthy People 2020 standards. Preventive care indicators to be combined are prenatal care, hypertension screening, mammography, and Pap smears. Another composite combines a non-smoking rate, the rate at which smokers are counseled to quit, and rate of non-obese BMI ratio.

Table E.2 lists the questions and response choices for the CAHPS 5.0 composites in the beneficiary reports. Question numbers refer to the CAHPS 5.0 Adult Questionnaire (Commercial). Response choices for each question within a composite are collapsed into three-item scales so that all composites have the same range. Along with the composites, mean responses to each question are presented and compared to national civilian benchmarks.

Four scores are based on respondents' ratings of health care and health care providers: health plan, health care, personal doctor, and specialist. These ratings are measures of overall beneficiary satisfaction. Questions about these aspects of care request beneficiaries to rate their health plan, health care, and physicians on a scale of 0 to 10, with 0 being the worst and 10 being the best. The rating score will be the mean. For the purpose of presentation, the means are multiplied by 100 so that the scores are presented on a scale of 0 to 100.

TABLE E.2

CAHPS 5.0 QUESTIONS AND RESPONSE CHOICES
EXPRESSED AS COMPOSITE SCORES AND RATINGS

ADULT QUESTIONNAIRE CAHPS 5.0	GETTING NEEDED CARE	RESPONSE CHOICE
Q25	In the last 12 months, how often did you get an appointment to see a specialist as soon as you needed?	Never Sometimes Usually Always
Q14	In the last 12 months, how often was it easy to get the care, tests, or treatment you needed?	Never Sometimes Usually Always

ADULT QUESTIONNAIRE CAHPS 5.0	GETTING CARE QUICKLY	RESPONSE CHOICE
Q6	In the last 12 months, how often did you get an appointment for a check-up or routine care at a doctor's office or clinic as soon as you needed?	Never Sometimes Usually Always
Q4	In the last 12 months, when you needed care right away, how often did you get care as soon as you needed?	Never Sometimes Usually Always

ADULT QUESTIONNAIRE CAHPS 5.0	HOW WELL DOCTORS COMMUNICATE	RESPONSE CHOICE
Q18	In the last 12 months, how often did your personal doctor listen carefully to you?	Never Sometimes Usually Always
Q17	In the last 12 months, how often did your personal doctor explain things in a way that was easy to understand?	Never Sometimes Usually Always
Q19	In the last 12 months, how often did your personal doctor show respect for what you had to say?	Never Sometimes Usually Always

ADULT QUESTIONNAIRE CAHPS 5.0	HOW WELL DOCTORS COMMUNICATE	RESPONSE CHOICE
Q20	In the last 12 months, how often did your personal doctor spend enough time with you?	Never Sometimes Usually Always

ADULT QUESTIONNAIRE CAHPS 5.0	CUSTOMER SERVICE	RESPONSE CHOICE
Q35	In the last 12 months, how often did your health plan's customer service give you the information or help you needed?	Never Sometimes Usually Always
Q36	In the last 12 months, how often did your health plan's customer service staff treat you with courtesy and respect?	Never Sometimes Usually Always

ADULT QUESTIONNAIRE CAHPS 5.0	CLAIMS PROCESSING	RESPONSE CHOICE
Q40	In the last 12 months, how often did your health plan handle your claims quickly?	Never Sometimes Usually Always
Q41	In the last 12 months, how often did your health plan handle your claims correctly?	Never Sometimes Usually Always

ADULT QUESTIONNAIRE CAHPS 5.0	RATING OF ALL HEALTH CARE	RESPONSE CHOICE
Q13	Using any number from 0 to 10, where 0 is the worst health care possible and 10 is the best health care possible, what number would you use to rate all your health care in the last 12 months?	0 Worst health care possible 1 2 3 4 5 6 7 8 9 10 Best health care possible

ADULT QUESTIONNAIRE CAHPS 5.0	RATING OF HEALTH PLAN	RESPONSE CHOICE
Q42	Using any number from 0 to 10, where 0 is the worst health plan possible and 10 is the best health plan possible, what number would you use to rate your health plan?	0 Worst health plan possible 1 2 3 4 5 6 7 8 9 10 Best health plan possible

ADULT QUESTIONNAIRE CAHPS 5.0	RATING OF PERSONAL DOCTOR	RESPONSE CHOICE
Q23	Using any number from 0 to 10, where 0 is the worst personal doctor or nurse possible and 10 is the best personal doctor or nurse possible, what number would you use to rate your personal doctor or nurse?	0 Worst personal doctor or nurse possible 1 2 3 4 5 6 7 8 9 10 Best personal doctor or nurse possible

ADULT QUESTIONNAIRE CAHPS 5.0	RATING OF SPECIALIST	RESPONSE CHOICE
Q27	We want to know your rating of the specialist you saw most often in the last 12 months. Using any number from 0 to 10, where 0 is the worst specialist possible and 10 is the best specialist possible, what number would you use to rate the specialist?	0 Worst specialist possible 1 2 3 4 5 6 7 8 9 10 Best specialist possible

The preventive care composite in the beneficiary reports measures MHS performance in terms of meeting DHA's goals for the provision of preventive services. The composite is calculated by combining the responses to individual questions pertaining to these goals. Questions and responses from the present version of the 2020 HCSDB that are incorporated into the preventive care composite are presented in Table E.3. When individual scores in the preventive care composite are combined, the resulting composite is weighted by the number of questions to which a normal population has responded. Therefore, the weight a particular question receives in the composite score is based on the number of responses it "receives". The resulting proportion is presented as a percentage.

TABLE E.3

QUESTIONS AND RESPONSE CHOICES ON PREVENTIVE CARE
EXPRESSED AS A STANDARD DHA COMPOSITE

2020 ADULT HCSDB	COMPOSITE PREVENTIVE CARE	RESPONSE CHOICES
H20049	When did you last have a blood pressure reading?	Less than 12 months ago 1 to 2 years ago More than 2 years ago
H20050	Do you know if your blood pressure is too high?	Yes, it is too high No, it is not too high Don't know
H20059B	When did you last have a Pap smear test?	Within the last 12 months 1 to 2 years ago More than 2 but less than 3 years ago More than 3 but less than 5 years ago 5 or more years ago Never had a Pap smear
H20061	When was the last time your breasts were checked by mammography?	Within the last 12 months 1 to 2 years ago More than 2 but less than 5 years ago 5 or more years ago Never had a mammogram
H20064	In which trimester did you first receive prenatal care?	First trimester Second trimester Third trimester Did not receive prenatal care
H20071F, H20071I	How tall are you without your shoes on? Please give your answer in feet and inches.	_____ feet _____ inches
H20072	How much do your weigh without your shoes on? Please give your answer in pounds.	_____ pounds

The healthy behavior composite measures the success of DHA's efforts to reduce smoking and obesity rates. The composite consists of a non-smoking rate, which is the proportion of adults not smoking or who quit more than a year ago, the counseled to quit rate, which is the proportion of smokers with office visits who were counseled to quit during at least one visit, and the rate of adults with non-obese BMI ratio. The composite weights these three measures equally.

TABLE E.4.1

CAHPS 5.0 QUESTIONS AND RESPONSE CHOICES
EXPRESSED AS COMPOSITE SCORES AND RATINGS

ADULT QUESTIONNAIRE CAHPS 5.0	SMOKING	RESPONSE CHOICE
Q46	Do you now smoke cigarettes or use tobacco every day, some days or not at all?	Every day Some days Not at all Don't know
Q47	In the last 12 months, how often were you advised to quit smoking or using tobacco by a doctor or other health provider in your plan?	Never Sometimes Usually Always

TABLE E.4.2

CAHPS 3.0 QUESTIONS AND RESPONSE CHOICES
EXPRESSED AS COMPOSITE SCORES AND RATINGS

ADULT SUPPLEMENTAL QUESTIONNAIRE CAHPS 3.0	SMOKING	RESPONSE CHOICE
H12	Have you ever smoked at least 100 cigarettes in your entire life?	Yes No Don't know

APPENDIX F

SAS CODE FOR FILE DEVELOPMENT – QUARTERS I-III

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F.1   Q3FY2020\PROGRAMS\WEIGHTING\MERGESYN.SAS - Combine Item Response Data from survey contractor with the MPR sampling and DEERS variables

```
************************************************************************
*
* PROGRAM:  Changed from MERGENRC.SAS to MERGESYN.SAS
* TASK:    QUARTERLY DOD HEALTH CARE SURVEY ANALYSIS (6077-300)
* PURPOSE:  COMBINE ITEM RESPONSE DATA FROM IPSOS WITH THE MPR SAMPLING AND
*        DEERS VARIABLES.
* WRITTEN:  01/31/2001 BY KEITH RATHBUN
*
* MODIFIED: 06/12/2012 BY JACQUELINE AGUFA: Add code to modify the observations of the file from Synovate
*         This process will reincorporate the overlapped cases(currently missing in the synovate file)
*         back to the mergsyn file. The missing overlapped cases can be found in bwt.sas7bdat or
sampla02.sas7bdat
*        02/02/2016 BY MTURBYFILL Add VARNUM to PROC CONTENTS
*        03/30/2013 BY MTURBYFILL Add label for SURVTYPE
*        02/10/2017 BY MTURBYFILL Changed file paths and capitalization to match SAS Grid.
*        05/22/2018 BY ICONNOR Removed H18074-79 variables from the dataset since they're not being used
*        06/05/2020 by MTURBYFILL Keeping TNEX_GRP, TNEX_GP2, CONUS, and ENBGSMPL2 from the BWT file
to later be used in weighting.
*
* INPUTS:  1) DODyyQnF.sas7bdat - Quarterly DOD Health Survey Data from IPSOS
*         where n = Quarter Number
*           yy = Survey Administration Year
*        2) BWT.sas7bdat - MPR Sampling and DEERS variables
*        3) EXTRACT.sas7bdat - DEERS variables
*
* OUTPUTS:  1) MERGESYN.sas7bdat - Quarterly DOD Health Survey Data
*         (Combined IPSOS, MPR, and DEERS variables)
*
************************************************************************;
*LIBNAME INr     "N:\Project\40309_HCS\Restricted\DC1\Q&QT.FY20&YR." access=readonly; /*Restricted
folder*/
LIBNAME INr     "&EXPATH." access=readonly; /*Restricted folder*/
LIBNAME IN      "&DATAPATH." access=readonly;
LIBNAME OUT     "&DATAPATH.";

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

%MACRO MERGE;
************************************************************************
* SORT the IPSOS-Provided file and the original sample (BWT).
************************************************************************;
PROC SORT DATA=IN.dod&YR.q&QT.f OUT=SYNFILE;
   BY MPRID;
FORMAT _ALL_;
RUN;
```

```sas
%if &trickle=1 %then %do;
LIBNAME INt      "../../../Q&QT.FY20&YR.t/Data/AFinal";
PROC SORT DATA=INt.dod&YR.q&QT.f_trk OUT=SYNFILE2;
    BY MPRID;
RUN;


*******************************************************************
* To avoid the creation of more duplicates in the following data step,
* we are only keeping the complete trickle cases with Flag_fin=1
*****************************************************************;
DATA complete_in_trckle;
  SET SYNFILE2;
  if FLAG_FIN=1;
RUN;

PROC SORT DATA=complete_in_trckle NODUPKEY; BY MPRID; RUN;

DATA CHECKDUP DROPRND1(KEEP=MPRID DRP_RND1);
  MERGE complete_in_trckle(IN=in2 keep=MPRID FLAG_FIN RENAME=(FLAG_FIN=TFLAGFIN)) SYNFILE(IN=in1
keep=MPRID FLAG_FIN) ;

  LENGTH DRP_RND1 $3;

  BY MPRID;

  IF IN1 AND IN2 THEN DO;
    IF FLAG_FIN NE 1 AND TFLAGFIN=1 THEN DRP_RND1='YES';
    OUTPUT DROPRND1;
  END;

  OUTPUT CHECKDUP;
RUN;

*******************************************************************
* delete the duplicate DROPRND1 records by MPRID since we only want to know the
* IDs that had a duplicate record in round 1 and complete in the trickle file.
*
* We will then use the variable DROPRND1 to change the value of dupflag for
* these case from YES to NO in SELECTQ.sas.  This then reduces the inflated
* value of DUPFLAG.
*****************************************************************;
PROC SORT DATA=DROPRND1 NODUPKEY; BY MPRID; RUN;

PROC FREQ DATA=CHECKDUP;
  TABLES FLAG_FIN*TFLAGFIN/list missing;
RUN;

*End of trickle code;
%end;

DATA SYNFILE;
  LENGTH MPRID $8;
```

```
   SET SYNFILE (in=in1)
      %if &trickle.=1 %then %do;
      SYNFILE2 (in=in2)
      %end;
            ;
   BY MPRID;
   LENGTH ONTIME $3;
   IF IN1 THEN ONTIME="YES";
   ELSE ONTIME="NO";
   LABEL ONTIME = "Responded Within 8 weeks of Mail-Out";
RUN;



PROC SORT DATA=IN.BWT(KEEP=
   BWT
   COM_GEO
   DAGEQY
   DCATCH
   DELGENRC
   DELGIND
   DENRGRPC
   DMIS
   D_DMIS
   D_FAC
   D_HEALTH
   D_INSTAL
   D_PAR
   EBSMPL
   ENBGSMPL
   ENRID
   GEOCELL
   GEOSMPL
   GROUP
   GRP_GEO
   MBRRELCD
   MPRID
   NHFF
   PATCAT
   PCM
   PNSEXCD
   PNLCATCD
   PNTYPCD
   PRN
   PRRECFLG
   R_MTF
   SERVAFF
   SEXSMPL
   STRATUM
   SVCCD
   SVCSMPL
   TNEXREG
   TNEX_GRP
```

```
   TNEX_GP2
   CONUS
   ENBGSMPL2
   ) OUT=BWT; BY MPRID; RUN;


* * * ** * ** * *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ** *** ** ***
* Attach DEERS variables to the combined file that were omitted from the
* BWT file. Using extract.sas7bdat to obtain this data since the overlap cases
* are not in SAMPLA02.sas7bdat
* * * ** * ** * *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ** *** ** ***;
PROC SORT DATA=INr.EXTRACT OUT=EXTRACT
     (KEEP=MPRID DBENCAT DHSRGN DMEDELG DSPONSVC
         MEDTYPE MRTLSTAT RACEETHN
         PNBRTHDT PAYPLNCD );
   BY MPRID;

RUN;



PROC SORT DATA=INr.SAMPLA02 OUT=SAMPLA02
     (KEEP=MPRID MACTRYCD MACITYNM);
   BY MPRID;

RUN;
* * * ** * ** * *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ** *** ** ***
* Attach the original sampling variables to the combined file.
* * * ** * ** * *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ** *** ** ***;
DATA MERGESYN;
  MERGE BWT(in=b) SYNFILE(in=in2) EXTRACT(in=in1) SAMPLA02(in=inS)
     %if &trickle=1 %then %do; DROPRND1 %end;
  ;
   BY MPRID;




   * * * ** * ** * *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ** *** ** ***
   * DROP variables that are not needed.
   * * * ** * ** * *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ** *** ** ***;
   DROP SVCCD GEOSMPL GEOCELL EBSMPL
      D_INSTAL;


   LABEL  BWT     = 'BWT - Basic Sampling Weight'
      ENBGSMPL = 'ENBGSMPL - Beneficiary/Enrollment Status'
      NHFF     = 'NHFF - Stratum Sample Size'
      SEXSMPL = 'SEXSMPL - Sex'
      STRATUM = 'Stratum'
      SVCSMPL = 'SVCSMPL - Branch of Service'
      FLAG_FIN = 'Final Disposition'
      SURVTYPE = 'Web or Mail Survey'
;
   IF IN2 AND NOT IN1 THEN
```

```
        PUT "ERROR: MPRID Not Found in both the IPSOS and MPR files, MPRID= " MPRID;

    IF IN2 AND IN1 THEN OUTPUT MERGESYN;

    *********************************************************************
     Assign a flag_fin value of 99 to cases that overlap with TSS
     Survey was never mailed to the respondent
    *********************************************************************;
    IF b AND NOT in2 THEN DO;
      FLAG_FIN=99;
            ONTIME="NA";
      output MERGESYN;
    END;
RUN;

DATA OUT.MERGESYN;
  SET MERGESYN;
  BY MPRID;
    *********************************************************************
    * Construct MPCSMPL.
    *********************************************************************;
    IF PAYPLNCD = 'MO' THEN
      MPCSMPL = 2;
    ELSE IF PAYPLNCD = 'MW' THEN
      MPCSMPL = 3;
    ELSE
      MPCSMPL = 1;
    *********************************************************************
    * Calculate FIELDAGE based on PNBRTHDT using fielding period
    * starting date.
    *********************************************************************;
    FIELDATE = INPUT("&FIELDATE",mmddyy8.);
    DOB = SUBSTR(PNBRTHDT,5,2) || SUBSTR(PNBRTHDT,7,2) || SUBSTR(PNBRTHDT,1,4);
    BRTHDATE = INPUT(DOB,mmddyy8.);

    FIELDAGE = PUT(INT((FIELDATE - BRTHDATE)/365.25),Z3.);
    LABEL MPCSMPL  = "MPCSMPL - Military Personnel Category";
    LABEL FIELDAGE = "Age as of &FIELDLBL";
    LABEL DCATCH   = "Catchment Area";

    LENGTH QUARTER $8;
    QUARTER = "Q&QT.FY20&YR.";
    LABEL  QUARTER  = 'Survey Quarter';

    *********************************************************************
    * Recode unknown values of MRTLSTAT into one 'Unknown' group (Z).
    *********************************************************************;
    IF MRTLSTAT NOT IN ("A","D","I","L","M","N","S","W","Z"," ") THEN MRTLSTAT = "Z";

    DROP FIELDATE DOB BRTHDATE PNBRTHDT PAYPLNCD;

RUN;
```

```
TITLE1 "Quarterly DOD Health Survey - Combine IPSOS, MPR and DEERS variables (6663-0500)";
TITLE2 "Program Name: MERGESYN.SAS By Jacqueline Agufa";
TITLE3 "Program Inputs: DODyyQnF.sas7bdat, BWT.sas7bdat, EXTRACT.sas7bdat -- Program Output:
MERGESYN.sas7bdat";

PROC CONTENTS VARNUM; RUN;

PROC FORMAT;
  Value $ACV
    'A'='Active Duty Prime'
    'B'='TRICARE Global Remote Overseas Prime Active Duty'
    'D'='TRICARE Senior Prime enrollee'
    'E'='Non-Active Duty Prime'
    'F'='TRICARE Global Remote Overseas Prime ADFM'
    'G'='TRICARE Plus (CHAMPUS/TFL Eligible)'
    'H'='TRICARE Overseas Prime AD'
    'J'='TRICARE Overseas Prime ADFM'
    'L'='TRICARE Plus (w/o civilian healthcare)'
    'M'='AD not reported as enrolled'
    'R'='TRICARE Reserve Select'
    'Q'='Active Duty enrolled to Op Forces'
    'U'='USFHP/USTF'
    'V'='TRICARE Retired Reserve'
 ' ','Z'='Not enrolled in TRICARE Prime or USFHP'
      ;

  VALUE $ENBGS
      '01' = "Active duty"
      '02' = "Active duty fam,Prime,civ PCM"
      '03' = "Active duty fam,Prime,mil PCM"
      '04' = "Active duty fam,non-enrollee"
      '05' = "Retired,<65,civ PCM"
      '06' = "Retired,<65,mil PCM"
      '07' = "Retired,<65,non-enrollee"
      '08' = "Retired,65+,civ PCM"
      '09' = "Retired,65+,mil PCM"
      '10' = "Retired,65+,non-enrollee"
      '11' = "TRICARE Reserve Select"
 ;

RUN;

PROC FREQ DATA=OUT.MERGESYN(DROP=MPRID PRN MIQCNTL);
  TABLES WEB ONTIME FLAG_FIN DAGEQY*FIELDAGE /*ACV*/ PCM ENBGSMPL
      /*ACV*PCM ACV*ENBGSMPL*/
      _ALL_ /MISSING LIST;
  FORMAT /*ACV $ACV. */ ENBGSMPL $ENBGS.;
RUN;
%MEND;
%MERGE;
```

F.2.A Q1FY2020\PROGRAMS\CODINGSCHEME\CSCHM20Q.SAS - Implement Coding Scheme and Coding Tables for Quarter 1 FY2020

```
*****************************************************************************;
* Program: Cschmyyq.sas
* Written: 06/04/2001
*  Author: C. Rankin
*
*   Input:  MERGESYN.sas7bdat - Merged MPR Sampling, DEERS, and Synovate Response Data
*  Output:  CSCHMyyQ.sas7bdat - Coding scheme file
*
* Modified:
*       12/15/2012 - Removed logic for handling check boxes for height and
*               weight variables. Also no longer have to convert the
*               weight variable from character to numeric
*       12/21/2012 - Added code on line 146 to correct out of range height (in)
*       12/18/2013 - Updated for Q1 2014 - added ht/wt note
*       09/29/2014 - Added SQL statement to automatically make varlist1, varlist2, and marked variables
*        07/22/2015 - NOPRINT added to first PROC SQL
*       02/02/2016 BY MTURBYFILL Add VARNUM to PROC CONTENTS
*       04/29/2016 - Added recoding for H16003, should be used only for 2016Q2.
*       02/10/2017 - Changed filepaths and capitalization to match SAS Grid.
*               Removed additional female-specific fields from notes 19A and 19B.
*                       04/21/2017 - H__032 is removed for the foreseeable future.
*       04/05/2018 - Notes 10_B1, 22, 23, and 25 are removed
*
* Purpose: Apply Coding Scheme Specifications to DoD Health Care Survey
*        Response Data, check for consistency in responses and skip
*        patterns
* Include
*   files: Cschmyyq.fmt
*
*****************************************************************************;

OPTIONS PS=80 LS=120 NOCENTER COMPRESS=YES SOURCE SOURCE2 VARLENCHK=NOWARN;
title "Coding Scheme for Q&qt. FY&yr."; title2; title3;

%LET INDATA=MERGESYN;
%LET OUTDATA=CSCHM&yr.q;

LIBNAME LIBRARY    "&fmtpath.";
LIBNAME IN        "&datapath.";
LIBNAME OUT       "&datapath.";

%MACRO CSCHM;
DATA &INDATA;

  SET IN.&INDATA;

* RENAME AND CREATE VARIABLES NEEDED FOR CODING SCHEME;

  RENAME SRACEA = SRRACEA;
```

```
  RENAME SRACEB = SRRACEB;
  RENAME SRACEC = SRRACEC;
  RENAME SRACED = SRRACED;
  RENAME SRACEE = SRRACEE;

RENAME INTERVIEWTIME = INTTIME;

  SEX=PNSEXCD;
  AGE=INPUT(DAGEQY,8.);

RUN;

*Create list of variables from dataset;
*O_ variables are the original values from the survey response;
*Must remove any variable that ends with an alphabetic letter that
is not a marked/unmarked variable from the 'markedvars' line of code;
PROC SQL NOPRINT;
  CREATE TABLE VARIABLES AS
    SELECT UPCASE(NAME) AS VARS,
        UPCASE(CAT('O_', NAME)) AS OVARS,
        CASE WHEN SUBSTR(NAME,LENGTH(NAME)) NOT IN ('0' '1' '2' '3' '4' '5' '6' '7' '8' '9')
            AND NAME NOT IN ("H&YR.059B", "H&YR.071F" ,"H&YR.071I", "SREDA", "SRAGE")
            THEN UPCASE(NAME) END AS MARKEDVARS,
        CASE WHEN CALCULATED MARKEDVARS NE ''
            THEN UPCASE(CAT('O_', CALCULATED MARKEDVARS)) END AS OMARKEDVARS
    FROM DICTIONARY.COLUMNS
    WHERE LIBNAME = 'WORK' AND MEMNAME = "&INDATA"
        AND (NAME CONTAINS ("H&YR.") OR NAME CONTAINS ("S&YR.") OR (NAME CONTAINS ("SR") AND NAME
NE "DHSRGN")) ;
    SELECT COMPRESS(VARS), COMPRESS(OVARS), COMPRESS(MARKEDVARS), COMPRESS(OMARKEDVARS)
    INTO :VARLIST1 SEPARATED BY " ",
        :VARLIST2 SEPARATED BY " ",
        :MARKEDVARS SEPARATED BY " ",
        :OMARKEDVARS SEPARATED BY " "
    FROM VARIABLES;
QUIT;

/*For Q1FY2019, recoding H19003 so that any responses for tricare for life (18) are recoded to medicare (4)
2/15/2019*/
data variables;
  set variables;
  if H&YR.003=18 then H&YR.003=4;
run;

proc print data=variables; run;

%PUT &VARLIST1;
%PUT &VARLIST2;
%PUT &MARKEDVARS;
%PUT &OMARKEDVARS;


TITLE  "DoD 20&YR Survey";
```

```
TITLE2 "Apply Coding Scheme";

DATA OUT.&outdata.;
/* label and format statements for original variables */
  LENGTH &VARLIST1. &VARLIST2. 4. MPRID $8.;
  INFORMAT &VARLIST2. 4.;

  %INCLUDE "cschm&YR.q.fmt";

  SET &INDATA;

*****************************************************************,
**** Recodes for invalid responses:*****************************;
*****************************************************************,

/* This is a version of the coding scheme and coding tables for the
  FY 20&YR. HCSDB Form A.
  The following tables outline the coding of screening questions (skip),
  and subsequent items to be answered (or not answered in a series
  following a skip question.) */

/* First set up new variables that capture the original values */
/* recode the initial numeric values to the SAS numeric values */
/* specified in the coding scheme                    */

  ARRAY RECODE(*) &VARLIST1;
  ARRAY  ORIG(*) &VARLIST2;

  DO I = 1 to DIM(ORIG);
    ORIG(I) = RECODE(I);
    IF ORIG(I) < 0 THEN DO;
         IF ORIG(I)= -9 THEN RECODE(I)=.;
      ELSE IF ORIG(I)= -7 THEN RECODE(I)=.O;
      ELSE IF ORIG(I)= -6 THEN RECODE(I)=.N;
      ELSE IF ORIG(I)= -5 THEN RECODE(I)=.D;
      ELSE IF ORIG(I)= -4 THEN RECODE(I)=.I;
      ELSE IF ORIG(I)= -1 THEN RECODE(I)=.C;
    END;
  END;
  DROP I;

/* recode selected responses to be 1=marked, 2=unmarked */

  ARRAY  MARKED(*) &MARKEDVARS. ;
  ARRAY INFORMAT(*) &OMARKEDVARS. ;


  DO J=1 TO DIM(INFORMAT);
    IF INFORMAT(J) = 1 THEN MARKED(J)=1;
    ELSE MARKED(J)=2;
  END;
  DROP J;
```

```
  FORMAT &MARKEDVARS. MARKED.;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;

/*  skip coding scheme for all surveys not returned  **/

 IF FLAG_FIN NE 1 THEN GOTO NOSURVEY;

/** Note 1 -- H&YR.003, H&YR.004 health plan usage  **/

 IF H&YR.003 > 0 THEN N1=1;
 ELSE IF H&YR.003=.N  OR H&YR.003 =.D THEN DO;
   IF H&YR.004 NOT=. THEN DO;
     N1=2;
     H&YR.004=.C;
   END;
   ELSE DO;
     N1=3;
     H&YR.004=.N;
   END;
 END;
 ELSE IF H&YR.003=.  THEN N1=4;

/** Note 2 -- H&YR.006,H&YR.007,H&YR.008:  illness or injury **/

 ARRAY NOTE2 H&YR.007 H&YR.008;
 N2MARK=0;
 N2NMISS=0;
 N2NN=0;

 DO OVER NOTE2;
   IF NOTE2 NE . THEN N2NMISS+1;
   IF NOTE2 NOT IN (.N,.) THEN N2MARK+1;
   IF NOTE2 EQ .N THEN N2NN+1;
 END;

 IF H&YR.006=1 AND N2NMISS=0 THEN DO;
    N2=1;
 END;
 ELSE IF H&YR.006 IN (1,.) AND N2NMISS>0 AND N2MARK=0 THEN DO;
   H&YR.006=2;
   N2=2;
   DO OVER NOTE2;
     IF NOTE2=. THEN NOTE2=.N;
     ELSE NOTE2=.C;
   END;
 END;
 ELSE IF H&YR.006=1 AND N2MARK=1 AND N2NN=1 THEN  DO;
   DO OVER NOTE2;
     IF NOTE2=.N THEN NOTE2=.;
   END;
   N2=3;
 END;
```

```
ELSE IF H&YR.006=1 AND N2MARK>0 THEN DO;
   N2=4;
END;
ELSE IF H&YR.006=2 AND N2MARK=1 AND N2NN=1  THEN  DO;
   H&YR.007=.C;
   H&YR.008=.C;
   N2=5;
END;
ELSE IF H&YR.006 IN (2,.) AND N2MARK>0 THEN DO;
   H&YR.006=1;
   N2=6;
   DO OVER NOTE2;
     IF NOTE2=.N THEN NOTE2=.;
   END;
END;
ELSE IF H&YR.006=2 AND (N2NMISS=0 OR (N2NMISS>0 AND N2MARK=0)) THEN DO;
   N2=7;
   DO OVER NOTE2;
     IF NOTE2=. THEN NOTE2=.N;
     ELSE NOTE2=.C;
   END;
END;
ELSE IF H&YR.006=.  AND N2NMISS=0 THEN N2=8;

   DROP N2NMISS N2MARK N2NN;

/** Note 3 -- H&YR.009,H&YR.010,H&YR.011:  regular or routine healthcare **/

   ARRAY Note3 H&YR.010 H&YR.011;
   N3MARK=0;
   N3NMISS=0;
   N3NN=0;

   DO OVER Note3;
     IF Note3 NE . THEN N3NMISS+1;
     IF Note3 NOT IN (.N,.) THEN N3MARK+1;
     IF Note3 EQ .N THEN N3NN+1;
   END;

   IF H&YR.009=1 AND N3NMISS=0 THEN DO;
     N3=1;
   END;
   ELSE IF H&YR.009 IN (1,.) AND N3NMISS>0 AND N3MARK=0 THEN DO;
     H&YR.009=2;
     N3=2;
     DO OVER Note3;
       IF Note3=. THEN Note3=.N;
       ELSE Note3=.C;
     END;
   END;
   ELSE IF H&YR.009=1 AND N3MARK=1 AND N3NN=1 THEN  DO;
     DO OVER Note3;
       IF Note3=.N THEN Note3=.;
```

```
      END;
    N3=3;
  END;
  ELSE IF H&YR.009=1 AND N3MARK>0 THEN DO;
    N3=4;
  END;
  ELSE IF H&YR.009=2 AND N3MARK=1 AND N3NN=1  THEN  DO;
    H&YR.010=.C;
    H&YR.011=.C;
    N3=5;
  END;
  ELSE IF H&YR.009 IN (2,.) AND N3MARK>0 THEN DO;
    H&YR.009=1;
    N3=6;
    DO OVER Note3;
      IF Note3=.N THEN Note3=.;
    END;
  END;
  ELSE IF H&YR.009=2 AND (N3NMISS=0 OR (N3NMISS>0 AND N3MARK=0)) THEN DO;
    N3=7;
    DO OVER Note3;
      IF Note3=. THEN Note3=.N;
      ELSE Note3=.C;
    END;
  END;
  ELSE IF H&YR.009=.  AND N3NMISS=0 THEN N3=8;

  DROP N3NMISS N3MARK N3NN;

/** Note 4 -- H&YR.013, H&YR.014-H&YR.017: doctor's office or clinic **/

  ARRAY NOTE4  H&YR.014-H&YR.017 ;

  N4MARK=0;
  N4NMISS=0;

  DO OVER NOTE4;
    IF NOTE4 NE . THEN N4NMISS+1;
  END;

  IF H&YR.013=1 THEN DO;
    N4=1;
    DO OVER NOTE4;
      IF NOTE4=. THEN NOTE4=.N;
      ELSE NOTE4=.C;
    END;
  END;
  ELSE IF H&YR.013 IN (2,3,4,5,6,7) AND N4NMISS=0 THEN DO;
    H&YR.013=1;
    N4=2;
    DO OVER NOTE4;
      IF NOTE4=. THEN NOTE4=.N;
      ELSE NOTE4=.C;
```

```
      END;
    END;
  ELSE IF H&YR.013 IN (2,3,4,5,6,7) AND (N4NMISS>0) THEN DO;
    DO OVER NOTE4;
       IF NOTE4 =.N THEN NOTE4 =.;
    END;
    N4=3;
  END;
  ELSE IF H&YR.013 =. THEN N4=4;

  DROP N4NMISS N4MARK;

/** Note 5 -- H&YR.015, H&YR.016-H&YR.017: doctor's office or clinic-treatment **/

 IF H&YR.015 IN (.N,.C) THEN N5=1;
 ELSE IF H&YR.015 = 1  THEN N5=2;
 ELSE IF H&YR.015 IN (2,.) AND H&YR.016 IN (1,2) THEN  DO;
    N5=3;
    H&YR.015=1;
 END;
 ELSE IF H&YR.015 IN (2,.) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (1,2)) THEN  DO;
    N5=4;
    H&YR.015=1;
 END;
 ELSE IF H&YR.015 IN (2) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (3,4,.)) THEN  DO;
    N5=5;
    IF H&YR.016 = . THEN H&YR.016 = .N;
    ELSE H&YR.016 = .C;
    IF H&YR.017 = . THEN H&YR.017 = .N;
    ELSE H&YR.017 = .C;
 END;
 ELSE IF H&YR.015 IN (.) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (3,4,.)) THEN  DO;
    N5=6;
 END;

/** Note 5_BI1 -- S&YR.BI03-S&YR.BI04 S&YR.BI06-S&YR.BI12 S&YR.BI14-S&YR.BI20: go to urgent care center **/
/***NOT USED IN Q1FY2020***/

/** Note 5_BI2 -- S&YR.BI02, S&YR.BI03-S&YR.BI04 S&YR.BI06-S&YR.BI12 S&YR.BI14-S&YR.BI23: go to urgent care
center **/

 ARRAY NOTE5_BI2A S&YR.BI02B S&YR.BI02C S&YR.BI02D;
 ARRAY NOTE5_BI2B S&YR.BI03-S&YR.BI04 S&YR.BI06-S&YR.BI09 S&YR.BI12 S&YR.BI14-S&YR.BI16 S&YR.BI19-
S&YR.BI23; /*removed BI05, BI10, BI11, BI13, BI17, BI18*/

 N5_BI2AMARK=0;
 N5_BI2ANMISS=0;

 DO OVER NOTE5_BI2A;
    IF NOTE5_BI2A NE . THEN N5_BI2ANMISS+1;
    IF NOTE5_BI2A NOT IN (., .N, 2) THEN N5_BI2AMARK+1;
 END;
```

```
N5_BI2BMARK=0;
N5_BI2BNMISS=0;

DO OVER NOTE5_BI2B;
  IF NOTE5_BI2B NE . THEN N5_BI2BNMISS+1;
  IF NOTE5_BI2B NOT IN  (., .N) THEN N5_BI2BMARK+1;
END;

IF S&YR.BI02A IN (.N, .C) THEN N5_BI2=1;
ELSE IF S&YR.BI02A IN (1) THEN DO;
  IF N5_BI2BMARK >= 1 THEN DO;
   N5_BI2=2;
  S&YR.BI02E = 2;
 END;
 ELSE IF N5_BI2AMARK >= 1 THEN DO;
   N5_BI2=3;
  S&YR.BI02A = 2;
  S&YR.BI02E = 2;
  DO OVER NOTE5_BI2B;
   IF NOTE5_BI2B = . THEN NOTE5_BI2B=.N;
   ELSE NOTE5_BI2B=.C;
  END;
 END;
 ELSE IF N5_BI2AMARK = 0 THEN DO;
   N5_BI2=4;
   S&YR.BI02A = 2;
   DO OVER NOTE5_BI2B;
    IF NOTE5_BI2B = . THEN NOTE5_BI2B=.N;
    ELSE NOTE5_BI2B=.C;
   END;
 END;
END;
ELSE IF S&YR.BI02A IN (2, .) THEN DO;
  IF N5_BI2BMARK >= 1 THEN DO;
   N5_BI2=5;
  S&YR.BI02A = 1;
  S&YR.BI02E = 2;
 END;
 ELSE IF N5_BI2AMARK =0 THEN DO;
   N5_BI2=6;
   DO OVER NOTE5_BI2B;
    IF NOTE5_BI2B = . THEN NOTE5_BI2B=.N;
    ELSE NOTE5_BI2B=.C;
   END;
 END;
 ELSE IF N5_BI2AMARK > 0 THEN DO;
   N5_BI2=7;
  S&YR.BI02E = 2;
  DO OVER NOTE5_BI2B;
   IF NOTE5_BI2B = . THEN NOTE5_BI2B = .N;
   ELSE NOTE5_BI2B = .C;
  END;
 END;
```

```
  END;

   DROP N5_BI2ANMISS N5_BI2AMARK N5_BI2BNMISS N5_BI2BMARK;

/** Note 5_BI3 -- S&YR.BI15, S&YR.BI16: did nurse advise urgent care **/

 IF S&yr.BI15 IN (.N, .C)  THEN N5_BI3=1;
 IF S&yr.BI15=1  THEN N5_BI3=2;
 ELSE IF S&yr.BI15 IN (2,3,4,.D) THEN  DO;
    N5_BI3=3;
    IF S&yr.BI16 = . THEN S&yr.BI16 = .N;
    ELSE S&yr.BI16 = .C;
 END;
 ELSE IF S&yr.BI15 IN (.) AND (S&yr.BI16 IN (1,2)) THEN  DO;
    N5_BI3=4;
    S&yr.BI15=1;
 END;
 ELSE IF S&yr.BI15 IN (.) AND (S&yr.BI16 IN (.D,.)) THEN  DO;
    N5_BI3=5;
 END;

/** Note 5_BI5 -- S&yr.BI22, S&yr.BI23: speak with nurse before going to Urgent Care ** / /***WAITING ON
MATT'S INPUT***/

 IF S&yr.BI22 IN (.N, .C)  THEN N5_BI5=1;
 ELSE IF S&yr.BI22=1  THEN N5_BI5=2;
 ELSE IF S&yr.BI22 IN (2,.D) THEN  DO;
    N5_BI5=3;
    IF S&yr.BI23 = . THEN S&yr.BI23 = .N;
    ELSE S&yr.BI23 = .C;
 END;
 ELSE IF S&yr.BI22 IN (.) AND (S&yr.BI23 IN (1)) THEN  DO;
    N5_BI5=4;
    S&yr.BI22=S&yr.BI22;
 END;
 ELSE IF S&yr.BI22 IN (.) AND (S&yr.BI23 IN (2,.N,.)) THEN  DO;
    N5_BI5=5;
 END;

/** Note 6 -- H&YR.019, H&YR.020-H&YR.027, S&YR.009: personal doctor **/
/* MER 07/01/09 */

 ARRAY NOTE6  H&YR.021-H&YR.024;

 N6MARK=0;

 DO OVER NOTE6;
    IF NOTE6 NOT IN  (., .N) THEN N6MARK+1;
 END;

 IF H&YR.020 NOT IN (0,.) THEN N6MARK+1;
```

```
IF H&YR.019 = 1  THEN DO;
  N6=1;
  IF H&YR.027=.N THEN H&YR.027=.;
END;
ELSE IF H&YR.019 in (2,.) AND H&YR.027 in (0,1,2,3,4,5,6,7,8,9,10) THEN DO;
  N6=2;
  H&YR.019=1;
END;
ELSE IF H&YR.019 in (2,.) AND N6MARK>0 AND H&YR.027 = . THEN DO;
  N6=3;
  H&YR.019=1;
END;
ELSE IF H&YR.019 = 2 AND N6MARK>0 AND H&YR.027 = .N THEN DO;
  N6=4;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
  END;
  IF H&YR.025=. THEN H&YR.025=.N;
  ELSE H&YR.025=.C;
  IF H&YR.026=. THEN H&YR.026=.N;
  ELSE H&YR.026=.C;
  IF S&YR.009=. THEN S&YR.009=.N;
  ELSE S&YR.009=.C;
  H&YR.027=.C;
END;
ELSE IF H&YR.019 = 2 AND N6MARK=0 AND H&YR.027 in (.N,.) THEN DO;
  N6=5;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
  END;
  IF H&YR.025=. THEN H&YR.025=.N;
  ELSE H&YR.025=.C;
  IF H&YR.026=. THEN H&YR.026=.N;
  ELSE H&YR.026=.C;
  IF S&YR.009=. THEN S&YR.009=.N;
  ELSE S&YR.009=.C;
  IF H&YR.027=. THEN H&YR.027=.N;
  ELSE H&YR.027=.C;
END;
ELSE IF H&YR.019 = . AND H&YR.027 = .N THEN DO; /* MER 07/31/09 combined rows 6 and 7 */
  N6=6;
  H&YR.019=2;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
```

```
    END;
    IF H&YR.025=. THEN H&YR.025=.N;
    ELSE H&YR.025=.C;
    IF H&YR.026=. THEN H&YR.026=.N;
    ELSE H&YR.026=.C;
    IF S&YR.009=. THEN S&YR.009=.N;
    ELSE S&YR.009=.C;
    H&YR.027=.C;
  END;
  ELSE IF H&YR.019 = . AND N6MARK=0 AND H&YR.027 = . THEN N6=7;

  DROP N6MARK;

/** Note 7 -- H&YR.020, H&YR.021-H&YR.026: personal doctor visit **/

  ARRAY NOTE7  H&YR.021-H&YR.026;

  N7MARK=0;
  N7NMISS=0;

  DO OVER NOTE7;
    IF NOTE7 NE . THEN N7NMISS+1;
    IF NOTE7 NOT IN  (., .N) THEN N7MARK+1;
  END;
  IF H&YR.025=2 THEN N7NMISS=N7NMISS-1;
  IF H&YR.025=2 THEN N7MARK=N7MARK-1;

  IF H&YR.020 IN (.N, .C) THEN N7=1;
  ELSE IF H&YR.020=0 THEN DO;
    N7=2;
    DO OVER NOTE7;
      IF NOTE7=. THEN NOTE7=.N;
      ELSE NOTE7=.C;
    END;
  END;
  ELSE IF H&YR.020 IN (1,2,3,4,5,6,.) AND N7NMISS>0 AND N7MARK=0 THEN DO;
    H&YR.020=0;
    N7=3;
    DO OVER NOTE7;
      IF NOTE7=. THEN NOTE7=.N;
      ELSE NOTE7=.C;
    END;
  END;
  ELSE IF H&YR.020 IN (1,2,3,4,5,6,.) AND (N7NMISS=0 OR N7MARK>0) THEN DO;
    DO OVER NOTE7;
      IF NOTE7=.N THEN NOTE7=.;
    END;
    N7=4;
  END;

  DROP N7NMISS N7MARK;
```

```
/** Note 8 -- H&YR.025, H&YR.026:  care from another doctor or healthcare provider **/

  IF H&YR.025 IN (.N, .C) THEN N8=1;
  ELSE IF H&YR.025=1 THEN N8=2;
  ELSE IF H&YR.025 IN (2,.) AND H&YR.026 IN (1,2,3,4) THEN DO;
    H&YR.025=1;
    N8=3;
  END;
  ELSE IF H&YR.025=2 AND H&YR.026 IN (.) THEN DO;
    H&YR.026=.N;
    N8=4;
  END;
  ELSE IF H&YR.025=. AND H&YR.026=. THEN N8=5;

/** Note 8_01 -- S&YR.009, S&YR.010:  problem getting new personal doctor or nurse **/

  IF S&YR.009 IN (.N,.C) THEN N8_01=1; /* MER 07/31/09 gave each S&YR.009 value its own row for analysis
purposes */
  ELSE IF S&YR.009=1 THEN DO;
    N8_01=2;
    IF S&YR.010=. THEN S&YR.010=.N;
    ELSE S&YR.010=.C;
  END;
  ELSE IF S&YR.009=2 THEN N8_01=3;
  ELSE IF S&YR.009=. THEN N8_01=4;  /* MER 07/31/09 eliminated backward coding for missing S&YR.009 */

/** Note 9 -- H&YR.028, H&YR.029-H&YR.031:  needed to see a specialist in last 12 months **/

  ARRAY NOTE9  H&YR.029 H&YR.031;

  N9MARK=0;
  N9NMISS=0;

  DO OVER NOTE9;
    IF NOTE9 NE . THEN N9NMISS+1;
    IF NOTE9 NOT IN  (., .N) THEN N9MARK+1;
  END;

  IF H&YR.030 NE . THEN N9NMISS+1;
  IF H&YR.030 NOT IN (.,0) THEN N9MARK+1;

  IF H&YR.028 IN (1)  THEN DO;
    N9=1;
    IF H&YR.029=.N THEN H&YR.029=.;
  END;
  ELSE IF H&YR.028 in (2,.) AND N9MARK>0 THEN DO;
    N9=2;
    H&YR.028=1;
    IF H&YR.029=.N THEN H&YR.029=.;
  END;
  ELSE IF H&YR.028 in (2) THEN DO;
    N9=3;
    DO OVER NOTE9;
```

```
        IF NOTE9=. THEN NOTE9=.N;
         ELSE NOTE9=.C;
      END;
     IF H&YR.030=. THEN H&YR.030=.N;
     ELSE H&YR.030=.C;
   END;
   ELSE IF H&YR.028=.  AND N9NMISS>0 AND N9MARK=0 THEN DO;
     N9=4;
     H&YR.028=2;
     DO OVER NOTE9;
       IF NOTE9=. THEN NOTE9=.N;
        ELSE NOTE9=.C;
      END;
     IF H&YR.030=. THEN H&YR.030=.N;
     ELSE H&YR.030=.C;
   END;
   ELSE IF H&YR.028=.  AND N9NMISS=0 THEN N9=5;

   DROP N9NMISS N9MARK;

/** Note 10 -- H&YR.030, H&YR.031: saw a specialist in last 12 months **/

  IF H&YR.030 IN (.N,.C) AND H&YR.031 IN (.N,.C) THEN N10=1;
  ELSE IF H&YR.030 IN (1,2,3,4,5) AND H&YR.031 IN (0,1,2,3,4,5,6,7,8,9,10,.) THEN N10=2;
  ELSE IF H&YR.030 IN (1,2,3,4,5,.) AND H&YR.031 = .N THEN DO;
     N10=3;
     H&YR.030=0;
     H&YR.031=.C;
  END;
  ELSE IF H&YR.030 = 0 THEN DO;
     N10=4;
     IF H&YR.031 = . THEN H&YR.031 = .N;
     ELSE H&YR.031 = .C;
  END;
  ELSE IF H&YR.030 = . AND H&YR.031 IN (0,1,2,3,4,5,6,7,8,9,10,.) THEN N10=5;

/** Note 10_B1 -- S&YR.B02, S&YR.B03-S&YR.B04: overall mental health **/

  ARRAY NOTE10B1  S&YR.B03-S&YR.B04;

  N10B1MARK=0;
  N10B1NMISS=0;

  DO OVER NOTE10B1;
    IF NOTE10B1 NE . THEN N10B1NMISS+1;
    IF NOTE10B1 NOT IN  (.,.N) THEN N10B1MARK+1;
  END;

  IF S&YR.B02 = 1 THEN DO;
    N10_B1=1;
    DO OVER NOTE10B1;
      IF NOTE10B1=.N THEN NOTE10B1=.;
    END;
```

```
    END;
   ELSE IF S&YR.B02 IN (2,.) AND (N10B1MARK>0) THEN DO;
     N10_B1=2;
     S&YR.B02=1;
     DO OVER NOTE10B1;
       IF NOTE10B1=.N THEN NOTE10B1=.;
     END;
   END;
   ELSE IF S&YR.B02=2  AND (N10B1NMISS=0 OR (N10B1NMISS > 0 AND N10B1MARK = 0)) THEN DO;
     N10_B1=3;
     DO OVER NOTE10B1;
       IF NOTE10B1 = . THEN NOTE10B1=.N;
       ELSE NOTE10B1 = .C;
     END;
   END;
   ELSE IF S&YR.B02 IN (.) AND (N10B1NMISS> 0 AND N10B1MARK = 0) THEN DO;
     N10_B1=4;
     S&YR.B02=2;
     DO OVER NOTE10B1;
       IF NOTE10B1 = . THEN NOTE10B1=.N;
       ELSE NOTE10B1 = .C;
     END;
   END;
   ELSE IF S&YR.B02 IN (.) AND N10B1NMISS=0 THEN N10_B1=5;

   DROP N10B1NMISS N10B1MARK;

/** Note 12 -- H&YR.034, H&YR.035:  look for info in written materials or on internet**/
  IF H&YR.034=1 AND H&YR.035 IN (1,2,3,4,.) THEN N12=1;
  ELSE IF H&YR.034 IN (1,.) AND H&YR.035=.N THEN DO;
    N12=2;
    H&YR.034=2;
    H&YR.035=.C;
  END;
  ELSE IF H&YR.034 IN (2,.) AND H&YR.035 IN (1,2,3,4) THEN DO;
    N12=3;
    H&YR.034=1;
  END;
  ELSE IF H&YR.034=2 AND H&YR.035 IN (.N,.) THEN DO;
    N12=4;
    IF H&YR.035=. THEN H&YR.035=.N;
    ELSE H&YR.035=.C;
  END;
  ELSE IF H&YR.034=. AND H&YR.035=. THEN N12=5;

/** Note 13 -- H&YR.036, H&YR.037:  tried to get cost of service/equipment from health plan**/

  IF H&YR.036=1 AND H&YR.037 IN (1,2,3,4,.) THEN N13=1;
  ELSE IF H&YR.036 IN (1,.) AND H&YR.037=.N THEN DO;
    H&YR.036=2;
    H&YR.037=.C;
    N13=2;
  END;
```

```
   ELSE IF H&YR.036 IN (2,.) AND H&YR.037 IN (1,2,3,4) THEN DO;
     H&YR.036=1;
     N13=3;
   END;
   ELSE IF H&YR.036=2 AND H&YR.037 IN (.,.N) THEN DO;
     IF H&YR.037=. THEN H&YR.037=.N;
     ELSE H&YR.037=.C;
     N13=4;
   END;
   ELSE IF H&YR.036=.  AND H&YR.037=.  THEN N13=5;

 /** Note 14 -- H&YR.038, H&YR.039:  tried to get cost of prescription meds from health plan**/

   IF H&YR.038=1 AND H&YR.039 IN (1,2,3,4,.) THEN N14=1;
   ELSE IF H&YR.038 IN (1,.) AND H&YR.039=.N THEN DO;
     H&YR.038=2;
     H&YR.039=.C;
     N14=2;
   END;
   ELSE IF H&YR.038 IN (2,.) AND H&YR.039 IN (1,2,3,4) THEN DO;
     H&YR.038=1;
     N14=3;
   END;
   ELSE IF H&YR.038=2 AND H&YR.039 IN (.,.N) THEN DO;
     IF H&YR.039=. THEN H&YR.039=.N;
     ELSE H&YR.039=.C;
     N14=4;
   END;
   ELSE IF H&YR.038=.  AND H&YR.039=.  THEN N14=5;

 /** Note 15 -- H&YR.040, H&YR.041-H&YR.042: tried to use health plan's customer service  **/

   ARRAY NOTE15  H&YR.041-H&YR.042;

  N15MARK=0;
  N15NMISS=0;

  DO OVER NOTE15;
    IF NOTE15 NE . THEN N15NMISS+1;
    IF NOTE15 NOT IN  (., .N) THEN N15MARK+1;
  END;

  IF H&YR.040 = 1 AND (N15MARK>0 OR N15NMISS=0) THEN DO;
    DO OVER NOTE15;
      IF NOTE15=.N THEN NOTE15=.;
    END;
    N15=1;
  END;
  ELSE IF H&YR.040 IN (1,.) AND (N15NMISS > 0 AND N15MARK = 0) THEN DO;
    N15=2;
    H&YR.040=2;
    DO OVER NOTE15;
      IF NOTE15 = . THEN NOTE15=.N;
```

```
        ELSE NOTE15 = .C;
      END;
    END;
    ELSE IF H&YR.040 IN (2,.) AND (N15MARK>0) THEN DO;
      N15=3;
      H&YR.040=1;
      DO OVER NOTE15;
        IF NOTE15=.N THEN NOTE15=.;
      END;
    END;
    ELSE IF H&YR.040=2  AND (N15NMISS=0 OR (N15NMISS > 0 AND N15MARK = 0)) THEN DO;
      N15=4;
      DO OVER NOTE15;
        IF NOTE15 = . THEN NOTE15=.N;
        ELSE NOTE15 = .C;
      END;
    END;
    ELSE IF H&YR.040 IN (.) AND N15NMISS=0 THEN N15=5;

    DROP N15NMISS N15MARK;

/** Note 16 -- H&YR.043, H&YR.044:  received forms to fill out from health plan **/

  IF H&YR.043=1 AND H&YR.044 IN (1,2,3,4,.) THEN N16=1;
  ELSE IF H&YR.043 IN (1,.) AND H&YR.044=.N THEN DO;
    H&YR.043=2;
    H&YR.044=.C;
    N16=2;
  END;
  ELSE IF H&YR.043 IN (2,.) AND H&YR.044 IN (1,2,3,4) THEN DO;
    H&YR.043=1;
    N16=3;
  END;
  ELSE IF H&YR.043=2 AND H&YR.044 IN (.,.N) THEN DO;
    IF H&YR.044=. THEN H&YR.044=.N;
    ELSE H&YR.044=.C;
    N16=4;
  END;
  ELSE IF H&YR.043=.  AND H&YR.044=.  THEN N16=5;

/** Note 17 -- H&YR.045, H&YR.046-H&YR.047: claims to health plan **/

  ARRAY NOTE17 H&YR.046-H&YR.047;
  N17MARK=0;
  N17NDK=0;

  DO OVER NOTE17;
    IF NOTE17 NOT IN (.N,.D,.) THEN N17MARK+1; /* At least one is marked */
    IF NOTE17 NOT IN (.,.D) THEN N17NDK+1; /* All are missing or blank or dnk */
  END;

  IF H&YR.045=1 AND (N17MARK>0 OR N17NDK=0) THEN DO;
    N17=1;
```

```
   DO OVER NOTE17;
     IF NOTE17=.N THEN NOTE17=.;
   END;
 END;
 ELSE IF H&YR.045 IN (1,.,.D) AND N17MARK=0 AND N17NDK>0 THEN DO;
   N17=2;
   H&YR.045=2;
   DO OVER NOTE17;
     IF NOTE17=. THEN NOTE17=.N;
     ELSE NOTE17=.C;
   END;
 END;
 ELSE IF H&YR.045 IN (2,.,.D) AND N17MARK>0
     THEN DO;
   H&YR.045=1;
   N17=3;
   DO OVER NOTE17;
     IF NOTE17=.N THEN NOTE17=.;
   END;
 END;
 ELSE IF H&YR.045 IN (2) AND N17MARK=0 THEN DO;
   N17=4;
   DO OVER NOTE17;
     IF NOTE17=. THEN NOTE17=.N;
     ELSE NOTE17=.C;
   END;
 END;
 ELSE IF H&YR.045 IN (.D) AND N17NDK=0 THEN DO;
   N17=5;
   DO OVER NOTE17;
     IF NOTE17=. THEN NOTE17=.N;
     ELSE NOTE17=.C;
   END;
 END;
 ELSE IF H&YR.045 IN (.) AND N17NDK=0 THEN N17=6;

 DROP N17MARK N17NDK;

/** Note 18 -- smoking:  H&YR.053, H&YR.054-H&YR.056, H&YR.057A-H&YR.057D  **/

 ARRAY NOTE18a H&YR.054 H&YR.055 H&YR.056;
 ARRAY NOTE18b H&YR.057A--H&YR.057D;

 N18MARK = 0;

 DO OVER NOTE18b;
   IF NOTE18b NOT IN (2,.) THEN N18MARK+1;
 END;

 IF H&YR.053 IN (3,4,.) THEN N18=1;
 ELSE IF H&YR.053 IN (2,.D) AND N18MARK = 0 THEN DO;
   N18=2;
   DO OVER NOTE18a;
```

```
      IF NOTE18a=. THEN NOTE18a=.N;
      ELSE NOTE18a=.C;
    END;
    DO OVER NOTE18b;
      IF NOTE18b IN (2,.) THEN NOTE18b=.N;
      ELSE NOTE18b=.C;
    END;
  END;
  ELSE IF H&YR.053 = 2 AND N18MARK > 0 THEN DO;
    N18=3;
    H&YR.053=.;
  END;
  ELSE IF H&YR.053 = .D AND N18MARK > 0 THEN DO;
    N18=4;
    DO OVER NOTE18a;
      IF NOTE18a=. THEN NOTE18a=.N;
      ELSE NOTE18a=.C;
    END;
    DO OVER NOTE18b;
      IF NOTE18b IN (2,.) THEN NOTE18b=.N;
      ELSE NOTE18b=.C;
    END;
  END;

  DROP N18MARK;

/** Note 19a - gender H&YR.058, SEX, H&YR.059B–H&YR.064,
        XSEXA */

/* 1/21/98 use SRSEX & responses to gender specific questions
   if there is discrepancy between SRSEX and SEX */
/* set imputed FMALE and MALE based on gender specific questions */

  ARRAY fmaleval H&YR.059B H&YR.060 H&YR.061 H&YR.062 H&YR.063 H&YR.064
         ;

  cntfmale=0;
  DO OVER fmaleval;        /* mammogram/pap smear/PREGNANT*/
    IF fmaleval>0 THEN cntfmale=cntfmale+1;
  END;

  IF cntfmale>0 THEN FMALE=1;
  ELSE FMALE = 0;

  IF H&YR.058=. THEN DO;
    IF (SEX='F' AND FMALE) THEN DO;
      N19a=1;
      XSEXA=2;
    END;
    ELSE IF (SEX='F' AND FMALE=0) THEN DO;
      N19a=2;
      XSEXA=2;
    END;
```

```
      ELSE IF (SEX='M' AND FMALE) THEN DO;
        N19a=3;
        XSEXA=1;
      END;
      ELSE IF (SEX='M' AND FMALE=0) THEN DO;
        N19a=4;
        XSEXA=1;
      END;
      ELSE IF ((SEX IN ('Z',' ') AND FMALE)) THEN DO;
        N19a=5;
        XSEXA=2;
      END;
      ELSE IF (SEX='Z' AND FMALE=0) THEN DO;
        N19a=6;
        XSEXA=.;
      END;
      ELSE IF (SEX=' ' AND FMALE=0) THEN DO;
        N19a=7;
        XSEXA=.;
      END;
    END;
    ELSE IF (H&YR.058=1) THEN DO;
      IF FMALE=0 THEN DO;
        N19a=8;
        XSEXA=1;
      END;
      ELSE IF FMALE THEN DO;
        IF SEX='F' THEN DO;
          N19a=9;
          XSEXA=2;
        END;
        ELSE DO;
          N19a=10;
          XSEXA=1;
        END;
      END;
    END;
    ELSE IF (H&YR.058=2) THEN DO;
      IF FMALE THEN DO;
        N19a=11;
        XSEXA=2;
      END;
      ELSE IF FMALE=0 THEN DO;
        IF SEX='M' THEN DO;
          N19a=12;
          XSEXA=1;
        END;
        ELSE DO;
          N19a=13;
          XSEXA=2;
        END;
      END;
    END;
```

```
/* Note 19b - gender vs mammogram/paps/pregnancy */

  ARRAY NOTE19b H&YR.059B H&YR.060 H&YR.061 H&YR.062 H&YR.063 H&YR.064
          ;
 IF XSEXA=1 THEN DO;  /* male */
   IF FMALE=0 THEN DO;
     N19b=1;
     DO OVER NOTE19b;
       NOTE19b=.N;
     END;
   END;  /* valid skip */
   ELSE IF FMALE=1 THEN DO;
     N19b=2;
     DO OVER NOTE19b;
       IF NOTE19b=. THEN NOTE19b = .N;
       ELSE NOTE19b=.C;
     END;
   END;  /* inconsistent response */
 END;
 ELSE IF XSEXA=2 THEN  N19b=3; /* female */
 ELSE IF XSEXA=. THEN DO;    /* missing sex */
   N19b=4;
   DO OVER NOTE19b;
     NOTE19b=.;
   END;
 END;

 DROP FMALE CNTFMALE;

/* Note 20 - breast exam for female 40 or over */

 IF XSEXA=1 THEN DO;  /* male */
   IF (H&YR.060=.C OR H&YR.060=.N) AND (H&YR.061=.C OR H&YR.061=.N)
   THEN N20 = 1;
 END;
 ELSE IF XSEXA=2 THEN DO;
   IF H&YR.060=2 THEN N20=2;      /* female 40 or over */
   ELSE IF H&YR.060=1 THEN DO;  /* female < 40 */
     IF H&YR.061 NE . THEN H&YR.061=.C;
     ELSE H&YR.061=.N;
     N20=3;
   END;
   ELSE IF H&YR.060=. THEN DO;
     IF H&YR.061 NE . THEN DO;
       H&YR.060=2;
       N20=4;
     END;
     ELSE IF H&YR.061=.  THEN DO;
       IF AGE<40 THEN DO;
         H&YR.060 = 1;
         H&YR.061=.N;
         N20=5;
```

```
        END;
      ELSE IF AGE >= 40 THEN DO;
        H&YR.060=2;
        N20=6;
      END;
      ELSE IF AGE=. THEN N20=7;
    END;
  END;
 END;
 ELSE IF XSEXA=. THEN N20=8;

/* Note 21 - gender vs Pregnancy */

 IF XSEXA=1 THEN N21=1;        /* male    */
 ELSE IF XSEXA=2 THEN DO;      /* female  */
   IF H&YR.062=1 THEN DO;        /* pregnant */
     IF H&YR.063=1 THEN DO;
       N21=2;
       IF H&YR.064=. THEN H&YR.064 = .N;
       ELSE H&YR.064=.C;
     END;
     ELSE IF H&YR.063=2 AND H&YR.064 IN (2) THEN DO;
       N21=3;
       H&YR.064=.;
     END;
     ELSE IF H&YR.063=2 AND H&YR.064 IN (4,3,1,.) THEN DO;
       N21=4;
     END;
     ELSE IF H&YR.063 IN (3,.) THEN N21=5;
   END;
   ELSE IF H&YR.062=2 THEN DO;
     IF H&YR.063=. THEN H&YR.063 = .N;
     ELSE H&YR.063=.C;
     N21=6;
   END;
   ELSE IF H&YR.062=3 THEN DO;
     N21=7;
     IF H&YR.063=. THEN H&YR.063 = .N;
     ELSE H&YR.063=.C;
     IF H&YR.064=. THEN H&YR.064=.N;
     ELSE H&YR.064=.C;
   END;
   ELSE IF H&YR.062 IN (.) THEN DO;
     IF H&YR.063=1 THEN DO;
       N21=8;
       H&YR.062=1;
       IF H&YR.064=. THEN H&YR.064 = .N;
       ELSE H&YR.064=.C;
     END;
     ELSE IF H&YR.063=2 AND H&YR.064 IN (2) THEN DO;
       N21=9;
       H&YR.062=1;
       H&YR.064=.;
```

```
        END;
      ELSE IF H&YR.063=2 AND H&YR.064 IN (4,3,1,.) THEN DO;
        H&YR.062=1;
        N21=10;
      END;
      ELSE IF H&YR.063=3 THEN DO;
        H&YR.062=1;
        N21=11;
      END;
      ELSE IF H&YR.063=. THEN DO;
        N21=12;
      END;
    END;
  END;
  ELSE IF XSEXA=. AND H&YR.062 IN (.) THEN N21=13;

  DROP AGE SEX;

/** Note 23_HT -- XSEXA, H&YR.071F, H&YR.071I:  height restrictions              **/
*AMK 9/25/13
 Set height and weight restriction to conform with NHIS 2006 guidelines
 Men: height between 63-76 inches, weight between 126-299 pounds
 Women: height between 59-70 inches, weight between 100-274 pounds;

  *INCHES;
  IF H&YR.071F NE . AND H&YR.071I = . THEN H&YR.071I=0;
  IF H&YR.071F =  . AND H&YR.071I >11 THEN DO;
    H&YR.071F=FLOOR(H&YR.071I/12);
    H&YR.071I=H&YR.071I-(H&YR.071F*12);
  END;
  IF H&YR.071F NE . THEN INCHES=(H&YR.071F*12+H&YR.071I);
  ELSE INCHES=H&YR.071I;

  IF (XSEXA = 1 AND (63<=INCHES<=76 OR INCHES = .)) OR
    (XSEXA = 2 AND (59<=INCHES<=70 OR INCHES = .)) THEN N23_HT=1;
  ELSE IF XSEXA IN (1,2) THEN DO;
    N23_HT=2;
    H&YR.071F=.O;
    H&YR.071I=.O;
  END;
  ELSE IF XSEXA = . THEN DO; *MISSING GENDER;
    IF 59<=INCHES<=76 OR INCHES = . THEN N23_HT=3;
    ELSE DO;
      N23_HT=4;
      H&YR.071F=.O;
      H&YR.071I=.O;
    END;
  END;

  DROP INCHES;

/** Note 23_WT -- H&YR.072:  weight restrictions              **/
*AMK 9/25/13
```

Set height and weight restriction to conform with NHIS 2006 guidelines
Men: height between 63-76 inches, weight between 126-299 pounds
Women: height between 59-70 inches, weight between 100-274 pounds;

```
 IF (XSEXA = 1 AND (126<=H&YR.072<=299 OR H&YR.072 = .)) OR
   (XSEXA = 2 AND (100<=H&YR.072<=274 OR H&YR.072 = .)) THEN N23_WT=1;
 ELSE IF XSEXA IN (1,2) THEN DO;
   N23_WT=2;
   H&YR.072 =.O;
 END;
 ELSE IF XSEXA = . THEN DO; *MISSING GENDER;
   IF 100<=H&YR.072<=299 OR H&YR.072 = . THEN N23_WT=3;
   ELSE DO;
     N23_WT=4;
     H&YR.072=.O;
   END;
 END;


/** Note 23_BE1 -- H&YR.069, H&YR.070:  need or take medicine prescribed by a doctor **/
/**NOT BEING USED IN Q1FY2020***/
/*  ARRAY NOTE23_BE  S&YR.BE01A--S&YR.BE01J;

 N23BEMARK=0;
 N23BENMISS=0;

 DO OVER NOTE23_BE;
   IF NOTE23_BE NE . THEN N23BENMISS+1;
   IF NOTE23_BE NOT IN  (2, ., .N) THEN N23BEMARK+1;
 END;

 IF N23BEMARK>=1 THEN DO;
   IF S&YR.BE01K=1 THEN DO;
     N23_BE = 1;
   DO OVER NOTE23_BE;
     NOTE23_BE = 2;
   END;
  END;
  ELSE N23_BE=2;
 END;
 ELSE N23_BE=3;

 DROP N23BENMISS N23BEMARK;*/
```

/** Note 24 -- H&YR.073, H&YR.073A-H&YR.073E: Hispanic or Latino origin or descent **/

```
 /* JMA
 ****Multiple responses were given to this question so H&YR.073 is being created
 ****from the multiple responses.;
 */

 IF H&YR.073B=1 THEN DO;
   N24=1;
   H&YR.073=2;
```

```
  END;
  ELSE IF H&YR.073E=1 THEN DO;
    N24=2;
    H&YR.073=5;
  END;
  ELSE IF H&YR.073C=1 THEN DO;
    N24=3;
    H&YR.073=3;
  END;
  ELSE IF H&YR.073D=1 THEN DO;
    N24=4;
    H&YR.073=4;
  END;
  ELSE IF H&YR.073A=1 THEN DO;
    N24=5;
    H&YR.073=1;
  END;
  ELSE IF H&YR.073A IN (2,.) AND H&YR.073B IN (2,.) AND H&YR.073C IN (2,.) AND
       H&YR.073D IN (2,.) AND H&YR.073E IN (2,.) THEN DO;
    N24=6;
    H&YR.073=.;
  END;

NOSURVEY:

/* missing values */

  ARRAY MISS MISS_9 MISS_7 MISS_6 MISS_5 MISS_4 MISS_1 ;
  MISS_TOT=0;
  DO OVER MISS;
    MISS = 0;
  END;
  ARRAY MISSARAY &VARLIST2.;

  DO OVER MISSARAY;
    IF (MISSARAY EQ -9 ) THEN MISS_9 = MISS_9 + 1;
    ELSE IF (MISSARAY EQ -7) THEN MISS_7 = MISS_7 + 1;
    ELSE IF (MISSARAY EQ -6) THEN MISS_6 = MISS_6 + 1;
    ELSE IF (MISSARAY EQ -5) THEN MISS_5 = MISS_5 + 1;
    ELSE IF (MISSARAY EQ -4) THEN MISS_4 = MISS_4 + 1;
    ELSE IF (MISSARAY EQ -1) THEN MISS_1 = MISS_1 + 1;
  END;
  DO OVER MISS;
    MISS_TOT=MISS_TOT + MISS;
  END;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
 OUTPUT;
RUN;

proc contents data=out.&outdata. varnum;
run;
%MEND;
%CSCHM;
```

F.2.B   Q1FY2020\PROGRAMS\CODINGSCHEME\CSCHM20Q.FMT - Include file for Coding Scheme for Quarter 1 FY2020

/* Formats for original answers to survey questions,
    after variables have been recoded */

    FORMAT H&YR.001   O_H&YR.001 YN.

/*   H&YR.002 has no format.*/

    H&YR.003   O_H&YR.003 HPLAN1_.
    H&YR.004   O_H&YR.004 HPTIME.

    H&YR.005   O_H&YR.005 PLACE.

    H&YR.006   O_H&YR.006
    H&YR.009   O_H&YR.009
    H&YR.019   O_H&YR.019
     YN.

    H&YR.007   O_H&YR.007 OFTEN2_.
    H&YR.008   O_H&YR.008 TIME1_.

    H&YR.010   O_H&YR.010 OFTEN3_.
    H&YR.011   O_H&YR.011 TIME2_.

    H&YR.012   O_H&YR.012 OFTEN4_.
    H&YR.013   O_H&YR.013 OFTEN4_.
    H&YR.014   O_H&YR.014 OFTEN8_.
    H&YR.015   O_H&YR.015 YN.
    H&YR.016   O_H&YR.016 YNDEF.
    H&YR.017   O_H&YR.017 YNDEF.
    H&YR.018   O_H&YR.018 RATE3_.

    H&YR.020   O_H&YR.020 OFTEN10_.

    H&YR.021-H&YR.024 O_H&YR.021--O_H&YR.024 OFTEN5_.

    H&YR.025   O_H&YR.025 YN.
    H&YR.026   O_H&YR.026 OFTEN8_.
    H&YR.027   O_H&YR.027 RATE6_.

    S&YR.009   O_S&YR.009 YN.
    S&YR.010   O_S&YR.010 PROB1_.
    S&YR.B01   O_S&YR.B01 MNTLHLTH.
    S&YR.B02   O_S&YR.B02 YN.
    S&YR.B03   O_S&YR.B03 PROB1_.
    S&YR.B04   O_S&YR.B04 RATE5_.

    H&YR.028   O_H&YR.028 YN.
    H&YR.029   O_H&YR.029 OFTEN9_.
    H&YR.030   O_H&YR.030 SPCLST.

```
H&YR.031  O_H&YR.031 RATE2_.

H&YR.033  O_H&YR.033 OFTEN11_.
H&YR.034  O_H&YR.034 YN.
H&YR.035  O_H&YR.035 OFTEN12_.
H&YR.036  O_H&YR.036 YN.
H&YR.037  O_H&YR.037 OFTEN13_.
H&YR.038  O_H&YR.038 YN.
H&YR.039  O_H&YR.039 OFTEN14_.
H&YR.040  O_H&YR.040 YN.
H&YR.041  O_H&YR.041 OFTEN15_.
H&YR.042  O_H&YR.042 OFTEN15_.
H&YR.043  O_H&YR.043 YN.
H&YR.044  O_H&YR.044 OFTEN16_.
H&YR.045  O_H&YR.045 YNDNK.
H&YR.046  O_H&YR.046 OFTEN6_.
H&YR.047  O_H&YR.047 OFTEN6_.
H&YR.048  O_H&YR.048 RATE4_.

H&YR.049  O_H&YR.049 TIME5_.
H&YR.050  O_H&YR.050 YNBP_.

H&YR.051  O_H&YR.051 TIME7_.
H&YR.052  O_H&YR.052 YNDNK.
H&YR.053  O_H&YR.053 TIME8_.
H&YR.054  O_H&YR.054 OFTEN8_.
H&YR.055  O_H&YR.055 OFTEN8_.
H&YR.056  O_H&YR.056 OFTEN8_.

/*      H&YR.057 has no format.*/

S&YR.BF4  O_S&YR.BF4 TIME15_.

H&YR.058  O_H&YR.058 SEX.
H&YR.059B O_H&YR.059B TIME16_.

H&YR.060  O_H&YR.060 YN.

H&YR.061  O_H&YR.061 TIME12_.
H&YR.062  O_H&YR.062 YNPREG.
H&YR.063  O_H&YR.063 PREG1_.
H&YR.064  O_H&YR.064 PREG2_.
H&YR.065  O_H&YR.065 HEALTH.

H&YR.071F O_H&YR.071F
H&YR.071I O_H&YR.071I
H&YR.072  O_H&YR.072
TIME14_.

SREDA    O_SREDA EDUC.

H&YR.073      HISP.
```

```
    SRAGE     SRAGE AGEGRP.

    S&YR.011  O_S&YR.011 AGREE2_.
    S&YR.014  O_S&YR.014 SATISFY.

    /***S&YR.BI02A-E No format required***/

    S&YR.BI03  O_S&YR.BI03 DSAGR5_.
    S&YR.BI04  O_S&YR.BI04 DSAGR5_.

    S&YR.BI06  O_S&YR.BI06 DSAGR5_.
    S&YR.BI07  O_S&YR.BI07 DSAGR5_.
    S&YR.BI08  O_S&YR.BI08 DSAGR5_.
    S&YR.BI09  O_S&YR.BI09 DSAGR5_.

    S&YR.BI12  O_S&YR.BI12 DSAGR5_.

    S&YR.BI14  O_S&YR.BI14 DSAGR5_.
    S&YR.BI15  O_S&YR.BI15 S&YR.BI15_.
    S&YR.BI16  O_S&YR.BI16 YNDNK.

    S&YR.BI19  O_S&YR.BI19 S&YR.BI19_.
    S&YR.BI20  O_S&YR.BI20 RATE_URG.

    S&YR.BI21  O_S&YR.BI21 YNDNK.
    S&YR.BI22  O_S&YR.BI22 YNDNK.  /*#26 in Q1FY2020*/
    S&YR.BI23  O_S&YR.BI23 S&YR.BI23_. /*#27 in Q1FY2020:*/

    MISS_1  MISS_4-MISS_7 MISS_9 MISS_TOT 4.
    ;

LABEL O_H&YR.001='Are you the person listed on envelope'
    H&YR.001  ='Are you the person listed on envelope'
    O_H&YR.002A='Health plan(s) covered: TRICARE Prime'
    H&YR.002A ='Health plan(s) covered: TRICARE Prime'
    O_H&YR.002C='Health plan(s) covered: TRICARE Select'
    H&YR.002C ='Health plan(s) covered: TRICARE Select'
    O_H&YR.002N='Health plan(s) covered: TRICARE Plus'
    H&YR.002N ='Health plan(s) covered: TRICARE Plus'
    O_H&YR.002O='Health plan(s) covered: TRICARE For Life'
    H&YR.002O ='Health plan(s) covered: TRICARE For Life'
    O_H&YR.002P='Health plan(s) covered: TRICARE Supplmntl Ins'
    H&YR.002P ='Health plan(s) covered: TRICARE Supplmntl Ins'
    O_H&YR.002Q='Health plan(s) covered: TRICARE Reserve Select'
    H&YR.002Q ='Health plan(s) covered: TRICARE Reserve Select'
    O_H&YR.002S='Health plan(s) covered: TRICARE Retired Reserve'
    H&YR.002S ='Health plan(s) covered: TRICARE Retired Reserve'
    O_H&YR.002T='Health plan(s) covered: TRICARE Young Adult Prime'
    H&YR.002T ='Health plan(s) covered: TRICARE Young Adult Prime'
    O_H&YR.002V='Health plan(s) covered: TRICARE Young Adult Select'
    H&YR.002V ='Health plan(s) covered: TRICARE Young Adult Select'
    O_H&YR.002U='Health plan(s) covered: CHCBP'
    H&YR.002U ='Health plan(s) covered: CHCBP'
```

O_H&YR.002F='Health plan(s) covered: Medicare'
H&YR.002F ='Health plan(s) covered: Medicare'
O_H&YR.002G='Health plan(s) covered: FEHBP'
H&YR.002G ='Health plan(s) covered: FEHBP'
O_H&YR.002H='Health plan(s) covered: Medicaid or other state insurance'
H&YR.002H ='Health plan(s) covered: Medicaid or other state insurance'
O_H&YR.002I='Health plan(s) covered: civilian HMO'
H&YR.002I ='Health plan(s) covered: civilian HMO'
O_H&YR.002J='Health plan(s) covered: other civilian'
H&YR.002J ='Health plan(s) covered: other civilian'
O_H&YR.002K='Health plan(s) covered: USFHP'
H&YR.002K ='Health plan(s) covered: USFHP'
O_H&YR.002M='Health plan(s) covered: veterans'
H&YR.002M ='Health plan(s) covered: veterans'
O_H&YR.002R='Health plan(s) covered: gov hlth ins-other cntry'
H&YR.002R ='Health plan(s) covered: gov hlth ins-other cntry'
O_H&YR.002L='Health plan(s) covered: not sure'
H&YR.002L ='Health plan(s) covered: not sure'
O_H&YR.003='Which health plan did you use most'
H&YR.003 ='Which health plan did you use most'
O_H&YR.004='Yrs in a row with health plan'
H&YR.004 ='Yrs in a row with health plan'

O_H&YR.005='In lst yr:fclty use most for health care'
H&YR.005 ='In lst yr:fclty use most for health care'
O_H&YR.006='In lst yr:ill/injry/cond care right away'
H&YR.006 ='In lst yr:ill/injry/cond care right away'
O_H&YR.007='In lst yr:get urgnt care as soon as wntd'
H&YR.007 ='In lst yr:get urgnt care as soon as wntd'
O_H&YR.008='In lst yr:wait btwn try get care,see prv'
H&YR.008 ='In lst yr:wait btwn try get care,see prv'
O_H&YR.009='In lst yr:make appts non-urgnt hlth care'
H&YR.009 ='In lst yr:make appts non-urgnt hlth care'
O_H&YR.010='In lst yr:non-urg hlth cre appt whn wntd'
H&YR.010 ='In lst yr:non-urg hlth cre appt whn wntd'
O_H&YR.011='In lst yr:days btwn appt & see prvder'
H&YR.011 ='In lst yr:days btwn appt & see prvder'
O_H&YR.012='In lst yr:go to emrgncy rm for own care'
H&YR.012 ='In lst yr:go to emrgncy rm for own care'
O_H&YR.013='In lst yr:go to Dr office/clinic for care'
H&YR.013 ='In lst yr:go to Dr office/clinic for care'
O_H&YR.014 ='Lst yr: how often talk to doctor about illness prvntn'
H&YR.014='Lst yr: how often talk to doctor about illness prvntn'
O_H&YR.015 ='Lst yr: did doctor tell you more than 1 choice for trtmnt'
H&YR.015='Lst yr: did doctor tell you more than 1 choice for trtmnt'
O_H&YR.016 ='Lst yr: did talk to doctor about pros/cons of trtmnt'
H&YR.016='Lst yr: did talk to doctor about pros/cons of trtmnt'
O_H&YR.017 ='Lst yr: did doctor ask which trtmnt option best for you'
H&YR.017='Lst yr: did doctor ask which trtmnt option best for you'
O_H&YR.018='Rating of all health care in lst yr'
H&YR.018 ='Rating of all health care in lst yr'

O_H&YR.019='Have one person think of as personal Dr'

H&YR.019 ='Have one person think of as personal Dr'
O_H&YR.020 ='Lst yr: how often visit prsnl doctor for care for yourself'
H&YR.020='Lst yr: how often visit prsnl doctor for care for yourself'
O_H&YR.021='Lst yr: how oftn Drs listen to you'
H&YR.021 ='Lst yr: how oftn Drs listen to you'
O_H&YR.022='Lst yr: how oftn Drs explain things'
H&YR.022 ='Lst yr: how oftn Drs explain things'
O_H&YR.023='Lst yr: how oftn Drs show respect'
H&YR.023 ='Lst yr: how oftn Drs show respect'
O_H&YR.024='Lst yr: how oftn Drs spend enough time'
H&YR.024 ='Lst yr: how oftn Drs spend enough time'
O_H&YR.025 ='Lst yr: did get care from doctor other than prsnl doctor'
H&YR.025='Lst yr: did get care from doctor other than prsnl doctor'
O_H&YR.026 ='Lst yr: how often prsnl doctor seemed infrmd of care from other doctors'
H&YR.026='Lst yr: how often prsnl doctor seemed infrmd of care from other doctors'
O_H&YR.027='Rating of your personal Dr'
H&YR.027 ='Rating of your personal Dr'
O_H&YR.028 ='Lst yr: did make any appointments to see spclst'
H&YR.028='Lst yr: did make any appointments to see spclst'
O_H&YR.029 ='Lst yr: how often easy to get appointments with spclsts'
H&YR.029='Lst yr: how often easy to get appointments with spclsts'
O_H&YR.030 ='Lst yr: how many spclsts seen'
H&YR.030='Lst yr: how many spclsts seen'
O_H&YR.031='Rating of specialist seen in lst yr'
H&YR.031 ='Rating of specialist seen in lst yr'

O_H&YR.033 ='Lst yr: how often easy to get care, test, or trtmnt'
H&YR.033='Lst yr: how often easy to get care, test, or trtmnt'
O_H&YR.034 ='Lst yr: did look for info from written material/Internet'
H&YR.034='Lst yr: did look for info from written material/Internet'
O_H&YR.035 ='Lst yr: how often written material/Internet provide needed info'
H&YR.035='Lst yr: how often written material/Internet provide needed info'
O_H&YR.036 ='Lst yr: did look for info from health plan on cost of service/equipment'
H&YR.036='Lst yr: did look for info from health plan on cost of service/equipment'
O_H&YR.037 ='Lst yr: how often able to find out cost of service/equipment'
H&YR.037='Lst yr: how often able to find out cost of service/equipment'
O_H&YR.038 ='Lst yr: did look for info from health plan on cost of prescription meds'
H&YR.038='Lst yr: did look for info from health plan on cost of prescription meds'
O_H&YR.039 ='Lst yr: how often able to find out cost of prescription meds'
H&YR.039='Lst yr: how often able to find out cost of prescription meds'
O_H&YR.040 ="Lst yr: did try to get info/help from health plan's cstmr service"
H&YR.040="Lst yr: did try to get info/help from health plan's cstmr service"
O_H&YR.041 ='Lst yr: how often did cstmr service give needed info/help'
H&YR.041='Lst yr: how often did cstmr service give needed info/help'
O_H&YR.042 ='Lst yr: how often did cstmr service treat with courtesy/respect'
H&YR.042='Lst yr: how often did cstmr service treat with courtesy/respect'
O_H&YR.043 ='Lst yr: did health plan give any forms to fill out'
H&YR.043='Lst yr: did health plan give any forms to fill out'
O_H&YR.044 ='Lst yr: how often were forms easy to fill out'
H&YR.044='Lst yr: how often were forms easy to fill out'
O_H&YR.045 ='Lst yr: send in any claims'
H&YR.045='Lst yr: send in any claims'
O_H&YR.046 ='Lst yr: how often did health plan handle claims quickly'

H&YR.046='Lst yr: how often did health plan handle claims quickly'
O_H&YR.047='Lst yr: how oftn handle claims correctly'
H&YR.047 ='Lst yr: how oftn handle claims correctly'
O_H&YR.048 ='Rating of all experience with hlth plan'
H&YR.048='Rating of all experience with hlth plan'
O_H&YR.049='Blood pressure: when lst reading'
H&YR.049 ='Blood pressure: when lst reading'
O_H&YR.050='Blood pressure: know if too high or not'
H&YR.050 ='Blood pressure: know if too high or not'

O_H&YR.051='When did you lst have a flu shot'
H&YR.051 ='When did you lst have a flu shot'
O_H&YR.052 ='Smoked at least 100 cigarettes in life'
H&YR.052='Smoked at least 100 cigarettes in life'
O_H&YR.053 ='Smoke or use tobacco everyday, some days or not at all'
H&YR.053='Smoke or use tobacco everyday, some days or not at all'
O_H&YR.054='Lst yr: how often advised to quit smoking or use tobacco'
H&YR.054 ='Lst yr: how often advised to quit smoking or use tobacco'
O_H&YR.055 ='Lst yr: how often recom medic assist quit smoking or using tobacco'
H&YR.055='Lst yr: how often recom medic assist quit smoking or using tobacco'
O_H&YR.056 ='Lst yr: how often discu meth/strag asst quit smoking or using tobacco'
H&YR.056='Lst yr: how often discu meth/strag asst quit smoking or using tobacco'
O_H&YR.057A ='Do you smoke or use: cigarettes'
H&YR.057A='Do you smoke or use: cigarettes'
O_H&YR.057B ='Do you smoke or use: dip, chewing tobacco, snuff, or snus'
H&YR.057B='Do you smoke or use: dip, chewing tobacco, snuff, or snus'
O_H&YR.057C ='Do you smoke or use: cigars'
H&YR.057C='Do you smoke or use: cigars'
O_H&YR.057D ='Do you smoke or use: pipes, bidis, or kreteks'
H&YR.057D='Do you smoke or use: pipes, bidis, or kreteks'
O_H&YR.058='Are you male or female'
H&YR.058 ='Are you male or female'
O_H&YR.059B='Lst have a Pap smear test'
H&YR.059B ='Lst have a Pap smear test'
O_H&YR.060='Are you under age 40'
H&YR.060 ='Are you under age 40'
O_H&YR.061='Lst time: breasts checked mammography'
H&YR.061 ='Lst time: breasts checked mammography'
O_H&YR.062='Been pregnant in lst yr or pregnant now'
H&YR.062 ='Been pregnant in lst yr or pregnant now'
O_H&YR.063='In what trimester is your pregnancy'
H&YR.063 ='In what trimester is your pregnancy'
O_H&YR.064='Trimester first received prenatal care'
H&YR.064 ='Trimester first received prenatal care'
O_H&YR.065='In gnrl, how would you rate ovrall hlth'
H&YR.065 ='In gnrl, how would you rate ovrall hlth'

O_H&YR.071F='Height without shoes (feet)'
H&YR.071F ='Height without shoes (feet)'
O_H&YR.071I='Height without shoes (inches)'
H&YR.071I ='Height without shoes (inches)'
O_H&YR.072='Weight without shoes'
H&YR.072 ='Weight without shoes'

```
O_SREDA ='Highest grade completed'
SREDA   ='Highest grade completed'
H&YR.073 ='Are you Spanish/Hispanic/Latino'
O_H&YR.073A='Not Spanish/Hispanic/Latino'
H&YR.073A ='Not Spanish/Hispanic/Latino'
O_H&YR.073B='Mexican, Mexican American, Chicano'
H&YR.073B ='Mexican, Mexican American, Chicano'
O_H&YR.073C='Puerto Rican'
H&YR.073C ='Puerto Rican'
O_H&YR.073D='Cuban'
H&YR.073D ='Cuban'
O_H&YR.073E='Other Spanish, Hispanic, or Latino'
H&YR.073E ='Other Spanish, Hispanic, or Latino'
O_SRRACEA='Race: White'
SRRACEA ='Race: White'
O_SRRACEB='Race: Black or African American'
SRRACEB ='Race: Black or African American'
O_SRRACEC='Race: American Indian or Alaska Native'
SRRACEC ='Race: American Indian or Alaska Native'
O_SRRACED='Race: Asian'
SRRACED ='Race: Asian'
O_SRRACEE='Race: Native Hawaiian/other Pacific Isl.'
SRRACEE ='Race: Native Hawaiian/other Pacific Isl.'
O_SRAGE ='What is your age now'
SRAGE   ='What is your age now'

O_S&YR.009="Same prsnl doctor/nurse before this hlth plan"
S&YR.009 ="Same prsnl doctor/nurse before this hlth plan"
O_S&YR.010="Prblm getting prsnl doctor/nurse you are happy with"
S&YR.010 ="Prblm getting prsnl doctor/nurse you are happy with"

O_S&YR.011 ="Agree/disagree: able to see provider when needed"
S&YR.011="Agree/disagree: able to see provider when needed"
O_S&YR.014 ="How satisfied with health care during last visit"
S&YR.014="How satisfied with health care during last visit"

O_S&YR.B01='Self rate of overall mental/emotional health'
S&YR.B01 ='Self rate of overall mental/emotional health'
O_S&YR.B02='Lst yr: needed treatmnt/cnslng-prsnl prob'
S&YR.B02 ='Lst yr: needed treatmnt/cnslng-prsnl prob'
O_S&YR.B03='Lst yr: prblm gttng needed treatmnt/cnslng'
S&YR.B03 ='Lst yr: prblmgttng needed treatmnt/cnslng'
O_S&YR.B04='Lst yr: rate of treatmnt/cnslng received'
S&YR.B04 ='Lst yr: rate of treatmnt/cnslng received'

S&YR.BI02A ="In last 6 mos, when you needed care right away, did you go to an urgent care center?"
O_S&YR.BI02A="In last 6 mos, when you needed care right away, did you go to an urgent care center?"
S&YR.BI02B ="In last 6 mos, when you needed care right away, did you go to a hospital ER?"
O_S&YR.BI02B="In last 6 mos, when you needed care right away, did you go to a hospital ER?"
S&YR.BI02C ="In last 6 mos, when you needed care right away, did you go to a doctor's office?"
O_S&YR.BI02C="In last 6 mos, when you needed care right away, did you go to a doctor's office?"
S&YR.BI02D ="In last 6 mos, when you needed care right away, did you go someplace else?"
O_S&YR.BI02D="In last 6 mos, when you needed care right away, did you go someplace else?"
```

S&YR.BI02E ="In last 6 mos, I didn't need care right away for an illness, injury, or condition "
O_S&YR.BI02E="In last 6 mos, I didn't need care right away for an illness, injury, or condition "
S&YR.BI19 ="On most recent visit to urgent care center, what was the main reason you went?"
O_S&YR.BI19="On most recent visit to urgent care center, what was the main reason you went?"
S&YR.BI03 ="Urgent care center: Location is more convenient than my normal place of care"
O_S&YR.BI03="Urgent care center: Location is more convenient than my normal place of care"
S&YR.BI04 ="Urgent care center: Urgent care was low cost or no cost to me"
O_S&YR.BI04="Urgent care center: Urgent care was low cost or no cost to me"

S&YR.BI06 ="Urgent care center: I could just walk in for care without an appt"
O_S&YR.BI06="Urgent care center: I could just walk in for care without an appt"
S&YR.BI07 ="Urgent care center: I trust the urgent care center provider(s)"
O_S&YR.BI07="Urgent care center: I trust the urgent care center provider(s)"
S&YR.BI08 ="Urgent care center: The urgent care center would process my TRICARE claim without
problems"
O_S&YR.BI08="Urgent care center: The urgent care center would process my TRICARE claim without
problems"
S&YR.BI09 ="Urgent care center: Would have used appt with regular provider if had been available"
O_S&YR.BI09="Urgent care center: Would have used appt with regular provider if had been available"

S&YR.BI12 ="Urgent care center: My condition was not a medical emergency requiring a hospital ER"
O_S&YR.BI12="Urgent care center: My condition was not a medical emergency requiring a hospital ER"

S&YR.BI14 ="Urgent care center: I thought it would take less time than at my usual place of care"
O_S&YR.BI14="Urgent care center: I thought it would take less time than at my usual place of care"
S&YR.BI15 ="Urgent care center, did you or someone else call a nurse advice line before going to urgent
care"
O_S&YR.BI15="Urgent care center, did you or someone else call a nurse advice line before going to
urgent care"
S&YR.BI16 ="Did the nurse advise you to seek urgent care?"
O_S&YR.BI16="Did the nurse advise you to seek urgent care?"

S&YR.BI20 ="What number would you use to rate your care during this urgent care center visit?"
O_S&YR.BI20="What number would you use to rate your care during this urgent care center visit?"

S&YR.BI21 ="Was your personal doctor's office open during your most recent visit to urgent care?"
O_S&YR.BI21="Was your personal doctor's office open during your most recent visit to urgent care?"
S&YR.BI22 ="Did staff at urgent care advise you to seek follow-up care with your personal doctor?"
O_S&YR.BI22="Did staff at urgent care advise you to seek follow-up care with your personal doctor?"
S&YR.BI23 ="Did you seek follow-up care with your personal doctor?"
O_S&YR.BI23="Did you seek follow-up care with your personal doctor?"

O_S&YR.BF4="Often do you use e-cigarettes"
S&YR.BF4 ="Often do you use e-cigarettes"

N1   = "Coding Scheme Note 1"
N2   = "Coding Scheme Note 2"
N3   = "Coding Scheme Note 3"
N4   = "Coding Scheme Note 4"
N5   = "Coding Scheme Note 5"
N5   = "Coding Scheme Note 5"
N5_BI2= "Coding Scheme Note 5_BI2"
N5_BI3= "Coding Scheme Note 5_BI3"

```
N5_BI5 = "Coding Scheme Note 5_BI5"
N6    = "Coding Scheme Note 6"
N7    = "Coding Scheme Note 7"
N8    = "Coding Scheme Note 8"
N8_01 = "Coding Scheme Note 8_01"
N9    = "Coding Scheme Note 9"
N10   = "Coding Scheme Note 10"
N10_B1 = "Coding Scheme Note 10_B1"
N12   = "Coding Scheme Note 12"
N13   = "Coding Scheme Note 13"
N14   = "Coding Scheme Note 14"
N15   = "Coding Scheme Note 15"
N16   = "Coding Scheme Note 16"
N17   = "Coding Scheme Note 17"
N18   = "Coding Scheme Note 18"
N19A  = "Coding Scheme Note 19A"
N19B  = "Coding Scheme Note 19B"
N20   = "Coding Scheme Note 20"
N21   = "Coding Scheme Note 21"
N23_HT = "Coding Scheme Note 23_HT"
N23_WT = "Coding Scheme Note 23_WT"
N24   = "Coding Scheme Note 24"

MISS_1 = "Count of original survey responses (pre-cleaning): violates skip pattern"
/* MISS_3 = "Count of original survey responses (pre-cleaning): do not use other tobacco products
response"*/
MISS_4 = "Count of original survey responses (pre-cleaning): incomplete grid error"
MISS_5 = "Count of original survey responses (pre-cleaning): scalable reponse of don't know"
MISS_6 = "Count of original survey responses (pre-cleaning): not applicable - valid skip"
MISS_7 = "Count of original survey responses (pre-cleaning): out-of-range error"
MISS_9 = "Count of original survey responses (pre-cleaning): no response - invalid skip"
MISS_TOT = "Total number of missing responses (pre-cleaning)"
XSEXA = "Male or Female  - R"
;
```

F.2.C Q2FY2020\PROGRAMS\CODINGSCHEME\CSCHM20Q.SAS - Implement Coding Scheme and Coding Tables for Quarter 2 FY2020

```
*******************************************************************************;
* Program: Cschmyyq.sas
* Written: 06/04/2001
*  Author: C. Rankin
*
*   Input:  MERGESYN.sas7bdat - Merged MPR Sampling, DEERS, and Synovate Response Data
*   Output: CSCHMyyQ.sas7bdat - Coding scheme file
*
* Modified:
*       12/15/2012 - Removed logic for handling check boxes for height and
*                weight variables. Also no longer have to convert the
*                weight variable from character to numeric
*       12/21/2012 - Added code on line 146 to correct out of range height (in)
*       12/18/2013 - Updated for Q1 2014 - added ht/wt note
*       09/29/2014 - Added SQL statement to automatically make varlist1, varlist2, and marked variables
*        07/22/2015 - NOPRINT added to first PROC SQL
*       02/02/2016 BY MTURBYFILL Add VARNUM to PROC CONTENTS
*       04/29/2016 - Added recoding for H16003, should be used only for 2016Q2.
*       02/10/2017 - Changed filepaths and capitalization to match SAS Grid.
*              Removed additional female-specific fields from notes 19A and 19B.
*                      04/21/2017 - H__032 is removed for the foreseeable future.
*       04/05/2018 - Notes 10_B1, 22, 23, and 25 are removed
*
* Purpose: Apply Coding Scheme Specifications to DoD Health Care Survey
*        Response Data, check for consistency in responses and skip
*        patterns
* Include
*   files: Cschmyyq.fmt
*
*******************************************************************************;

OPTIONS PS=80 LS=120 NOCENTER COMPRESS=YES SOURCE SOURCE2 VARLENCHK=NOWARN;
title "Coding Scheme for Q&qt. FY&yr."; title2; title3;

%LET INDATA=MERGESYN;
%LET OUTDATA=CSCHM&yr.q;

LIBNAME LIBRARY   "&fmtpath.";
LIBNAME IN        "&datapath.";
LIBNAME OUT       "&datapath.";

%MACRO CSCHM;
DATA &INDATA;

 SET IN.&INDATA;

* RENAME AND CREATE VARIABLES NEEDED FOR CODING SCHEME;

 RENAME SRACEA = SRRACEA;
```

```
   RENAME SRACEB = SRRACEB;
   RENAME SRACEC = SRRACEC;
   RENAME SRACED = SRRACED;
   RENAME SRACEE = SRRACEE;

RENAME INTERVIEWTIME = INTTIME;

   SEX=PNSEXCD;
   AGE=INPUT(DAGEQY,8.);

RUN;

*Create list of variables from dataset;
*O_ variables are the original values from the survey response;
*Must remove any variable that ends with an alphabetic letter that
is not a marked/unmarked variable from the 'markedvars' line of code;
PROC SQL NOPRINT;
   CREATE TABLE VARIABLES AS
     SELECT UPCASE(NAME) AS VARS,
         UPCASE(CAT('O_', NAME)) AS OVARS,
         CASE WHEN SUBSTR(NAME,LENGTH(NAME)) NOT IN ('0' '1' '2' '3' '4' '5' '6' '7' '8' '9')
             AND NAME NOT IN ("H&YR.059B", "H&YR.071F","H&YR.071I", "SREDA", "SRAGE")
             THEN UPCASE(NAME) END AS MARKEDVARS,
         CASE WHEN CALCULATED MARKEDVARS NE ''
             THEN UPCASE(CAT('O_', CALCULATED MARKEDVARS)) END AS OMARKEDVARS
     FROM DICTIONARY.COLUMNS
     WHERE LIBNAME = 'WORK' AND MEMNAME = "&INDATA"
         AND (NAME CONTAINS ("H&YR.") OR NAME CONTAINS ("S&YR.") OR (NAME CONTAINS ("SR") AND NAME
NE "DHSRGN")) ;
     SELECT COMPRESS(VARS), COMPRESS(OVARS), COMPRESS(MARKEDVARS), COMPRESS(OMARKEDVARS)
     INTO :VARLIST1 SEPARATED BY " ",
         :VARLIST2 SEPARATED BY " ",
         :MARKEDVARS SEPARATED BY " ",
         :OMARKEDVARS SEPARATED BY " "
     FROM VARIABLES;
QUIT;

/*For Q1FY2019, recoding H19003 so that any responses for tricare for life (18) are recoded to medicare(4)
2/15/2019*/
data variables;
   set variables;
   if H&YR.003=18 then H&YR.003=4;
run;

proc print data=variables; run;

%PUT &VARLIST1;
%PUT &VARLIST2;
%PUT &MARKEDVARS;
%PUT &OMARKEDVARS;

TITLE  "DoD 20&YR Survey";
TITLE2 "Apply Coding Scheme";
```

```
DATA OUT.&outdata.;
/* label and format statements for original variables */
  LENGTH &VARLIST1. &VARLIST2. 4. MPRID $8.;
  INFORMAT &VARLIST2. 4.;

  %INCLUDE "cschm&YR.q.fmt";

  SET &INDATA;

****************************************************************;
**** Recodes for invalid responses:****************************;
****************************************************************;

/* This is a version of the coding scheme and coding tables for the
  FY 20&YR. HCSDB Form A.
  The following tables outline the coding of screening questions (skip),
  and subsequent items to be answered (or not answered in a series
  following a skip question.) */

/* First set up new variables that capture the original values */
/* recode the initial numeric values to the SAS numeric values */
/* specified in the coding scheme                */

  ARRAY RECODE(*) &VARLIST1;
  ARRAY  ORIG(*) &VARLIST2;

  DO I = 1 to DIM(ORIG);
    ORIG(I) = RECODE(I);
    IF ORIG(I) < 0 THEN DO;
        IF ORIG(I)= -9 THEN RECODE(I)=.;
      ELSE IF ORIG(I)= -7 THEN RECODE(I)=.O;
      ELSE IF ORIG(I)= -6 THEN RECODE(I)=.N;
      ELSE IF ORIG(I)= -5 THEN RECODE(I)=.D;
      ELSE IF ORIG(I)= -4 THEN RECODE(I)=.I;
      ELSE IF ORIG(I)= -1 THEN RECODE(I)=.C;
    END;
  END;
  DROP I;

/* recode selected responses to be 1=marked, 2=unmarked */

  ARRAY  MARKED(*) &MARKEDVARS. ;
  ARRAY INFORMAT(*) &OMARKEDVARS. ;


  DO J=1 TO DIM(INFORMAT);
    IF INFORMAT(J) = 1 THEN MARKED(J)=1;
    ELSE MARKED(J)=2;
  END;
  DROP J;

  FORMAT &MARKEDVARS. MARKED.;
```

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;

/*  skip coding scheme for all surveys not returned **/

 IF FLAG_FIN NE 1 THEN GOTO NOSURVEY;

/** Note 1 -- H&YR.003, H&YR.004 health plan usage  **/

  IF H&YR.003 > 0 THEN N1=1;
  ELSE IF H&YR.003 =.N  OR H&YR.003 =.D THEN DO;
   IF H&YR.004 NOT=. THEN DO;
     N1=2;
     H&YR.004=.C;
   END;
   ELSE DO;
     N1=3;
     H&YR.004=.N;
   END;
 END;
 ELSE IF H&YR.003=.  THEN N1=4;

/** Note 2 -- H&YR.006,H&YR.007,H&YR.008:  illness or injury **/

 ARRAY NOTE2 H&YR.007 H&YR.008;
 N2MARK=0;
 N2NMISS=0;
 N2NN=0;

 DO OVER NOTE2;
   IF NOTE2 NE . THEN N2NMISS+1;
   IF NOTE2 NOT IN (.N,.) THEN N2MARK+1;
   IF NOTE2 EQ .N THEN N2NN+1;
 END;

 IF H&YR.006=1 AND N2NMISS=0 THEN DO;
    N2=1;
 END;
 ELSE IF H&YR.006 IN (1,.) AND N2NMISS>0 AND N2MARK=0 THEN DO;
   H&YR.006=2;
   N2=2;
   DO OVER NOTE2;
     IF NOTE2=. THEN NOTE2=.N;
     ELSE NOTE2=.C;
   END;
 END;
 ELSE IF H&YR.006=1 AND N2MARK=1 AND N2NN=1 THEN  DO;
   DO OVER NOTE2;
     IF NOTE2=.N THEN NOTE2=.;
   END;
   N2=3;
 END;
 ELSE IF H&YR.006=1 AND N2MARK>0 THEN DO;
```

```
      N2=4;
    END;
  ELSE IF H&YR.006=2 AND N2MARK=1 AND N2NN=1  THEN  DO;
    H&YR.007=.C;
    H&YR.008=.C;
    N2=5;
  END;
  ELSE IF H&YR.006 IN (2,.) AND N2MARK>0 THEN DO;
    H&YR.006=1;
    N2=6;
    DO OVER NOTE2;
      IF NOTE2=.N THEN NOTE2=.;
    END;
  END;
  ELSE IF H&YR.006=2 AND (N2NMISS=0 OR (N2NMISS>0 AND N2MARK=0)) THEN DO;
    N2=7;
    DO OVER NOTE2;
      IF NOTE2=. THEN NOTE2=.N;
      ELSE NOTE2=.C;
    END;
  END;
  ELSE IF H&YR.006=.  AND N2NMISS=0 THEN N2=8;

  DROP N2NMISS N2MARK N2NN;

 /** Note 3 -- H&YR.009,H&YR.010,H&YR.011:  regular or routine healthcare **/

  ARRAY Note3 H&YR.010 H&YR.011;
  N3MARK=0;
  N3NMISS=0;
  N3NN=0;

  DO OVER Note3;
    IF Note3 NE . THEN N3NMISS+1;
    IF Note3 NOT IN (.N,.) THEN N3MARK+1;
    IF Note3 EQ .N THEN N3NN+1;
  END;

  IF H&YR.009=1 AND N3NMISS=0 THEN DO;
     N3=1;
  END;
  ELSE IF H&YR.009 IN (1,.) AND N3NMISS>0 AND N3MARK=0 THEN DO;
    H&YR.009=2;
    N3=2;
    DO OVER Note3;
      IF Note3=. THEN Note3=.N;
      ELSE Note3=.C;
    END;
  END;
  ELSE IF H&YR.009=1 AND N3MARK=1 AND N3NN=1 THEN  DO;
    DO OVER Note3;
      IF Note3=.N THEN Note3=.;
    END;
```

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```
    N3=3;
  END;
  ELSE IF H&YR.009=1 AND N3MARK>0 THEN DO;
    N3=4;
  END;
  ELSE IF H&YR.009=2 AND N3MARK=1 AND N3NN=1  THEN  DO;
    H&YR.010=.C;
    H&YR.011=.C;
    N3=5;
  END;
  ELSE IF H&YR.009 IN (2,.) AND N3MARK>0 THEN DO;
    H&YR.009=1;
    N3=6;
    DO OVER Note3;
      IF Note3=.N THEN Note3=.;
    END;
  END;
  ELSE IF H&YR.009=2 AND (N3NMISS=0 OR (N3NMISS>0 AND N3MARK=0)) THEN DO;
    N3=7;
    DO OVER Note3;
      IF Note3=. THEN Note3=.N;
      ELSE Note3=.C;
    END;
  END;
  ELSE IF H&YR.009=.  AND N3NMISS=0 THEN N3=8;

  DROP N3NMISS N3MARK N3NN;

/** Note 4 -- H&YR.013, H&YR.014-H&YR.017: doctor's office or clinic **/

  ARRAY NOTE4  H&YR.014-H&YR.017 ;

  N4MARK=0;
  N4NMISS=0;

  DO OVER NOTE4;
    IF NOTE4 NE . THEN N4NMISS+1;
  END;

  IF H&YR.013=1 THEN DO;
    N4=1;
    DO OVER NOTE4;
      IF NOTE4=. THEN NOTE4=.N;
      ELSE NOTE4=.C;
    END;
  END;
  ELSE IF H&YR.013 IN (2,3,4,5,6,7) AND N4NMISS=0 THEN DO;
    H&YR.013=1;
    N4=2;
    DO OVER NOTE4;
      IF NOTE4=. THEN NOTE4=.N;
      ELSE NOTE4=.C;
    END;
```

```
    END;
  ELSE IF H&YR.013 IN (2,3,4,5,6,7) AND (N4NMISS>0) THEN DO;
    DO OVER NOTE4;
      IF NOTE4=.N THEN NOTE4=.;
    END;
    N4=3;
  END;
  ELSE IF H&YR.013=. THEN N4=4;

  DROP N4NMISS N4MARK;

/** Note 5 -- H&YR.015, H&YR.016-H&YR.017: doctor's office or clinic-treatment **/

 IF H&YR.015 IN (.N,.C) THEN N5=1;
 ELSE IF H&YR.015=1  THEN N5=2;
 ELSE IF H&YR.015 IN (2,.) AND H&YR.016 IN (1,2) THEN  DO;
    N5=3;
    H&YR.015=1;
 END;
 ELSE IF H&YR.015 IN (2,.) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (1,2)) THEN  DO;
    N5=4;
    H&YR.015=1;
 END;
 ELSE IF H&YR.015 IN (2) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (3,4,.)) THEN  DO;
    N5=5;
    IF H&YR.016 = . THEN H&YR.016 = .N;
    ELSE H&YR.016 = .C;
    IF H&YR.017 = . THEN H&YR.017 = .N;
    ELSE H&YR.017 = .C;
 END;
 ELSE IF H&YR.015 IN (.) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (3,4,.)) THEN  DO;
    N5=6;
 END;

/** Note 6 -- H&YR.019, H&YR.020-H&YR.027, S&YR.009: personal doctor **/
/* MER 07/01/09 */

  ARRAY NOTE6  H&YR.021-H&YR.024;

 N6MARK=0;

 DO OVER NOTE6;
   IF NOTE6 NOT IN  (., .N) THEN N6MARK+1;
 END;

 IF H&YR.020 NOT IN (0,.) THEN N6MARK+1;

 IF H&YR.019 = 1  THEN DO;
    N6=1;
    IF H&YR.027=.N THEN H&YR.027=.;
 END;
 ELSE IF H&YR.019 in (2,.) AND H&YR.027 in (0,1,2,3,4,5,6,7,8,9,10) THEN DO;
    N6=2;
```

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```
    H&YR.019=1;
END;
ELSE IF H&YR.019 in (2,.) AND N6MARK>0 AND H&YR.027 = . THEN DO;
  N6=3;
  H&YR.019=1;
END;
ELSE IF H&YR.019 = 2 AND N6MARK>0 AND H&YR.027 = .N THEN DO;
  N6=4;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
  END;
  IF H&YR.025=. THEN H&YR.025=.N;
  ELSE H&YR.025=.C;
  IF H&YR.026=. THEN H&YR.026=.N;
  ELSE H&YR.026=.C;
  IF S&YR.009=. THEN S&YR.009=.N;
  ELSE S&YR.009=.C;
  H&YR.027=.C;
END;
ELSE IF H&YR.019 = 2 AND N6MARK=0 AND H&YR.027 in (.N,.) THEN DO;
  N6=5;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
  END;
  IF H&YR.025=. THEN H&YR.025=.N;
  ELSE H&YR.025=.C;
  IF H&YR.026=. THEN H&YR.026=.N;
  ELSE H&YR.026=.C;
  IF S&YR.009=. THEN S&YR.009=.N;
  ELSE S&YR.009=.C;
  IF H&YR.027=. THEN H&YR.027=.N;
  ELSE H&YR.027=.C;
END;
ELSE IF H&YR.019 = . AND H&YR.027 = .N THEN DO; /* MER 07/31/09 combined rows 6 and 7 */
  N6=6;
  H&YR.019=2;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
  END;
  IF H&YR.025=. THEN H&YR.025=.N;
  ELSE H&YR.025=.C;
  IF H&YR.026=. THEN H&YR.026=.N;
  ELSE H&YR.026=.C;
  IF S&YR.009=. THEN S&YR.009=.N;
```

```
      ELSE S&YR.009=.C;
       H&YR.027=.C;
     END;
     ELSE IF H&YR.019 = . AND N6MARK=0 AND H&YR.027 = . THEN N6=7;

     DROP N6MARK;

 /** Note 7 -- H&YR.020, H&YR.021-H&YR.026: personal doctor visit **/

   ARRAY NOTE7  H&YR.021-H&YR.026;

   N7MARK=0;
   N7NMISS=0;

   DO OVER NOTE7;
     IF NOTE7 NE . THEN N7NMISS+1;
     IF NOTE7 NOT IN  (., .N) THEN N7MARK+1;
   END;
   IF H&YR.025=2 THEN N7NMISS=N7NMISS-1;
   IF H&YR.025=2 THEN N7MARK=N7MARK-1;

   IF H&YR.020 IN (.N, .C) THEN N7=1;
   ELSE IF H&YR.020=0 THEN DO;
     N7=2;
     DO OVER NOTE7;
       IF NOTE7=. THEN NOTE7=.N;
       ELSE NOTE7=.C;
     END;
   END;
   ELSE IF H&YR.020 IN (1,2,3,4,5,6,.) AND N7NMISS>0 AND N7MARK=0 THEN DO;
     H&YR.020=0;
     N7=3;
     DO OVER NOTE7;
       IF NOTE7=. THEN NOTE7=.N;
       ELSE NOTE7=.C;
     END;
   END;
   ELSE IF H&YR.020 IN (1,2,3,4,5,6,.) AND (N7NMISS=0 OR N7MARK>0) THEN DO;
     DO OVER NOTE7;
       IF NOTE7=.N THEN NOTE7=.;
     END;
     N7=4;
   END;

   DROP N7NMISS N7MARK;

 /** Note 8 -- H&YR.025, H&YR.026:  care from another doctor or healthcare provider **/

   IF H&YR.025 IN (.N, .C) THEN N8=1;
   ELSE IF H&YR.025=1 THEN N8=2;
   ELSE IF H&YR.025 IN (2,.) AND H&YR.026 IN (1,2,3,4) THEN DO;
     H&YR.025=1;
     N8=3;
```

```
   END;
 ELSE IF H&YR.025=2 AND H&YR.026 IN (.) THEN DO;
   H&YR.026=.N;
   N8=4;
 END;
 ELSE IF H&YR.025=. AND H&YR.026=. THEN N8=5;

/** Note 8_01 -- S&YR.009, S&YR.010: problem getting new personal doctor or nurse **/

 IF S&YR.009 IN (.N,.C) THEN N8_01=1; /* MER 07/31/09 gave each S&YR.009 value its own row for analysis
purposes */
 ELSE IF S&YR.009=1 THEN DO;
   N8_01=2;
   IF S&YR.010=. THEN S&YR.010=.N;
   ELSE S&YR.010=.C;
 END;
 ELSE IF S&YR.009=2 THEN N8_01=3;
 ELSE IF S&YR.009=. THEN N8_01=4; /* MER 07/31/09 eliminated backward coding for missing S&YR.009 */

/** Note 9 -- H&YR.028, H&YR.029-H&YR.031: needed to see a specialist in last 12 months **/

 ARRAY NOTE9  H&YR.029 H&YR.031;

 N9MARK=0;
 N9NMISS=0;

 DO OVER NOTE9;
   IF NOTE9 NE . THEN N9NMISS+1;
   IF NOTE9 NOT IN  (., .N) THEN N9MARK+1;
 END;

 IF H&YR.030 NE . THEN N9NMISS+1;
 IF H&YR.030 NOT IN (.,0) THEN N9MARK+1;

 IF H&YR.028 IN (1)  THEN DO;
   N9=1;
   IF H&YR.029=.N THEN H&YR.029=.;
 END;
 ELSE IF H&YR.028 in (2,.) AND N9MARK>0 THEN DO;
   N9=2;
   H&YR.028=1;
   IF H&YR.029=.N THEN H&YR.029=.;
 END;
 ELSE IF H&YR.028 in (2) THEN DO;
   N9=3;
   DO OVER NOTE9;
     IF NOTE9=. THEN NOTE9=.N;
     ELSE NOTE9=.C;
   END;
   IF H&YR.030=. THEN H&YR.030=.N;
   ELSE H&YR.030=.C;
 END;
 ELSE IF H&YR.028=.  AND N9NMISS>0 AND N9MARK=0 THEN DO;
```

```
     N9=4;
     H&YR.028=2;
     DO OVER NOTE9;
       IF NOTE9=. THEN NOTE9=.N;
       ELSE NOTE9=.C;
     END;
     IF H&YR.030=. THEN H&YR.030=.N;
     ELSE H&YR.030=.C;
   END;
   ELSE IF H&YR.028=. AND N9NMISS=0 THEN N9=5;

   DROP N9NMISS N9MARK;

/** Note 10 -- H&YR.030, H&YR.031: saw a specialist in last 12 months **/

   IF H&YR.030 IN (.N,.C) AND H&YR.031 IN (.N,.C) THEN N10=1;
   ELSE IF H&YR.030 IN (1,2,3,4,5) AND H&YR.031 IN (0,1,2,3,4,5,6,7,8,9,10,.) THEN N10=2;
   ELSE IF H&YR.030 IN (1,2,3,4,5,.) AND H&YR.031 = .N THEN DO;
     N10=3;
     H&YR.030=0;
     H&YR.031=.C;
   END;
   ELSE IF H&YR.030 = 0 THEN DO;
     N10=4;
     IF H&YR.031 = . THEN H&YR.031 = .N;
     ELSE H&YR.031 = .C;
   END;
   ELSE IF H&YR.030 = . AND H&YR.031 IN (0,1,2,3,4,5,6,7,8,9,10,.) THEN N10=5;

/** Note 10_B1 -- S&YR.B02, S&YR.B03-S&YR.B04: overall mental health **/

   ARRAY NOTE10B1  S&YR.B03-S&YR.B04;

   N10B1MARK=0;
   N10B1NMISS=0;

   DO OVER NOTE10B1;
     IF NOTE10B1 NE . THEN N10B1NMISS+1;
     IF NOTE10B1 NOT IN (.,.N) THEN N10B1MARK+1;
   END;

   IF S&YR.B02 = 1 THEN DO;
     N10_B1=1;
     DO OVER NOTE10B1;
       IF NOTE10B1=.N THEN NOTE10B1=.;
     END;
   END;
   ELSE IF S&YR.B02 IN (2,.) AND (N10B1MARK>0) THEN DO;
     N10_B1=2;
     S&YR.B02=1;
     DO OVER NOTE10B1;
       IF NOTE10B1=.N THEN NOTE10B1=.;
     END;
```

```
    END;
  ELSE IF S&YR.B02=2 AND (N10B1NMISS=0 OR (N10B1NMISS > 0 AND N10B1MARK = 0)) THEN DO;
    N10_B1=3;
    DO OVER NOTE10B1;
      IF NOTE10B1 = . THEN NOTE10B1=.N;
      ELSE NOTE10B1 = .C;
    END;
  END;
  ELSE IF S&YR.B02 IN (.) AND (N10B1NMISS > 0 AND N10B1MARK = 0) THEN DO;
    N10_B1=4;
    S&YR.B02=2;
    DO OVER NOTE10B1;
      IF NOTE10B1 = . THEN NOTE10B1=.N;
      ELSE NOTE10B1 = .C;
    END;
  END;
  ELSE IF S&YR.B02 IN (.) AND N10B1NMISS=0 THEN N10_B1=5;

  DROP N10B1NMISS N10B1MARK;

/** Note 12 -- H&YR.034, H&YR.035: look for info in written materials or on internet**/
  IF H&YR.034=1 AND H&YR.035 IN (1,2,3,4,.) THEN N12=1;
  ELSE IF H&YR.034 IN (1,.) AND H&YR.035=.N THEN DO;
    N12=2;
    H&YR.034=2;
    H&YR.035=.C;
  END;
  ELSE IF H&YR.034 IN (2,.) AND H&YR.035 IN (1,2,3,4) THEN DO;
    N12=3;
    H&YR.034=1;
  END;
  ELSE IF H&YR.034=2 AND H&YR.035 IN (.N,.) THEN DO;
    N12=4;
    IF H&YR.035=. THEN H&YR.035=.N;
    ELSE H&YR.035=.C;
  END;
  ELSE IF H&YR.034=. AND H&YR.035=. THEN N12=5;

/** Note 13 -- H&YR.036, H&YR.037: tried to get cost of service/equipment from health plan**/

  IF H&YR.036=1 AND H&YR.037 IN (1,2,3,4,.) THEN N13=1;
  ELSE IF H&YR.036 IN (1,.) AND H&YR.037=.N THEN DO;
    H&YR.036=2;
    H&YR.037=.C;
    N13=2;
  END;
  ELSE IF H&YR.036 IN (2,.) AND H&YR.037 IN (1,2,3,4) THEN DO;
    H&YR.036=1;
    N13=3;
  END;
  ELSE IF H&YR.036=2 AND H&YR.037 IN (.,.N) THEN DO;
    IF H&YR.037=. THEN H&YR.037=.N;
    ELSE H&YR.037=.C;
```

```
      N13=4;
   END;
   ELSE IF H&YR.036=. AND H&YR.037=. THEN N13=5;

 /** Note 14 -- H&YR.038, H&YR.039: tried to get cost of prescription meds from health plan**/

   IF H&YR.038=1 AND H&YR.039 IN (1,2,3,4,.) THEN N14=1;
   ELSE IF H&YR.038 IN (1,.) AND H&YR.039=.N THEN DO;
     H&YR.038=2;
     H&YR.039=.C;
     N14=2;
   END;
   ELSE IF H&YR.038 IN (2,.) AND H&YR.039 IN (1,2,3,4) THEN DO;
     H&YR.038=1;
     N14=3;
   END;
   ELSE IF H&YR.038=2 AND H&YR.039 IN (.,.N) THEN DO;
     IF H&YR.039=. THEN H&YR.039=.N;
     ELSE H&YR.039=.C;
     N14=4;
   END;
   ELSE IF H&YR.038=. AND H&YR.039=. THEN N14=5;

 /** Note 15 -- H&YR.040, H&YR.041-H&YR.042: tried to use health plan's customer service **/

   ARRAY NOTE15  H&YR.041-H&YR.042;

   N15MARK=0;
   N15NMISS=0;

   DO OVER NOTE15;
     IF NOTE15 NE . THEN N15NMISS+1;
     IF NOTE15 NOT IN (., .N) THEN N15MARK+1;
   END;

   IF H&YR.040 = 1 AND (N15MARK>0 OR N15NMISS=0) THEN DO;
     DO OVER NOTE15;
       IF NOTE15=.N THEN NOTE15=.;
     END;
     N15=1;
   END;
   ELSE IF H&YR.040 IN (1,.) AND (N15NMISS > 0 AND N15MARK = 0) THEN DO;
     N15=2;
     H&YR.040=2;
     DO OVER NOTE15;
       IF NOTE15 = . THEN NOTE15=.N;
       ELSE NOTE15 = .C;
     END;
   END;
   ELSE IF H&YR.040 IN (2,.) AND (N15MARK>0) THEN DO;
     N15=3;
     H&YR.040=1;
     DO OVER NOTE15;
```

```
        IF NOTE15=.N THEN NOTE15=.;
      END;
    END;
    ELSE IF H&YR.040=2  AND (N15NMISS=0 OR (N15NMISS > 0 AND N15MARK = 0)) THEN DO;
      N15=4;
      DO OVER NOTE15;
        IF NOTE15 = . THEN NOTE15=.N;
        ELSE NOTE15 = .C;
      END;
    END;
    ELSE IF H&YR.040 IN (.) AND N15NMISS=0 THEN N15=5;

    DROP N15NMISS N15MARK;

/** Note 16 -- H&YR.043, H&YR.044:  received forms to fill out from health plan **/

  IF H&YR.043=1 AND H&YR.044 IN (1,2,3,4,.) THEN N16=1;
  ELSE IF H&YR.043 IN (1,.) AND H&YR.044=.N THEN DO;
    H&YR.043=2;
    H&YR.044=.C;
    N16=2;
  END;
  ELSE IF H&YR.043 IN (2,.) AND H&YR.044 IN (1,2,3,4) THEN DO;
    H&YR.043=1;
    N16=3;
  END;
  ELSE IF H&YR.043=2 AND H&YR.044 IN (.,.N) THEN DO;
    IF H&YR.044=. THEN H&YR.044=.N;
    ELSE H&YR.044=.C;
    N16=4;
  END;
  ELSE IF H&YR.043=.  AND H&YR.044=.  THEN N16=5;

/** Note 17 -- H&YR.045, H&YR.046-H&YR.047: claims to health plan **/

  ARRAY NOTE17 H&YR.046-H&YR.047;
  N17MARK=0;
  N17NDK=0;

  DO OVER NOTE17;
    IF NOTE17 NOT IN (.N,.D,.) THEN N17MARK+1; /* At least one is marked */
    IF NOTE17 NOT IN (.,.D) THEN N17NDK+1; /* All are missing or blank or dnk */
  END;

  IF H&YR.045=1 AND (N17MARK>0 OR N17NDK=0) THEN DO;
    N17=1;
    DO OVER NOTE17;
      IF NOTE17=.N THEN NOTE17=.;
    END;
  END;
  ELSE IF H&YR.045 IN (1,.,.D) AND N17MARK=0 AND N17NDK>0 THEN DO;
    N17=2;
    H&YR.045=2;
```

```
   DO OVER NOTE17;
     IF NOTE17=. THEN NOTE17=.N;
     ELSE NOTE17=.C;
   END;
 END;
 ELSE IF H&YR.045 IN (2,.,.D) AND N17MARK>0
     THEN DO;
   H&YR.045=1;
   N17=3;
   DO OVER NOTE17;
     IF NOTE17=.N THEN NOTE17=.;
   END;
 END;
 ELSE IF H&YR.045 IN (2) AND N17MARK=0 THEN DO;
   N17=4;
   DO OVER NOTE17;
     IF NOTE17=. THEN NOTE17=.N;
     ELSE NOTE17=.C;
   END;
 END;
 ELSE IF H&YR.045 IN (.D) AND N17NDK=0 THEN DO;
   N17=5;
   DO OVER NOTE17;
     IF NOTE17=. THEN NOTE17=.N;
     ELSE NOTE17=.C;
   END;
 END;
 ELSE IF H&YR.045 IN (.) AND N17NDK=0 THEN N17=6;

 DROP N17MARK N17NDK;

/** Note 18 -- smoking:  H&YR.053, H&YR.054-H&YR.056, H&YR.057A-H&YR.057D  **/

 ARRAY NOTE18a H&YR.054 H&YR.055 H&YR.056;
 ARRAY NOTE18b H&YR.057A--H&YR.057D;

 N18MARK = 0;

 DO OVER NOTE18b;
   IF NOTE18b NOT IN (2,.) THEN N18MARK+1;
 END;

 IF H&YR.053 IN (3,4,.) THEN N18=1;
 ELSE IF H&YR.053 IN (2,.D) AND N18MARK = 0 THEN DO;
   N18=2;
   DO OVER NOTE18a;
     IF NOTE18a=. THEN NOTE18a=.N;
     ELSE NOTE18a=.C;
   END;
   DO OVER NOTE18b;
     IF NOTE18b IN (2,.) THEN NOTE18b=.N;
     ELSE NOTE18b=.C;
   END;
```

```
      END;
    ELSE IF H&YR.053 = 2 AND N18MARK > 0 THEN DO;
      N18=3;
      H&YR.053=.;
    END;
    ELSE IF H&YR.053 = .D AND N18MARK > 0 THEN DO;
      N18=4;
      DO OVER NOTE18a;
        IF NOTE18a=. THEN NOTE18a=.N;
        ELSE NOTE18a=.C;
      END;
      DO OVER NOTE18b;
        IF NOTE18b IN (2,.) THEN NOTE18b=.N;
        ELSE NOTE18b=.C;
      END;
    END;

    DROP N18MARK;

/** Note 19a - gender H&YR.058, SEX, H&YR.059B--H&YR.064,
         XSEXA */

/* 1/21/98 use SRSEX & responses to gender specific questions
  if there is discrepancy between SRSEX and SEX */
/* set imputed FMALE and MALE based on gender specific questions */

  ARRAY fmaleval H&YR.059B H&YR.060 H&YR.061 H&YR.062 H&YR.063 H&YR.064
          ;

  cntfmale=0;
  DO OVER fmaleval;        /* mammogram/pap smear/PREGNANT*/
    IF fmaleval>0 THEN cntfmale=cntfmale+1;
  END;

  IF cntfmale>0 THEN FMALE=1;
  ELSE FMALE = 0;

  IF H&YR.058=. THEN DO;
    IF (SEX='F' AND FMALE) THEN DO;
      N19a=1;
      XSEXA=2;
    END;
    ELSE IF (SEX='F' AND FMALE=0) THEN DO;
      N19a=2;
      XSEXA=2;
    END;
    ELSE IF (SEX='M' AND FMALE) THEN DO;
      N19a=3;
      XSEXA=1;
    END;
    ELSE IF (SEX='M' AND FMALE=0) THEN DO;
      N19a=4;
      XSEXA=1;
```

```
      END;
    ELSE IF ((SEX IN ('Z',' ') AND FMALE)) THEN DO;
      N19a=5;
      XSEXA=2;
    END;
    ELSE IF (SEX='Z' AND FMALE=0) THEN DO;
      N19a=6;
      XSEXA=.;
    END;
    ELSE IF (SEX=' ' AND FMALE=0) THEN DO;
      N19a=7;
      XSEXA=.;
    END;
  END;
  ELSE IF (H&YR.058=1) THEN DO;
    IF FMALE=0 THEN DO;
      N19a=8;
      XSEXA=1;
    END;
    ELSE IF FMALE THEN DO;
      IF SEX='F' THEN DO;
        N19a=9;
        XSEXA=2;
      END;
      ELSE DO;
        N19a=10;
        XSEXA=1;
      END;
    END;
  END;
  ELSE IF (H&YR.058=2) THEN DO;
    IF FMALE THEN DO;
      N19a=11;
      XSEXA=2;
    END;
    ELSE IF FMALE=0 THEN DO;
      IF SEX='M' THEN DO;
       N19a=12;
       XSEXA=1;
      END;
      ELSE DO;
        N19a=13;
        XSEXA=2;
      END;
    END;
  END;
END;

/* Note 19b - gender vs mammogram/paps/pregnancy */

  ARRAY NOTE19b H&YR.059B H&YR.060 H&YR.061 H&YR.062 H&YR.063 H&YR.064
          ;
  IF XSEXA=1 THEN DO;  /* male */
    IF FMALE=0 THEN DO;
```

```
      N19b=1;
       DO OVER NOTE19b;
         NOTE19b=.N;
       END;
     END;   /* valid skip */
     ELSE IF FMALE=1 THEN DO;
       N19b=2;
       DO OVER NOTE19b;
         IF NOTE19b=. THEN NOTE19b = .N;
         ELSE NOTE19b=.C;
       END;
     END;   /* inconsistent response */
   END;
   ELSE IF XSEXA=2 THEN  N19b=3; /* female */
   ELSE IF XSEXA=. THEN DO;    /*  missing sex  */
     N19b=4;
     DO OVER NOTE19b;
       NOTE19b=.;
     END;
   END;

   DROP FMALE CNTFMALE;

 /* Note 20- breast exam for female 40 or over */

   IF XSEXA=1 THEN DO;  /* male */
     IF  (H&YR.060=.C OR H&YR.060=.N) AND (H&YR.061=.C OR H&YR.061=.N)
     THEN N20 = 1;
   END;
   ELSE IF XSEXA=2 THEN DO;
     IF H&YR.060=2 THEN N20=2;       /* female 40 or over */
     ELSE IF H&YR.060=1 THEN DO;  /* female < 40 */
       IF H&YR.061 NE . THEN H&YR.061=.C;
       ELSE H&YR.061=.N;
       N20=3;
     END;
     ELSE IF H&YR.060=. THEN DO;
       IF H&YR.061 NE . THEN DO;
         H&YR.060=2;
         N20=4;
       END;
       ELSE IF H&YR.061=.  THEN DO;
         IF AGE<40 THEN DO;
           H&YR.060 = 1;
           H&YR.061=.N;
           N20=5;
         END;
         ELSE IF AGE >= 40 THEN DO;
           H&YR.060=2;
           N20=6;
         END;
         ELSE IF AGE=. THEN N20=7;
       END;
```

```
      END;
    END;
    ELSE IF XSEXA=. THEN N20=8;

  /* Note 21 - gender vs Pregnancy */

   IF XSEXA=1 THEN N21=1;        /* male    */
   ELSE IF XSEXA=2 THEN DO;      /* female  */
     IF H&YR.062=1 THEN DO;        /* pregnant */
       IF H&YR.063=1 THEN DO;
         N21=2;
         IF H&YR.064=. THEN H&YR.064 = .N;
         ELSE H&YR.064=.C;
       END;
       ELSE IF H&YR.063=2 AND H&YR.064 IN (2) THEN DO;
         N21=3;
         H&YR.064=.;
       END;
       ELSE IF H&YR.063=2 AND H&YR.064 IN (4,3,1,.) THEN DO;
         N21=4;
       END;
       ELSE IF H&YR.063 IN (3,.) THEN N21=5;
     END;
     ELSE IF H&YR.062=2 THEN DO;
       IF H&YR.063=. THEN H&YR.063 = .N;
       ELSE H&YR.063=.C;
       N21=6;
     END;
     ELSE IF H&YR.062=3 THEN DO;
       N21=7;
       IF H&YR.063=. THEN H&YR.063 = .N;
       ELSE H&YR.063=.C;
       IF H&YR.064=. THEN H&YR.064=.N;
       ELSE H&YR.064=.C;
     END;
     ELSE IF H&YR.062 IN (.) THEN DO;
       IF H&YR.063=1 THEN DO;
         N21=8;
         H&YR.062=1;
         IF H&YR.064=. THEN H&YR.064 = .N;
         ELSE H&YR.064=.C;
       END;
       ELSE IF H&YR.063=2 AND H&YR.064 IN (2) THEN DO;
         N21=9;
         H&YR.062=1;
         H&YR.064=.;
       END;
       ELSE IF H&YR.063=2 AND H&YR.064 IN (4,3,1,.) THEN DO;
         H&YR.062=1;
         N21=10;
       END;
       ELSE IF H&YR.063=3 THEN DO;
         H&YR.062=1;
```

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```
        N21=11;
      END;
    ELSE IF H&YR.063=. THEN DO;
      N21=12;
    END;
  END;
END;
ELSE IF XSEXA=. AND H&YR.062 IN (.) THEN N21=13;

DROP AGE SEX;

/** Note 21_BG1 -- S&YR.BG01: Number of days physical health not good **/

IF NOT (S&YR.BG01 > 30) THEN N21_BG1=1;
ELSE DO;
  IF S&YR.BG01 = 88 THEN DO;
    S&YR.BG01 = 0;
    N21_BG1=2;
  END;
  ELSE DO;
    N21_BG1=3;
    S&YR.BG01=.O;
  END;
END;

/** Note 21_BG2 -- S&YR.BG02: Number of days mental health not good **/

IF NOT (S&YR.BG02 > 30) THEN N21_BG2=1;
ELSE DO;
  IF S&YR.BG02 = 88 THEN DO;
    S&YR.BG02 = 0;
    N21_BG2=2;
  END;
  ELSE DO;
    N21_BG2=3;
    S&YR.BG02=.O;
  END;
END;

/** Note 21_BG3 -- S&YR.BG03: Number of days physical/mental health kept from usual activities **/

IF NOT (S&YR.BG03 > 30) THEN N21_BG3=1;
ELSE DO;
  IF S&YR.BG03 = 88 THEN DO;
    S&YR.BG03 = 0;
    N21_BG3=2;
  END;
  ELSE DO;
    N21_BG3=3;
    S&YR.BG03=.O;
  END;
END;
```

```
/** Note 23_HT -- XSEXA, H&YR.071F, H&YR.071I:  height restrictions            **/
*AMK 9/25/13
 Set height and weight restriction to conform with NHIS 2006 guidelines
 Men: height between 63-76 inches, weight between 126-299 pounds
 Women: height between 59-70 inches, weight between 100-274 pounds;

 *INCHES;
 IF H&YR.071F NE . AND H&YR.071I = . THEN H&YR.071I=0;
 IF H&YR.071F =  . AND H&YR.071I >11 THEN DO;
   H&YR.071F=FLOOR(H&YR.071I/12);
   H&YR.071I=H&YR.071I-(H&YR.071F*12);
 END;
 IF H&YR.071F NE . THEN INCHES=(H&YR.071F*12+H&YR.071I);
 ELSE INCHES=H&YR.071I;

 IF (XSEXA = 1 AND (63<=INCHES<=76 OR INCHES = .)) OR
   (XSEXA = 2 AND (59<=INCHES<=70 OR INCHES = .)) THEN N23_HT=1;
 ELSE IF XSEXA IN (1,2) THEN DO;
   N23_HT=2;
   H&YR.071F=.O;
   H&YR.071I=.O;
 END;
 ELSE IF XSEXA = . THEN DO; *MISSING GENDER;
   IF 59<=INCHES<=76 OR INCHES = . THEN N23_HT=3;
   ELSE DO;
    N23_HT=4;
    H&YR.071F=.O;
    H&YR.071I=.O;
   END;
 END;

 DROP INCHES;

/** Note 23_WT -- H&YR.072:  weight restrictions           **/
*AMK 9/25/13
 Set height and weight restriction to conform with NHIS 2006 guidelines
 Men: height between 63-76 inches, weight between 126-299 pounds
 Women: height between 59-70 inches, weight between 100-274 pounds;

 IF (XSEXA = 1 AND (126<=H&YR.072<=299 OR H&YR.072 = .)) OR
   (XSEXA = 2 AND (100<=H&YR.072<=274 OR H&YR.072 = .)) THEN N23_WT=1;
 ELSE IF XSEXA IN (1,2) THEN DO;
   N23_WT=2;
   H&YR.072 =.O;
 END;
 ELSE IF XSEXA = . THEN DO; *MISSING GENDER;
   IF 100<=H&YR.072<=299 OR H&YR.072 = . THEN N23_WT=3;
   ELSE DO;
    N23_WT=4;
    H&YR.072=.O;
   END;
 END;
```

```
/** Note 24 -- H&YR.073, H&YR.073A-H&YR.073E: Hispanic or Latino origin or descent **/

/* JMA
****Multiple responses were given to this question so H&YR.073 is being created
****from the multiple responses.;
*/

IF H&YR.073B=1 THEN DO;
  N24=1;
  H&YR.073=2;
END;
ELSE IF H&YR.073E=1 THEN DO;
  N24=2;
  H&YR.073=5;
END;
ELSE IF H&YR.073C=1 THEN DO;
  N24=3;
  H&YR.073=3;
END;
ELSE IF H&YR.073D=1 THEN DO;
  N24=4;
  H&YR.073=4;
END;
ELSE IF H&YR.073A=1 THEN DO;
  N24=5;
  H&YR.073=1;
END;
ELSE IF H&YR.073A IN (2,.) AND H&YR.073B IN (2,.) AND H&YR.073C IN (2,.) AND
     H&YR.073D IN (2,.) AND H&YR.073E IN (2,.) THEN DO;
  N24=6;
  H&YR.073=.;

END;

/** Note 24_BJ1 -- S&YR.BJ01-S&YR.BJ03: childcare **/
IF S&YR.BJ01=1 AND (S&YR.BJ02>0 OR S&YR.BJ03>0) THEN DO;
  N24_BJ1=1;
END;
ELSE IF S&YR.BJ01=1 AND (S&YR.BJ02=. AND S&YR.BJ03=.) THEN N24_BJ1=2;
ELSE IF S&YR.BJ01=2 THEN DO;
  IF (S&YR.BJ02 =. AND S&YR.BJ03 =.) THEN DO;
    S&YR.BJ02=.N;
    S&YR.BJ03=.N;
    N24_BJ1=3;
  END;
  IF (S&YR.BJ02 > 0 OR S&YR.BJ03 >0) THEN DO;
    IF S&YR.BJ02=. THEN S&YR.BJ02=.N;
    ELSE S&YR.BJ02=.C;
    IF S&YR.BJ03=. THEN S&YR.BJ03=.N;
    ELSE S&YR.BJ03=.C;
    N24_BJ1=4;
  END;
END;
```

```
  ELSE IF S&YR.BJ01 = . THEN DO;
    IF (S&YR.BJ02 > 0 AND S&YR.BJ03 = .) THEN DO;
      S&YR.BJ01 = 1;
      N24_BJ1 = 5;
    END;
    IF (S&YR.BJ02 = . AND S&YR.BJ03 > 0) THEN DO;
      N24_BJ1 = 6;
    END;
    ELSE IF S&YR.BJ02 = . AND S&YR.BJ03 = . THEN N24_BJ1 = 7;
  END;

/** Note 24_BJ2 -- S&YR.BJ10-S&YR.BJ14 : spouse relationship **/
  ARRAY SPOUSE  S&YR.BJ11--S&YR.BJ13;

  SPSCNT = 0;

   DO OVER SPOUSE;
    IF SPOUSE > 0 THEN SPSCNT = SPSCNT + 1;
   END;

  IF S&YR.BJ10 = 1 AND (SPSCNT > 0 OR S&YR.BJ14 = 1) THEN DO;
   N24_BJ2 = 1;
  END;
  ELSE IF S&YR.BJ10 = 1 AND (SPSCNT = 0 AND S&YR.BJ14 NE 1) THEN N24_BJ2 = 2;
  ELSE IF S&YR.BJ10 = 2 AND (SPSCNT = 0 AND S&YR.BJ14 NE 1) THEN DO;
       DO OVER SPOUSE;
        SPOUSE = .N;
       END;
       S&YR.BJ14 = .N;
       N24_BJ2 = 3;
  END;
  ELSE IF (S&YR.BJ10 IN (2, .)) AND SPSCNT > 0 AND S&YR.BJ14 = 1 THEN DO;
      S&YR.BJ10 = 1;
      N24_BJ2 = 4;
  END;

  ELSE IF S&YR.BJ10 = 2 AND (SPSCNT > 0 AND S&YR.BJ14 NE 1) THEN DO;
    DO OVER SPOUSE;
      IF SPOUSE = . THEN SPOUSE = .N;
      ELSE SPOUSE = .C;
    END;
    IF S&YR.BJ14 = . THEN S&YR.BJ14 = .N;
      ELSE S&YR.BJ14 = .C;
    N24_BJ2 = 5;
   END;
  ELSE IF S&YR.BJ10 = 2 AND (SPSCNT = 0 AND S&YR.BJ14 = 1) THEN DO;
    DO OVER SPOUSE;
      IF SPOUSE = . THEN SPOUSE = .N;
      ELSE SPOUSE = .C;
    END;
    IF S&YR.BJ14 = . THEN S&YR.BJ14 = .N;
      ELSE S&YR.BJ14 = .C;
    N24_BJ2 = 6;
```

```
    END;
  ELSE IF S&YR.BJ10=. AND (SPSCNT>0 AND S&YR.BJ14 NE 1) THEN DO;
    S&YR.BJ10=1;
    N24_BJ2=7;
  END;
  ELSE IF S&YR.BJ10=. AND (SPSCNT=0 AND S&YR.BJ14 = 1) THEN DO;
   DO OVER SPOUSE;
     IF SPOUSE=. THEN SPOUSE=.N;
     ELSE SPOUSE=.C;
    END;
    IF S&YR.BJ14=. THEN S&YR.BJ14=.N;
      ELSE S&YR.BJ14=.C;
    N24_BJ2=8;
  END;
  ELSE IF S&YR.BJ10=. AND (SPSCNT=0 AND S&YR.BJ14 NE 1) THEN N24_BJ2=9;

DROP SPSCNT;

NOSURVEY:

/* missing values */

  ARRAY MISS MISS_9 MISS_7 MISS_6 MISS_5 MISS_4 MISS_1;
  MISS_TOT=0;
  DO OVER MISS;
    MISS = 0;
  END;
  ARRAY MISSARAY &VARLIST2.;

  DO OVER MISSARAY;
    IF (MISSARAY EQ -9 ) THEN MISS_9 = MISS_9 + 1;
    ELSE IF (MISSARAY EQ -7) THEN MISS_7 = MISS_7 + 1;
    ELSE IF (MISSARAY EQ -6) THEN MISS_6 = MISS_6 + 1;
    ELSE IF (MISSARAY EQ -5) THEN MISS_5 = MISS_5 + 1;
    ELSE IF (MISSARAY EQ -4) THEN MISS_4 = MISS_4 + 1;
    ELSE IF (MISSARAY EQ -1) THEN MISS_1 = MISS_1 + 1;
  END;
  DO OVER MISS;
    MISS_TOT=MISS_TOT + MISS;
  END;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;

 OUTPUT;

RUN;

proc contents data=out.&outdata. varnum;
run;
%MEND;
%CSCHM;
```

F.2.D Q2FY2020\PROGRAMS\CODINGSCHEME\CSCHM20Q.FMT - Include file for Coding Scheme for Quarter 2 FY2020

/* Formats for original answers to survey questions,
    after variables have been recoded */

    FORMAT H&YR.001 O_H&YR.001 YN.

/*   H&YR.002 has no format.*/

    H&YR.003 O_H&YR.003 HPLAN1_.
    H&YR.004 O_H&YR.004 HPTIME.

    H&YR.005 O_H&YR.005 PLACE.

    H&YR.006 O_H&YR.006
    H&YR.009 O_H&YR.009
    H&YR.019 O_H&YR.019
     YN.

    H&YR.007 O_H&YR.007 OFTEN2_.
    H&YR.008 O_H&YR.008 TIME1_.

    H&YR.010 O_H&YR.010 OFTEN3_.
    H&YR.011 O_H&YR.011 TIME2_.

    H&YR.012 O_H&YR.012 OFTEN4_.
    H&YR.013 O_H&YR.013 OFTEN4_.
    H&YR.014 O_H&YR.014 OFTEN8_.
    H&YR.015 O_H&YR.015 YN.
    H&YR.016 O_H&YR.016 YNDEF.
    H&YR.017 O_H&YR.017 YNDEF.
    H&YR.018 O_H&YR.018 RATE3_.

    H&YR.020 O_H&YR.020 OFTEN10_.

    H&YR.021-H&YR.024 O_H&YR.021--O_H&YR.024 OFTEN5_.

    H&YR.025 O_H&YR.025 YN.
    H&YR.026 O_H&YR.026 OFTEN8_.
    H&YR.027 O_H&YR.027 RATE6_.

    S&YR.009 O_S&YR.009 YN.
    S&YR.010 O_S&YR.010 PROB1_.
    S&YR.B01 O_S&YR.B01 MNTLHLTH.
    S&YR.B02 O_S&YR.B02 YN.
    S&YR.B03 O_S&YR.B03 PROB1_.
    S&YR.B04 O_S&YR.B04 RATE5_.

    H&YR.028 O_H&YR.028 YN.
    H&YR.029 O_H&YR.029 OFTEN9_.
    H&YR.030 O_H&YR.030 SPCLST.

```
        H&YR.031  O_H&YR.031 RATE2_.

        H&YR.033  O_H&YR.033 OFTEN11_.
        H&YR.034  O_H&YR.034 YN.
        H&YR.035  O_H&YR.035 OFTEN12_.
        H&YR.036  O_H&YR.036 YN.
        H&YR.037  O_H&YR.037 OFTEN13_.
        H&YR.038  O_H&YR.038 YN.
        H&YR.039  O_H&YR.039 OFTEN14_.
        H&YR.040  O_H&YR.040 YN.
        H&YR.041  O_H&YR.041 OFTEN15_.
        H&YR.042  O_H&YR.042 OFTEN15_.
        H&YR.043  O_H&YR.043 YN.
        H&YR.044  O_H&YR.044 OFTEN16_.
        H&YR.045  O_H&YR.045 YNDNK.
        H&YR.046  O_H&YR.046 OFTEN6_.
        H&YR.047  O_H&YR.047 OFTEN6_.
        H&YR.048  O_H&YR.048 RATE4_.

        H&YR.049  O_H&YR.049 TIME5_.
        H&YR.050  O_H&YR.050 YNBP_.

        H&YR.051  O_H&YR.051 TIME7_.
        H&YR.052  O_H&YR.052 YNDNK.
        H&YR.053  O_H&YR.053 TIME8_.
        H&YR.054  O_H&YR.054 OFTEN8_.
        H&YR.055  O_H&YR.055 OFTEN8_.
        H&YR.056  O_H&YR.056 OFTEN8_.

/*       H&YR.057 has no format.*/

        S&YR.BF4  O_S&YR.BF4 TIME15_.

        H&YR.058  O_H&YR.058 SEX.
        H&YR.059B O_H&YR.059B TIME16_.

        H&YR.060  O_H&YR.060 YN.

        H&YR.061  O_H&YR.061 TIME12_.
        H&YR.062  O_H&YR.062 YNPREG.
        H&YR.063  O_H&YR.063 PREG1_.
        H&YR.064  O_H&YR.064 PREG2_.
        H&YR.065  O_H&YR.065 HEALTH.

        H&YR.071F O_H&YR.071F
        H&YR.071I O_H&YR.071I
        H&YR.072  O_H&YR.072
TIME14_.

        SREDA    O_SREDA EDUC.

        H&YR.073       HISP.
```

```
SRAGE    SRAGE AGEGRP.

S&YR.011  O_S&YR.011 AGREE2_.
S&YR.014  O_S&YR.014 SATISFY.

S&YR.BG01  O_S&YR.BG01 NUM_NONE.
S&YR.BG02  O_S&YR.BG02 NUM_NONE.
S&YR.BG03  O_S&YR.BG03 NUM_NONE.

S&YR.BJ01  O_S&YR.BJ01 YN.
S&YR.BJ02  O_S&YR.BJ02 PROB1_.
S&YR.BJ03  O_S&YR.BJ03 CONCERN.
S&YR.BJ04  O_S&YR.BJ04 CONCERN.
S&YR.BJ05  O_S&YR.BJ05 CONCERN.
S&YR.BJ06  O_S&YR.BJ06 CONCERN.
S&YR.BJ07  O_S&YR.BJ07 CONCERN.
S&YR.BJ08  O_S&YR.BJ08 CONCERN.
S&YR.BJ09  O_S&YR.BJ09 CONCERN.
S&YR.BJ10  O_S&YR.BJ10 YN.
S&YR.BJ11  O_S&YR.BJ11 CONCERN.
S&YR.BJ12  O_S&YR.BJ12 CONCERN.
S&YR.BJ13  O_S&YR.BJ13 CONCERN.
S&YR.BJ14  O_S&YR.BJ14 YN.

MISS_1  MISS_4-MISS_7 MISS_9 MISS_TOT 4.
;
```

LABEL O_H&YR.001='Are you the person listed on envelope'
    H&YR.001 ='Are you the person listed on envelope'
    O_H&YR.002A='Health plan(s) covered: TRICARE Prime'
    H&YR.002A ='Health plan(s) covered: TRICARE Prime'
    O_H&YR.002C='Health plan(s) covered: TRICARE Select'
    H&YR.002C ='Health plan(s) covered: TRICARE Select'
    O_H&YR.002N='Health plan(s) covered: TRICARE Plus'
    H&YR.002N ='Health plan(s) covered: TRICARE Plus'
    O_H&YR.002O='Health plan(s) covered: TRICARE For Life'
    H&YR.002O ='Health plan(s) covered: TRICARE For Life'
    O_H&YR.002P='Health plan(s) covered: TRICARE Supplmntl Ins'
    H&YR.002P ='Health plan(s) covered: TRICARE Supplmntl Ins'
    O_H&YR.002Q='Health plan(s) covered: TRICARE Reserve Select'
    H&YR.002Q ='Health plan(s) covered: TRICARE Reserve Select'
    O_H&YR.002S='Health plan(s) covered: TRICARE Retired Reserve'
    H&YR.002S ='Health plan(s) covered: TRICARE Retired Reserve'
    O_H&YR.002T='Health plan(s) covered: TRICARE Young Adult Prime'
    H&YR.002T ='Health plan(s) covered: TRICARE Young Adult Prime'
    O_H&YR.002V='Health plan(s) covered: TRICARE Young Adult Select'
    H&YR.002V ='Health plan(s) covered: TRICARE Young Adult Select'
    O_H&YR.002U='Health plan(s) covered: CHCBP'
    H&YR.002U ='Health plan(s) covered: CHCBP'
    O_H&YR.002F='Health plan(s) covered: Medicare'
    H&YR.002F ='Health plan(s) covered: Medicare'
    O_H&YR.002G='Health plan(s) covered: FEHBP'
    H&YR.002G ='Health plan(s) covered: FEHBP'

O_H&YR.002H='Health plan(s) covered: Medicaid or other state insurance'
H&YR.002H ='Health plan(s) covered: Medicaid or other state insurance'
O_H&YR.002I='Health plan(s) covered: civilian HMO'
H&YR.002I ='Health plan(s) covered: civilian HMO'
O_H&YR.002J='Health plan(s) covered: other civilian'
H&YR.002J ='Health plan(s) covered: other civilian'
O_H&YR.002K='Health plan(s) covered: USFHP'
H&YR.002K ='Health plan(s) covered: USFHP'
O_H&YR.002M='Health plan(s) covered: veterans'
H&YR.002M ='Health plan(s) covered: veterans'
O_H&YR.002R='Health plan(s) covered: gov hlth ins-other cntry'
H&YR.002R ='Health plan(s) covered: gov hlth ins-other cntry'
O_H&YR.002L='Health plan(s) covered: not sure'
H&YR.002L ='Health plan(s) covered: not sure'
O_H&YR.003='Which health plan did you use most'
H&YR.003 ='Which health plan did you use most'
O_H&YR.004='Yrs in a row with health plan'
H&YR.004 ='Yrs in a row with health plan'

O_H&YR.005='In lst yr:fclty use most for health care'
H&YR.005 ='In lst yr:fclty use most for health care'
O_H&YR.006='In lst yr:ill/injry/cond care right away'
H&YR.006 ='In lst yr:ill/injry/cond care right away'
O_H&YR.007='In lst yr:get urgnt care as soon as wntd'
H&YR.007 ='In lst yr:get urgnt care as soon as wntd'
O_H&YR.008='In lst yr:wait btwn try get care,see prv'
H&YR.008 ='In lst yr:wait btwn try get care,see prv'
O_H&YR.009='In lst yr:make appts non-urgnt hlth care'
H&YR.009 ='In lst yr:make appts non-urgnt hlth care'
O_H&YR.010='In lst yr:non-urg hlth cre appt whn wntd'
H&YR.010 ='In lst yr:non-urg hlth cre appt whn wntd'
O_H&YR.011='In lst yr:days btwn appt & see prvder'
H&YR.011 ='In lst yr:days btwn appt & see prvder'
O_H&YR.012='In lst yr:go to emrgncy rm for own care'
H&YR.012 ='In lst yr:go to emrgncy rm for own care'
O_H&YR.013='In lst yr:go to Dr office/clinic for care'
H&YR.013 ='In lst yr:go to Dr office/clinic for care'
O_H&YR.014 ='Lst yr: how often talk to doctor about illness prvntn'
H&YR.014='Lst yr: how often talk to doctor about illness prvntn'
O_H&YR.015 ='Lst yr: did doctor tell you more than 1 choice for trtmnt'
H&YR.015='Lst yr: did doctor tell you more than 1 choice for trtmnt'
O_H&YR.016 ='Lst yr: did talk to doctor about pros/cons of trtmnt'
H&YR.016='Lst yr: did talk to doctor about pros/cons of trtmnt'
O_H&YR.017 ='Lst yr: did doctor ask which trtmnt option best for you'
H&YR.017='Lst yr: did doctor ask which trtmnt option best for you'
O_H&YR.018='Rating of all health care in lst yr'
H&YR.018 ='Rating of all health care in lst yr'

O_H&YR.019='Have one person think of as personal Dr'
H&YR.019 ='Have one person think of as personal Dr'
O_H&YR.020 ='Lst yr: how often visit prsnl doctor for care for yourself'
H&YR.020='Lst yr: how often visit prsnl doctor for care for yourself'
O_H&YR.021='Lst yr: how oftn Drs listen to you'

H&YR.021 ='Lst yr: how oftn Drs listen to you'
O_H&YR.022='Lst yr: how oftn Drs explain things'
H&YR.022 ='Lst yr: how oftn Drs explain things'
O_H&YR.023='Lst yr: how oftn Drs show respect'
H&YR.023 ='Lst yr: how oftn Drs show respect'
O_H&YR.024='Lst yr: how oftn Drs spend enough time'
H&YR.024 ='Lst yr: how oftn Drs spend enough time'
O_H&YR.025 ='Lst yr: did get care from doctor other than prsnl doctor'
H&YR.025='Lst yr: did get care from doctor other than prsnl doctor'
O_H&YR.026 ='Lst yr: how often prsnl doctor seemed infrmd of care from other doctors'
H&YR.026='Lst yr: how often prsnl doctor seemed infrmd of care from other doctors'
O_H&YR.027='Rating of your personal Dr'
H&YR.027 ='Rating of your personal Dr'
O_H&YR.028 ='Lst yr: did make any appointments to see spclst'
H&YR.028='Lst yr: did make any appointments to see spclst'
O_H&YR.029 ='Lst yr: how often easy to get appointments with spclsts'
H&YR.029='Lst yr: how often easy to get appointments with spclsts'
O_H&YR.030 ='Lst yr: how many spclsts seen'
H&YR.030='Lst yr: how many spclsts seen'
O_H&YR.031='Rating of specialist seen in lst yr'
H&YR.031 ='Rating of specialist seen in lst yr'

O_H&YR.033 ='Lst yr: how often easy to get care, test, or trtmnt'
H&YR.033='Lst yr: how often easy to get care, test, or trtmnt'
O_H&YR.034 ='Lst yr: did look for info from written material/Internet'
H&YR.034='Lst yr: did look for info from written material/Internet'
O_H&YR.035 ='Lst yr: how often written material/Internet provide needed info'
H&YR.035='Lst yr: how often written material/Internet provide needed info'
O_H&YR.036 ='Lst yr: did look for info from health plan on cost of service/equipment'
H&YR.036='Lst yr: did look for info from health plan on cost of service/equipment'
O_H&YR.037 ='Lst yr: how often able to find out cost of service/equipment'
H&YR.037='Lst yr: how often able to find out cost of service/equipment'
O_H&YR.038 ='Lst yr: did look for info from health plan on cost of prescription meds'
H&YR.038='Lst yr: did look for info from health plan on cost of prescription meds'
O_H&YR.039 ='Lst yr: how often able to find out cost of prescription meds'
H&YR.039='Lst yr: how often able to find out cost of prescription meds'
O_H&YR.040 ="Lst yr: did try to get info/help from health plan's cstmr service"
H&YR.040="Lst yr: did try to get info/help from health plan's cstmr service"
O_H&YR.041 ='Lst yr: how often did cstmr service give needed info/help'
H&YR.041='Lst yr: how often did cstmr service give needed info/help'
O_H&YR.042 ='Lst yr: how often did cstmr service treat with courtesy/respect'
H&YR.042='Lst yr: how often did cstmr service treat with courtesy/respect'
O_H&YR.043 ='Lst yr: did health plan give any forms to fill out'
H&YR.043='Lst yr: did health plan give any forms to fill out'
O_H&YR.044 ='Lst yr: how often were forms easy to fill out'
H&YR.044='Lst yr: how often were forms easy to fill out'
O_H&YR.045 ='Lst yr: send in any claims'
H&YR.045='Lst yr: send in any claims'
O_H&YR.046 ='Lst yr: how often did health plan handle claims quickly'
H&YR.046='Lst yr: how often did health plan handle claims quickly'
O_H&YR.047='Lst yr: how oftn handle claims correctly'
H&YR.047 ='Lst yr: how oftn handle claims correctly'
O_H&YR.048 ='Rating of all experience with hlth plan'

H&YR.048='Rating of all experience with hlth plan'
O_H&YR.049='Blood pressure: when lst reading'
H&YR.049 ='Blood pressure: when lst reading'
O_H&YR.050='Blood pressure: know if too high or not'
H&YR.050 ='Blood pressure: know if too high or not'

O_H&YR.051='When did you lst have a flu shot'
H&YR.051 ='When did you lst have a flu shot'
O_H&YR.052 ='Smoked at least 100 cigarettes in life'
H&YR.052='Smoked at least 100 cigarettes in life'
O_H&YR.053 ='Smoke or use tobacco everyday, some days or not at all'
H&YR.053='Smoke or use tobacco everyday, some days or not at all'
O_H&YR.054='Lst yr: how often advised to quit smoking or use tobacco'
H&YR.054 ='Lst yr: how often advised to quit smoking or use tobacco'
O_H&YR.055 ='Lst yr: how often recom medic assist quit smoking or using tobacco'
H&YR.055='Lst yr: how often recom medic assist quit smoking or using tobacco'
O_H&YR.056 ='Lst yr: how often discu meth/strag asst quit smoking or using tobacco'
H&YR.056='Lst yr: how often discu meth/strag asst quit smoking or using tobacco'
O_H&YR.057A ='Do you smoke or use: cigarettes'
H&YR.057A='Do you smoke or use: cigarettes'
O_H&YR.057B ='Do you smoke or use: dip, chewing tobacco, snuff, or snus'
H&YR.057B='Do you smoke or use: dip, chewing tobacco, snuff, or snus'
O_H&YR.057C ='Do you smoke or use: cigars'
H&YR.057C='Do you smoke or use: cigars'
O_H&YR.057D ='Do you smoke or use: pipes, bidis, or kreteks'
H&YR.057D='Do you smoke or use: pipes, bidis, or kreteks'
O_H&YR.058='Are you male or female'
H&YR.058 ='Are you male or female'
O_H&YR.059B='Lst have a Pap smear test'
H&YR.059B ='Lst have a Pap smear test'
O_H&YR.060='Are you under age 40'
H&YR.060 ='Are you under age 40'
O_H&YR.061='Lst time: breasts checked mammography'
H&YR.061 ='Lst time: breasts checked mammography'
O_H&YR.062='Been pregnant in lst yr or pregnant now'
H&YR.062 ='Been pregnant in lst yr or pregnant now'
O_H&YR.063='In what trimester is your pregnancy'
H&YR.063 ='In what trimester is your pregnancy'
O_H&YR.064='Trimester first received prenatal care'
H&YR.064 ='Trimester first received prenatal care'
O_H&YR.065='In gnrl, how would you rate ovrall hlth'
H&YR.065 ='In gnrl, how would you rate ovrall hlth'

O_H&YR.071F='Height without shoes (feet)'
H&YR.071F ='Height without shoes (feet)'
O_H&YR.071I='Height without shoes (inches)'
H&YR.071I ='Height without shoes (inches)'
O_H&YR.072='Weight without shoes'
H&YR.072 ='Weight without shoes'
O_SREDA ='Highest grade completed'
SREDA ='Highest grade completed'
H&YR.073 ='Are you Spanish/Hispanic/Latino'
O_H&YR.073A='Not Spanish/Hispanic/Latino'

H&YR.073A ='Not Spanish/Hispanic/Latino'
O_H&YR.073B='Mexican, Mexican American, Chicano'
H&YR.073B ='Mexican, Mexican American, Chicano'
O_H&YR.073C='Puerto Rican'
H&YR.073C ='Puerto Rican'
O_H&YR.073D='Cuban'
H&YR.073D ='Cuban'
O_H&YR.073E='Other Spanish, Hispanic, or Latino'
H&YR.073E ='Other Spanish, Hispanic, or Latino'
O_SRRACEA='Race: White'
SRRACEA ='Race: White'
O_SRRACEB='Race: Black or African American'
SRRACEB ='Race: Black or African American'
O_SRRACEC='Race: American Indian or Alaska Native'
SRRACEC ='Race: American Indian or Alaska Native'
O_SRRACED='Race: Asian'
SRRACED ='Race: Asian'
O_SRRACEE='Race: Native Hawaiian/other Pacific Isl.'
SRRACEE ='Race: Native Hawaiian/other Pacific Isl.'
O_SRAGE ='What is your age now'
SRAGE   ='What is your age now'

O_S&YR.009="Same prsnl doctor/nurse before this hlth plan"
S&YR.009 ="Same prsnl doctor/nurse before this hlth plan"
O_S&YR.010="Prblm getting prsnl doctor/nurse you are happy with"
S&YR.010 ="Prblm getting prsnl doctor/nurse you are happy with"

O_S&YR.011 ="Agree/disagree: able to see provider when needed"
S&YR.011="Agree/disagree: able to see provider when needed"
O_S&YR.014 ="How satisfied with health care during last visit"
S&YR.014="How satisfied with health care during last visit"

O_S&YR.B01='Self rate of overall mental/emotional health'
S&YR.B01 ='Self rate of overall mental/emotional health'
O_S&YR.B02='Lst yr: needed treatmnt/cnslng-prsnl prob'
S&YR.B02 ='Lst yr: needed treatmnt/cnslng-prsnl prob'
O_S&YR.B03='Lst yr: prblm gttng needed treatmnt/cnslng'
S&YR.B03 ='Lst yr: prblm gttng needed treatmnt/cnslng'
O_S&YR.B04='Lst yr: rate of treatmnt/cnslng received'
S&YR.B04 ='Lst yr: rate of treatmnt/cnslng received'

O_S&YR.B01='Self rate of overall mental/emotional health'
S&YR.B01 ='Self rate of overall mental/emotional health'
O_S&YR.B02='Lst yr: needed treatmnt/cnslng-prsnl prob'
S&YR.B02 ='Lst yr: needed treatmnt/cnslng-prsnl prob'
O_S&YR.B03='Lst yr: prblm gttng needed treatmnt/cnslng'
S&YR.B03 ='Lst yr: prblm gttng needed treatmnt/cnslng'
O_S&YR.B04='Lst yr: rate of treatmnt/cnslng received'
S&YR.B04 ='Lst yr: rate of treatmnt/cnslng received'

O_S&YR.BF4="Often do you use e-cigarettes"
S&YR.BF4 ="Often do you use e-cigarettes"

O_S&YR.BG01 ='How many days was phys health not good in past 30 days'
S&YR.BG01   ='How many days was phys health not good in past 30 days'
O_S&YR.BG02 ='How many days was mental health not good in past 30 days'
S&YR.BG02   ='How many days was mental health not good in past 30 days'
O_S&YR.BG03 ='How many days did poor health stop usual activities in past 30 days'
S&YR.BG03   ='How many days did poor health stop usual activities in past 30 days'

O_S&YR.BJ01 ="Do you have any children under the age of 18 living at home with you?"
S&YR.BJ01   ="Do you have any children under the age of 18 living at home with you?"
O_S&YR.BJ02 ="How much of a problem is it for you to make child care arrangements?"
S&YR.BJ02   ="How much of a problem is it for you to make child care arrangements?"
O_S&YR.BJ03 ="How concerned are you about your child's/children's education?"
S&YR.BJ03   ="How concerned are you about your child's/children's education?"
O_S&YR.BJ04 ="How concerned are you about: Your health problems?"
S&YR.BJ04   ="How concerned are you about: Your health problems?"
O_S&YR.BJ05 ="How concerned are you about: The health problems of a family member?"
S&YR.BJ05   ="How concerned are you about: The health problems of a family member?"
O_S&YR.BJ06 ="How concerned are you about: Managing household expenses?"
S&YR.BJ06   ="How concerned are you about: Managing household expenses?"
O_S&YR.BJ07 ="How concerned are you about: Major financial hardship or bankruptcy in your family?"
S&YR.BJ07   ="How concerned are you about: Major financial hardship or bankruptcy in your family?"
O_S&YR.BJ08 ="How concerned are you about: The demands of your job?"
S&YR.BJ08   ="How concerned are you about: The demands of your job?"
O_S&YR.BJ09 ="How concerned are you about: The demands of going to school?"
S&YR.BJ09   ="How concerned are you about: The demands of going to school?"

O_S&YR.BJ10 ="Are you married?"
S&YR.BJ10   ="Are you married?"
O_S&YR.BJ11 ="How concerned are you about: Poor communication with your spouse?"
S&YR.BJ11   ="How concerned are you about: Poor communication with your spouse?"
O_S&YR.BJ12 ="How concerned are you about: Arguments with your spouse?"
S&YR.BJ12   ="How concerned are you about: Arguments with your spouse?"
O_S&YR.BJ13 ="How concerned are you about: Marital problems between you and your spouse?"
S&YR.BJ13   ="How concerned are you about: Marital problems between you and your spouse?"
O_S&YR.BJ14 ="Has your spouse been on deployment during the past 30 days?"
S&YR.BJ14   ="Has your spouse been on deployment during the past 30 days?"

N1   = "Coding Scheme Note 1"
N2   = "Coding Scheme Note 2"
N3   = "Coding Scheme Note 3"
N4   = "Coding Scheme Note 4"
N5   = "Coding Scheme Note 5"
N5   = "Coding Scheme Note 5"
N6   = "Coding Scheme Note 6"
N7   = "Coding Scheme Note 7"
N8   = "Coding Scheme Note 8"
N8_01 = "Coding Scheme Note 8_01"
N9   = "Coding Scheme Note 9"
N10 = "Coding Scheme Note 10"
N10_B1= "Coding Scheme Note 10_B1"
N12 = "Coding Scheme Note 12"
N13 = "Coding Scheme Note 13"
N14 = "Coding Scheme Note 14"

```
N15  = "Coding Scheme Note 15"
N16  = "Coding Scheme Note 16"
N17  = "Coding Scheme Note 17"
N18  = "Coding Scheme Note 18"
N19A = "Coding Scheme Note 19A"
N19B = "Coding Scheme Note 19B"
N20  = "Coding Scheme Note 20"
N21  = "Coding Scheme Note 21"
N21_BG1= "Coding Scheme Note 21_BG1"
N21_BG2= "Coding Scheme Note 21_BG2"
N21_BG3= "Coding Scheme Note 21_BG3"
N23_HT= "Coding Scheme Note 23_HT"
N23_WT= "Coding Scheme Note 23_WT"
N24  = "Coding Scheme Note 24"
N24_BJ1="Coding Scheme Note 24_BJ1"
N24_BJ2="Coding Scheme Note 24_BJ2"

MISS_1 = "Count of original survey responses (pre-cleaning): violates skip pattern"
/*MISS_3 = "Count of original survey responses (pre-cleaning): do not use other tobacco products
response"*/
MISS_4 = "Count of original survey responses (pre-cleaning): incomplete grid error"
MISS_5 = "Count of original survey responses (pre-cleaning): scalable reponse of don't know"
MISS_6 = "Count of original survey responses (pre-cleaning): not applicable - valid skip"
MISS_7 = "Count of original survey responses (pre-cleaning): out-of-range error"
MISS_9 = "Count of original survey responses (pre-cleaning): no response - invalid skip"
MISS_TOT = "Total number of missing responses (pre-cleaning)"
XSEXA = "Male or Female  - R"
;
```

F.2.E Q3FY2020\PROGRAMS\CODINGSCHEME\CSCHM20Q.SAS - Implement Coding Scheme and Coding Tables for Quarter 3 FY2020

```
******************************************************************************;
*  Program: Cschmyyq.sas
*  Written: 06/04/2001
*   Author: C. Rankin
*
*   Input:  MERGESYN.sas7bdat - Merged MPR Sampling, DEERS, and Synovate Response Data
*   Output:  CSCHMyyQ.sas7bdat - Coding scheme file
*
* Modified:
*        12/15/2012 - Removed logic for handling check boxes for height and
*                weight variables. Also no longer have to convert the
*                weight variable from character to numeric
*        12/21/2012 - Added code on line 146 to correct out of range height (in)
*        12/18/2013 - Updated for Q1 2014 - added ht/wt note
*        09/29/2014 - Added SQL statement to automatically make varlist1, varlist2, and marked variables
*         07/22/2015 - NOPRINT added to first PROC SQL
*        02/02/2016 BY MTURBYFILL Add VARNUM to PROC CONTENTS
*        04/29/2016 - Added recoding for H16003, should be used only for 2016Q2.
*        02/10/2017 - Changed filepaths and capitalization to match SAS Grid.
*                Removed additional female-specific fields from notes 19A and 19B.
*                        04/21/2017 - H__032 is removed for the foreseeable future.
*        04/05/2018 - Notes 10_B1, 22, 23, and 25 are removed
*
*  Purpose:  Apply Coding Scheme Specifications to DoD Health Care Survey
*         Response Data, check for consistency in responses and skip
*         patterns
*  Include
*    files: Cschmyyq.fmt
*
******************************************************************************;

OPTIONS PS=80 LS=120 NOCENTER COMPRESS=YES SOURCE SOURCE2 VARLENCHK=NOWARN;
title "Coding Scheme for Q&qt. FY&yr."; title2; title3;

%LET INDATA=MERGESYN;
%LET OUTDATA=CSCHM&yr.q;

LIBNAME LIBRARY   "&fmtpath.";
LIBNAME IN        "&datapath.";
LIBNAME OUT       "&datapath.";

%MACRO CSCHM;
DATA &INDATA;

 SET IN.&INDATA;

*RENAME AND CREATE VARIABLES NEEDED FOR CODING SCHEME;

 RENAME SRACEA = SRRACEA;
```

```
  RENAME SRACEB = SRRACEB;
  RENAME SRACEC = SRRACEC;
  RENAME SRACED = SRRACED;
  RENAME SRACEE = SRRACEE;

RENAME INTERVIEWTIME = INTTIME;

  SEX=PNSEXCD;
  AGE=INPUT(DAGEQY,8.);

RUN;

*Create list of variables from dataset;
*O_ variables are the original values from the survey response;
*Must remove any variable that ends with an alphabetic letter that
is not a marked/unmarked variable from the 'markedvars' line of code;
PROC SQL NOPRINT;
  CREATE TABLE VARIABLES AS
    SELECT UPCASE(NAME) AS VARS,
        UPCASE(CAT('O_', NAME)) AS OVARS,
        CASE WHEN SUBSTR(NAME,LENGTH(NAME)) NOT IN ('0' '1' '2' '3' '4' '5' '6' '7' '8' '9')
            AND NAME NOT IN ("H&YR.059B", "H&YR.071F" ,"H&YR.071I", "SREDA", "SRAGE")
            THEN UPCASE(NAME) END AS MARKEDVARS,
        CASE WHEN CALCULATED MARKEDVARS NE ''
            THEN UPCASE(CAT('O_', CALCULATED MARKEDVARS)) END AS OMARKEDVARS
    FROM DICTIONARY.COLUMNS
    WHERE LIBNAME = 'WORK' AND MEMNAME = "&INDATA"
        AND (NAME CONTAINS ("H&YR.") OR NAME CONTAINS ("S&YR.") OR (NAME CONTAINS ("SR") AND NAME
NE "DHSRGN")) ;
    SELECT COMPRESS(VARS), COMPRESS(OVARS), COMPRESS(MARKEDVARS), COMPRESS(OMARKEDVARS)
    INTO :VARLIST1 SEPARATED BY " ",
        :VARLIST2 SEPARATED BY " ",
        :MARKEDVARS SEPARATED BY " ",
        :OMARKEDVARS SEPARATED BY " "
    FROM VARIABLES;
QUIT;

/*For Q1FY2019, recoding H19003 so that any responses for tricare for life(18) are recoded to medicare(4)
2/15/2019*/
data variables;
  set variables;
  if H&YR.003=18 then H&YR.003=4;
run;

proc print data=variables; run;

%PUT &VARLIST1;
%PUT &VARLIST2;
%PUT &MARKEDVARS;
%PUT &OMARKEDVARS;

TITLE  "DoD 20&YR Survey";
TITLE2 "Apply Coding Scheme";
```

```
DATA OUT.&outdata.;
/* label and format statements for original variables */
  LENGTH &VARLIST1. &VARLIST2. 4. MPRID $8.;
  INFORMAT &VARLIST2. 4.;

  %INCLUDE "cschm&YR.q.fmt";

  SET &INDATA;

*****************************************************************;
**** Recodes for invalid responses:****************************;
*****************************************************************;

/* This is a version of the coding scheme and coding tables for the
  FY 20&YR. HCSDB Form A.
  The following tables outline the coding of screening questions (skip),
  and subsequent items to be answered (or not answered in a series
  following a skip question.) */

/* First set up new variables that capture the original values */
/* recode the initial numeric values to the SAS numeric values */
/* specified in the coding scheme                    */

  ARRAY RECODE(*) &VARLIST1;
  ARRAY  ORIG(*) &VARLIST2;

  DO I = 1 to DIM(ORIG);
    ORIG(I) = RECODE(I);
    IF ORIG(I) < 0 THEN DO;
        IF ORIG(I)= -9 THEN RECODE(I)=.;
      ELSE IF ORIG(I)= -7 THEN RECODE(I)=.O;
      ELSE IF ORIG(I)= -6 THEN RECODE(I)=.N;
      ELSE IF ORIG(I)= -5 THEN RECODE(I)=.D;
      ELSE IF ORIG(I)= -4 THEN RECODE(I)=.I;
      ELSE IF ORIG(I)= -1 THEN RECODE(I)=.C;
    END;
  END;
  DROP I;

/* recode selected responses to be 1=marked, 2=unmarked */

  ARRAY  MARKED(*) &MARKEDVARS. ;
  ARRAY INFORMAT(*) &OMARKEDVARS. ;


  DO J=1 TO DIM(INFORMAT);
    IF INFORMAT(J) = 1 THEN MARKED(J)=1;
    ELSE MARKED(J)=2;
  END;
  DROP J;

  FORMAT &MARKEDVARS. MARKED.;
```

```
*********************************************************************;

/*  skip coding scheme for all surveys not returned **/

 IF FLAG_FIN NE 1 THEN GOTO NOSURVEY;

/** Note 1 -- H&YR.003, H&YR.004 health plan usage  **/

  IF H&YR.003 > 0 THEN N1=1;
  ELSE IF H&YR.003=.N  OR H&YR.003=.D THEN DO;
    IF H&YR.004 NOT=. THEN DO;
      N1=2;
      H&YR.004=.C;
    END;
    ELSE DO;
      N1=3;
      H&YR.004=.N;
    END;
  END;
  ELSE IF H&YR.003=.  THEN N1=4;

/** Note 2 -- H&YR.006,H&YR.007,H&YR.008: illness or injury **/

  ARRAY NOTE2 H&YR.007 H&YR.008;
  N2MARK=0;
  N2NMISS=0;
  N2NN=0;

  DO OVER NOTE2;
    IF NOTE2 NE . THEN N2NMISS+1;
    IF NOTE2 NOT IN (.N,.) THEN N2MARK+1;
    IF NOTE2 EQ .N THEN N2NN+1;
  END;

  IF H&YR.006=1 AND N2NMISS=0 THEN DO;
     N2=1;
  END;
  ELSE IF H&YR.006 IN (1,.) AND N2NMISS>0 AND N2MARK=0 THEN DO;
    H&YR.006=2;
    N2=2;
    DO OVER NOTE2;
      IF NOTE2=. THEN NOTE2=.N;
      ELSE NOTE2=.C;
    END;
  END;
  ELSE IF H&YR.006=1 AND N2MARK=1 AND N2NN=1 THEN  DO;
    DO OVER NOTE2;
      IF NOTE2=.N THEN NOTE2=.;
    END;
    N2=3;
  END;
  ELSE IF H&YR.006=1 AND N2MARK>0 THEN DO;
```

```
      N2=4;
    END;
    ELSE IF H&YR.006=2 AND N2MARK=1 AND N2NN=1  THEN  DO;
      H&YR.007=.C;
      H&YR.008=.C;
      N2=5;
    END;
    ELSE IF H&YR.006 IN (2,.) AND N2MARK>0 THEN DO;
      H&YR.006=1;
      N2=6;
      DO OVER NOTE2;
        IF NOTE2=.N THEN NOTE2=.;
      END;
    END;
    ELSE IF H&YR.006=2 AND (N2NMISS=0 OR (N2NMISS>0 AND N2MARK=0)) THEN DO;
      N2=7;
      DO OVER NOTE2;
        IF NOTE2=. THEN NOTE2=.N;
        ELSE NOTE2=.C;
      END;
    END;
    ELSE IF H&YR.006=.  AND N2NMISS=0 THEN N2=8;

    DROP N2NMISS N2MARK N2NN;

  /** Note 3 -- H&YR.009,H&YR.010,H&YR.011:  regular or routine healthcare **/

    ARRAY Note3 H&YR.010 H&YR.011;
    N3MARK=0;
    N3NMISS=0;
    N3NN=0;

    DO OVER Note3;
      IF Note3 NE . THEN N3NMISS+1;
      IF Note3 NOT IN (.N,.) THEN N3MARK+1;
      IF Note3 EQ .N THEN N3NN+1;
    END;

    IF H&YR.009=1 AND N3NMISS=0 THEN DO;
      N3=1;
    END;
    ELSE IF H&YR.009 IN (1,.) AND N3NMISS>0 AND N3MARK=0 THEN DO;
      H&YR.009=2;
      N3=2;
      DO OVER Note3;
        IF Note3=. THEN Note3=.N;
        ELSE Note3=.C;
      END;
    END;
    ELSE IF H&YR.009=1 AND N3MARK=1 AND N3NN=1 THEN  DO;
      DO OVER Note3;
        IF Note3=.N THEN Note3=.;
      END;
```

```
      N3=3;
    END;
    ELSE IF H&YR.009=1 AND N3MARK>0 THEN DO;
      N3=4;
    END;
    ELSE IF H&YR.009=2 AND N3MARK=1 AND N3NN=1  THEN  DO;
      H&YR.010=.C;
      H&YR.011=.C;
      N3=5;
    END;
    ELSE IF H&YR.009 IN (2,.) AND N3MARK>0 THEN DO;
      H&YR.009=1;
      N3=6;
      DO OVER Note3;
        IF Note3=.N THEN Note3=.;
      END;
    END;
    ELSE IF H&YR.009=2 AND (N3NMISS=0 OR (N3NMISS>0 AND N3MARK=0)) THEN DO;
      N3=7;
      DO OVER Note3;
        IF Note3=. THEN Note3=.N;
        ELSE Note3=.C;
      END;
    END;
    ELSE IF H&YR.009=.  AND N3NMISS=0 THEN N3=8;

    DROP N3NMISS N3MARK N3NN;

  /** Note 4 -- H&YR.013, H&YR.014-H&YR.017: doctor's office or clinic **/

    ARRAY NOTE4  H&YR.014-H&YR.017 ;

    N4MARK=0;
    N4NMISS=0;

    DO OVER NOTE4;
      IF NOTE4 NE . THEN N4NMISS+1;
    END;

    IF H&YR.013=1 THEN DO;
      N4=1;
      DO OVER NOTE4;
        IF NOTE4=. THEN NOTE4=.N;
        ELSE NOTE4=.C;
      END;
    END;
    ELSE IF H&YR.013 IN (2,3,4,5,6,7) AND N4NMISS=0 THEN DO;
      H&YR.013=1;
      N4=2;
      DO OVER NOTE4;
        IF NOTE4=. THEN NOTE4=.N;
        ELSE NOTE4=.C;
      END;
```

```
    END;
  ELSE IF H&YR.013 IN (2,3,4,5,6,7) AND (N4NMISS>0) THEN DO;
    DO OVER NOTE4;
      IF NOTE4=.N THEN NOTE4=.;
    END;
    N4=3;
  END;
  ELSE IF H&YR.013=. THEN N4=4;

  DROP N4NMISS N4MARK;

/** Note 5 -- H&YR.015, H&YR.016-H&YR.017: doctor's office or clinic-treatment **/

  IF H&YR.015 IN (.N,.C) THEN N5=1;
  ELSE IF H&YR.015=1 THEN N5=2;
  ELSE IF H&YR.015 IN (2,.) AND H&YR.016 IN (1,2) THEN DO;
    N5=3;
    H&YR.015=1;
  END;
  ELSE IF H&YR.015 IN (2,.) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (1,2)) THEN DO;
    N5=4;
    H&YR.015=1;
  END;
  ELSE IF H&YR.015 IN (2) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (3,4,.)) THEN DO;
    N5=5;
    IF H&YR.016 = . THEN H&YR.016 = .N;
    ELSE H&YR.016 = .C;
    IF H&YR.017 = . THEN H&YR.017 = .N;
    ELSE H&YR.017 = .C;
  END;
  ELSE IF H&YR.015 IN (.) AND (H&YR.016 IN (3,4,.) AND H&YR.017 IN (3,4,.)) THEN DO;
    N5=6;
  END;

/** Note 6 -- H&YR.019, H&YR.020-H&YR.027, S&YR.009: personal doctor **/
/* MER 07/01/09 */

  ARRAY NOTE6 H&YR.021-H&YR.024;

  N6MARK=0;

  DO OVER NOTE6;
    IF NOTE6 NOT IN (., .N) THEN N6MARK+1;
  END;

  IF H&YR.020 NOT IN (0,.) THEN N6MARK+1;

  IF H&YR.019 = 1 THEN DO;
    N6=1;
    IF H&YR.027=.N THEN H&YR.027=.;
  END;
  ELSE IF H&YR.019 in (2,.) AND H&YR.027 in (0,1,2,3,4,5,6,7,8,9,10) THEN DO;
    N6=2;
```

```
    H&YR.019=1;
END;
ELSE IF H&YR.019 in (2,.) AND N6MARK>0 AND H&YR.027 = . THEN DO;
  N6=3;
  H&YR.019=1;
END;
ELSE IF H&YR.019 = 2 AND N6MARK>0 AND H&YR.027 = .N THEN DO;
  N6=4;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
  END;
  IF H&YR.025=. THEN H&YR.025=.N;
  ELSE H&YR.025=.C;
  IF H&YR.026=. THEN H&YR.026=.N;
  ELSE H&YR.026=.C;
  IF S&YR.009=. THEN S&YR.009=.N;
  ELSE S&YR.009=.C;
  H&YR.027=.C;
END;
ELSE IF H&YR.019 = 2 AND N6MARK=0 AND H&YR.027 in (.N,.) THEN DO;
  N6=5;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
  END;
  IF H&YR.025=. THEN H&YR.025=.N;
  ELSE H&YR.025=.C;
  IF H&YR.026=. THEN H&YR.026=.N;
  ELSE H&YR.026=.C;
  IF S&YR.009=. THEN S&YR.009=.N;
  ELSE S&YR.009=.C;
  IF H&YR.027=. THEN H&YR.027=.N;
  ELSE H&YR.027=.C;
END;
ELSE IF H&YR.019 = . AND H&YR.027 = .N THEN DO; /* MER 07/31/09 combined rows 6 and 7 */
  N6=6;
  H&YR.019=2;
  IF H&YR.020=. THEN H&YR.020=.N;
  ELSE H&YR.020=.C;
  DO OVER NOTE6;
    IF NOTE6=. THEN NOTE6=.N;
    ELSE NOTE6=.C;
  END;
  IF H&YR.025=. THEN H&YR.025=.N;
  ELSE H&YR.025=.C;
  IF H&YR.026=. THEN H&YR.026=.N;
  ELSE H&YR.026=.C;
  IF S&YR.009=. THEN S&YR.009=.N;
```

```
    ELSE S&YR.009=.C;
     H&YR.027=.C;
   END;
   ELSE IF H&YR.019 = . AND N6MARK=0 AND H&YR.027 = . THEN N6=7;

   DROP N6MARK;

/** Note 7 -- H&YR.020, H&YR.021-H&YR.026: personal doctor visit **/

   ARRAY NOTE7  H&YR.021-H&YR.026;

  N7MARK=0;
  N7NMISS=0;

  DO OVER NOTE7;
    IF NOTE7 NE . THEN N7NMISS+1;
    IF NOTE7 NOT IN  (., .N) THEN N7MARK+1;
  END;
  IF H&YR.025=2 THEN N7NMISS=N7NMISS-1;
  IF H&YR.025=2 THEN N7MARK=N7MARK-1;

  IF H&YR.020 IN (.N, .C) THEN N7=1;
  ELSE IF H&YR.020=0 THEN DO;
    N7=2;
    DO OVER NOTE7;
      IF NOTE7=. THEN NOTE7=.N;
      ELSE NOTE7=.C;
    END;
  END;
  ELSE IF H&YR.020 IN (1,2,3,4,5,6,.) AND N7NMISS>0 AND N7MARK=0 THEN DO;
    H&YR.020=0;
    N7=3;
    DO OVER NOTE7;
      IF NOTE7=. THEN NOTE7=.N;
      ELSE NOTE7=.C;
    END;
  END;
  ELSE IF H&YR.020 IN (1,2,3,4,5,6,.) AND (N7NMISS=0 OR N7MARK>0) THEN DO;
    DO OVER NOTE7;
      IF NOTE7=.N THEN NOTE7=.;
    END;
    N7=4;
  END;

   DROP N7NMISS N7MARK;

/** Note 8 -- H&YR.025, H&YR.026:  care from another doctor or healthcare provider **/

  IF H&YR.025 IN (.N, .C) THEN N8=1;
  ELSE IF H&YR.025=1 THEN N8=2;
  ELSE IF H&YR.025 IN (2,.) AND H&YR.026 IN (1,2,3,4) THEN DO;
    H&YR.025=1;
    N8=3;
```

```
  END;
 ELSE IF H&YR.025=2 AND H&YR.026 IN (.) THEN DO;
   H&YR.026=.N;
   N8=4;
 END;
 ELSE IF H&YR.025=. AND H&YR.026=. THEN N8=5;

/** Note 8_01 -- S&YR.009, S&YR.010:  problem getting new personal doctor or nurse **/

 IF S&YR.009 IN (.N,.C) THEN N8_01=1; /* MER 07/31/09 gave each S&YR.009 value its own row for analysis
purposes */
 ELSE IF S&YR.009=1 THEN DO;
   N8_01=2;
   IF S&YR.010=. THEN S&YR.010=.N;
   ELSE S&YR.010=.C;
 END;
 ELSE IF S&YR.009=2 THEN N8_01=3;
 ELSE IF S&YR.009=. THEN N8_01=4;  /* MER 07/31/09 eliminated backward coding for missing S&YR.009 */

/** Note 9 -- H&YR.028, H&YR.029-H&YR.031:  needed to see a specialist in last 12 months **/

 ARRAY NOTE9  H&YR.029 H&YR.031;

 N9MARK=0;
 N9NMISS=0;

 DO OVER NOTE9;
   IF NOTE9 NE . THEN N9NMISS+1;
   IF NOTE9 NOT IN  (., .N) THEN N9MARK+1;
 END;

 IF H&YR.030 NE . THEN N9NMISS+1;
 IF H&YR.030 NOT IN (.,0) THEN N9MARK+1;

 IF H&YR.028 IN (1)  THEN DO;
   N9=1;
   IF H&YR.029=.N THEN H&YR.029=.;
 END;
 ELSE IF H&YR.028 in (2,.) AND N9MARK>0 THEN DO;
   N9=2;
   H&YR.028=1;
   IF H&YR.029=.N THEN H&YR.029=.;
 END;
 ELSE IF H&YR.028 in (2) THEN DO;
   N9=3;
   DO OVER NOTE9;
     IF NOTE9=. THEN NOTE9=.N;
     ELSE NOTE9=.C;
   END;
   IF H&YR.030=. THEN H&YR.030=.N;
   ELSE H&YR.030=.C;
 END;
 ELSE IF H&YR.028=.  AND N9NMISS>0 AND N9MARK=0 THEN DO;
```

```
    N9=4;
    H&YR.028=2;
    DO OVER NOTE9;
      IF NOTE9=. THEN NOTE9=.N;
      ELSE NOTE9=.C;
    END;
    IF H&YR.030=. THEN H&YR.030=.N;
    ELSE H&YR.030=.C;
  END;
  ELSE IF H&YR.028=.  AND N9NMISS=0 THEN N9=5;

  DROP N9NMISS N9MARK;

/** Note 10 -- H&YR.030, H&YR.031: saw a specialist in last 12 months **/

  IF H&YR.030 IN (.N,.C) AND H&YR.031 IN (.N,.C) THEN N10=1;
  ELSE IF H&YR.030 IN (1,2,3,4,5) AND H&YR.031 IN (0,1,2,3,4,5,6,7,8,9,10,.) THEN N10=2;
  ELSE IF H&YR.030 IN (1,2,3,4,5,.) AND H&YR.031 = .N THEN DO;
    N10=3;
    H&YR.030=0;
    H&YR.031=.C;
  END;
  ELSE IF H&YR.030 = 0 THEN DO;
    N10=4;
    IF H&YR.031 = . THEN H&YR.031 = .N;
    ELSE H&YR.031 = .C;
  END;
  ELSE IF H&YR.030 = . AND H&YR.031 IN (0,1,2,3,4,5,6,7,8,9,10,.) THEN N10=5;

/** Note 10_B1 -- S&YR.B02, S&YR.B03-S&YR.B04: overall mental health **/

  ARRAY NOTE10B1  S&YR.B03-S&YR.B04;

  N10B1MARK=0;
  N10B1NMISS=0;

  DO OVER NOTE10B1;
    IF NOTE10B1 NE . THEN N10B1NMISS+1;
    IF NOTE10B1 NOT IN  (.,.N) THEN N10B1MARK+1;
  END;

  IF S&YR.B02 = 1 THEN DO;
    N10_B1=1;
    DO OVER NOTE10B1;
      IF NOTE10B1=.N THEN NOTE10B1=.;
    END;
  END;
  ELSE IF S&YR.B02 IN (2,.) AND (N10B1MARK>0) THEN DO;
    N10_B1=2;
    S&YR.B02=1;
    DO OVER NOTE10B1;
      IF NOTE10B1=.N THEN NOTE10B1=.;
    END;
```

```
    END;
  ELSE IF S&YR.B02=2  AND (N10B1NMISS=0 OR (N10B1NMISS > 0 AND N10B1MARK = 0)) THEN DO;
    N10_B1=3;
    DO OVER NOTE10B1;
      IF NOTE10B1 = . THEN NOTE10B1=.N;
      ELSE NOTE10B1 = .C;
    END;
  END;
  ELSE IF S&YR.B02 IN (.) AND (N10B1NMISS > 0 AND N10B1MARK = 0) THEN DO;
    N10_B1=4;
    S&YR.B02=2;
    DO OVER NOTE10B1;
      IF NOTE10B1 = . THEN NOTE10B1=.N;
      ELSE NOTE10B1 = .C;
    END;
  END;
  ELSE IF S&YR.B02 IN (.) AND N10B1NMISS=0 THEN N10_B1=5;

    DROP N10B1NMISS N10B1MARK;

/** Note 12 -- H&YR.034, H&YR.035:  look for info in written materials or on internet**/
  IF H&YR.034=1 AND H&YR.035 IN (1,2,3,4,.) THEN N12=1;
  ELSE IF H&YR.034 IN (1,.) AND H&YR.035=.N THEN DO;
    N12=2;
    H&YR.034=2;
    H&YR.035=.C;
  END;
  ELSE IF H&YR.034 IN (2,.) AND H&YR.035 IN (1,2,3,4) THEN DO;
    N12=3;
    H&YR.034=1;
  END;
  ELSE IF H&YR.034=2 AND H&YR.035 IN (.N,.) THEN DO;
    N12=4;
    IF H&YR.035=. THEN H&YR.035=.N;
    ELSE H&YR.035=.C;
  END;
  ELSE IF H&YR.034=. AND H&YR.035=. THEN N12=5;

/** Note 13 -- H&YR.036, H&YR.037:  tried to get cost of service/equipment from health plan**/

  IF H&YR.036=1 AND H&YR.037 IN (1,2,3,4,.) THEN N13=1;
  ELSE IF H&YR.036 IN (1,.) AND H&YR.037=.N THEN DO;
    H&YR.036=2;
    H&YR.037=.C;
    N13=2;
  END;
  ELSE IF H&YR.036 IN (2,.) AND H&YR.037 IN (1,2,3,4) THEN DO;
    H&YR.036=1;
    N13=3;
  END;
  ELSE IF H&YR.036=2 AND H&YR.037 IN (.,.N) THEN DO;
    IF H&YR.037=. THEN H&YR.037=.N;
    ELSE H&YR.037=.C;
```

```
    N13=4;
  END;
  ELSE IF H&YR.036=. AND H&YR.037=. THEN N13=5;

/** Note 14 -- H&YR.038, H&YR.039: tried to get cost of prescription meds from health plan**/

  IF H&YR.038=1 AND H&YR.039 IN (1,2,3,4,.) THEN N14=1;
  ELSE IF H&YR.038 IN (1,.) AND H&YR.039=.N THEN DO;
    H&YR.038=2;
    H&YR.039=.C;
    N14=2;
  END;
  ELSE IF H&YR.038 IN (2,.) AND H&YR.039 IN (1,2,3,4) THEN DO;
    H&YR.038=1;
    N14=3;
  END;
  ELSE IF H&YR.038=2 AND H&YR.039 IN (.,.N) THEN DO;
    IF H&YR.039=. THEN H&YR.039=.N;
    ELSE H&YR.039=.C;
    N14=4;
  END;
  ELSE IF H&YR.038=. AND H&YR.039=. THEN N14=5;

/** Note 15 -- H&YR.040, H&YR.041-H&YR.042: tried to use health plan's customer service **/

  ARRAY NOTE15 H&YR.041-H&YR.042;

  N15MARK=0;
  N15NMISS=0;

  DO OVER NOTE15;
    IF NOTE15 NE . THEN N15NMISS+1;
    IF NOTE15 NOT IN (., .N) THEN N15MARK+1;
  END;

  IF H&YR.040 = 1 AND (N15MARK>0 OR N15NMISS=0) THEN DO;
    DO OVER NOTE15;
      IF NOTE15=.N THEN NOTE15=.;
    END;
    N15=1;
  END;
  ELSE IF H&YR.040 IN (1,.) AND (N15NMISS > 0 AND N15MARK = 0) THEN DO;
    N15=2;
    H&YR.040=2;
    DO OVER NOTE15;
      IF NOTE15 = . THEN NOTE15=.N;
      ELSE NOTE15 = .C;
    END;
  END;
  ELSE IF H&YR.040 IN (2,.) AND (N15MARK>0) THEN DO;
    N15=3;
    H&YR.040=1;
    DO OVER NOTE15;
```

```
       IF NOTE15=.N THEN NOTE15=.;
     END;
   END;
   ELSE IF H&YR.040=2  AND (N15NMISS=0 OR (N15NMISS > 0 AND N15MARK = 0)) THEN DO;
     N15=4;
     DO OVER NOTE15;
       IF NOTE15 = . THEN NOTE15=.N;
       ELSE NOTE15 = .C;
     END;
   END;
   ELSE IF H&YR.040 IN (.) AND N15NMISS=0 THEN N15=5;

   DROP N15NMISS N15MARK;

/** Note 16 -- H&YR.043, H&YR.044:  received forms to fill out from health plan **/

  IF H&YR.043=1 AND H&YR.044 IN (1,2,3,4,.) THEN N16=1;
  ELSE IF H&YR.043 IN (1,.) AND H&YR.044=.N THEN DO;
    H&YR.043=2;
    H&YR.044=.C;
    N16=2;
  END;
  ELSE IF H&YR.043 IN (2,.) AND H&YR.044 IN (1,2,3,4) THEN DO;
    H&YR.043=1;
    N16=3;
  END;
  ELSE IF H&YR.043=2 AND H&YR.044 IN (.,.N) THEN DO;
    IF H&YR.044=. THEN H&YR.044=.N;
    ELSE H&YR.044=.C;
    N16=4;
  END;
  ELSE IF H&YR.043=.  AND H&YR.044=.  THEN N16=5;

/** Note 17 -- H&YR.045, H&YR.046-H&YR.047: claims to health plan **/

  ARRAY NOTE17 H&YR.046-H&YR.047;
  N17MARK=0;
  N17NDK=0;

  DO OVER NOTE17;
    IF NOTE17 NOT IN (.N,.D,.) THEN N17MARK+1; /* At least one is marked */
    IF NOTE17 NOT IN (.,.D) THEN N17NDK+1; /* All are missing or blank or dnk */
  END;

  IF H&YR.045=1 AND (N17MARK>0 OR N17NDK=0) THEN DO;
    N17=1;
    DO OVER NOTE17;
      IF NOTE17=.N THEN NOTE17=.;
    END;
  END;
  ELSE IF H&YR.045 IN (1,.,.D) AND N17MARK=0 AND N17NDK>0 THEN DO;
    N17=2;
    H&YR.045=2;
```

```
    DO OVER NOTE17;
      IF NOTE17=. THEN NOTE17=.N;
      ELSE NOTE17=.C;
    END;
  END;
  ELSE IF H&YR.045 IN (2,.,.D) AND N17MARK>0
    THEN DO;
   H&YR.045=1;
   N17=3;
    DO OVER NOTE17;
      IF NOTE17=.N THEN NOTE17=.;
    END;
  END;
  ELSE IF H&YR.045 IN (2) AND N17MARK=0 THEN DO;
    N17=4;
    DO OVER NOTE17;
      IF NOTE17=. THEN NOTE17=.N;
      ELSE NOTE17=.C;
    END;
  END;
  ELSE IF H&YR.045 IN (.D) AND N17NDK=0 THEN DO;
    N17=5;
    DO OVER NOTE17;
      IF NOTE17=. THEN NOTE17=.N;
      ELSE NOTE17=.C;
    END;
  END;
  ELSE IF H&YR.045 IN (.) AND N17NDK=0 THEN N17=6;

  DROP N17MARK N17NDK;

/** Note 18 -- smoking:  H&YR.053, H&YR.054-H&YR.056, H&YR.057A-H&YR.057D **/

  ARRAY NOTE18a H&YR.054 H&YR.055 H&YR.056;
  ARRAY NOTE18b H&YR.057A--H&YR.057D;

  N18MARK = 0;

  DO OVER NOTE18b;
    IF NOTE18b NOT IN (2,.) THEN N18MARK+1;
  END;

  IF H&YR.053 IN (3,4,.) THEN N18=1;
  ELSE IF H&YR.053 IN (2,.D) AND N18MARK = 0 THEN DO;
    N18=2;
    DO OVER NOTE18a;
      IF NOTE18a=. THEN NOTE18a=.N;
      ELSE NOTE18a=.C;
    END;
    DO OVER NOTE18b;
      IF NOTE18b IN (2,.) THEN NOTE18b=.N;
      ELSE NOTE18b=.C;
    END;
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```
      END;
      ELSE IF H&YR.053 = 2 AND N18MARK > 0 THEN DO;
        N18=3;
        H&YR.053=.;
      END;
      ELSE IF H&YR.053 = .D AND N18MARK > 0 THEN DO;
        N18=4;
        DO OVER NOTE18a;
          IF NOTE18a=. THEN NOTE18a=.N;
          ELSE NOTE18a=.C;
        END;
        DO OVER NOTE18b;
          IF NOTE18b IN (2,.) THEN NOTE18b=.N;
          ELSE NOTE18b=.C;
        END;
      END;

      DROP N18MARK;

/** Note 18_BF1 -- e-cigarettes **/

    ARRAY NOTE18BF1 S&YR.BF3 S&YR.BF4 S&YR.BF5 S&YR.BF7 S&YR.BF8A--S&YR.BF8J ;

    N18AFF = 0;

    IF S&YR.BF3 IN (1 2 3 4) THEN N18AFF+1;
    IF S&YR.BF4 IN (1 2) THEN N18AFF+1;
    IF S&YR.BF5 IN (1) THEN N18AFF+1;
    IF S&YR.BF7 IN (1:7) THEN N18AFF+1;
    IF S&YR.BF8A IN (1) THEN N18AFF+1;
    IF S&YR.BF8B IN (1) THEN N18AFF+1;
    IF S&YR.BF8C IN (1) THEN N18AFF+1;
    IF S&YR.BF8D IN (1) THEN N18AFF+1;
    IF S&YR.BF8E IN (1) THEN N18AFF+1;
    IF S&YR.BF8F IN (1) THEN N18AFF+1;
    IF S&YR.BF8G IN (1) THEN N18AFF+1;
    IF S&YR.BF8H IN (1) THEN N18AFF+1;
    IF S&YR.BF8I IN (1) THEN N18AFF+1;
    IF S&YR.BF8J IN (1) THEN N18AFF+1;

    IF S&YR.BF2 = 1 THEN N18_BF1=1;
    ELSE IF S&YR.BF2 IN (2, .D) THEN DO;
      N18_BF1=2;
      DO OVER NOTE18BF1;
        IF NOTE18BF1 = . THEN NOTE18BF1 = .N;
        ELSE NOTE18BF1 = .C;
      END;
    END;
    ELSE IF S&YR.BF2 = . THEN DO;
      IF N18AFF>0 THEN DO;
        N18_BF1=3;
        S&YR.BF2=1;
      END;
```

```
      ELSE N18_BF1=4;
    END;

    DROP N18AFF;

/** Note 18_BF2 -- e-cigarettes **/

    ARRAY NOTE18BF2 S&YR.BF5 S&YR.BF8A--S&YR.BF8J;

    IF S&YR.BF4 IN (1 2 .) THEN N18_BF2 = 1;
    ELSE IF S&YR.BF4 IN (3 .D) THEN DO;
      N18_BF2=2;
    DO OVER NOTE18BF2;
      IF NOTE18BF2 = . THEN NOTE18BF2 = .N;
      ELSE NOTE18BF2 = .C;
    END;
    END;
    ELSE IF S&YR.BF4 IN (.N .C) THEN DO;
      N18_BF2=3;
    END;

/** Note 19a - gender H&YR.058, SEX, H&YR.059B--H&YR.064,
         XSEXA */

/* 1/21/98 use SRSEX & responses to gender specific questions
     if there is discrepancy between SRSEX and SEX */
/* set imputed FMALE and MALE based on gender specific questions */

    ARRAY fmaleval H&YR.059B H&YR.060 H&YR.061 H&YR.062 H&YR.063 H&YR.064
            ;

    cntfmale=0;
    DO OVER fmaleval;         /* mammogram/pap smear/PREGNANT*/
      IF fmaleval>0 THEN cntfmale=cntfmale+1;
    END;

    IF cntfmale>0 THEN FMALE=1;
    ELSE FMALE = 0;

    IF H&YR.058=. THEN DO;
      IF (SEX='F' AND FMALE) THEN DO;
        N19a=1;
        XSEXA=2;
      END;
      ELSE IF (SEX='F' AND FMALE=0) THEN DO;
        N19a=2;
        XSEXA=2;
      END;
      ELSE IF (SEX='M' AND FMALE) THEN DO;
        N19a=3;
        XSEXA=1;
      END;
      ELSE IF (SEX='M' AND FMALE=0) THEN DO;
```

```
        N19a=4;
         XSEXA=1;
        END;
      ELSE IF ((SEX IN ('Z',' ') AND FMALE)) THEN DO;
        N19a=5;
         XSEXA=2;
        END;
      ELSE IF (SEX='Z' AND FMALE=0) THEN DO;
        N19a=6;
         XSEXA=.;
        END;
      ELSE IF (SEX=' ' AND FMALE=0) THEN DO;
        N19a=7;
         XSEXA=.;
        END;
      END;
    ELSE IF (H&YR.058=1) THEN DO;
      IF FMALE=0 THEN DO;
        N19a=8;
         XSEXA=1;
        END;
      ELSE IF FMALE THEN DO;
        IF SEX='F' THEN DO;
          N19a=9;
           XSEXA=2;
          END;
        ELSE DO;
          N19a=10;
           XSEXA=1;
          END;
        END;
      END;
    END;
    ELSE IF (H&YR.058=2) THEN DO;
      IF FMALE THEN DO;
        N19a=11;
        XSEXA=2;
        END;
      ELSE IF FMALE=0 THEN DO;
        IF SEX='M' THEN DO;
         N19a=12;
          XSEXA=1;
         END;
        ELSE DO;
          N19a=13;
           XSEXA=2;
          END;
        END;
      END;
    END;

/* Note 19b - gender vs mammogram/paps/pregnancy */

  ARRAY NOTE19b H&YR.059B H&YR.060 H&YR.061 H&YR.062 H&YR.063 H&YR.064
        ;
```

```
  IF XSEXA=1 THEN DO;  /* male */
   IF FMALE=0 THEN DO;
     N19b=1;
     DO OVER NOTE19b;
       NOTE19b=.N;
     END;
   END;  /* valid skip */
   ELSE IF FMALE=1 THEN DO;
     N19b=2;
     DO OVER NOTE19b;
       IF NOTE19b=. THEN NOTE19b = .N;
       ELSE NOTE19b=.C;
     END;
   END;  /* inconsistent response */
  END;
  ELSE IF XSEXA=2 THEN  N19b=3; /* female */
  ELSE IF XSEXA=. THEN DO;    /*  missing sex  */
    N19b=4;
    DO OVER NOTE19b;
      NOTE19b=.;
    END;
  END;

  DROP FMALE CNTFMALE;

 /* Note 20- breast exam for female 40 or over */

  IF XSEXA=1 THEN DO;  /* male */
   IF  (H&YR.060=.C OR H&YR.060=.N) AND (H&YR.061=.C OR H&YR.061=.N)
   THEN N20 = 1;
  END;
  ELSE IF XSEXA=2 THEN DO;
   IF H&YR.060=2 THEN N20=2;      /* female 40 or over */
   ELSE IF H&YR.060=1 THEN DO;  /* female < 40 */
     IF H&YR.061 NE . THEN H&YR.061=.C;
     ELSE H&YR.061=.N;
     N20=3;
   END;
   ELSE IF H&YR.060=. THEN DO;
     IF H&YR.061 NE . THEN DO;
       H&YR.060=2;
       N20=4;
     END;
     ELSE IF H&YR.061=. THEN DO;
      IF AGE<40 THEN DO;
        H&YR.060 = 1;
        H&YR.061=.N;
        N20=5;
      END;
      ELSE IF AGE >= 40 THEN DO;
        H&YR.060=2;
        N20=6;
      END;
```

```
        ELSE IF AGE=. THEN N20=7;
      END;
    END;
  END;
  ELSE IF XSEXA=. THEN N20=8;


/* Note 21 - gender vs Pregnancy */

  IF XSEXA=1 THEN N21=1;        /* male    */
  ELSE IF XSEXA=2 THEN DO;      /* female  */
    IF H&YR.062=1 THEN DO;        /* pregnant */
      IF H&YR.063=1 THEN DO;
        N21=2;
        IF H&YR.064=. THEN H&YR.064 = .N;
        ELSE H&YR.064=.C;
      END;
      ELSE IF H&YR.063=2 AND H&YR.064 IN (2) THEN DO;
        N21=3;
        H&YR.064=.;
      END;
      ELSE IF H&YR.063=2 AND H&YR.064 IN (4,3,1,.) THEN DO;
        N21=4;
      END;
      ELSE IF H&YR.063 IN (3,.) THEN N21=5;
    END;
    ELSE IF H&YR.062=2 THEN DO;
      IF H&YR.063=. THEN H&YR.063 = .N;
      ELSE H&YR.063=.C;
      N21=6;
    END;
    ELSE IF H&YR.062=3 THEN DO;
      N21=7;
      IF H&YR.063=. THEN H&YR.063 = .N;
      ELSE H&YR.063=.C;
      IF H&YR.064=. THEN H&YR.064=.N;
      ELSE H&YR.064=.C;
    END;
    ELSE IF H&YR.062 IN (.) THEN DO;
      IF H&YR.063=1 THEN DO;
        N21=8;
        H&YR.062=1;
        IF H&YR.064=. THEN H&YR.064 = .N;
        ELSE H&YR.064=.C;
      END;
      ELSE IF H&YR.063=2 AND H&YR.064 IN (2) THEN DO;
        N21=9;
        H&YR.062=1;
        H&YR.064=.;
      END;
      ELSE IF H&YR.063=2 AND H&YR.064 IN (4,3,1,.) THEN DO;
        H&YR.062=1;
        N21=10;
```

```
    END;
    ELSE IF H&YR.063=3 THEN DO;
      H&YR.062=1;
      N21=11;
    END;
    ELSE IF H&YR.063=. THEN DO;
      N21=12;
    END;
    END;
   END;
   ELSE IF XSEXA=. AND H&YR.062 IN (.) THEN N21=13;

   DROP AGE SEX;

/** Note 23_HT -- XSEXA, H&YR.071F, H&YR.071I:  height restrictions              **/
*AMK 9/25/13
 Set height and weight restriction to conform with NHIS 2006 guidelines
 Men: height between 63-76 inches, weight between 126-299 pounds
 Women: height between 59-70 inches, weight between 100-274 pounds;

  *INCHES;
  IF H&YR.071F NE . AND H&YR.071I = . THEN H&YR.071I=0;
  IF H&YR.071F =  . AND H&YR.071I >11 THEN DO;
    H&YR.071F=FLOOR(H&YR.071I/12);
    H&YR.071I=H&YR.071I-(H&YR.071F*12);
  END;
  IF H&YR.071F NE . THEN INCHES=(H&YR.071F*12+H&YR.071I);
  ELSE INCHES=H&YR.071I;

  IF (XSEXA = 1 AND (63<=INCHES<=76 OR INCHES = .)) OR
    (XSEXA = 2 AND (59<=INCHES<=70 OR INCHES = .)) THEN N23_HT=1;
  ELSE IF XSEXA IN (1,2) THEN DO;
    N23_HT=2;
    H&YR.071F=.O;
    H&YR.071I=.O;
  END;
  ELSE IF XSEXA = . THEN DO; *MISSING GENDER;
    IF 59<=INCHES<=76 OR INCHES = . THEN N23_HT=3;
    ELSE DO;
      N23_HT=4;
      H&YR.071F=.O;
      H&YR.071I=.O;
    END;
  END;

  DROP INCHES;

/** Note 23_WT -- H&YR.072:  weight restrictions             **/
*AMK 9/25/13
 Set height and weight restriction to conform with NHIS 2006 guidelines
 Men: height between 63-76 inches, weight between 126-299 pounds
 Women: height between 59-70 inches, weight between 100-274 pounds;
```

```
  IF (XSEXA = 1 AND (126<=H&YR.072<=299 OR H&YR.072 = .)) OR
    (XSEXA = 2 AND (100<=H&YR.072<=274 OR H&YR.072 = .)) THEN N23_WT=1;
  ELSE IF XSEXA IN (1,2) THEN DO;
    N23_WT=2;
    H&YR.072 = .O;
  END;
  ELSE IF XSEXA = . THEN DO; *MISSING GENDER;
    IF 100<=H&YR.072<=299 OR H&YR.072 = . THEN N23_WT=3;
    ELSE DO;
      N23_WT=4;
      H&YR.072=.O;
    END;
  END;

/** Note 24 -- H&YR.073, H&YR.073A-H&YR.073E: Hispanic or Latino origin or descent **/

  /* JMA
  ****Multiple responses were given to this question so H&YR.073 is being created
  ****from the multiple responses.;
  */

  IF H&YR.073B=1 THEN DO;
    N24=1;
    H&YR.073=2;
  END;
  ELSE IF H&YR.073E=1 THEN DO;
    N24=2;
    H&YR.073=5;
  END;
  ELSE IF H&YR.073C=1 THEN DO;
    N24=3;
    H&YR.073=3;
  END;
  ELSE IF H&YR.073D=1 THEN DO;
    N24=4;
    H&YR.073=4;
  END;
  ELSE IF H&YR.073A=1 THEN DO;
    N24=5;
    H&YR.073=1;
  END;
  ELSE IF H&YR.073A IN (2,.) AND H&YR.073B IN (2,.) AND H&YR.073C IN (2,.) AND
        H&YR.073D IN (2,.) AND H&YR.073E IN (2,.) THEN DO;
    N24=6;
    H&YR.073=.;

  END;

NOSURVEY:

/* missing values */

  ARRAY MISS MISS_9 MISS_7 MISS_6 MISS_5 MISS_4 MISS_1;
```

```
  MISS_TOT=0;
  DO OVER MISS;
    MISS = 0;
  END;
  ARRAY MISSARAY &VARLIST2.;

  DO OVER MISSARAY;
    IF (MISSARAY EQ -9 ) THEN MISS_9 = MISS_9 + 1;
    ELSE IF (MISSARAY EQ -7) THEN MISS_7 = MISS_7 + 1;
    ELSE IF (MISSARAY EQ -6) THEN MISS_6 = MISS_6 + 1;
    ELSE IF (MISSARAY EQ -5) THEN MISS_5 = MISS_5 + 1;
    ELSE IF (MISSARAY EQ -4) THEN MISS_4 = MISS_4 + 1;
    ELSE IF (MISSARAY EQ -1) THEN MISS_1 = MISS_1 + 1;
  END;
  DO OVER MISS;
    MISS_TOT=MISS_TOT + MISS;
  END;

************************************************;

 OUTPUT;

RUN;

proc contents data=out.&outdata. varnum;
run;
%MEND;
%CSCHM;
```

F.2.F   Q3FY2020\PROGRAMS\CODINGSCHEME\CSCHM20Q.FMT - Include file for Coding Scheme for Quarter 3 FY2020

/* Formats for original answers to survey questions,
    after variables have been recoded */

 FORMAT H&YR.001   O_H&YR.001 YN.

/* H&YR.002 has no format.*/

 H&YR.003   O_H&YR.003 HPLAN1_.
 H&YR.004   O_H&YR.004 HPTIME.

 H&YR.005   O_H&YR.005 PLACE.

 H&YR.006   O_H&YR.006
 H&YR.009   O_H&YR.009
 H&YR.019   O_H&YR.019
 YN.

 H&YR.007   O_H&YR.007 OFTEN2_.
 H&YR.008   O_H&YR.008 TIME1_.

 H&YR.010   O_H&YR.010 OFTEN3_.
 H&YR.011   O_H&YR.011 TIME2_.

 H&YR.012   O_H&YR.012 OFTEN4_.
 H&YR.013   O_H&YR.013 OFTEN4_.
 H&YR.014   O_H&YR.014 OFTEN8_.
 H&YR.015   O_H&YR.015 YN.
 H&YR.016   O_H&YR.016 YNDEF.
 H&YR.017   O_H&YR.017 YNDEF.
 H&YR.018   O_H&YR.018 RATE3_.

 H&YR.020   O_H&YR.020 OFTEN10_.

 H&YR.021-H&YR.024   O_H&YR.021--O_H&YR.024 OFTEN5_.

 H&YR.025   O_H&YR.025 YN.
 H&YR.026   O_H&YR.026 OFTEN8_.
 H&YR.027   O_H&YR.027 RATE6_.

 S&YR.009   O_S&YR.009 YN.
 S&YR.010   O_S&YR.010 PROB1_.
 S&YR.B01   O_S&YR.B01 MNTLHLTH.
 S&YR.B02   O_S&YR.B02 YN.
 S&YR.B03   O_S&YR.B03 PROB1_.
 S&YR.B04   O_S&YR.B04 RATE5_.

 H&YR.028   O_H&YR.028 YN.
 H&YR.029   O_H&YR.029 OFTEN9_.
 H&YR.030   O_H&YR.030 SPCLST.

```
H&YR.031  O_H&YR.031 RATE2_.

H&YR.033  O_H&YR.033 OFTEN11_.
H&YR.034  O_H&YR.034 YN.
H&YR.035  O_H&YR.035 OFTEN12_.
H&YR.036  O_H&YR.036 YN.
H&YR.037  O_H&YR.037 OFTEN13_.
H&YR.038  O_H&YR.038 YN.
H&YR.039  O_H&YR.039 OFTEN14_.
H&YR.040  O_H&YR.040 YN.
H&YR.041  O_H&YR.041 OFTEN15_.
H&YR.042  O_H&YR.042 OFTEN15_.
H&YR.043  O_H&YR.043 YN.
H&YR.044  O_H&YR.044 OFTEN16_.
H&YR.045  O_H&YR.045 YNDNK.
H&YR.046  O_H&YR.046 OFTEN6_.
H&YR.047  O_H&YR.047 OFTEN6_.
H&YR.048  O_H&YR.048 RATE4_.

H&YR.049  O_H&YR.049 TIME5_.
H&YR.050  O_H&YR.050 YNBP_.

H&YR.051  O_H&YR.051 TIME7_.
H&YR.052  O_H&YR.052 YNDNK.
H&YR.053  O_H&YR.053 TIME8_.
H&YR.054  O_H&YR.054 OFTEN8_.
H&YR.055  O_H&YR.055 OFTEN8_.
H&YR.056  O_H&YR.056 OFTEN8_.

/*      H&YR.057 has no format.*/

 S&YR.BF2  O_S&YR.BF2 YNDNK.
 S&YR.BF3  O_S&YR.BF3 S&YR.BF3_.
 S&YR.BF4  O_S&YR.BF4 TIME15_.
 S&YR.BF5  O_S&YR.BF5 S&YR.BF5_.
 S&YR.BF7  O_S&YR.BF7 S&YR.BF7_.
 S&YR.BF9  O_S&YR.BF9 S&YR.BF9_.
 S&YR.BF10 O_S&YR.BF10 BFRISK_.
 S&YR.BF11 O_S&YR.BF11 BFRISK_.

H&YR.058  O_H&YR.058 SEX.
H&YR.059B O_H&YR.059B TIME16_.

H&YR.060  O_H&YR.060 YN.

H&YR.061  O_H&YR.061 TIME12_.
H&YR.062  O_H&YR.062 YNPREG.
H&YR.063  O_H&YR.063 PREG1_.
H&YR.064  O_H&YR.064 PREG2_.
H&YR.065  O_H&YR.065 HEALTH.

H&YR.071F O_H&YR.071F
H&YR.071I O_H&YR.071I
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        H&YR.072  O_H&YR.072
        TIME14_.

        SREDA    O_SREDA EDUC.

        H&YR.073         HISP.

        SRAGE    SRAGE AGEGRP.

        S&YR.011  O_S&YR.011 AGREE2_.
        S&YR.014  O_S&YR.014 SATISFY.

        MISS_1  MISS_4-MISS_7 MISS_9 MISS_TOT 4.
      ;

LABEL O_H&YR.001='Are you the person listed on envelope'
    H&YR.001  ='Are you the person listed on envelope'
    O_H&YR.002A='Health plan(s) covered: TRICARE Prime'
    H&YR.002A ='Health plan(s) covered: TRICARE Prime'
    O_H&YR.002C='Health plan(s) covered: TRICARE Select'
    H&YR.002C ='Health plan(s) covered: TRICARE Select'
    O_H&YR.002N='Health plan(s) covered: TRICARE Plus'
    H&YR.002N ='Health plan(s) covered: TRICARE Plus'
    O_H&YR.002O='Health plan(s) covered: TRICARE For Life'
    H&YR.002O ='Health plan(s) covered: TRICARE For Life'
    O_H&YR.002P='Health plan(s) covered: TRICARE Supplmntl Ins'
    H&YR.002P ='Health plan(s) covered: TRICARE Supplmntl Ins'
    O_H&YR.002Q='Health plan(s) covered: TRICARE Reserve Select'
    H&YR.002Q ='Health plan(s) covered: TRICARE Reserve Select'
    O_H&YR.002S='Health plan(s) covered: TRICARE Retired Reserve'
    H&YR.002S ='Health plan(s) covered: TRICARE Retired Reserve'
    O_H&YR.002T='Health plan(s) covered: TRICARE Young Adult Prime'
    H&YR.002T ='Health plan(s) covered: TRICARE Young Adult Prime'
    O_H&YR.002V='Health plan(s) covered: TRICARE Young Adult Select'
    H&YR.002V ='Health plan(s) covered: TRICARE Young Adult Select'
    O_H&YR.002U='Health plan(s) covered: CHCBP'
    H&YR.002U ='Health plan(s) covered: CHCBP'
    O_H&YR.002F='Health plan(s) covered: Medicare'
    H&YR.002F ='Health plan(s) covered: Medicare'
    O_H&YR.002G='Health plan(s) covered: FEHBP'
    H&YR.002G ='Health plan(s) covered: FEHBP'
    O_H&YR.002H='Health plan(s) covered: Medicaid or other state insurance'
    H&YR.002H ='Health plan(s) covered: Medicaid or other state insurance'
    O_H&YR.002I='Health plan(s) covered: civilian HMO'
    H&YR.002I ='Health plan(s) covered: civilian HMO'
    O_H&YR.002J='Health plan(s) covered: other civilian'
    H&YR.002J ='Health plan(s) covered: other civilian'
    O_H&YR.002K='Health plan(s) covered: USFHP'
    H&YR.002K ='Health plan(s) covered: USFHP'
    O_H&YR.002M='Health plan(s) covered: veterans'
    H&YR.002M ='Health plan(s) covered: veterans'
    O_H&YR.002R='Health plan(s) covered: gov hlth ins-other cntry'
    H&YR.002R ='Health plan(s) covered: gov hlth ins-other cntry'
```

O_H&YR.002L='Health plan(s) covered: not sure'
H&YR.002L ='Health plan(s) covered: not sure'
O_H&YR.003='Which health plan did you use most'
H&YR.003 ='Which health plan did you use most'
O_H&YR.004='Yrs in a row with health plan'
H&YR.004 ='Yrs in a row with health plan'

O_H&YR.005='In lst yr:fclty use most for health care'
H&YR.005 ='In lst yr:fclty use most for health care'
O_H&YR.006='In lst yr:ill/injry/cond care right away'
H&YR.006 ='In lst yr:ill/injry/cond care right away'
O_H&YR.007='In lst yr:get urgnt care as soon as wntd'
H&YR.007 ='In lst yr:get urgnt care as soon as wntd'
O_H&YR.008='In lst yr:wait btwn try get care,see prv'
H&YR.008 ='In lst yr:wait btwn try get care,see prv'
O_H&YR.009='In lst yr:make appts non-urgnt hlth care'
H&YR.009 ='In lst yr:make appts non-urgnt hlth care'
O_H&YR.010='In lst yr:non-urg hlth cre appt whn wntd'
H&YR.010 ='In lst yr:non-urg hlth cre appt whn wntd'
O_H&YR.011='In lst yr:days btwn appt & see prvder'
H&YR.011 ='In lst yr:days btwn appt & see prvder'
O_H&YR.012='In lst yr:go to emrgncy rm for own care'
H&YR.012 ='In lst yr:go to emrgncy rm for own care'
O_H&YR.013='In lst yr:go to Dr office/clinic for care'
H&YR.013 ='In lst yr:go to Dr office/clinic for care'
O_H&YR.014 ='Lst yr:how often talk to doctor about illness prvntn'
H&YR.014='Lst yr:how often talk to doctor about illness prvntn'
O_H&YR.015 ='Lst yr:did doctor tell you more than 1 choice for trtmnt'
H&YR.015='Lst yr:did doctor tell you more than 1 choice for trtmnt'
O_H&YR.016 ='Lst yr:did talk to doctor about pros/cons of trtmnt'
H&YR.016='Lst yr:did talk to doctor about pros/cons of trtmnt'
O_H&YR.017 ='Lst yr:did doctor ask which trtmnt option best for you'
H&YR.017='Lst yr:did doctor ask which trtmnt option best for you'
O_H&YR.018='Rating of all health care in lst yr'
H&YR.018 ='Rating of all health care in lst yr'

O_H&YR.019='Have one person think of as personal Dr'
H&YR.019 ='Have one person think of as personal Dr'
O_H&YR.020 ='Lst yr:how often visit prsnl doctor for care for yourself'
H&YR.020='Lst yr:how often visit prsnl doctor for care for yourself'
O_H&YR.021='Lst yr: how oftn Drs listen to you'
H&YR.021 ='Lst yr: how oftn Drs listen to you'
O_H&YR.022='Lst yr: how oftn Drs explain things'
H&YR.022 ='Lst yr: how oftn Drs explain things'
O_H&YR.023='Lst yr: how oftn Drs show respect'
H&YR.023 ='Lst yr: how oftn Drs show respect'
O_H&YR.024='Lst yr: how oftn Drs spend enough time'
H&YR.024 ='Lst yr: how oftn Drs spend enough time'
O_H&YR.025 ='Lst yr: did get care from doctor other than prsnl doctor'
H&YR.025='Lst yr: did get care from doctor other than prsnl doctor'
O_H&YR.026 ='Lst yr: how often prsnl doctor seemed infrmd of care from other doctors'
H&YR.026='Lst yr: how often prsnl doctor seemed infrmd of care from other doctors'
O_H&YR.027='Rating of your personal Dr'

H&YR.027 ='Rating of your personal Dr'
O_H&YR.028 ='Lst yr: did make any appointments to see spclst'
H&YR.028='Lst yr: did make any appointments to see spclst'
O_H&YR.029 ='Lst yr: how often easy to get appointments with spclsts'
H&YR.029='Lst yr: how often easy to get appointments with spclsts'
O_H&YR.030 ='Lst yr: how many spclsts seen'
H&YR.030='Lst yr: how many spclsts seen'
O_H&YR.031='Rating of specialist seen in lst yr'
H&YR.031 ='Rating of specialist seen in lst yr'

O_H&YR.033 ='Lst yr: how often easy to get care, test, or trtmnt'
H&YR.033='Lst yr: how often easy to get care, test, or trtmnt'
O_H&YR.034 ='Lst yr: did look for info from written material/Internet'
H&YR.034='Lst yr: did look for info from written material/Internet'
O_H&YR.035 ='Lst yr: how often written material/Internet provide needed info'
H&YR.035='Lst yr: how often written material/Internet provide needed info'
O_H&YR.036 ='Lst yr: did look for info from health plan on cost of service/equipment'
H&YR.036='Lst yr: did look for info from health plan on cost of service/equipment'
O_H&YR.037 ='Lst yr: how often able to find out cost of service/equipment'
H&YR.037='Lst yr: how often able to find out cost of service/equipment'
O_H&YR.038 ='Lst yr: did look for info from health plan on cost of prescription meds'
H&YR.038='Lst yr: did look for info from health plan on cost of prescription meds'
O_H&YR.039 ='Lst yr: how often able to find out cost of prescription meds'
H&YR.039='Lst yr: how often able to find out cost of prescription meds'
O_H&YR.040 ="Lst yr: did try to get info/help from health plan's cstmr service"
H&YR.040="Lst yr: did try to get info/help from health plan's cstmr service"
O_H&YR.041 ='Lst yr: how often did cstmr service give needed info/help'
H&YR.041='Lst yr: how often did cstmr service give needed info/help'
O_H&YR.042 ='Lst yr: how often did cstmr service treat with courtesy/respect'
H&YR.042='Lst yr: how often did cstmr service treat with courtesy/respect'
O_H&YR.043 ='Lst yr: did health plan give any forms to fill out'
H&YR.043='Lst yr: did health plan give any forms to fill out'
O_H&YR.044 ='Lst yr: how often were forms easy to fill out'
H&YR.044='Lst yr: how often were forms easy to fill out'
O_H&YR.045 ='Lst yr: send in any claims'
H&YR.045='Lst yr: send in any claims'
O_H&YR.046 ='Lst yr: how often did health plan handle claims quickly'
H&YR.046='Lst yr: how often did health plan handle claims quickly'
O_H&YR.047='Lst yr: how oftn handle claims correctly'
H&YR.047 ='Lst yr: how oftn handle claims correctly'
O_H&YR.048 ='Rating of all experience with hlth plan'
H&YR.048='Rating of all experience with hlth plan'
O_H&YR.049='Blood pressure: when lst reading'
H&YR.049 ='Blood pressure: when lst reading'
O_H&YR.050='Blood pressure: know if too high or not'
H&YR.050 ='Blood pressure: know if too high or not'

O_H&YR.051='When did you lst have a flu shot'
H&YR.051 ='When did you lst have a flu shot'
O_H&YR.052 ='Smoked at least 100 cigarettes in life'
H&YR.052='Smoked at least 100 cigarettes in life'
O_H&YR.053 ='Smoke or use tobacco everyday, some days or not at all'
H&YR.053='Smoke or use tobacco everyday, some days or not at all'

O_H&YR.054='Lst yr: how often advised to quit smoking or use tobacco'
H&YR.054 ='Lst yr: how often advised to quit smoking or use tobacco'
O_H&YR.055 ='Lst yr: how often recom medic assist quit smoking or using tobacco'
H&YR.055='Lst yr: how often recom medic assist quit smoking or using tobacco'
O_H&YR.056 ='Lst yr: how often discu meth/strag asst quit smoking or using tobacco'
H&YR.056='Lst yr: how often discu meth/strag asst quit smoking or using tobacco'
O_H&YR.057A ='Do you smoke or use: cigarettes'
H&YR.057A='Do you smoke or use: cigarettes'
O_H&YR.057B ='Do you smoke or use: dip, chewing tobacco, snuff, or snus'
H&YR.057B='Do you smoke or use: dip, chewing tobacco, snuff, or snus'
O_H&YR.057C ='Do you smoke or use: cigars'
H&YR.057C='Do you smoke or use: cigars'
O_H&YR.057D ='Do you smoke or use: pipes, bidis, or kreteks'
H&YR.057D='Do you smoke or use: pipes, bidis, or kreteks'
O_H&YR.058='Are you male or female'
H&YR.058 ='Are you male or female'
O_H&YR.059B='Lst have a Pap smear test'
H&YR.059B='Lst have a Pap smear test'
O_H&YR.060='Are you under age 40'
H&YR.060 ='Are you under age 40'
O_H&YR.061='Lst time: breasts checked mammography'
H&YR.061 ='Lst time: breasts checked mammography'
O_H&YR.062='Been pregnant in lst yr or pregnant now'
H&YR.062 ='Been pregnant in lst yr or pregnant now'
O_H&YR.063='In what trimester is your pregnancy'
H&YR.063 ='In what trimester is your pregnancy'
O_H&YR.064='Trimester first received prenatal care'
H&YR.064 ='Trimester first received prenatal care'
O_H&YR.065='In gnrl, how would you rate ovrall hlth'
H&YR.065 ='In gnrl, how would you rate ovrall hlth'

O_H&YR.071F='Height without shoes (feet)'
H&YR.071F ='Height without shoes (feet)'
O_H&YR.071I='Height without shoes (inches)'
H&YR.071I ='Height without shoes (inches)'
O_H&YR.072='Weight without shoes'
H&YR.072 ='Weight without shoes'
O_SREDA ='Highest grade completed'
SREDA ='Highest grade completed'
H&YR.073 ='Are you Spanish/Hispanic/Latino'
O_H&YR.073A='Not Spanish/Hispanic/Latino'
H&YR.073A ='Not Spanish/Hispanic/Latino'
O_H&YR.073B='Mexican, Mexican American, Chicano'
H&YR.073B ='Mexican, Mexican American, Chicano'
O_H&YR.073C='Puerto Rican'
H&YR.073C ='Puerto Rican'
O_H&YR.073D='Cuban'
H&YR.073D ='Cuban'
O_H&YR.073E='Other Spanish, Hispanic, or Latino'
H&YR.073E ='Other Spanish, Hispanic, or Latino'
O_SRRACEA='Race: White'
SRRACEA ='Race: White'
O_SRRACEB='Race: Black or African American'

SRRACEB ='Race: Black or African American'
O_SRRACEC='Race: American Indian or Alaska Native'
SRRACEC ='Race: American Indian or Alaska Native'
O_SRRACED='Race: Asian'
SRRACED ='Race: Asian'
O_SRRACEE='Race: Native Hawaiian/other Pacific Isl.'
SRRACEE ='Race: Native Hawaiian/other Pacific Isl.'
O_SRAGE ='What is your age now'
SRAGE ='What is your age now'

O_S&YR.009="Same prsnl doctor/nurse before this hlth plan"
S&YR.009 ="Same prsnl doctor/nurse before this hlth plan"
O_S&YR.010="Prblm getting prsnl doctor/nurse you are happy with"
S&YR.010 ="Prblm getting prsnl doctor/nurse you are happy with"

O_S&YR.011 ="Agree/disagree: able to see provider when needed"
S&YR.011="Agree/disagree: able to see provider when needed"
O_S&YR.014 ="How satisfied with health care during last visit"
S&YR.014="How satisfied with health care during last visit"

O_S&YR.B01='Self rate of overall mental/emotional health'
S&YR.B01 ='Self rate of overall mental/emotional health'
O_S&YR.B02='Lst yr: needed treatmnt/cnslng-prsnl prob'
S&YR.B02 ='Lst yr: needed treatmnt/cnslng-prsnl prob'
O_S&YR.B03='Lst yr: prblm gttng needed treatmnt/cnslng'
S&YR.B03 ='Lst yr: prblm gttng needed treatmnt/cnslng'
O_S&YR.B04='Lst yr: rate of treatmnt/cnslng received'
S&YR.B04 ='Lst yr: rate of treatmnt/cnslng received'

O_S&YR.BF2='Have you ever used an e-cigarette'
S&YR.BF2 ='Have you ever used an e-cigarette'
O_S&YR.BF3='How many times in your life have you used an e-cigarette'
S&YR.BF3 ='How many times in your life have you used an e-cigarette'
O_S&YR.BF4='Often do you use e-cigarettes'
S&YR.BF4 ='Often do you use e-cigarettes'
O_S&YR.BF5='Did you use flavored e-cigarettes in the past 30 days'
S&YR.BF5 ='Did you use flavored e-cigarettes in the past 30 days'
O_S&YR.BF7='How old were you when you first tried vaping or using an e-cigarette, even once or twice'
S&YR.BF7 ='How old were you when you first tried vaping or using an e-cigarette, even once or twice'
O_S&YR.BF8A='Reasons you vaped or used e-cigarettes: Friend or family member used them'
S&YR.BF8A ='Reasons you vaped or used e-cigarettes: Friend or family member used them'
O_S&YR.BF8B='Reasons you vaped or used e-cigarettes: To try to quit using other tobacco products'
S&YR.BF8B ='Reasons you vaped or used e-cigarettes: To try to quit using other tobacco products'
O_S&YR.BF8C='Reasons you vaped or used e-cigarettes: Cost less than other tobacco products'

S&YR.BF8C ='Reasons you vaped or used e-cigarettes: Cost less than other tobacco products'
O_S&YR.BF8D='Reasons you vaped or used e-cigarettes: Easier to get than other tobacco products'
S&YR.BF8D ='Reasons you vaped or used e-cigarettes: Easier to get than other tobacco products'
O_S&YR.BF8E='Reasons you vaped or used e-cigarettes: Less harmful than other forms of tobacco products'
S&YR.BF8E ='Reasons you vaped or used e-cigarettes: Less harmful than other forms of tobacco products'
O_S&YR.BF8F='Reasons you vaped or used e-cigarettes: Available in flavors'
S&YR.BF8F ='Reasons you vaped or used e-cigarettes: Available in flavors'
O_S&YR.BF8G='Reasons you vaped or used e-cigarettes: Can be used where other tobacco products are not allowed'
S&YR.BF8G ='Reasons you vaped or used e-cigarettes: Can be used where other tobacco products are not allowed'
O_S&YR.BF8H='Reasons you vaped or used e-cigarettes: No lasting odor'
S&YR.BF8H ='Reasons you vaped or used e-cigarettes: No lasting odor'
O_S&YR.BF8I='Reasons you vaped or used e-cigarettes: Vapor causes less harm to friends and family than secondhand smoke'
S&YR.BF8I ='Reasons you vaped or used e-cigarettes: Vapor causes less harm to friends and family than secondhand smoke'
O_S&YR.BF8J='Reasons you vaped or used e-cigarettes: I use them for some other reason'
S&YR.BF8J ='Reasons you vaped or used e-cigarettes: I use them for some other reason'
O_S&YR.BF9='Do you think you will vape or use an e-cigarette in the next year'
S&YR.BF9 ='Do you think you will vape or use an e-cigarette in the next year'
O_S&YR.BF10='How much do you think people risk harming themselves if they vape or use e-cigarettes regularly (almost daily)'
S&YR.BF10 ='How much do you think people risk harming themselves if they vape or use e-cigarettes regularly (almost daily)'
O_S&YR.BF11='How much do you think people risk harming themselves if they smoke one or more packs of cigarettes per day'
S&YR.BF11 ='How much do you think people risk harming themselves if they smoke one or more packs of cigarettes per day'

N1   = "Coding Scheme Note 1"
N2   = "Coding Scheme Note 2"
N3   = "Coding Scheme Note 3"
N4   = "Coding Scheme Note 4"
N5   = "Coding Scheme Note 5"
N5   = "Coding Scheme Note 5"
N6   = "Coding Scheme Note 6"
N7   = "Coding Scheme Note 7"
N8   = "Coding Scheme Note 8"
N8_01 = "Coding Scheme Note 8_01"
N9   = "Coding Scheme Note 9"
N10   = "Coding Scheme Note 10"
N10_B1= "Coding Scheme Note 10_B1"
N12   = "Coding Scheme Note 12"
N13   = "Coding Scheme Note 13"
N14   = "Coding Scheme Note 14"
N15   = "Coding Scheme Note 15"
N16   = "Coding Scheme Note 16"
N17   = "Coding Scheme Note 17"
N18   = "Coding Scheme Note 18"
N18_BF1="Coding Scheme Note 18_BF1"

```
N18_BF2="Coding Scheme Note 18_BF2"
N19A  = "Coding Scheme Note 19A"
N19B  = "Coding Scheme Note 19B"
N20   = "Coding Scheme Note 20"
N21   = "Coding Scheme Note 21"
N23_HT= "Coding Scheme Note 23_HT"
N23_WT= "Coding Scheme Note 23_WT"
N24   = "Coding Scheme Note 24"

MISS_1 = "Count of original survey responses (pre-cleaning): violates skip pattern"
/*MISS_3 = "Count of original survey responses (pre-cleaning): do not use other tobacco products
response"*/
MISS_4 = "Count of original survey responses (pre-cleaning): incomplete grid error"
MISS_5 = "Count of original survey responses (pre-cleaning): scalable reponse of don't know"
MISS_6 = "Count of original survey responses (pre-cleaning): not applicable - valid skip"
MISS_7 = "Count of original survey responses (pre-cleaning): out-of-range error"
MISS_9 = "Count of original survey responses (pre-cleaning): no response - invalid skip"
MISS_TOT = "Total number of missing responses (pre-cleaning)"
XSEXA = "Male or Female  - R"
;
```

F.3.A Q3FY2020\PROGRAMS\WEIGHTING\SELECTQ.SAS - Create Flag for Record Selection - Run Quarterly

```
*****************************************************************************
*
* PROGRAM: SELECTQ.SAS
* TASK:    QUARTERLY DOD HEALTH CARE SURVEY ANALYSIS (6244-300)
* PURPOSE: ASSIGN FINAL STATUS FOR RECORD SELECTION PURPOSES.
* WRITTEN: 12/14/2000 BY KEITH RATHBUN
*
* MODIFIED: 01/24/2014 BY AMANDA KUDIS, new code when no tss selectq avialble
*           and new evaluation logic with web data
*        02/02/2016 BY MTURBYFILL Add VARNUM to PROC CONTENTS
*                      06/27/2016 by Matt Turbyfill INDB.AccessDB_Q&QT._20&YR. changed to
INDB.AccessDB_Q&QT.FY20&YR. at direction of Jim Tully
*        02/10/2017 BY MTURBYFILL Changed filepaths and capitalization to match SAS Grid.
*                   Changed EMAILDATABASE to use imported CSV file rather than SQL server.
*
*
* INPUTS:   1) CSCHM&YR.Q.sas7bdat - 20&YR. Quarterly DOD Health Survey Data
*
* OUTPUTS:  1) SELECTQ.sas7bdat - 20&YR. Quarterly DOD Health Survey Data w/FNSTATUS
*
*****************************************************************************;

LIBNAME IN      "&datapath.";
%macro sqlserver(dbname,svr);
        init_string="Provider=SQLNCLI10;
                Integrated Security=SSPI;
                Persist Security Info=True;
                Initial Catalog=&dbname.;
                Data Source=&svr."
%mend sqlserver;
/*libname INDB oledb %sqlserver(40309_SEC__HCSDB, sql_isprod01.mathematica.net);*/

LIBNAME OUT     "&datapath.";
LIBNAME LIBRARY  "&fmtpath.";

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER MPRINT ;
TITLE "Assign final status for record selection purposes. ";

%LET OVERLAPCASE=N;

*------------------------------------
  Web Data
-------------------------------------;
%MACRO SELECTQ;

PROC SORT DATA=IN.CSCHM&YR.Q OUT=TEMPA1; BY MPRID; RUN;

proc freq data=tempa1; table flag_fin/list; run;
```

```
DATA TEMPA2 OUT.DUPSA OVERLAP;
  SET TEMPA1 (IN=A) ;
  BY MPRID;

  /*******************************************************************/
  /** KEY VARIABLES (Total=20)                            **/
  /** H18005 was replaced with H18025 for 2018Q2 - MBT          **/
  /** ...And brought back for 2019Q1 - MBT                    **/
  /*******************************************************************/
  ARRAY KEYVAR H&YR.003 H&YR.005 H&YR.006 H&YR.009 H&YR.013 H&YR.018 H&YR.019 H&YR.027
        H&YR.028 H&YR.031 H&YR.033 H&YR.040 H&YR.043 H&YR.048 H&YR.051 H&YR.052
        H&YR.065 H&YR.073 SREDA
         ;

  ARRAY RACE(5) SRRACEA SRRACEB SRRACEC SRRACED SRRACEE;

  FLAGRACE = 0; DROP FLAGRACE;
  DO I = 1 TO DIM(RACE);
    IF RACE(I) IN (1) THEN FLAGRACE = 1;
  END;

  KEYCOUNT = 0;
  DO I = 1 TO DIM(KEYVAR); DROP I;
    IF KEYVAR(I) NOT IN (.,.A,.O,.I,.B) THEN KEYCOUNT = KEYCOUNT + 1;
  END;
  KEYCOUNT = KEYCOUNT + FLAGRACE;

  /*******************************************************************/
  /** SET FLAG FOR DUPLICATES                         **/
  /*******************************************************************/
  LENGTH DUPFLAG $3;
  DUPFLAG = 'NO';
  IF NOT (FIRST.MPRID AND LAST.MPRID) THEN DUPFLAG = 'YES';

  /*******************************************************************/
  /** DETERMINE FNSTATUS                             **/
  /*******************************************************************/
  FNSTATUS = 0;
  IF FLAG_FIN = 1 THEN DO;
    ************************************************************
    **** APPLY THE COMPLETE QUESTIONNAIRE RULE (50% OF KEY  ****
    **** VARIABLES).                        ****
    ************************************************************;
    IF KEYCOUNT GT 9 THEN FNSTATUS = 11;
    ELSE FNSTATUS = 12;
  END;
  ELSE IF FLAG_FIN IN(3,6,8,10,11,14,16,21,23,24)  THEN DO;
    FNSTATUS = 20;
  END;
  ELSE IF FLAG_FIN IN(2,4,5,7,12,13,15) THEN DO;
    FNSTATUS = 31;
  END;
  ELSE IF FLAG_FIN IN (25,26) THEN DO;
```

```
      FNSTATUS = 32;
    END;
  ELSE IF FLAG_FIN IN(9,17,18,19,20,22) THEN DO;
    IF FLAG_FIN IN (18,19,20) THEN DO;
      FNSTATUS = 42;
    END;
    ELSE DO;
      FNSTATUS = 41;
    END;
  END;
  ELSE IF FLAG_FIN IN(99) THEN DO;
    CALL SYMPUT("OVERLAPCASE","Y");
    OUTPUT OVERLAP; **cases that overlap with another survey;
  END;

  IF DUPFLAG = 'YES' THEN OUTPUT OUT.DUPSA ;
  ELSE IF FLAG_FIN NE 99 THEN OUTPUT TEMPA2;

RUN;

***********************************************************************
* Select the "most complete" questionaire from duplicates and
* SET it back into the non-duplicates file. For now assume the lowest
* FNSTATUS Value is the "most complete".
***********************************************************************
;
PROC SORT DATA=OUT.DUPSA ;
BY MPRID FNSTATUS;
RUN;

DATA DEDUPED;
  SET OUT.DUPSA ;
  BY MPRID FNSTATUS;
  IF FIRST.MPRID; *KEEP only the first - most complete questionaire;
RUN;
%MEND;
%SELECTQ;

***********************************************************************
* Assign FNSTATUS for the overlap cases if they are some this quarter
**********************************************************************;

%MACRO OVERLAP;
  %IF "&OVERLAPCASE"="Y" %THEN %DO;
    %IF "&NOSELECTQ"="Y" %THEN %DO; *WHEN THERE IS NO SELECTQ TO COMPARE TO;
      DATA OVERLAP_FNSTATUS;
      SET OVERLAP;
      FNSTATUS=41;
      RUN;
    %END;
    %ELSE %DO;
      %INCLUDE "OVERLAP_FNSTATUS.INC"/SOURCE2;
    %END;
```

```
      %END;

   DATA OUT.SELECTQ;
     SET TEMPA2 DEDUPED
       %IF "&OVERLAPCASE"="Y" %THEN %DO;
         overlap_fnstatus
       %END;
      ;
     LABEL FNSTATUS = "Final Status"
         DUPFLAG  = "Multiple Response Indicator"
         STRATUM  = "Sampling STRATUM"
         KEYCOUNT = "# Key Questions Answered"
         ;

   %if &trickle=1 %then %do;
   /** UPDATE DUPLICATE FLAG FOR TRICKLE RESPONSES **/
   IF DRP_RND1 EQ 'YES' THEN DUPFLAG = 'NO';
   %end;

    RUN;
%MEND;

%OVERLAP;

TITLE1 "Quarterly DOD Health Survey FNSTATUS assignment (6663-500)";
TITLE2 "Program Name: SELECTQ.SAS By Keith Rathbun";
TITLE3 "Program Output: SELECTQ.sas7bdat";

PROC CONTENTS DATA=OUT.SELECTQ VARNUM; RUN;

PROC FREQ DATA=OUT.SELECTQ;
TABLES FNSTATUS KEYCOUNT FLAG_FIN
     FNSTATUS*KEYCOUNT*FLAG_FIN
  /MISSING LIST;
RUN;
```

F.3.B Q3FY2020\PROGRAMS\WEIGHTING\OVERLAP_FNSTATUS.INC - Include file for SELECTQ.SAS

```
*****************************************************************************
* PROGRAM:  OVERLAP_FNSTATUS.INC
* TASK:     DOD HEALTH CARE SURVEY ANALYSIS (6663-300)
* PURPOSE:  Update Fnstatus for the Overlap cases using the selectq.sas7bdat
*           of the survey that overlapped with this HCSDB survey
*
* WRITTEN:  07/09/2012 BY JACQUELINE AGUFA-MALOBA
*
* MODIFIED:
*
*
* INPUTS:   1) OthrSrvy.selectq - The selectq.sas7bdat of the sample that overlaps
*                    with this sample
*           2) overlap - The cases is this sample that overlap with the other survey.
*
* OUTPUT:   1) overlap_fnstatus - Temporary SAS dataset with fnstatus
*
* NOTES:    1) This code is called from selectq and is only necessary when there
*              are some cases in this sample that overlap with another sample
*           2) SIS will update this code at time of sampling for the source of
*              the overlap.
*           3) SIS will either provide us with the necessary code or update
*              the code that assigns the fnstatus for the overlap cases
*
*
*****************************************************************************;


*------------------------------------------------------
****SIS will need to indicate the sample that overlaps with this
****hcsdb sample
*------------------------------------------------------;

LIBNAME OthrSrvy "&TSS_Lib.";

PROC SORT DATA=OthrSrvy.&Overlap_Fname. OUT=Oselectq(KEEP=MPRID PRN FNSTATUS);
  BY PRN;
RUN;

PROC SORT DATA=overlap;
  BY PRN;
RUN;

DATA overlap_fnstatus(DROP=oFNSTATUS oMPRID) ovlp_nomatch(KEEP=MPRID PRN FNSTATUS);
  MERGE overlap(IN=ovlp)
      Oselectq(IN=slct RENAME=(FNSTATUS=oFNSTATUS MPRID=oMPRID))
   ;
  BY PRN;

  IF slct AND ovlp THEN DO;
```

```
   *-------------------------------------------------------
   ****SIS will need to provide us specifications of how to update
   ****fnstatus;
   *--------------------------------------------------------;
   IF oFNSTATUS IN (11,12,20) THEN FNSTATUS=20;
   ELSE FNSTATUS=oFNSTATUS;

   OUTPUT overlap_fnstatus;
  END;
  ELSE IF ovlp THEN OUTPUT ovlp_nomatch;
RUN;

TITLE "FNSTATUS of overlap cases";
PROC FREQ DATA=OVERLAP_FNSTATUS;
TABLE FNSTATUS;
RUN;
TITLE;

PROC PRINT DATA=ovlp_nomatch;
  TITLE "Cases in the  file that are not found in the overlap selectq file";
RUN;
```

F.4.A Q3FY2020\PROGRAMS\CONSTRUCT\CONVARQ.SAS - Construct Variables for Analysis - Run Quarterly

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROGRAM:  CONVARQ.SAS
* WRITTEN:  2/3/99 BY KELLY WHITE
*
*
* UPDATED:   12/23/2013 BY AKUDIS  for Q1FY2014
*          2/2/2016 BY MTURBYFILL Add VARNUM to PROC CONTENTS
*          4/5/2018 BY MTURBYFILL Remove KMILOPQY and KCIVOPQY due to absence of H18005
*          2/7/2019 BY MTURBYFILL Add XTNEXRG2 for new region system
*                     Renumber CACSMPL
*          4/9/2019 BY ICONNOR Added KMILOPQY and KCIVOPQY now that H19005 has returned
*                     JSFLAG replaced by DHAFLAG
*
* PURPOSE:  TO CREATE INDEPENDENT VARIABLES: XENRLLMT, XENR_PCM, XINS_COV,
*          XBNFGRP, XBENCAT, XINS_RSV, XENR_RSV
*          TO CREATE DEPENDENT VARIABLES: KDISENRL, KBGPRB1,
*          KBGPRB2, KMILOFFC, KCIVOFFC, KMILOPQY, KCIVOPQY, HP_PRNTL, HP_MAMOG,
*          HP_MAM50, HP_PAP, HP_BP, HP_FLU, HP_PROS, KCIVINS, KPRSCPTN, HP_GP,
*          HP_CHOL, HP_BRST, HP_SMOKE, HP_SMOKH, HP_CESS, HP_OBESE,
*
*          TO CREATE OUTCATCH
* INPUT:    ..\..\DATA\AFINAL\SELECTQ.sas7bdat
* OUTPUT:   ..\..\DATA\AFINAL\CONVARQ.sas7bdat
*
* INCLUDES: 1) CONSVAR0.SAS - Construct XREGION, XTNEXREG and USA based on CACSMPL.
*          2) Construct_cacsmpl.SAS
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;

LIBNAME IN      "&datapath.";
LIBNAME LIBRARY   "&fmtpath.";

OPTIONS PS=78 LS=256 ERRORS=2 NOCENTER ;

* * * Create cacsmpl;
%MACRO CONVARQ;

TITLE1 "FY 20&YR. Quarter &QT. Health Care Survey of DoD Beneficiaries Study";
TITLE2 'CREATE CONSTRUCTED & OUTCOME MEASURE VARIABLES';

PROC SORT DATA=IN.SELECTQ OUT=SELECTQ; BY MPRID; RUN;
%INCLUDE "construct_cacsmpl.sas"/SOURCE2; /* Move construct_cacsmpl here to use selectq sort */

/* Reset titles after construct_cacsmpl is finished */
TITLE1 "FY 20&YR. Quarter &QT. Health Care Survey of DoD Beneficiaries Study";
TITLE2 'CREATE CONSTRUCTED & OUTCOME MEASURE VARIABLES';

PROC SORT DATA=IN.CONSTRUCT_CACSMPL OUT=CACSMPL; BY MPRID; RUN;

DATA IN.CONVARQ(KEEP=XENRLLMT XENR_PCM XINS_COV
```

```
              XREGION XTNEXREG XTNEXRG2 USA
              ENBGSMPL ENBGSMPL2 XBNFGRP XOCONUS SERVAREA
              KMILOPQY KCIVOPQY HP_PRNTL HP_MAMOG HP_MAM50 HP_PAP HP_BP HP_FLU
              MPRID KCIVINS HP_SMOKE
              OUTCATCH HP_SMKH3 HP_CESH3 HP_OBESE
              XBMI XBMICAT CACSMPL XBENCAT XENR_RSV XINS_RSV
              RDAGEQY RFLDAGE DHAFLAG)
        CONVARQ;
   MERGE SELECTQ(IN=in1)
        CACSMPL(IN=in2 RENAME=(CACSMPL=XCACSMPL));
   BY MPRID;

   IF IN1;

   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   * Construct XREGION, XTNEXREG and USA.
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;

/* CHANGE CACSMPL TO BE NUMERIC */
   CACSMPL = INPUT(XCACSMPL,8.);
   DROP XCACSMPL;

   %INCLUDE "CONSVAR0.SAS"/SOURCE2;

   LENGTH DHAFLAG  3.
        XREGION 3.
        XTNEXREG 3.
        XTNEXRG2 3.
        USA     3.
        XBMI    8.
        XBMICAT 3.
        XOCONUS 3.
        XBENCAT 3.
        XINS_RSV 3.
        XENR_RSV 3.
        RDAGEQY 3.
        RFLDAGE 3.
          ;

LABEL
   DHAFLAG   = "DHA Flag"
   XENRLLMT  = "Enrollment in TRICARE Prime"
   XENR_PCM  = "Enrollment by PCM type"
   XINS_COV  = "Insurance Coverage"
   XBNFGRP   = "Beneficiary Group"
   KMILOPQY  = "Outpat. visits-use Military fclty most"
   KCIVOPQY  = "Outpat. visits-use Civilian fclty most"
   HP_PRNTL  = "Prgnt in lst yr, receivd cre 1st trimstr"
   HP_MAMOG  = "Women 40>=, mammography in pst 2 yrs"
   HP_MAM50  = "Women 50>=, mammography in pst 2 yrs"
   HP_PAP    = "All women, Pap smear in last 3 yrs"
   HP_BP     = "Bld prsre chck in last 2 yrs,know rslts"
   HP_FLU    = "65 and older, flu shot in last 12 mnths"
```

F.114

```
HP_SMOKE   = "Advised to quit smoking in last 12 mnths"
KCIVINS    = "Beneficiary coverd by civilian insurance"
OUTCATCH   = "Out of catchment area indicator"
HP_SMKH3   = "Smoker under HEDIS definition (modified)"
HP_CESH3   = "Had smoking cessation counseling - HEDIS (modified)"
XREGION    = "XREGION - Region"
XTNEXREG   = "TNEX Region - Based on Location of Health Services"
XTNEXRG2   = "Revised TNEX Region - Definitions changed as of FY2019"
USA        = "USA - USA/OCONUS Indicator"
XBMI       = "Body Mass Index"
XBMICAT    = "Body Mass Index Category"
HP_OBESE   = "Obese/Morbidly obese"
XOCONUS    = "Overseas Europe/Pacific/Latin Indicator"
XBENCAT    = "Beneficiary Category"
XINS_RSV   = "Insurance Coverage - Reservist"
XENR_RSV   = "Enrollment by PCM type - Reservist"
CACSMPL    = "Catchment Area"
SERVAREA   = "Service Area"
RDAGEQY    = "Age at sampling-Capped(18 and below, 86 and above)"
RFLDAGE    = "Age at fielding-Capped(18 and below, 86 and above)"
;

FORMAT
  DHAFLAG     DHAFLAG.
  XENRLLMT    ENROLL.
  XENR_PCM    PCM.
  XINS_COV    INSURE.
  XBNFGRP     XBGC_S.
  KMILOPQY    HAGRID.
  KCIVOPQY    HAGRID.
  HP_PRNTL    PRNTL.
  HP_MAMOG    HAYNN.
  HP_MAM50    HAYNN.
  HP_OBESE    HAYNN.
  HP_PAP      HAYNN.
  HP_BP       HAYNN2_.
  HP_FLU      HAYNN.
  HP_SMOKE    HAYNN.
  KCIVINS     HAYNN2_.
  OUTCATCH    OCATCH.
  HP_SMKH3    SMOKE.
  HP_CESH3    SMOKE.
  ENBGSMPL    $ENBGS.
  XREGION     CREG.
  XTNEXREG    TNEX.
  XTNEXRG2    TNEX2_.
  USA         USAMHS.
  XBMICAT     XBMICAT.
  XOCONUS     XOCONUS.
  XBENCAT     XBENCAT.
  XINS_RSV    XINSRSV.
  XENR_RSV    XENRRSV.
  CACSMPL     CAC.
```

```
   SERVAREA      $SRVAREA.
   RDAGEQY      AGE_r.
   RFLDAGE      AGE_r.
   ;

/* Create DHA flag */
   IF PUT(CACSMPL, DHASRV.)='1' THEN DHAFLAG=1;
   ELSE DHAFLAG=0;

/* CREATE INDEPENDENT VARIABLES */

/* XENRLLMT--ENROLLMENT STATUS */
IF ENBGSMPL ^= "b" THEN DO;
IF 17 <= INPUT(FIELDAGE,8.) < 65 THEN DO;
   IF INPUT(ENBGSMPL,8.) = 1 THEN XENRLLMT = 1;              /*  Active duty (<65) */
   ELSE IF INPUT(ENBGSMPL,8.) IN (2, 3, 5, 6) THEN XENRLLMT = 2;  /*  Non-active duty enrolled (<65)*/
   ELSE IF INPUT(ENBGSMPL,8.) IN (4, 7,11) THEN XENRLLMT = 3;    /*  Not Enrolled (<65)*/
END;
ELSE IF INPUT(FIELDAGE,8.)  > = 65 THEN DO;
   IF INPUT(ENBGSMPL,8.) = 10 THEN XENRLLMT = 4;            /*  Not Enrolled (65+)*/
   ELSE IF INPUT(ENBGSMPL,8.) IN (8,9) THEN XENRLLMT = 5;       /*  Enrolled (65+)  */
END;

/* XENR_PCM--ENROLLMENT BY PCM TYPE */
IF 17 <= INPUT(FIELDAGE,8.) < 65 THEN DO;
   IF INPUT(ENBGSMPL,8.) = 1 THEN XENR_PCM = 1;           /*  Active duty (<65)     */
   ELSE IF INPUT(ENBGSMPL,8.) IN (3, 6) THEN XENR_PCM = 2;    /*  Enrolled (<65) - mil PCM */
   ELSE IF INPUT(ENBGSMPL,8.) IN (2, 5) THEN XENR_PCM = 3;    /*  Enrolled (<65) - civ PCM */
   ELSE IF INPUT(ENBGSMPL,8.) IN (4, 7,11) THEN XENR_PCM = 4;  /*  Not Enrolled (<65)     */
END;
 ELSE IF INPUT(FIELDAGE,8.) > = 65 THEN DO;
   IF INPUT(ENBGSMPL,8.) = 10 THEN XENR_PCM = 5;         /*  Not Enrolled (65+)     */
   IF INPUT(ENBGSMPL,8.) = 9 THEN XENR_PCM= 6;          /*  Enrolled (65+)-mil PCM  */
   IF INPUT(ENBGSMPL,8.) = 8 THEN XENR_PCM= 7;          /*  Enrolled (65+)-civ PCM  */ /*NJ_Q2*/
 END;
END;

/* XINS_COV--INSURANCE COVERAGE */
IF XENRLLMT = 1 THEN XINS_COV =1;                   /* Prime <65-Active Duty */
  ELSE IF 17 <= INPUT(FIELDAGE,8.)  < 65 AND H&YR.003 IN (1) THEN XINS_COV = 2;/* Prime <65-Non-active Duty
*/
  ELSE IF H&YR.003 = 3 THEN XINS_COV = 3;                   /* Standard/Extra */
  ELSE IF H&YR.003 = 11 THEN XINS_COV = 7;                    /* Plus and Medicare */
  ELSE IF H&YR.003 = 4 THEN XINS_COV = 4;                   /* Medicare*/
  ELSE IF H&YR.003 IN (5,6, 7, 8, 9, 13) THEN XINS_COV = 5;       /* Other civilian health insurance*/
  ELSE IF H&YR.003 = 10 THEN XINS_COV = 8;                   /* Veterans Administration (VA) */
  ELSE IF H&YR.003 = 12 THEN XINS_COV = 9;                   /* TRICARE Reserve Select */
  ELSE IF H&YR.003 = 14 THEN XINS_COV = 10;                   /* TRICARE Retired Reserve - MER 06/21/11 */
  ELSE IF 21 <= INPUT(FIELDAGE,8.) <= 26
     AND H&YR.003 = 15 THEN XINS_COV = 13;                /* TRICARE Young Adult Prime - AMK 2/10/14 new
categor since now specific for prime */
  ELSE IF H&YR.003 = 16 THEN XINS_COV = 12;                 /* CHCBP - MER 06/21/11 */
  ELSE IF 21 <= INPUT(FIELDAGE,8.) <= 26
```

```
     AND H&YR.003 = 17 THEN XINS_COV = 14;                    /* TRICARE Young Adult Standard/Extra - AMK
02/06/14 */

  ELSE IF (INPUT(FIELDAGE,8.)>= 65 AND XENRLLMT = 5 and H&YR.003 = 1) THEN XINS_COV = 6;   /* Prime, >= 65
*/
  /*ELSE IF H&YR.075=1 AND H&YR.076=1 AND H&YR.003 NE .N THEN XINS_COV = 4;  *//**REMOVED
11FEB19**/

/* XBNFGRP-Beneficiary Group that excludes those 65 and over-Active Duty
        and Family Members of Active Duty */
IF ENBGSMPL ^="b" THEN DO;
IF INPUT(FIELDAGE,8.) >= 65 AND INPUT(ENBGSMPL,8.) IN (1, 2, 3, 4) THEN XBNFGRP = .;
  ELSE IF INPUT(ENBGSMPL,8.) = 1 THEN XBNFGRP = 1;                       /* Active Duty <65 */
  ELSE IF INPUT(ENBGSMPL,8.) IN (2, 3, 4) THEN XBNFGRP = 2;            /* Family of Active <65 */
  ELSE IF INPUT(ENBGSMPL,8.) IN (5, 6, 7) THEN XBNFGRP = 3;           /* Ret/Surv/Fam <65 */
  ELSE IF INPUT(ENBGSMPL,8.) IN (8, 9, 10) THEN XBNFGRP = 4;           /* Ret/Surv/Fam 65+ */
  ELSE IF INPUT(ENBGSMPL,8.) IN (11)     THEN XBNFGRP = .;
END;

/* CREATE DEPENDENT VARIABLES */

/* KMILOPQY--OUTPATIENT VISITS TO MILITARY FACILITY
   KCIVOPQY--OUTPATIENT VISITS TO CIVILIAN FACILITY */
IF H&YR.005 = 1 THEN DO;
  KMILOPQY=H&YR.013;
  KCIVOPQY=1;
END;
ELSE IF H&YR.005 IN (2, 3, 4) THEN DO;
  KCIVOPQY=H&YR.013;
  KMILOPQY=1;
END;
ELSE IF H&YR.005 = 5 THEN DO;
  KMILOPQY=1;
  KCIVOPQY=1;
END;

/* HP_PRNTL--IF PREGNANT LAST YEAR, RECEIVED PRENATAL CARE IN 1ST TRIMESTER */
IF H&YR.062 IN (1,2) THEN DO;                        /*  Pregnant in last 12 months  */
  IF H&YR.064 = 4 THEN HP_PRNTL = 1;                 /*  Yes  */
    ELSE IF (H&YR.063 = 1 AND H&YR.064 = 1) THEN HP_PRNTL = .;   /* <3 months pregnant now */
    ELSE IF H&YR.064 IN (1,2,3) THEN HP_PRNTL = 2;          /*  No */
END;
ELSE IF H&YR.062 IN (.C,.N) THEN HP_PRNTL = .N; /* Male */

/* HP_MAMOG--FOR WOMEN AGE 40 AND OVER, HAD MAMMOGRAM W/IN PAST 2 YEARS */
IF XSEXA = 2 AND INPUT(FIELDAGE,8.) >= 40 THEN DO;
  IF H&YR.061 IN (5, 4) THEN HP_MAMOG = 1;        /* Yes */
  ELSE IF H&YR.061 IN (1, 2, 3) THEN HP_MAMOG = 2;  /* No */
END;

/* HP_MAM50–FOR WOMEN AGE 50 AND OVER, HAD MAMMOGRAM W/IN PAST 2 YEARS */
IF XSEXA = 2 AND INPUT(FIELDAGE,8.) >= 50 THEN DO;
  IF H&YR.061 IN (5, 4) THEN HP_MAM50 = 1;        /* Yes */
```

```
      ELSE IF H&YR.061 IN (1, 2, 3) THEN HP_MAM50 = 2;   /* No */
END;


/* HP_PAP--FOR ALL WOMEN, HAD PAP SMEAR IN LAST 3 YEARS */
IF XSEXA = 2 THEN DO;
  IF H&YR.059B IN (4, 5, 6) THEN HP_PAP = 1;        /* Yes */
  ELSE IF H&YR.059B IN (1, 2, 3) THEN HP_PAP = 2;     /* No  */
END;


/* HP_BP--HAD BLOOD PRESSURE SCREENING IN LAST 2 YEARS AND KNOW RESULT */
IF H&YR.049 IN (2,3) AND H&YR.050 IN (1,2) THEN HP_BP = 1;  /* Yes   */
  ELSE IF H&YR.049 = 1 THEN HP_BP = 2;             /* No     */
  ELSE IF H&YR.049 < 0 OR H&YR.050 < 0 THEN HP_BP = .;    /* Unknown */
  ELSE HP_BP = 2;                        /* No      */


/* HP_FLU--FOR PERSON AGE 65 OR OVER, HAD FLU SHOT IN LAST 12 MONTHS */
IF INPUT(FIELDAGE,8.) >= 65 THEN DO;
  IF H&YR.051 = 4 THEN HP_FLU = 1;            /*  Yes */
  ELSE IF H&YR.051 IN (1, 2, 3) THEN HP_FLU = 2;    /*  No  */
END;


/* HP_SMOKE--ADVISED TO QUIT SMOKING IN PAST 12 MONTHS */
IF H&YR.054 IN (2, 3, 4) THEN HP_SMOKE = 1;      /*  Yes  */
  ELSE IF H&YR.054 = 1 THEN HP_SMOKE = 2;        /*  No   */


/* KCIVINS--IS BENEFICIARY COVERED BY PRIVATE CIVILIAN INSURANCE */
IF H&YR.002G=1 OR H&YR.002I=1 OR H&YR.002J=1 THEN KCIVINS=1;       /* YES */
  ELSE KCIVINS=2;                      /* NO  */


/* Add code for smoking and smoking cessation counseling according to the HEDIS */
IF H&YR.052 IN (1,2) THEN DO;
  IF H&YR.052=1 AND (H&YR.053=3 OR H&YR.053=4) AND H&YR.057A=1 THEN HP_SMKH3=1; /* Yes */
  ELSE IF H&YR.052=2 OR H&YR.053=2 OR H&YR.057A NE 1 THEN HP_SMKH3=2;     /* No  */
END;


IF (H&YR.053=3 OR H&YR.053=4) AND H&YR.054>0 THEN DO;
  IF H&YR.054>1 THEN HP_CESH3=1; /* Yes */
  ELSE HP_CESH3=2;        /* No */
END;


/* OUTCATCH -- OUT OF CATCHMENT AREA */
IF 9900 < CACSMPL < 9999 THEN OUTCATCH=1;   /* Out of catchment area */
  ELSE IF CACSMPL = 9999 THEN OUTCATCH=.;
  ELSE OUTCATCH=0;              /* Catchment area      */


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Calculate XBMI- Body Mass Index and XBMICAT- Body Mass Index Category
* BMI=Weight(in pounds)*703 divide by Height(in inch)*Height(in inch)
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;

 IF H&YR.071F IN (.A,.O,.I,.B) THEN TSRHGTF=.; ELSE TSRHGTF=H&YR.071F;
 IF H&YR.071I IN (.A,.O,.I,.B) THEN TSRHGTI=.; ELSE TSRHGTI=H&YR.071I;
 IF H&YR.072  IN (.A,.O,.I,.B) THEN TSRWGT =.; ELSE TSRWGT =H&YR.072;
```

```
 IF TSRHGTF IN (.) OR
    TSRWGT  IN (.) THEN XBMI=.;
 ELSE DO;
   XBMI = ROUND((TSRWGT*703)/
            (SUM(TSRHGTF*12,TSRHGTI)*SUM(TSRHGTF*12,TSRHGTI)), .1);
 END;

IF XBMI < 12 OR XBMI > 70 THEN XBMI=.;

 DROP TSRHGTF TSRHGTI TSRWGT;

/* Same category as Healthy People 2010 where there is no sex distinction */
   IF XBMI = .        THEN XBMICAT=.;
   ELSE IF XBMI < 18.5 THEN XBMICAT=1;  *Underweight;
   ELSE IF XBMI < 25   THEN XBMICAT=2;  *Normal Weight;
   ELSE IF XBMI < 30   THEN XBMICAT=3;  *Overweight;
   ELSE IF XBMI < 40   THEN XBMICAT=4;  *Obese;
   ELSE               XBMICAT=5;  *Morbidly Obese;

IF XBMICAT=. THEN HP_OBESE=.;
ELSE IF XBMICAT IN (4,5) THEN HP_OBESE=1;   *OBESE ;
ELSE HP_OBESE=2;                *NOT OBESE;

/*
Tricare Reserve Select and the increasing presence of inactive reservists and their dependents in our data.
In order to accomodate them, we will need to create additional variables.
*/

IF DBENCAT='ACT' THEN XBENCAT=1;     *Active duty;
ELSE IF DBENCAT='DA'  THEN XBENCAT=2; *Active Duty family member;
ELSE IF DBENCAT='GRD' THEN XBENCAT=3; *Active reservist;
ELSE IF DBENCAT='DGR' THEN XBENCAT=4; *Dependent of Reservist;
ELSE IF DBENCAT='IGR' THEN XBENCAT=5; *Inactive Reservist";
ELSE IF DBENCAT='IDG' THEN XBENCAT=6; *Dependent of Inactive Guard";
ELSE IF DBENCAT IN ('RET','DR','DS') THEN DO;
   IF 17 <= INPUT(FIELDAGE,8.) < 65 THEN XBENCAT=7;   *Retired or Dependent of Retiree<65;
   ELSE IF INPUT(FIELDAGE,8.) > = 65 THEN XBENCAT=8; *Retired or Dependent of Retiree>=65;
END;

*We also need to redefine xins_cov, call it xins_rsv,
which is the same as xins_cov but where
reservists are separated from other active duty - xins_cov will =1 if active duty,
but not active reservist or inactive reservist.

Similarly we need xenr_rsv which is xenr_pcm but reservists will not be treated as active duty
ie xenr_pcm=1 if active duty but not reservist.  We also need to define another category
for xins_rsv, xins_rsv=9 for tricare reserve select - we also need to account for the value
covered by insurance of another country - that should be classified as civilian insurance.
Use H&YR.003 for this.*/

/* XINS_RSV--INSURANCE COVERAGE DISTINGUISHING RESERVISTS FROM ACTIVE DUTY*/
  IF XENRLLMT = 1 THEN DO;
```

```
     IF XBENCAT IN (1) THEN XINS_RSV =1;                  /* Prime <65-Active Duty (Non reservists) */
     ELSE IF XBENCAT IN (3,5) THEN XINS_RSV=10;           /* Prime <65-Active Duty (Reservists) */
   END;
   ELSE IF 17 <= INPUT(FIELDAGE,8.) < 65 AND H&YR.003 IN (1) THEN XINS_RSV = 2; /* Prime <65-Non-active Duty
*/
  ELSE IF H&YR.003 =3 THEN XINS_RSV = 3;                  /* Standard/Extra */
  ELSE IF H&YR.003 = 11 THEN XINS_RSV = 7;                /* Plus and Medicare */
  ELSE IF H&YR.003 = 4 THEN XINS_RSV = 4;                 /* Medicare*/
  ELSE IF H&YR.003 IN (5,6, 7, 8, 9, 13) THEN XINS_RSV = 5;      /* Other civilian health insurance*/
  ELSE IF H&YR.003 = 10 THEN XINS_RSV = 8;                /* Veterans Administration (VA) */
  ELSE IF H&YR.003 = 12 THEN XINS_RSV = 9;                /* TRICARE Reserve Select */
  ELSE IF H&YR.003 = 14 THEN XINS_RSV = 11;               /* TRICARE Retired Reserve - MER 06/21/11 */
  ELSE IF 21 <= INPUT(FIELDAGE,8.) <= 26
     AND H&YR.003 = 15 THEN XINS_RSV = 14;                /* TRICARE Young Adult Prime - MER 06/21/11 */
  ELSE IF H&YR.003 = 16 THEN XINS_RSV = 13;               /* CHCBP - MER 06/21/11 */
  ELSE IF 21 <= INPUT(FIELDAGE,8.) <= 26
     AND H&YR.003 = 17 THEN XINS_RSV = 15;                /* TRICARE Young Adult Standard/Extra- AMK
02/06/14 */
  ELSE IF (INPUT(FIELDAGE,8.)>= 65 AND XENRLLMT = 5 and H&YR.003 = 1) THEN XINS_RSV = 6;  /* Prime, >= 65
*/
  /*ELSE IF H&YR.075=1 AND H&YR.076=1 AND H&YR.003 NE .N THEN XINS_RSV = 4;*/   /* Medicare/Medicaid */
/**REMOVED 11FEB19**/

/* XENR_RSV--ENROLLMENT DISTINGUISHING RESERVISTS FROM ACTIVE DUTY */
IF 17 <= INPUT(FIELDAGE,8.) < 65 THEN DO;
  IF INPUT(ENBGSMPL,8.) = 1 THEN DO;
    IF XBENCAT IN (1) THEN XENR_RSV = 1;                  /*  Active duty (<65) Non reservists */
    ELSE IF XBENCAT IN (3,5) THEN XENR_RSV = 8;           /*  Active duty (<65) Reservists */
  END;
  ELSE IF INPUT(ENBGSMPL,8.) IN (3, 6) THEN XENR_RSV = 2;     /*  Enrolled (<65) - mil PCM */
  ELSE IF INPUT(ENBGSMPL,8.) IN (2, 5) THEN XENR_RSV = 3;     /*  Enrolled (<65) - civ PCM */
  ELSE IF INPUT(ENBGSMPL,8.) IN (4, 7,11) THEN XENR_RSV = 4;  /*  Not Enrolled (<65)     */
END;
ELSE IF INPUT(FIELDAGE,8.) > = 65 THEN DO;
  IF INPUT(ENBGSMPL,8.) = 10 THEN XENR_RSV = 5;          /*  Not Enrolled (65+)     */
  IF INPUT(ENBGSMPL,8.) = 9 THEN XENR_RSV = 6;           /*  Enrolled (65+)-mil PCM  */
  IF INPUT(ENBGSMPL,8.) = 8 THEN XENR_RSV = 7;           /*  Enrolled (65+)-civ PCM  */
END;

  /*Capping/Recode dageqy and fieldage by combining 18 and below and 86 and above. */

  IF INPUT(DAGEQY,8.)=.        THEN RDAGEQY=.;
  ELSE IF INPUT(DAGEQY,8.) LT 18  THEN RDAGEQY=18;
  ELSE IF INPUT(DAGEQY,8.) GT 86  THEN RDAGEQY=86;
  ELSE RDAGEQY=INPUT(DAGEQY,8.);

  IF INPUT(FIELDAGE,8.)=.       THEN RFLDAGE=.;
  ELSE IF INPUT(FIELDAGE,8.) LT 18 THEN RFLDAGE=18;
  ELSE IF INPUT(FIELDAGE,8.) GT 86 THEN RFLDAGE=86;
  ELSE RFLDAGE=INPUT(FIELDAGE,8.);

  /*****************************************************/
  /** Recode region fields for two-region scheme 20180208 **/
```

```
        /*********************************************/

   IF CACSMPL= 9201 THEN CACSMPL =9101;
   IF CACSMPL= 9202 THEN CACSMPL =9102;
   IF CACSMPL= 9203 THEN CACSMPL =9103;
   IF CACSMPL= 9204 THEN CACSMPL =9104;
   IF CACSMPL= 9902 THEN CACSMPL =9901;
   IF XTNEXREG >1 THEN XTNEXRG2=XTNEXREG-1;
   ELSE XTNEXRG2=XTNEXREG;

RUN;

PROC FREQ DATA=CONVARQ;
  WHERE XREGION = .;
  TABLES CACSMPL/LIST MISSING;
  TITLE3 'Comparison of CACSMPL values with missing XREGION';
RUN;

PROC FREQ DATA=CONVARQ;
  WHERE XREGION = . AND CACSMPL IN (9901 9902 9903 9904);
  TABLES DCATCH*D_HEALTH/LIST MISSING;
  TITLE3 'Comparison of DCATCH values with missing XREGION for OOC CACSMPL';
RUN;

PROC FREQ DATA=CONVARQ;
  TABLES DHAFLAG*CACSMPL/LIST MISSING;
  TITLE3 'Comparison of DHA flag vs. CACSMPL';
RUN;

DATA CONVARQ2;
  SET CONVARQ;
  WHERE FNSTATUS=11;
RUN;

/* CHECK RECONSTRUCTED VARIABLES */
PROC FREQ DATA=CONVARQ2;
 TABLES XENRLLMT XENR_PCM XINS_COV XBENCAT XENR_RSV XINS_RSV XREGION XTNEXREG XTNEXRG2
      XBMICAT ENBGSMPL XBNFGRP
      KMILOPQY KCIVOPQY HP_PRNTL HP_MAMOG HP_MAM50 HP_PAP HP_BP HP_FLU
      HP_SMOKE KCIVINS OUTCATCH
      HP_SMKH3 HP_CESH3 XBMI HP_OBESE XOCONUS SERVAREA
      / MISSING LIST;
 TITLE3 "ONE WAY FREQUENCIES ON 20&YR. RECONSTRUCTED VARIABLES";
 RUN;

/* CROSSTABS TO CHECK RECONSTRUCTION VARIABLES */
/* COLLAPSE AGE FOR CROSSTABS */
  PROC FORMAT;
   VALUE $AGE
        "017" -< "065" = "LESS THAN 65"
        "065" -< "120" = "65 OR OLDER"
        "O"    = "Out of range err"
        " "    = "Missing/unknown" ;
```

```
    RUN;

  PROC FREQ DATA=CONVARQ2;
   TABLES
        FIELDAGE*ENBGSMPL*XENRLLMT
        FIELDAGE*ENBGSMPL*XENR_PCM
        FIELDAGE*XENRLLMT*H&YR.003*XINS_COV
        DBENCAT*XBENCAT
        FIELDAGE*ENBGSMPL*XENR_RSV*XENR_PCM
        FIELDAGE*XENRLLMT*H&YR.003*XINS_COV*XINS_RSV
        XTNEXREG*XREGION*CACSMPL
        XTNEXREG*XTNEXRG2
        XREGION*USA
        FIELDAGE*ENBGSMPL*XBNFGRP
        H&YR.005*H&YR.013*KMILOPQY
        H&YR.005*H&YR.013*KCIVOPQY
        H&YR.062*H&YR.063*H&YR.064*HP_PRNTL
        XSEXA*H&YR.059B*HP_PAP
        H&YR.049*H&YR.050*HP_BP
        FIELDAGE*H&YR.051*HP_FLU
        H&YR.054*HP_SMOKE
        H&YR.002I*H&YR.002J*H&YR.002G*KCIVINS
        OUTCATCH*CACSMPL
        H&YR.052*H&YR.053*HP_SMKH3
        HP_SMKH3*H&YR.054*HP_CESH3
        H&YR.071F*H&YR.071I*H&YR.072*XBMI
        XBMICAT*HP_OBESE
        XREGION*XOCONUS*USA

        / MISSING LIST;
        FORMAT XSEXA HASEX. FIELDAGE $AGE.
            XBMICAT XBMICAT.
                ;
    TITLE3 'CROSSTABS ON NEW VARIABLES';
         RUN;

  PROC FREQ DATA=CONVARQ2;
    tables XTNEXREG*XREGION*CACSMPL
        XTNEXREG*XREGION*CACSMPL*D_HEALTH*DCATCH
        ENBGSMPL*CACSMPL*SERVAREA

        RDAGEQY*DAGEQY
        RFLDAGE*FIELDAGE

      / MISSING LIST;
  run;

/* COLLAPSE FOR MAMMOGRAPHY, BREAST CANCER, AND PROSTATE XTABS*/
  PROC FORMAT;
    VALUE $AGE2_
        "017" - "049" = "LESS THAN 50"
        "050" -< "120" = "50 OR OLDER"
        "O"    = "Out of range err"
```

```
                    " "     = "Missing/unknown" ;

        VALUE $AGE3_
            "017" - "039" = "LESS THAN 40"
            "040" -< "120" = "40 OR OLDER"
            "O"     = "Out of range err"
            " "     = "Missing/unknown" ;
            RUN ;

        PROC FREQ DATA=CONVARQ2;
          TABLES XSEXA*FIELDAGE*H&YR.061*HP_MAM50
              /MISSING LIST;
              FORMAT FIELDAGE $AGE2_. XSEXA HASEX.;
        RUN;

        PROC FREQ DATA=CONVARQ2;
          TABLES XSEXA*FIELDAGE*H&YR.061*HP_MAMOG
              /MISSING LIST;
              FORMAT FIELDAGE $AGE3_. XSEXA HASEX.;
        RUN;

    PROC FORMAT;
     VALUE $AGE4_
          "017" - "020" = "LESS THAN 21"
          "021" - "026" = "21 TO 26"
          "027" -< "120" = "27 OR OLDER"
          "O"     = "Out of range err"
          " "     = "Missing/unknown" ;
          RUN ;

        PROC FREQ DATA=CONVARQ2;
          TABLES FIELDAGE*H&YR.003*XINS_COV*XINS_RSV
              /MISSING LIST;
              FORMAT FIELDAGE $AGE4_.;
        RUN;

    PROC FREQ DATA=CONVARQ2(WHERE=(XINS_COV=10));
      TABLES DBENCAT DBENCAT*FIELDAGE/list missing;
      TITLE3 "DBENCAT frequencies for TRICARE Retired Reserve";
    RUN;
  TITLE3;

    PROC CONTENTS DATA=OUT.CONVARQ VARNUM;
    RUN;

%MEND;
%CONVARQ;
```

F.4.B Q3FY2020\PROGRAMS\CONSTRUCT\CONSTRUCT_CACSMPL.SAS - Include file for Convarq.sas

```
****************************************************************************
*** Project: Health Care Survey of DoD Beneficiaries - Adult
*** Purpose: Create cacsmpl for the reporting purpose for adult survey
***
*** Program: construct_cacsmpl.sas
***
*** Inputs:  extract.sas7bdat: Extracted DoD data set
***          TMA.sas7bdat:    DMIS information
***          frame_cacsmpl.inc:  Include file
***
*** Outputs: construct_cacsmpl.sas7bdat - the adult frame with cacsmpl in
***
*** Updated: 02/02/2016 BY MTURBYFILL Add VARNUM to PROC CONTENTS
***
*** Note: 01/03/2007 by Haixia Xu
***      This program is copied from q4fy2006 sampling,
***      and modified for Q2FY2007 to create the cacampl to be used for reporting, not for sampling purpose
***
****************************************************************************;

*** Set up options. ***;
options ls=132 ps=79 compress=yes nocenter;* mprint mlogic symbolgen;

*** Set up the input and output paths. ***;
libname ext    "&EXPATH.";  /* extract.sas7bdat */
libname inTMA   "&DATAPATH.";  /* TMA.sas7bdat */
libname out     "&DATAPATH.";  /* construct_cacsmpl.sas7bdat */

*** Set up the titles. ***;
title1 'Program: Construct_cacsmpl.SAS';
title2 'Construct cacsmpl for reporting';

data frame;
set ext.extract;
run;

title4 'Freq of PRRECFLG in the frame';
proc freq data=frame;
tables PRRECFLG/ missing list;
run;

/* MER 06/22/09 Added the following blocks to */
/* facilitate merge of selectq with the frame.*/
/* Resulting dataset renamed sample instead of*/
/* frame. */
proc sort data=frame;
  by mprid;
run;
```

```
data sample;
  merge frame(in=a) selectq(in=b keep= mprid);
  by mprid;
  if b=1;
run;


*****************************************************************************
* Added q2 2003, Don and Keith created a template to be used each quarter;
* The code below and the include file construct cacsmpl
* and collapse historically small catchment areas;
*****************************************************************************;
data TMA (keep = geocell d_par d_fac d_instal d_health d_dmis servaff);
  set inTMA.TMA (rename=(facility_Type_Code__6_char_maxim=d_fac
       installation_Name__35_character=d_instal
       dmis_facility_Name__30_character=d_dmis
       facility_Service_Code=servaff));
  ***Extract the facility service code variable(servaff) starting with the November 2004 TMA spreadsheet in
Q1,2005;

  length d_par $4.;
  d_par = DMIS_PARENT_ID;
  length geocell $4.;
  geocell = DMIS_ID;
  length d_health $2.;
  d_health = HEALTH_Service_region;
run;

title4 "Freq of servaff, d_fac in TMA spreadsheet";
proc freq data=TMA;
tables servaff d_fac/missing list;
run;

%include "construct_cacsmpl.inc" ;

data out.construct_cacsmpl;
  set t_sample(keep=mprid cacsmpl); /* MER 06/22/09 renamed from t_framea */
run;

title4 'Freq of cacsmpl';
proc freq data=out.construct_cacsmpl;
tables cacsmpl/missing list;
run;

title4 'Information for the Sample';
proc contents data = out.construct_cacsmpl varnum;
run;

************** The End *****************;
```

F.4.C Q3FY2020\PROGRAMS\CONSTRUCT\CONSTRUCT_CACSMPL.INC - Include file for Construct_Cacsmpl.SAS

```
***************************************************************************************
**********
*** Project:      Health Care Survey of DoD Beneficiaries - Quarterly/Annual Adult Dataset
*** Program:      Construct_cacsmpl.inc -- include file used in construct_cacsmpl.sas
***
*** Note: 01/04/2007 by Haixia Xu
***     This program is copied from q4fy2006 sampling,
***     and modified for q1fy2007 to create the cacampl to be used for reporting, not for sampling purpose
***     4/25/2018: Modified line 192 to add "TOP" to "if d_fac in(...)"   IMC 4/2018
***     2/7/2019:  Added DHA ENRIDs to CACSMPL classification
***     6/1/2020:  Added additional home port GEOCELL assignments (6335-6342)
***
***************************************************************************************
*************;

DATA SAMPLE; /* MER 06/22/09 renamed from FRAME to SAMPLE */
  SET SAMPLE;
  if pcm='MTF' then do;

    /* Use the list produced by sampling program for the current quarter */

    %include "../Sampling/assigngeocell.inc" /source2;

    /* all the old assignments from frame.inc for q2, 2005 */

    else if ('1976' <= enrid <= '1980' ) or ( '6301' <= enrid <= '6323' ) or ( '6335' <= enrid <= '6342') or
      ('6991' <= enrid <= '6994')  or ('6501' <= enrid <= '6512') or
      ('7166' <= enrid <= '7195') or ( '6700' <= enrid <= '6881' ) or enrid='0000'
      then geocell=dcatch; *administrative assignment 1976-1980 added q4 2002, 6700-6881 added q1 2004,
                0000 added q1,2005;
        else if ('8001' <= enrid <= '8036') or ('6901' <= enrid <= '6919')
      then geocell = dcatch; *Managed care contractor assignment, added in q1 2005; *8001-8036 added q2
2005;
      else if ('3031' <= enrid <= '3057')
        then geocell = dcatch; ***On board ship***;
      else if enrid in ('0002', '0041', '0044', '0082', '0111', '0213', '0235', '0585', '5208', '0250',
              '0449', '0626', '0012')
        then geocell = dcatch; ***Inactive***;  *0626 added q2 2003, 0012 added q4 2003,
                          0041, 0044, 0082, 0111, 0213, 0235, 0585 added q2 2005;
      else if enrid = ' ' then geocell = dcatch; ***enrolled, but missing ENRID, added q2 2005 ***;
      ***********************************************************************;
      else if ('0190' <= enrid <= '0199') then geocell = dcatch;**BYDON;
      ***********************************************************************;

    else geocell = enrid;
  end;

  else geocell=dcatch;
```

```
RUN;

title4 "Check the correctness of the assignments of geocell";
proc freq data=sample;
tables enrid*geocell*dcatch/missing list;
where pcm='MTF';
run;

proc sort nodupkey data=TMA;
  by geocell;
run;

proc sort data=sample;
  by geocell;
run;

data sample2 sa_only fy_only; /* MER 06/22/09 renamed from frame2 and fr_only */
  merge sample (in=insa) TMA (in=infy);
  by geocell;
if insa=1 and infy=1 then output sample2;
else if insa=1 and infy=0 then output sa_only;
else if insa=0 and infy=1 then output fy_only;
run;

title4 "The records in the sample but not in TMA spreadsheet";
proc print data=sa_only;
run;

/* AMK 7/10/13 - OUTPUT RECORDS IN SA_ONLY*/
DATA OUT.sa_only;
SET sa_only;
RUN;

title4 "Freq of PCM*d_fac in the sample";
proc freq data=sample2;
tables pcm*d_fac/missing list;
run;

data t_sample; /* MER 06/22/09 renamed from t_framea */
  set sample2;
  ************************;
  com_geo=geocell;
  ************************;

  if pcm='MTF' then do;

    /* Use the list produced by the sampling program for the current quarter */

    %include "../Sampling/assigncom_geo.inc" / source2;

    /* all the old assignments from frame.inc for q2, 2005 */

    else if ('1976' <= enrid <= '1980') or ('6301' <= enrid <= '6323') or ( '6335' <= enrid <= '6342' ) or
```

```
        ('6991' <= enrid <= '6994') or ('6501' <= enrid <= '6512') or
        ('7166' <= enrid <= '7195') or ('6700' <= enrid <= '6881') or enrid='0000'
      then com_geo = geocell; *Administrative assignment--1976-1980 added q4 2002. 0000 added q1,2005;
          else if ('8001' <= enrid <= '8036') or ('6901' <= enrid <= '6919')
      then com_geo = geocell; *Managed care contractor assignment, added in q1, 2005;*8001-8036 added q2
2005;
      else if ('3031' <= enrid <= '3057')
        then com_geo = geocell; ***On board ship***;
      else if enrid in ('0002', '0041', '0044', '0082', '0111', '0213', '0235', '0585', '5208', '0250',
                  '0449', '0626', '0012')
      then com_geo = geocell; ***Inactive***;  *'0626' added q2 2003, 0012 added q4 2003,
                                 0041, 0044, 0082, 0111, 0213, 0235, 0585 added q2 2005;

      else com_geo = d_par;
    end;
    else if patcat='ACTDTY' then com_geo=d_par;

    *******************************************************************.
                                                                      ;
    ***Made the following 9 Navy sites stand alone in q1,2005:    ***;
    ***'0026','0068','0231','0378','0387','0405','0407','0508','6215'***;
    *******************************************************************.
                                                                      ;

    if geocell in ('0026','0068','0231','0378','0387','0405','0407','0508','6215') then com_geo=geocell;

    ***********************************************************.
                                                             ;
    *** Collapsing small areas with nearest facility ***;
    ***********************************************************.
                                                             ;

    *************************************************************************.
                                                                           ;
    *** Collapsed the following 9 Air force sites to achieve the sample ***;
    *** size of 50000 due to making 9 Navy sites stand alone in q1,2005:***;
    *** '0013','0036','0059','0090','0287','0326','0638','0805','7139'. ***;
    *************************************************************************.
                                                                           ;

  if    com_geo in ('0074','0416')    then com_geo='0001';
  else if com_geo in ('0203','0130','0417',
              '7044','7047')    then com_geo='0005';
  else if com_geo in ('0418','0419','7083',
              '0015','0287','5194','5184') then com_geo='0014'; *0287 added in q1,2005 by Haixia;*5194 added
6/5/20 by Matt T;
  else if com_geo in ('0018','0248')    then com_geo='0019';
  else if com_geo in ('7046')         then com_geo='0029'; *By emf added q4 2003;
  else if com_geo in ('0420')         then com_geo='0037';
  else if com_geo in ('0422')         then com_geo='0038';
  else if com_geo in ('0421','7048','0050') then com_geo='0039';
  else if com_geo in ('7139')         then com_geo='0043'; /*changed from 0045 to 0043 in q1fy2007 reporting
due to different xregion*/
  else if com_geo in ('7043','5188')    then com_geo='0052';
  else if com_geo in ('0427')         then com_geo='0056'; *By emf added q3 2003;
  else if com_geo in ('0076')         then com_geo='0058';
  else if com_geo in ('0423')         then com_geo='0064';
  else if com_geo in ('0413','0428','0326',
              '0036')         then com_geo='0066'; *Taken out 0068, added 0036, 0326 in q1,2005 by Haixia;
```

```
  else if com_geo in ('0424')          then com_geo='0067';
  else if com_geo in ('0306')          then com_geo='0069';
  else if com_geo in ('0059')     then com_geo='0078'; *changed in q1,2005;
  else if com_geo in ('0085')          then com_geo='0083';
  else if com_geo in ('0081','5196')     then com_geo='0086'; *By emf added q1 2003;
  else if com_geo in ('0430','0335','7143') then com_geo='0089';
  else if com_geo in ('0013')          then com_geo='0096'; *0013 added in q1,2005 by Haixia;
  else if com_geo in ('0338', '0097')        then com_geo='0098'; /*moved 0338 from 0078 to here due to
different xregion*/
  else if com_geo in ('0356')          then com_geo='0103';
  else if com_geo in ('0084')          then com_geo='0108';
  else if com_geo in ('0363','7082','1587') then com_geo='0109';
  else if com_geo in ('0364')          then com_geo='0112';
  else if com_geo in ('0114')          then com_geo='0117';
  else if com_geo in ('0077')          then com_geo='0119';
  else if com_geo in ('0432','0433','0090') then com_geo='0120'; *Added 0090 in q1,2005 by Haixia;
 *else if com_geo in ('0122')          then com_geo='0121'; *Uncollapse 0122 (KENNER AHC-FT. LEE)
                                       to make it a seperate cacsmpl in q1,2005 by Haixia;
  else if com_geo in ('0431','0434','0395',
              '1646')         then com_geo='0125';
  else if com_geo in ('0435')          then com_geo='0126';
  else if com_geo in ('7045')          then com_geo='0128';
  else if com_geo in ('0106','7200','0093',
              '0094')         then com_geo='0129'; *Changed in q1,2005 by Haixia;
  *Collapse 0093,0094 with an Air Force site in the west TNEX region, 0129, instead of the south TNEX region,
0096;
  else if com_geo in ('0310','0425','0426') then com_geo='0321';
  else if com_geo in ('0808')          then com_geo='0609';
  else if com_geo in ('0618','0623','0629',
              '0624','0635','0825') then com_geo='0617';
/* comment it out in q1fy2007 for reporting
  else if com_geo in ('0802', '0616','0615',
              '7042','5197')     then com_geo='0620'; *0616 added in q3,2004 by Haixia;
*/
  else if com_geo in ('0802')     then com_geo='0620'; /*xregion=14*/
  else if com_geo in ('0616','7042','5197') then com_geo='0615'; /*xregion=15*/
  else if com_geo in ('8931')          then com_geo='0633';
  else if com_geo in ('0610','0639','0637',
              '0638')         then com_geo='0640'; *changed in q1,2005;
  else if com_geo in ('0805','8982')     then com_geo='0806'; *0805 added in q1,2005 by Haixia;
  else if com_geo in ('0034','0035','0100') then com_geo='6223'; *changed emf q1 2004;

  *** added on 01/27/2004 by Haixia Xu to collapse small cells
     for the facility type of TGRO into out of catchment area;
     if d_fac in ('NONCAT' 'TGRO' 'TPR' 'TOP') then do;        /*updated to add "TOP" (replaced "TGRO") (IMC
4/2018)*/
     if d_health in ('01','02','05','17') or (d_health = '23' and tnexreg='N') then com_geo = '9901';
      else if d_health in ('03','04','06','18') or (d_health = '23' and tnexreg='S') then com_geo = '9902';
      else if d_health in ('07','08','09','10','11','12','19','24') then com_geo = '9903';
      else if d_health in ('00','13','14','15') then com_geo = '9904';
    end;
 *********************************************************************************;
 ***d_fac="TPR" and d_health = '17', '18', '19' were added above for Q4, 2004, ***;
```

```
   ***since we got the new regions 17(North T_NEX),18(South T_NEX),19(West T_NEX).***;
   ***************************************************************************************;

   if com_geo in ('9900', '0999', '0998', ' ') then com_geo='9904';

   rename com_geo= cacsmpl;

RUN;

*************The end **************;
```

F.4.D Q3FY2020\PROGRAMS\CONSTRUCT\CONSVAR0.SAS - Include file for Convarq.sas

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*  PROGRAM:  CONSVAR0.SAS
*  TASK:     1999 DOD HEALTH CARE SURVEY ANALYSIS (8676-100)
*  PURPOSE:  Create XREGION and CONUS
*
*  WRITTEN:  February 11, 2000
*  MODIFIED: 04/10/2019 - M Turbyfill - Added DCATCH 0994 to XREGION 7
*            for the shift of parts of West Texes to the West Region.
*            Hardcoded one obs in 2019Q1
*       08/01/2019 - M Turbyfill - Added CACSMPL values to XREGION attribution:
*            5185
*            5199
*            0783
*            5187
*            5189
*            0799
*            0625
*            6923
*            6924
*            Redefined missing XREGION and added XREGION values 17 and 18
*            Made appropriate adjustments to USA and XTNEXREG
*
*    NOTES:  1) This file needs to be included in the CONVARQ.SAS program.
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Assign XREGION using CACSMPL
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
IF      CACSMPL IN (0035, 0036, 0037, 0066, 0067,
             0068, 0069, 0081, 0086, 0100,
             0123, 0306, 0310, 0321, 0326,
             0330, 0385, 0413, 6201, 6223) THEN XREGION= 1;
ELSE IF CACSMPL IN (0089, 0090, 0091, 0092, 0120,
             0121, 0122, 0124, 0335, 0378, 0387, 0432,
             0433, 0508, 7143, 7286, 7294) THEN XREGION= 2;
ELSE IF CACSMPL IN (0039, 0041, 0045, 0046, 0047,
             0048, 0049, 0050, 0051, 0101,
             0103, 0104, 0105, 0337, 0356,
             0405, 0422, 0511, 5191, 5185, 5199 ) THEN XREGION= 3;
ELSE IF CACSMPL IN (0001, 0002, 0003, 0004, 0038,
             0042, 0043, 0073, 0074, 0107,
             0297, 7139       ) THEN XREGION= 4;
ELSE IF CACSMPL IN (0055, 0056, 0060, 0061, 0095,
             5195, 9905, 0783       ) THEN XREGION= 5;
ELSE IF CACSMPL IN (0013, 0062, 0064, 0096, 0097,
             0098, 0109, 0110, 0112, 0113,
             0114, 0117, 0118, 0338, 0363,
             0364, 0365, 0366, 1350, 1587, 1592, 7236, 9906, 5187    ) THEN XREGION= 6;
ELSE IF CACSMPL IN (0008, 0009, 0010, 0079, 0083,
             0084, 0085, 0108, 9907    ) THEN XREGION= 7;
```

```
ELSE IF CACSMPL IN (0031, 0032, 0033, 0053, 0057,
          0058, 0059, 0075, 0076, 0077,
          0078, 0093, 0094, 0106, 0119,
          0129, 0252, 7200, 7293, 9908      ) THEN XREGION= 8;
ELSE IF CACSMPL IN (0018, 0019, 0024, 0026, 0029, 0030,
          0131, 0213, 0231, 0248, 0407, 5205,
          6215, 9909, 5189 ) THEN XREGION= 9;
ELSE IF CACSMPL IN (0014, 0015, 0028, 0235, 0250,
          9910             ) THEN XREGION=10;
ELSE IF CACSMPL IN (0125, 0126, 0127, 0128, 0395, 1646,
          9911             ) THEN XREGION=11;
ELSE IF CACSMPL IN (0052, 0280, 0287, 0534, 7043, 9912 ) THEN XREGION=12;
ELSE IF CACSMPL IN (0606, 0607, 0609, 0617, 0618,
          0623, 0624, 0629, 0633, 0635,
          0653, 0805, 0806, 0808, 0814,
          8931, 8982, 9913, 0799        ) THEN XREGION=13;
ELSE IF CACSMPL IN (0610, 0612, 0620, 0621, 0622,
          0637, 0638, 0639, 0640, 0802,
          0804, 0853, 0862, 9914, 0625    ) THEN XREGION=14;
ELSE IF CACSMPL IN (0449, 0613, 0615, 0616, 9915 ) THEN XREGION=15;
ELSE IF CACSMPL IN (0005, 0006, 0203, 9916     ) THEN XREGION=16;
ELSE IF CACSMPL = 9999                 THEN XREGION= 17;
ELSE IF CACSMPL IN (6923     ) THEN XREGION=18;
ELSE IF CACSMPL IN (6924     ) THEN XREGION=19;
ELSE XREGION = .;

IF CACSMPL IN (9901,9902,9903,9904) THEN DO;
  IF D_HEALTH NOT IN ('00','17','18','19','23','24') THEN DO;
    XREGION=INPUT(D_HEALTH,8.)+0;
  END;
  ELSE DO;
    IF  DCATCH IN ('0037', '0067', '0123', '0781', '0907',
          '0908', '0920', '0921', '0922', '0930',
          '0931', '0933', '0939', '0940', '0946',
          '0995')
    THEN XREGION=1;
    ELSE IF DCATCH IN ('0124', '0934', '0996')
      THEN XREGION=2;
    ELSE IF DCATCH IN ('0039', '0048', '0105', '0911', '0941',
            '0987')
      THEN XREGION=3;
    ELSE IF DCATCH IN ('0003', '0787', '0901', '0925', '0943',
            '0988', '0989')
      THEN XREGION=4;
    ELSE IF DCATCH IN ('0055', '0056', '0061', '0782', '0783',
            '0789', '0914', '0915', '0918', '0923',
            '0936', '0950')
      THEN XREGION=5;
    ELSE IF DCATCH IN ('0113', '0904', '0937', '0990', '0993')
      THEN XREGION=6;
    ELSE IF DCATCH IN ('0785', '0929', '0932', '0994'/*Added for West Texas*/)
      THEN XREGION=7;
    ELSE IF DCATCH IN ('0078', '0784', '0788', '0906', '0917',
```

```
                '0924', '0927', '0928', '0935', '0942',
                '0945', '0951', '0974')
         THEN XREGION=8;
      ELSE IF DCATCH IN ('0029', '0786', '0986')
         THEN XREGION=9;
      ELSE IF DCATCH IN ('0014', '0985')
         THEN XREGION=10;
      ELSE IF DCATCH IN ('0125', '0938', '0948', '0973')
         THEN XREGION=11;
      ELSE IF DCATCH IN ('0912')
         THEN XREGION=12;
      ELSE IF DCATCH IN ('0957', '0958', '0960', '0964', '0966',
                '0967', '0976', '0977', '0979',
                '0982')
         THEN XREGION=13;
      ELSE IF DCATCH IN ('0006', '0052', '0640', '0961', '0963',
                '0965', '0978', '0983')
         THEN XREGION=14;
      ELSE IF DCATCH IN ('0075', '0120', '0615', '0622','0953',
                '0970', '0971', '0972', '0975')
         THEN XREGION=15;
      ELSE IF DCATCH IN ('0902')
         THEN XREGION=16;
   END;
END;

IF D_PAR = '0902' THEN XREGION=16;
IF XREGION = 0 THEN XREGION = .;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Assign indicator of CONUS based on XREGION.  CONUS stands for
* Continental United States it but includes both Alaska and Hawaii.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *,
IF    XREGION IN (1,2,3,4,5,6,7,8,9,10,11,12,16,18) THEN USA=1;
ELSE IF XREGION IN (13,14,15)             THEN USA=0;
ELSE IF XREGION IN (. 17)                 THEN USA=.;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Assign XTNEXREG using XREGION
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *,
IF XREGION IN (1,2,5,18) THEN XTNEXREG=1;
ELSE IF XREGION IN (3,4,6) THEN XTNEXREG=2;
ELSE IF XREGION IN (7,8,9,10,11,12,16,19) THEN XTNEXREG=3;
ELSE IF XREGION IN (13,14,15) THEN XTNEXREG=4;
ELSE IF XREGION IN (. 17) THEN DO;
  IF TNEXREG = 'N' THEN XTNEXREG=1;
  ELSE IF TNEXREG = 'S' THEN XTNEXREG=2;
  ELSE IF TNEXREG = 'W' THEN XTNEXREG=3;
  ELSE IF TNEXREG = 'O' THEN XTNEXREG=4;
  ELSE XTNEXREG=.;
END;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

```
* CREATE XOCONUS FOR  europe, pacific, latin america
************************************************************************;


IF    XREGION=13 THEN XOCONUS=1;
ELSE IF XREGION=14 THEN XOCONUS=2;
ELSE IF XREGION=15 THEN XOCONUS=3;

IF XTNEXREG = 4 AND XOCONUS = . THEN DO;
          IF DHSRGN IN('13' '14' '15') THEN XOCONUS = INPUT(DHSRGN,best12.)-12;

         ELSE DO;
                   IF MACTRYCD='BE' THEN XOCONUS=1; /*Belgium*/
   IF MACTRYCD='GB' THEN XOCONUS=1; /*Great Britain*/
   IF MACTRYCD='GM' THEN XOCONUS=1; /*Germany*/
   IF MACTRYCD='JA' THEN XOCONUS=2; /*Japan*/
   IF MACTRYCD='KS' THEN XOCONUS=2; /*South Korea*/
                   IF MACTRYCD='RP' THEN XOCONUS=2; /*Philippines*/
   IF MACTRYCD='RQ' THEN XOCONUS=3; /*Puerto Rico*/
   IF MACTRYCD='UK' THEN XOCONUS=1; /*United Kingdom*/

         END;
         IF XOCONUS = . AND MACTRYCD = 'ZZ' THEN DO;
   IF MACITYNM = 'ANGELES CITY'        THEN XOCONUS = 2;
   IF MACITYNM = 'GENERAL TRIAS'       THEN XOCONUS = 2;
                   IF MACITYNM = 'MICHELFELD GERMANY'   THEN XOCONUS = 1;
   IF MACITYNM = 'MIURA CITY'          THEN XOCONUS = 2;
   IF MACITYNM = 'MOERLENBACH'         THEN XOCONUS = 1;
   IF MACITYNM = 'PARANAQUE PHILIPPINE' THEN XOCONUS = 2;
   IF MACITYNM = '727-0013 SHOBARA'    THEN XOCONUS = 2;
   IF MACITYNM = 'TRUJILLO ALTO'       THEN XOCONUS = 3;
         END;
END;

 **********************************************************************
 * Construct SERVAREA.
 **********************************************************************;
 IF ENBGSMPL IN ('04','07','10') THEN DO;
   SELECT(CACSMPL);
     WHEN (0024,0029)          SERVAREA='01';
     WHEN (0032,0033)          SERVAREA='02';
     WHEN (0037,0066,0067,0123)   SERVAREA='03';
     WHEN (0038,0042)          SERVAREA='04';
     WHEN (0049,0103,0104)      SERVAREA='05';
     WHEN (0091,0092)          SERVAREA='06';
     WHEN (0098,0113)          SERVAREA='07';
     WHEN (0101,0105)          SERVAREA='08';
     WHEN (0109,0117)          SERVAREA='09';
     WHEN (0120,0121,0124)      SERVAREA='10';
     WHEN (0125,0126,0127)      SERVAREA='11';
     OTHERWISE SERVAREA='';
   END;
 END;
```

F.5.A   Q3FY2020\PROGRAMS\CONSTRUCT\MERGEQ.SAS - Merge Constructed Variables onto Data File - Run Quarterly

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROGRAM:   MERGEQ.SAS
* WRITTEN:   1/28/00 BY KELLY WHITE
*
* MODIFIED: 12/23/14 BY A KUDIS FOR q1 FY 2014
                        04/07/15 BY M TURBYFILL TO REMOVE ELAPSED_SEC FROM THE DROP STATEMENT
*        02/02/2016 BY MTURBYFILL Add VARNUM to PROC CONTENTS
*        02/10/2017 BY MTURBYFILL Changed filepaths and capitalization to match SAS Grid.
*                        04/21/2017 BY MTURBYFILL H__032 and N11 are removed for the foreseeable future.
*        04/05/2018 BY MTURBYFILL KMILOPCY and KCIVOPCY are removed, in addition to H18005,
*                  S18B01-04, H18066-H18070, H18072, and H18074-H18079.
*                  Notes 10_B1, 22, 23, and 25 are removed as well.
*    02/07/2019 by MTurbyfill XTNEXRG2, DELGRNRC, and DENRGRPC added to dataset
*              ACV removed from dataset
*              JSFLAG replaced by DHAFLAG
*              H19005 returns to the dataset
*    08/01/2019 by IConnor DELGRNRC and DENRGRPC removed from dataset
*
* PURPOSE:   TO MERGE FINAL FILES TOGETHER AND REORDER BY VARIABLE TYPE
*         To reorder variables within the record use a
*          LENGTH statement before the SET statement.
*          Make sure that MPRID is the first variable in the
*          record followed by:
*                1) other sampling variables
*                2) DEERS variables
*                3) Post-stratification vars
*                4) questionnaire responses
*                5) DRC variables
*                6) recoded questionnaire responses
*                3) coding scheme flags
*                8) constructed variables
*                9) weights  (NOT AVAILABLE FOR PRELIMINARY DATA)
* INPUT:    ..\..\DATA\AFINAL\SELECTQ.sas7bdat
* INPUT:    ..\..\DATA\AFINAL\CONVARQ.sas7bdat
* OUTPUT:   ..\..\DATA\AFINAL\MERGEQ.sas7bdat
* INCLUDE:  SERVAFF.SAS
        TO MERGE ON VARIABLE SERVAFF
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*;
LIBNAME IN1        "&DATAPATH.";
LIBNAME OUT        "&DATAPATH.";
LIBNAME LIBRARY    "&FMTPATH.";

OPTIONS PS=78 LS=124 ERRORS=2 COMPRESS=YES VARLENCHK=NOWARN;

%MACRO MERGEQ;

%INCLUDE SERVAFF/SOURCE2;
```

```
PROC SORT DATA=IN1.SELECTQ OUT=SELECTQ;
  BY MPRID;
RUN;

PROC SORT DATA=IN1.CONVARQ OUT=CONVARQ;
  BY MPRID;
RUN;

PROC SORT DATA=IN1.SERVAFF OUT=SERVAFF;
  BY MPRID;
RUN;

PROC FREQ DATA=SERVAFF;
  TABLES SERVAFF;
RUN;

DATA MERGEQ (DROP =

O_:

PRRECFLG

D_DMIS
DMIS
R_MTF
GROUP
GRP_GEO
DELGIND
);

  MERGE SELECTQ(in=hcsdb rename=(flag_fin=dummy)
          DROP=PCM SERVAFF enbgsmpl DHSRGN MACTRYCD MACITYNM)
      CONVARQ
      SERVAFF(DROP=DCATCH ENRID);

  BY MPRID;
  if hcsdb;

/* MAKE FLAG_FIN IN Q4 CHARACTER*/
  FLAG_FIN=PUT(DUMMY,5.);
  DROP DUMMY;

FORMAT
  SERVAFF  $SERVAFF.
  CACSMPL  CAC.
  DBENCAT  $BENCAT.
  DMEDELG  $MEDELG.
  DSPONSVC $SPONSVC.
  DELGENRC $DELGEN.
  DENRGRPC $DENRGR.
  FLAG_FIN $FINAL.
  FNSTATUS FNSTATS.
  MBRRELCD $MBRREL.
```

```
   MEDTYPE  $MEDTYP.
   MRTLSTAT $MSTATUS.
   PATCAT   $AGGBCAT.
   MISS_1  HAMISS.
   MISS_4  HAMISS.
   MISS_5  HAMISS.
   MISS_6  HAMISS.
   MISS_7  HAMISS.
   MISS_9  HAMISS.
   MISS_TOT HAMISS.
   PCM     $PCM.
   PNLCATCD $PNLCAT.
   PNSEXCD  $SEXCD.
   RACEETHN $RACECD.
   SEXSMPL  SEX.
   SVCSMPL  SVCSMPL.
   XSEXA    HASEX.
   SERVAREA $SRVAREA.
   MPCSMPL  MPCSMPL.
   D_HEALTH $DHEALTH.
   TNEXREG  $TNEXREG.
   D_FAC    $DFAC.
   MSM      $MSM.
   XBMICAT  XBMICAT.
   ENRID    $ENRID.
   WEB      WEB.
   XOCONUS  XOCONUS.
   /*ACV     $ACV2_.*/
   SURVTYPE SURVTYPE.

   XSERVAFF XSERVAFF.

   PNTYPCD  $PNTYPCD.

   MPRID    $8.
;

LABEL
   ENBGSMPL = "Enrollment by beneficiary category"
   SERVAFF  = "Service Affiliation"
   MPCSMPL  = "MPCSMPL - Military Personnel Category"
   FLAG_FIN = "Final Disposition"
   CACSMPL  = "Catchment Area"
   WEB      = "Web survey indicator"
   D_PAR    = "DMIS Parent ID"
   D_Health = "Health Service Region"
   TNEXREG  = "TNEX Region - Based on Address"
   MSM      = 'Multiple Service Market Areas'
   MIQCNTL  = 'Synovate ID'
   XSERVAFF = "Service Affiliation"
   SERVAREA = 'Service Area'
   COM_GEO  = "Catchment Area"
   SURVTYPE = 'Web or Mail Survey'
```

```
    ;

RUN;

PROC CONTENTS DATA=MERGEQ;
RUN;

DATA OUT.MERGEQ;

  LENGTH

    MPRID     $ 8      /* ID            */
    SVCSMPL     8      /* sampling variable */
    SEXSMPL     8      /* sampling variable */
    STRATUM    $ 7      /* sampling variable */
    CACSMPL     8      /* sampling variable */

    ENBGSMPL   $ 2      /* sampling variable */
    ENBGSMPL2  $ 2      /* sampling variable */
    MPCSMPL     8      /* sampling variable */
    NHFF        8      /* sampling variable */
    SERVAREA   $ 2      /* sampling variable */
    QUARTER    $ 8      /* sampling variable */
    PRN         8      /* sampling variable */
    DCATCH     $ 4      /* sampling variable */
    ENRID      $ 4      /* sampling variable */
    DMIS_ID    $ 9      /* sampling variable */
    MSM        $ 2      /* sampling variable */
    D_FAC      $ 9      /* sampling variable */
    D_PAR      $ 4      /* sampling variable */
    D_HEALTH   $ 2      /* sampling variable */
    TNEXREG    $ 1      /* sampling variable */
    SERVAFF    $ 1      /* sampling variable */
    BWT         8      /* sampling variable */
    COM_GEO    $ 4      /* sampling variable */

    MRTLSTAT   $ 1      /* DEERS variable   */
    RACEETHN   $ 1      /* DEERS variable   */
    PNSEXCD    $ 1      /* DEERS variable   */
    DAGEQY     $ 3      /* DEERS variable   */
    RDAGEQY     3      /* DEERS variable   */
    FIELDAGE   $ 3      /* DEERS variable   */
    RFLDAGE     3      /* DEERS variable   */
    PCM        $ 3      /* DEERS variable   */
    /*ACV      $ 1  */   /* DEERS variable   */
    DBENCAT    $ 3      /* DEERS variable   */
    DMEDELG    $ 1      /* DEERS variable   */
    DSPONSVC   $ 1      /* DEERS variable   */
    MBRRELCD   $ 1      /* DEERS variable   */
    MEDTYPE    $ 1      /* DEERS variable   */
    PATCAT     $ 7      /* DEERS variable   */
    PNTYPCD    $ 1      /* DEERS variable   */
    PNLCATCD   $ 1      /* DEERS variable   */
```

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```
DELGENRC   $ 3      /* DEERS variable   */
DENRGRPC   $ 1      /* DEERS variable   */

H&YR.001    4      /* questionnaire    */
H&YR.002A   4       /* questionnaire   */
H&YR.002C   4       /* questionnaire   */
H&YR.002N   4        /* questionnaire  */
H&YR.002O   4        /* questionnaire  */
H&YR.002P   4       /* questionnaire   */
H&YR.002Q   4        /* questionnaire  */
H&YR.002S   4       /* questionnaire   */
H&YR.002T   4       /* questionnaire   */
H&YR.002V   4       /* questionnaire   */
H&YR.002K   4       /* questionnaire   */
H&YR.002U   4        /* questionnaire  */
H&YR.002F   4       /* questionnaire   */
H&YR.002G   4        /* questionnaire  */
H&YR.002H   4       /* questionnaire   */
H&YR.002I   4      /* questionnaire    */
H&YR.002J   4      /* questionnaire    */
H&YR.002M    4       /* questionnaire   */
H&YR.002R   4        /* questionnaire  */
H&YR.002L   4       /* questionnaire   */
H&YR.003    4      /* questionnaire    */
H&YR.004    4      /* questionnaire    */
H&YR.005    4      /* questionnaire    */
H&YR.006    4      /* questionnaire    */
H&YR.007    4      /* questionnaire    */
H&YR.008    4      /* questionnaire    */
H&YR.009    4      /* questionnaire    */
H&YR.010    4      /* questionnaire    */
H&YR.011    4      /* questionnaire    */
H&YR.012    4      /* questionnaire    */
H&YR.013    4      /* questionnaire    */
H&YR.014    4      /* questionnaire    */
H&YR.015    4      /* questionnaire    */
H&YR.016    4      /* questionnaire    */
H&YR.017    4      /* questionnaire    */
H&YR.018    4      /* questionnaire    */
H&YR.019    4      /* questionnaire    */
H&YR.020    4      /* questionnaire    */
H&YR.021    4      /* questionnaire    */
H&YR.022    4      /* questionnaire    */
H&YR.023    4      /* questionnaire    */
H&YR.024    4      /* questionnaire    */
H&YR.025    4      /* questionnaire    */
H&YR.026    4      /* questionnaire    */
H&YR.027    4      /* questionnaire    */
H&YR.028    4      /* questionnaire    */
H&YR.029    4      /* questionnaire    */
H&YR.030    4      /* questionnaire    */
H&YR.031    4      /* questionnaire    */
```

```
        H&YR.033    4      /* questionnaire    */
H&YR.034    4      /* questionnaire    */
H&YR.035    4      /* questionnaire    */
H&YR.036    4      /* questionnaire    */
H&YR.037    4      /* questionnaire    */
H&YR.038    4      /* questionnaire    */
H&YR.039    4      /* questionnaire    */
H&YR.040    4      /* questionnaire    */
H&YR.041    4      /* questionnaire    */
H&YR.042    4      /* questionnaire    */
H&YR.043    4      /* questionnaire    */
H&YR.044    4      /* questionnaire    */
H&YR.045    4      /* questionnaire    */
H&YR.046    4      /* questionnaire    */
H&YR.047    4      /* questionnaire    */
H&YR.048    4      /* questionnaire    */
H&YR.049    4      /* questionnaire    */
H&YR.050    4      /* questionnaire    */
H&YR.051    4      /* questionnaire    */
H&YR.052    4      /* questionnaire    */
H&YR.053    4      /* questionnaire    */
H&YR.054    4      /* questionnaire    */
H&YR.055    4      /* questionnaire    */
H&YR.056    4      /* questionnaire    */
H&YR.057A    4      /* questionnaire    */
H&YR.057B    4      /* questionnaire    */
H&YR.057C    4      /* questionnaire    */
H&YR.057D    4      /* questionnaire    */
H&YR.058    4      /* questionnaire    */
H&YR.059B    4      /* questionnaire    */
H&YR.060    4      /* questionnaire    */
H&YR.061    4      /* questionnaire    */
H&YR.062    4      /* questionnaire    */
H&YR.063    4      /* questionnaire    */
H&YR.064    4      /* questionnaire    */
H&YR.065    4      /* questionnaire    */
H&YR.071F    4      /* questionnaire    */
H&YR.071I    4      /* questionnaire    */
H&YR.072    4      /* questionnaire    */
SREDA        4      /* questionnaire    */
H&YR.073    4      /* questionnaire    */
H&YR.073A    4      /* questionnaire    */
H&YR.073B    4      /* questionnaire    */
H&YR.073C    4      /* questionnaire    */
H&YR.073D    4      /* questionnaire    */
H&YR.073E    4      /* questionnaire    */
SRRACEA    4      /* questionnaire    */
SRRACEB    4      /* questionnaire    */
SRRACEC    4      /* questionnaire    */
SRRACED    4      /* questionnaire    */
SRRACEE    4      /* questionnaire    */
SRAGE        4      /* questionnaire    */
```

```
S&YR.009    4    /* supplemental   */
S&YR.010    4    /* supplemental   */
S&YR.011    4    /* supplemental   */
S&YR.014    4    /* supplemental   */
S&YR.B01    4    /* supplemental   */
S&YR.B02    4    /* supplemental   */
S&YR.B03    4    /* supplemental   */
S&YR.B04    4    /* supplemental   */

S&YR.BF2    4    /* supplemental   */
S&YR.BF3    4    /* supplemental   */
S&YR.BF4    4    /* supplemental   */
S&YR.BF5    4    /* supplemental   */
S&YR.BF7    4    /* supplemental   */
S&YR.BF8A   4    /* supplemental   */
S&YR.BF8B   4    /* supplemental   */
S&YR.BF8C   4    /* supplemental   */
S&YR.BF8D   4    /* supplemental   */
S&YR.BF8E   4    /* supplemental   */
S&YR.BF8F   4    /* supplemental   */
S&YR.BF8G   4    /* supplemental   */
S&YR.BF8H   4    /* supplemental   */
S&YR.BF8I   4    /* supplemental   */
S&YR.BF8J   4    /* supplemental   */
S&YR.BF9    4    /* supplemental   */
S&YR.BF10   4    /* supplemental   */
S&YR.BF11   4    /* supplemental   */

ONTIME     $ 3    /* Survey fielding variable */
FLAG_FIN   $ 5    /* Survey fielding variable */
DUPFLAG    $ 3    /* Survey fielding variable */
FNSTATUS    8     /* Survey fielding variable */
KEYCOUNT    8     /* Survey fielding variable */
WEB        8     /* Survey fielding variable */
MIQCNTL   $ 12    /* Survey fielding variable */

INTTIME     8     /* Survey fielding variable */
SURVTYPE    8     /* Survey fielding variable */

N1      8     /* CS flag variable   */
N2      8     /* CS flag variable   */
N3      8     /* CS flag variable   */

N4      8     /* CS flag variable   */
N5      8     /* CS flag variable   */

N6      8     /* CS flag variable   */
N7      8     /* CS flag variable   */
N8      8     /* CS flag variable   */
N8_01     8     /* CS flag variable   */
N9      8     /* CS flag variable   */
N10      8     /* CS flag variable   */
```

```
N10_B1    8      /* CS flag variable   */
N12       8      /* CS flag variable   */
N13       8      /* CS flag variable   */
N14       8      /* CS flag variable   */
N15       8      /* CS flag variable   */
N16       8      /* CS flag variable   */
N17       8      /* CS flag variable   */
N18       8      /* CS flag variable   */
N18_BF1   8      /* CS flag variable   */
N18_BF2   8      /* CS flag variable   */
N19A      8      /* CS flag variable   */
N19B      8      /* CS flag variable   */
N20       8      /* CS flag variable   */
N21       8      /* CS flag variable   */
N23_HT    8      /* CS flag variable   */
N23_WT    8      /* CS flag variable   */
N24       8      /* CS flag variable   */

MISS_1    8     /* CS Count        */
MISS_4    8     /* CS Count        */
MISS_5    8     /* CS Count        */
MISS_6    8     /* CS Count        */
MISS_7    8     /* CS Count        */
MISS_9    8     /* CS Count        */
MISS_TOT  8     /* CS Count        */
DHAFLAG   3     /* sampling variable */
XENRLLMT  8     /* constructed     */
XENR_PCM  8     /* constructed     */
XINS_COV  8     /* constructed     */
XBENCAT   8     /* constructed     */
XENR_RSV  8     /* constructed     */
XINS_RSV  8     /* constructed     */
XREGION   3     /* constructed     */
XTNEXRG2  3     /* constructed     */
USA       3     /* constructed     */
XOCONUS   3     /* constructed     */
OUTCATCH  8     /* constructed     */
XSEXA     8     /* constructed     */
XBMI      8     /* constructed     */
XBMICAT   3     /* constructed     */
XBNFGRP   8     /* constructed     */
XSERVAFF  3     /* constructed     */
KMILOPQY  8     /* constructed     */
KCIVOPQY  8     /* constructed     */
KCIVINS   8     /* constructed     */
HP_PRNTL  8     /* constructed     */
HP_MAMOG  8     /* constructed     */
HP_MAM50  8     /* constructed     */
HP_PAP    8     /* constructed     */
HP_BP     8     /* constructed     */
HP_FLU    8     /* constructed     */
HP_OBESE  8     /* constructed     */
HP_SMOKE  8     /* constructed     */
```

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```
    HP_SMKH3    8       /* constructed    */
    HP_CESH3    8       /* constructed    */
   ;

   SET MERGEQ;

   RUN;

PROC CONTENTS DATA=OUT.MERGEQ POSITION VARNUM;
  title1  "HCSDB for Q&QT. FY 20&YR., ordered by variable type";
  RUN;

PROC FREQ DATA=OUT.MERGEQ;
TABLE PCM /*ACV*/ CACSMPL /MISSPRINT;
RUN;

%MEND;
%MERGEQ;
```

F.5.B Q3FY2020\PROGRAMS\CONSTRUCT\SERVAFF.SAS - Include file for merging SERVAFF variable to quarterly Data File

```
/********************************************************************/
/* PROJECT: 8687-100 (DOD QUARTERLY 2001)                    */
/* AUTHOR:  NATALIE JUSTH                             */
/* DATE:   APRIL 24, 2001                          */
/*                                   */
/* PURPOSE: INCLUDE PROGRAM FOR MERGEQ.SAS                  */
/*      MERGES VARIABLE SERVAFF TO QUARTERLY DATASET           */
/* INPUT: ...\DATA\AFINAL\S200204.sas7bdat             */
/*      ...\DATA\AFINAL\SAMPLA02.sas7bdat             */
/* OUTPUT: ...\DATA\AFINAL\SERVAFF.sas7bdat             */
/********************************************************************/

LIBNAME INr  "&INRLIB.";  /*Restricted folder*/
LIBNAME TMA   "&DATAPATH.";
LIBNAME serv  "&DATAPATH.";

/* Create new DMIS merge variable       */
/* First use ENRID, then ULOCDMIS, then DCATCH */

DATA SAMPLA02(KEEP=DMIS_ID ENRID MSM MPRID PCM DCATCH);
  SET INr.SAMPLA02;
  LENGTH DMIS_ID $9;
  DMIS_ID=ENRID;
  IF DMIS_ID=' ' THEN DO;
    IF ULOCDMIS NE ' ' THEN DMIS_ID=ULOCDMIS;
    ELSE DMIS_ID=DCATCH;
  END;

  ******************************************************************
  * Construct MSM.
  ******************************************************************;

  IF PCM = 'MTF' THEN DO;
    SELECT(DMIS_ID);
      WHEN ('0037', '0066', '0067', '0068', '0069',
          '0123', '0256', '0306', '0309', '0385', '0413') MSM='01';
      WHEN ('0120', '0121', '0124')          MSM='02';
      WHEN ('0089', '0335')             MSM='03';
      WHEN ('0103', '0356')             MSM='04';
      WHEN ('0101', '0105')             MSM='05';
      WHEN ('0297', '0316', '0436', '0654', '1990', '0073') MSM='06';
      WHEN ('0109', '0117', '0363', '0366')      MSM='07';
      WHEN ('0032', '0033', '0252', '7200')      MSM='08';
      WHEN ('0024', '0029')             MSM='09';
      WHEN ('0125', '0126', '0127', '0395', '7138')   MSM='10';
      WHEN ('0052', '0280', '0287')          MSM='11';
      WHEN ('0204', '0006')             MSM='12';
      WHEN ('0005', '0203')             MSM='13';
      OTHERWISE MSM=' ';
```

```
      END;
    END;
    ELSE DO;
      SELECT(DCATCH);
        WHEN ('0037', '0066', '0067', '0068', '0069',
           '0123', '0256', '0306', '0309', '0385', '0413') MSM='01';
        WHEN ('0120', '0121', '0124')              MSM='02';
        WHEN ('0089', '0335')               MSM='03';
        WHEN ('0103', '0356')               MSM='04';
        WHEN ('0101', '0105')               MSM='05';
        WHEN ('0297', '0316', '0436', '0654', '1990', '0073') MSM='06';
        WHEN ('0109', '0117', '0363', '0366')       MSM='07';
        WHEN ('0032', '0033', '0252', '7200')       MSM='08';
        WHEN ('0024', '0029')               MSM='09';
        WHEN ('0125', '0126', '0127', '0395', '7138')    MSM='10';
        WHEN ('0052', '0280', '0287')           MSM='11';
        WHEN ('0204', '0006')             MSM='12';
        WHEN ('0005', '0203')             MSM='13';
        OTHERWISE MSM=' ';
      END;
    END;

RUN;

PROC PRINT DATA=SAMPLA02(OBS=50);
RUN;

PROC SORT DATA=SAMPLA02;
  BY DMIS_ID;
RUN;

PROC SORT DATA=TMA.TMA(KEEP=DMIS_ID FACILITY_SERVICE_CODE) OUT=TMA;
  BY DMIS_ID;
RUN;

DATA SERV.SERVAFF;
  MERGE SAMPLA02(IN=IN1)
      TMA(RENAME=(FACILITY_SERVICE_CODE=SERVAFF));
  BY DMIS_ID;

  LENGTH  XSERVAFF 3;

  IF SERVAFF='A' THEN XSERVAFF=1; *Army;
  IF SERVAFF='F' THEN XSERVAFF=2; *Air Force;
  IF SERVAFF='N' THEN XSERVAFF=3; *Navy;

  /*** Coast Guard, Administrative, Support Contractor, USTF, Noncatchment,
   Other, Not available, Missing/unknown will collapsed to other per Eric Shone ***/

  IF SERVAFF IN ('C' 'J' 'M' 'T' 'S' 'O' 'X' ' ') THEN XSERVAFF=4; *Other;
  IF SERVAFF ='P' THEN XSERVAFF=5; *AMK 2/27/14 ADDED JOINT SERVICE;

  IF IN1;
```

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```
RUN;

PROC PRINT DATA=SERV.SERVAFF(OBS=200);
RUN;

PROC CONTENTS DATA=SERV.SERVAFF; RUN;
```

F.6 Q3FY2020\Programs\Weighting\NewWeights\smplA1A2.SAS - Define the data sets and create the variables

```
*****************************************************************************
***
*** Program: smplA1A2.sas
*** Task   : (50713.Y1.T02.013.000)
*** Purpose: Define the data sets and construct the variables to be used in the propensity model
***
*** Written: Haixia Xu 12/18/2006 for Q1FY2007 Weighting

*** Inputs: extract.sas7bdat : Extract file
***        selectq.sas7bdat : Survey file with CAHPS4.0 questionnaires
***        deers001-004.sas7bat
***        Sample_revised.sas7bdat

*** Outputs: smplA1A2.sas7bdat
***        smplA1.sas7bdat: Dataset to be used to calculate the unknown eligibility factor A1
***        smplA2.sas7bdat: Dataset to be used to calculate the nonresponse adjustment A2
***        conusA1.sas7bdat, oconusA1.sas7bdat, conusA2.sas7bdat, oconusA2.sas7bdat
*** Note   : We do not have Group=0
***        Creating TRS using DELGENRC
***                        Q2FY2020: Rename ENBGSMPL2 to ENBGSMP2
*****************************************************************************
*;
Options formdlim='=' pageno=1 /*symbolgen mprint*/ validvarname=UPCASE nocenter ls=150 ps=60
  formchar="|---||---+|-/\<>*";

%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
        %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log)); /*Grid is case sensitive*/
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));
proc printto log="&logname." new;
ods listing;
proc printto print="&lstname." new;
%let quarter=Q3FY2020;

libname inr "/sasdata/Projects/50713_HCS_Restricted/DATA/&QUARTER." access=readonly; *extract, deers;
libname in  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly; *selectq;
libname out "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal";
*smpla1a1,smpla1,smpla2,conusa1;
libname library v9 "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal/fmtlib"
access=readonly;
%let outpath =
/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/AnswerTree/;

title1 "Program: smplA1A2.SAS (&quarter.)";
title2 "Purpose: Define the data sets and construct the variables";
Title3 "                              ";

*****************************************************************************
Put the data together;
```

```
*****************************************************************************;
data selectq;
  set in.selectq(keep=BWT COM_GEO D_HEALTH D_FAC dageqy ENBGSMPL FNSTATUS MPCSMPL MPRID
        PATCAT PCM PNLCATCD PNSEXCD SERVAFF SEXSMPL STRATUM SVCSMPL WEB TNEXREG
        GROUP DBENCAT TNEX_GRP TNEX_GP2 CONUS ENBGSMPL2 DELGENRC);
run;

*****************************************************************************
Get the variables PGCD, PTNT_ID from extract data
*****************************************************************************;
proc sort data=selectq; by mprid;
run;

proc sort data=inr.extract(keep=mprid pgcd ptnt_id PAYPLNCD) out=extract;
by mprid;
run;

data selectq;
  merge selectq(in=a)  extract(in=b);
  by mprid;
  if a and b;
run;

*****************************************************************************
Merge the selectq with DEERS to get the address variable c_addr1
*****************************************************************************;
data deers;
set inr.DEERS(keep=ptnt_id c_addr1 grp_temp MASTCD);
if c_addr1=' ' then CHCSAddr=0;
if c_addr1~=' ' then CHCSAddr=1;
run;

proc sort data=selectq; by ptnt_id; run;
proc sort data=deers; by ptnt_id; run;

data selectq;
merge selectq (in=A) deers;
by ptnt_id;
if A=1;
run;

*****************************************************************************
Construct the new variables
*****************************************************************************;
data smpl;
set selectq;

***age***;
age=input(dageqy, 3.);

*Define the age group with 5 categories, which will be used in CHAID;
length AGE_GRP4 $1;
if age <= 24 then AGE_GRP4 = '1';
```

```
else if 24 < age <= 34 then AGE_GRP4 = '2';
else if 34 < age <= 44 then AGE_GRP4 = '3';
else if age > 44 then AGE_GRP4 = '4';
if age=. then AGE_GRP4='4';

***PATCAT***;
***Define PATCAT this way so it won't be associated with the age ***;
length PATC_grp $15;
if PATCAT ='UNKNOWN' then do;
  if ENBGSMPL2 in ('01') then PATC_grp='ACTDTY';
  else if ENBGSMPL2 in ('02', '03', '04') then PATC_grp='DEPACT';
  else if ENBGSMPL2 in ('05', '06', '07', '10') then PATC_grp='NADD';
end;
else if PATCAT in ('NADD<65','NADD65+') then PATC_grp = 'NADD';
else PATC_grp = PATCAT;

***PCM***;
length PCM_grp $3;
if PCM =' ' then PCM_grp='NON';
else if PCM in ('CIV', 'MTF') then PCM_grp = PCM;

***PNLCATCD***;
length PNLC_grp $8;
if PNLCATCD in ('N','V') then PNLC_grp='Grd/Resv';
else PNLC_grp= 'Other';

***RANKPAY***;
length RankPay $3;
if MPCSMPL=1 then do;
  if PGCD in (' ', '00', '99','WW','NS') then RankPay = 'E01';
  else  RankPay = 'E'||PGCD;
  end;
else if MPCSMPL=2 then do;
  if PGCD in (' ', '00', '99' ) then RankPay = 'O01';
  else  RankPay = 'O'||PGCD;
  end;
else if MPCSMPL=3 then do;
  if PGCD in (' ', '00', '99') then RankPay = 'W01';
  else  RankPay = 'W'||PGCD;
  end;

length RANK_grp $15;
if RankPay in ('E01', 'E02', 'E03', 'E04') then RANK_grp = 'E1234';
else if RankPay in ('E05', 'E06', 'E07', 'E08', 'E09', 'E10', 'E11','E12','E13','E14','E15') then RANK_grp =
'E56789101112';
else if RankPay in ('EZZ') then Rank_grp = 'E56789101112'; *In Q2FY15, 1 person is in RankPay EZZ. Per Nancy and
Eric's recomendation, we assign EZZ to largest Rank_grp;
else if Rankpay in ('W01', 'W02', 'W03', 'O01', 'O02', 'O03') then RANK_grp= 'W123O123';
else if RankPay in ('W04', 'W05', 'O04', 'O05', 'O06', 'O07', 'O08', 'O09', 'O10') then RANK_grp = 'W45O45678910';

***sex***;
*Put the missing sex with male;
length SEX_grp $1;
```

```
if SEXSMPL in (1, 3) then SEX_grp ='1';
else if SEXSMPL=2 then SEX_grp='2';

***service***;
length SVC_grp $16;
if SVCSMPL = 1 then SVC_grp='Army';
else if SVCSMPL in (2,3,5,6) then SVC_grp='N/M/C/O/U';
else if SVCSMPL = 4 then SVC_grp='Air Force';

***Catchment area indicator***;
length in_catch $1;
if d_fac='NONCAT' or d_fac='TGRO' or d_fac="TPR"  then in_catch='0';
else in_catch ='1';

if DELGENRC='TRS' then TRS=1;
else TRS=2;

***rename ENBGSMPL2 as ENBGSMP2 - added Q2FY2020 ***;
RENAME ENBGSMPL2=ENBGSMP2;

label in_catch='In-catchment area indicator'
    TRS='TRICARE Reserve Select indicator'
           ENBGSMPL2='Revised enrollee/beneficiary group (w/o TRS)';
run;

title4 'Checking the Coding after Constructing New Variables';
proc freq data=smpl;
tables CHCSAddr AGE_GRP4 AGE_GRP4*AGE*dageqy
    PATC_grp PATC_grp*PATCAT*ENBGSMP2
    PCM_grp PCM_grp*PCM
    PNLC_grp PNLC_grp*PNLCATCD
    RANKPAY*MPCSMPL*PGCD
    RANK_grp RANK_grp*RANKPAY
    SEX_grp SEX_grp*SEXSMPL*PNSEXCD
    SVC_grp SVC_grp*SVCSMPL
    CONUS TNEX_GRP
    CONUS*TNEX_GRP
    in_catch in_catch*d_fac
           TRS*DELGENRC*ENBGSMPL
/missing list;
run;

title4 'Frequency of FNSTATUS:';
proc freq data=smpl;
tables FNSTATUS/missing list;
run;

*******************************************************************************
Output the data sets
*******************************************************************************;
data out.smplA1A2 out.smplA1 out.smplA2 out.conusA1 out.oconusA1 out.conusA2 out.oconusA2;
set smpl(drop=DAGEQY PNSEXCD MPCSMPL PGCD PTNT_ID);
```

```
if fnstatus in (11, 12, 20, 31, 32, 41, 42) then output out.smplA1A2;

if fnstatus in (11, 12, 20, 31, 41, 42) then do;
  if fnstatus in (11, 12, 20, 31) then eligkwn=1; else eligkwn=0;
  label eligkwn = 'Eligibility known indicator';
  output out.smplA1;

  if conus='1' then output out.conusA1;
  else if conus='0' then output out.oconusA1;
end;

if fnstatus in (11, 12, 20) then do;
  if fnstatus = 11 then complete = 1; else complete =0;
  label complete = 'Eligible respondent/complete indicator';
  output out.smplA2;

  if conus='1' then output out.conusA2;
  else if conus='0' then output out.oconusA2;
end;
run;

options compress=no;
title4 'Freq of conus*fnstatus for 100,000 beneficiaries';
proc freq data=out.smplA1A2;
tables conus*fnstatus / missing list;
run;

title4 'Freq of fnstatus*eligkwn for 100,000 benes except fnstatus=32';
proc freq data=out.smplA1;
tables conus*fnstatus*eligkwn/ missing list;
run;

title4 'Freq of fnstatus*complete for fnstatus=11,12,20';
proc freq data=out.smplA2;
tables conus*fnstatus*complete/ missing list;
run;

/**********************************************************************/
/*  Proc Export to convert SAS dataset to SPSS file for the Answer Tree*/
/**********************************************************************/
%MACRO SAStoSAV(FNAME);
  PROC EXPORT DATA=out.&FNAME.
    OUTFILE= "&outpath./&FNAME..sav" REPLACE;
  RUN;
%MEND SAStoSAV;

%SAStoSAV(conusA1);
%SAStoSAV(oconusA1);
%SAStoSAV(conusA2);
%SAStoSAV(oconusA2);
proc printto;
run;
***************** The End ******************;
```

F.7.A Q3FY2020\Programs\Weighting\NewWeights\logmdA1.SAS - Predict the response propensity score for the unknown eligibility adjustment

```
*****************************************************************************************
****
*** Program: logmdA1.sas (50713.Y1.T02.013.000)
*** Purpose: Use the SUDAAN model to predict the response propensity
***          score for the unknown eligibility adjustment step
*** Inputs : conusA1.sas7bdat, oconusA1.sas7bdat, smplA1A2.sas7bdat
*** Outputs: logmdA1.sas7bdat
***
*** Written: Haixia Xu 12/27/2006 Q4fy2007 weighting
***
*** Note  : 1) We need to carefully check log for Sudaan Warning and review to make sure it's not
***            falls warning (Sudaan Bug we identified couple of years ago). If we notice Singularity
***            warning, we need to check how to avoid it.
***            See note: L:\Q4FY2010\Programs\Weighting\NewWeights\SUDAAN Warning_Proc RLOGIST.msg
***
***         2) Starting from Q3FY2011:
***            a) Active duty 'with and without' email has been collapsed, since these cases are
***               involved in so many zero cell.
***            b) has_email is no longer used in the model since most of the time it is not included
***               in the final model. For Detail:
***               See note: L:\Q3FY2011\Programs\Weighting\NewWeights\ImportantNote_PleaseCheck
***
***         3) Starting from Q1FY2015, instead of 3-level interactions, we will use 2-level
***            (Dept=2 option) for Chaid AnswerTree.
***
***         4) Starting from Q3FY2015, using /NORM option in SAS Stepwise.
***            Otherwise standard errors will be way too small.
***
***         5) Starting from Q3FY2015, we selected a sample from Non-Respondent for a paper
***            followup. Only 'CONUS and non-AD' non-respondents are eligible for paper survey.
***            We created three flag variables to use in model: Flag_NR, Flag_NADD, Flag_ADFM
***            Flag_NR is main effect and (Flag_NADD and Flag_ADFM) are interactions here.
***
***         6) Starting from Q2FY2016t, we decided to use all decisions we took in regular quarter
***            for the corresponding Trickle Quarter. We historically noticed, with few hundred extra
***            responses decisions hardly change in trickle quarter than regular quarter, so we want
***            to keep code as is to reduce extra afford.
***
***         7) We decided to always collapse AgeGroup='5'(age65+) with AgeGroup='4' for both CONUS
***            and OCONUS since it always causes problems (zerocell, smallcell, singularity warning)
***
***         8) Review for updates and Update Common Weighting README file with suggestions, QA Comments
***            N:\Project\40309_HCS\DC1\HCSDB\README_File_For_HCSDB_Weighting.txt
***            (you may find a shortcut in individual qtr folder)
***
***         9) Starting from Q2FY2017, creating 4-level Age Group instead of 5-level,
***            since it always causes problems.
***
***         10) Q1FY2019: Eric suggested to drop FLAG_NR, FLAG_NADD, FLAG_ADFM variables from SAS Model.
```

```
***        The way these variables are constructed, Eric thinks they are not related to outcome
***        so we should not use in models.
**************************************************************************************
*******;
options mprint MACROGEN compress=yes ls=132 ps=58 mergenoby=ERROR /*validvarname=upcase*/ nocenter
formchar="|----|+|-–+=|-/\<>*" orientation=portrait mprint symbolgen spool obs=max nocodegen;

*Common Code for Grid (Grid is case sensitive);
%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
        %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log));
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));

proc printto log="&logname." new;
ods listing;
proc printto print="&lstname." new;

%let quarter=Q3FY2020;

%include
"/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/Zero_One_Cells.sa
s";

libname in  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly; /*
conusA1.sas7bdat, oconusA1.sas7bdat, smplA1A2.sas7bat */
libname out "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal"; /* logmdA1.sas7bdat */

proc format;
value FMT_TNEX 1 = '1-North'
        2 = '2-South'
        3 = '3-West'
        4 = '4-Other';
value FMT_AGE  1 = '<=24'
        2 = '(24,34]'
        3 = '(34,44]'
        4 = '>=45';
value FMT_PAT 1 = '1-ACTDTY'
        2 = '2-DEPACT'
        3 = '3-NADD';
value FMT_PCM 1 = '1-Nonenrollee'
        2 = '2-CIV Enrollee'
        3 = '3-MTF Enrollee';
value FMT_PNLC 1 = '1-Other'
        2 = '2-Grd/Resv';
value FMT_RANK 1 = '1-E1234'
        2 = '2-E56789101112'
        3 = '3-W123O123'
        4 = '4-W45O45678910';
value FMT_RK   1 = '1-E1_12'
        2 = '2-W1_5O1_10';
value FMT_SEX  1 = '1-Male'
        2 = '2-Female';
value FMT_SVC  1 = '1-Army'
```

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```
          2 = '2-Air Force'
          3 = '3-N/M/C/O/U';
value FMT_INCT 1 = '1-Not in Catch'
          2 = '2-In catch';
value FMT_PLUS 1 = '1- TRICARE PLUS'
          2 = '2- Not TRICARE PLUS';
value FMT_TRS  1 = '1- TRICARE Reserve Select'
          2 = '2- Not TRICARE Reserve Select';
value FMT_addr 0 = '0- CHCS mailling address unavailable'
          1 = '1- CHCS mailling address available';
value FMT_chcs 1 = '1- CHCS mailling address unavailable'
          2 = '2- CHCS mailling address available';
value FMT_emai 1 = 'AD with Email Address available'
          2 = 'AD with Email Address unavailable'
          3 = 'Non Active Duty(AD)';
run;

title1 "Program: logmdA1.sas (&quarter.)";
title2 "Purpose: Predict the Response Probability for the unknown Eligibility Adjustment";
title3 "                                                   ";

*=============================================================================================
=======
Create the dummy variables to be used in the SUDAAN model
=============================================================================================
=====;
data logmdA1;
set in.conusA1 in.oconusA1;

*Convert MPRID and stratum into numerical values since SUDAAN takes only numerical values;
length MPRID_c9 $9 stratum1 $8;
MPRID_c9='1'||MPRID;
MPRID_nm = input (MPRID_c9, 9.);

stratum1='1'||stratum;
STRAT_nm = input (stratum1, 8.);

*************************************
Convert all the categorical variables into numeric variables
*************************************;
if TNEX_grp='N' then TNEX_num=1;
else if TNEX_grp='S' then TNEX_num=2;
else if TNEX_grp='W' then TNEX_num=3;
else if TNEX_grp='O' then TNEX_num=4;

AGE_num4=input(AGE_GRP4, 1.);

/*Collapse Active Duty with Email/NO-Email, since they are involved in so many zero cell
  If PATC_grp in ('ACTDTY_EMAIL','ACTDTY_NOEMAIL') then PATC_grp= 'ACTDTY'*/
if PATC_grp='ACTDTY'  then PATC_num=1;
else if PATC_grp = 'DEPACT' then PATC_num=2;
else if PATC_grp = 'NADD'  then PATC_num=3;
```

```
if PCM_grp='NON' then PCM_num=1;
else if PCM_grp='CIV' then PCM_num=2;
else if PCM_grp='MTF' then PCM_num=3;

if PNLC_grp ='Other' then PNLC_num=1;
else if PNLC_grp= 'Grd/Resv' then PNLC_num=2;

if RANK_grp='E1234' then RANK_num=1;
else if RANK_grp= 'E56789101112' then RANK_num=2;
else if RANK_grp = 'W123O123' then RANK_num=3;
else if RANK_grp = 'W45O45678910' then RANK_num=4;

if SEX_grp='1' then SEX_num=1;
else if SEX_grp= '2' then SEX_num = 2;

if SVC_grp='Army' then SVC_num=1;
else if SVC_grp='Air Force' then SVC_num=2;
else if SVC_grp='N/M/C/O/U' then SVC_num=3;

if IN_CATCH='0' then INCAT_num=1;
else if IN_CATCH='1' then INCAT_num=2;

if CHCSAddr='0' then CHCS_num=1;
else if CHCSAddr='1' then CHCS_num=2;
run;

title4 'Check the construction of the numeric variables';
proc freq data=logmdA1;
tables TNEX_num*TNEX_GRP
    AGE_num4*AGE_GRP4
    PATC_num*PATC_grp
    PCM_num*PCM_grp
    PNLC_num*PNLC_grp
    RANK_num*RANK_grp
    SEX_num*SEX_grp
    SVC_num*SVC_grp
    INCAT_num*IN_CATCH
    CHCS_num*CHCSAddr
/missing list;
run;

title4 "Checking Crosstab/Freq";
proc freq data=logmdA1;
tables fnstatus
    conus*fnstatus/list missing;
run;

*Creating Conus and Oconus Data sets;
data conus oconus;
set logmdA1;
if conus='1' then output conus;
else if conus='0' then output oconus;
run;
```

```
*=========================================================================================
=======
Start the modeling for CONUS
In the full model, all the variables put in the answer tree are used as main effects, and
the interactions are picked based on the tree for Conus A1 for the current quarter
=========================================================================================
=====;
/*Running macro to check ZeroCell for CONUS*/
*We can keep all variables as macro variable Vars_in_interactions_conus below;
%Let Vars_in_interactions_conus = AGE_GRP4 TNEX_GRP patc_grp pnlc_grp pcm_grp rank_grp
                    chcsaddr in_catch svc_grp sex_grp;

/*The interactions below are determined based on the Conus A1 tree for the current quarter*/
%let Interactions_from_chaid_conus=
/*Q3FY2020:*/
AGE_GRP4*Patc_grp
;

title1 "Checks the zero cells for Conus";
%ZERO_ONE_CELLS(conus, &Vars_in_interactions_conus., eligkwn, &Interactions_from_chaid_conus.);
*Q3FY2020 no zero cells found;

/*NOTE:
If Zero cell found, please add code here to perform following tasks and check zero cell again for Conus:
     -Check to see how to collapse (CONUS):
     -Collapse the Zero Cells (CONUS)
     -Checks zero cell collapsements (CONUS)

title3 "Checks the zero cells again for Conus after zero cell collapse ";
%ZERO_ONE_CELLS(conus, &Vars_in_interactions_conus., eligkwn, &Interactions_from_chaid_conus.);
*/

* * * * * * * * * * * * * * * * * * * * * *
Run the SAS stepwise model
* * * * * * * * * * * * * * * * * * * * * * * ;
%macro modelselect_conus(method= );
title1 "SAS Logistic for CONUS - &method.";
proc logistic data=conus descending;
CLASS
TNEX_grp (ref='N')
AGE_GRP4 (ref='1')
PATC_grp (ref='NADD')
PCM_grp (ref='NON')
PNLC_grp (ref='Other')
RANK_grp (ref='E1234')
SEX_grp (ref='1')
SVC_grp (ref='Army')
IN_CATCH (ref='0')
TRS     (ref='2')
CHCSAddr (ref='0')

/*HASEmail(ref='YES')*/
```

```
/param=refdescending;
MODEL eligkwn =
TNEX_grp
AGE_GRP4
PATC_grp
PCM_grp
PNLC_grp
RANK_grp
SEX_grp
SVC_grp
IN_CATCH
TRS
CHCSAddr

/*Q3FY2020: Two way interaction from the 2-level chaid answer tree ran*/
AGE_GRP4*Patc_grp

/Lackfit rsquare details hierarchy=single selection=&method. slentry=0.15 slstay=0.20;
OUTPUT OUT=out_conus PREDICTED=predicted;
WEIGHT bwt /norm ; /*Weighted SAS Model*/
run;
%mend modelselect_conus;

%modelselect_conus(method=Stepwise);

*****************************************************************************************
            : Summary of Stepwise Selection:
****************************************************************************************,
/*Q3FY2020:
```

/*Q3FY2020:

Step	Effect Entered	Removed	Number DF	Score In Chi-Square	Wald Chi-Square	Pr > ChiSq	Variable Label
1	AGE_GRP4		3	1	4880.2704	<.0001	
2	RANK_GRP		3	2	685.5521	<.0001	
3	PATC_GRP		2	3	641.9864	<.0001	
4	SEX_GRP		1	4	337.4359	<.0001	
5	SVC_GRP		2	5	282.8288	<.0001	
6	CHCSADDR		1	6	152.6135	<.0001	
7	AGE_GRP4*PATC_GRP		6	7	132.8691	<.0001	
8	PCM_GRP		2	8	57.4456	<.0001	
9	IN_CATCH		1	9	36.2196	<.0001	In-catchment area indicator
10	TNEX_GRP		2	10	31.9882	<.0001	
11	TRS		1	11	27.4435	<.0001	TRICARE Reserve Select indicator
12	PNLC_GRP		1	12	2.3795	0.1229	

*/

```
***************************************************************
Macro to Check the SUDAAN fit for the the SAS Final Model above
***************************************************************,
*Proc Sort before Proc Rlogist;
proc sort data=conus;
by STRAT_nm;
run;
```

```
%macro sudaan_conus(ttl, vars);
Title1 " SUDAAN MODELLING USING rLOGISTIC (Data=CONUS):";
Title2 " &ttl.";
proc rlogist data=conus design=STRWR filetype=SAS;
NEST STRAT_nm/missunit;
weight bwt;
CLASS   AGE_num4   PATC_num   PCM_num   RANK_num   sex_num   PNLC_num
     SVC_num   incat_num   TRS      chcs_num   tnex_num;

REFLEVEL AGE_num4=1  PATC_num=3  PCM_num=1  RANK_num=1 SEX_num=1 PNLC_num=1
     SVC_num=1   INCAT_num=1 TRS=2     chcs_num=1 tnex_num=1;
MODEL  eligkwn = &vars.;
idvar MPRID_nm;
print beta sebeta t_beta p_beta
HLCHISQ HLCHIDF HLCHIP HLWALDF HLWALDDF HLWALDP HLSATF HLSATDF HLSATP DF WALDCHI WALDCHP
/betafmt=f7.3 sebetafmt=f7.3 WALDCHIFMT=F8.2 waldchpfmt=f8.6;
output expected observed nest idvar /filename=pred_c filetype=sas replace;
rformat AGE_num4 FMT_AGE.;
rformat PATC_num FMT_PAT.;
rformat PCM_num  FMT_PCM.;
rformat RANK_num FMT_RANK.;
rformat sex_num FMT_SEX.;
rformat PNLC_num FMT_PNLC.;
rformat SVC_num  FMT_SVC.;
rformat INCAT_num FMT_INCT.;
rformat trs FMT_TRS.;
rformat tnex_num FMT_tnex.;
rformat chcs_num FMT_CHCS.;
run;
%mend sudaan_conus;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  Macro to Check AIC and Concordant/Discordant) for Sudaan Models:
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *.
                                                                              ,
%macro Check_AIC_and_rates(InFile=, RunNo=, VariableList=);
title1 "Checks AIC and Concordant/Discordant for Run=&RunNo.)";
proc SURVEYLOGISTIC data=&InFile.;
class
TNEX_GRP (ref='N')
AGE_GRP4 (ref='1')
PATC_grp (ref='NADD')
PCM_grp (ref='NON')
PNLC_grp (ref='Other')
RANK_grp (ref='E1234')
SEX_grp  (ref='1')
SVC_grp  (ref='Army')
IN_CATCH (ref='0')
TRS     (ref='2')
CHCSAddr (ref='0')

/param=ref descending;
MODEL  eligkwn =
&variablelist.;
```

```
WEIGHT bwt ; /*Weighted SAS Model*/

ods select FitStatistics Association;
run;
%mend Check_AIC_and_rates;

/*****************************************/
/* SUDAAN MODELLING:              */
/* 1st Approach (usual way)       */
/*****************************************/
*Running Initial Model from SAS Stepwise;
%sudaan_conus(
%str(Run0: Initial Model from SAS Stepwise),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
AGE_NUM4*PATC_NUM
PCM_NUM
INCAT_NUM
TNEX_NUM
TRS
PNLC_NUM
);
*HL = 0.1229
*Variable-to-drop:TNEX_NUM 0.382372 ;

%sudaan_conus(
%str(Run1: Dropping TNEX),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
AGE_NUM4*PATC_NUM
PCM_NUM
INCAT_NUM
/*TNEX_NUM 1st*/
TRS
PNLC_NUM
);
*HL =0.0314
*Variable-to-drop:PNLC_NUM 0.307163 ;

%sudaan_conus(
%str(Run2: Dropping TNEX PNLC),
AGE_NUM4
RANK_NUM
PATC_NUM
```

```
SEX_NUM
SVC_NUM
CHCS_NUM
AGE_NUM4*PATC_NUM
PCM_NUM
INCAT_NUM
/*TNEX_NUM 1st*/
TRS
/*PNLC_NUM 2nd */
);
*HL = 0.0647
*Variable-to-drop:INCAT 0.178250 ;

%sudaan_conus(
%str(Run3: Dropping TNEX PNLC INCAT),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
AGE_NUM4*PATC_NUM
PCM_NUM
/*INCAT_NUM 3rd*/
/*TNEX_NUM 1st*/
TRS
/*PNLC_NUM 2nd */
);
*HL =0.0255
*Variable-to-drop:CHCS 0.072129 ;

%sudaan_conus(
%str(Run4: Dropping TNEX PNLC INCAT CHCS),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM 4th*/
AGE_NUM4*PATC_NUM
PCM_NUM
/*INCAT_NUM 3rd*/
/*TNEX_NUM 1st*/
TRS
/*PNLC_NUM 2nd */
);
*HL = 0.1271
*Variable-to-drop:PCM 0.001595 ;

%sudaan_conus(
%str(Run5: Dropping TNEX PNLC INCAT CHCS PCM),
AGE_NUM4
RANK_NUM
```

```
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM 4th*/
AGE_NUM4*PATC_NUM
/*PCM_NUM 5th*/
/*INCAT_NUM 3rd*/
/*TNEX_NUM 1st*/
TRS
/*PNLC_NUM 2nd */
);
*HL = 0.0754
*Variable-to-drop:TRS 0.026945;

%sudaan_conus(
%str(Run6: Dropping TNEX PNLC INCAT CHCS PCM TRS),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM 4th*/
AGE_NUM4*PATC_NUM
/*PCM_NUM 5th*/
/*INCAT_NUM 3rd*/
/*TNEX_NUM 1st*/
/*TRS 6th*/
/*PNLC_NUM 2nd */
);
*HL = 0.1326
*Variable-to-drop:SVC_NUM 0.000664;

%sudaan_conus(
%str(Run7: Dropping TNEX PNLC INCAT CHCS PCM TRS SVC),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
/*SVC_NUM 7th*/
/*CHCS_NUM 4th*/
AGE_NUM4*PATC_NUM
/*PCM_NUM 5th*/
/*INCAT_NUM 3rd*/
/*TNEX_NUM 1st*/
/*TRS 6th*/
/*PNLC_NUM 2nd */
);
*HL = 0.1398
*Variable-to-drop: X;

/*****************************************************************/
/*  2nd Approach: Dropping Last four entered in SAS Stepwise Model */
/*****************************************************************/
```

```
%sudaan_conus(
%str(Run8: dropping last four variables f),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
AGE_NUM4*PATC_NUM
PCM_NUM
/*
INCAT_NUM
TNEX_NUM
TRS
PNLC_NUM
*/
);
*HL = 0.1083
*Variable-to-drop:CHCS  0.052103 ;


/*********************************************/
/* SUDAAN MODELLING:                 */
/* 3st Approach - Main effects only      */
/*********************************************/
%sudaan_conus(
%str(Run9: starting with main affect only model),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
INCAT_NUM
TNEX_NUM
TRS
PNLC_NUM
);
*HL = 0.4099
*Variable-to-drop:TNEX 0.381391 ;

%sudaan_conus(
%str(Run10: interaction tern, TNEX),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
INCAT_NUM
```

```
/*TNEX_NUM */
TRS
PNLC_NUM
);
*HL =0.3452
*Variable-to-drop:INCAT 0.180884 ;

%sudaan_conus(
%str(Run11: interaction tern, TNEX INCAT),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
/*INCAT_NUM */
/*TNEX_NUM */
TRS
PNLC_NUM
);
*HL = 0.2209
*Variable-to-drop: PNLC 0.029142 ;

%sudaan_conus(
%str(Run12: interaction tern, TNEX INCAT PNLC),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
/*INCAT_NUM */
/*TNEX_NUM */
TRS
/*PNLC_NUM */
);
*HL =0.1078
*Variable-to-drop:CHCS 0.047268 ;

%sudaan_conus(
%str(Run13: interaction tern, TNEX INCAT PNLC CHCS),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM*/
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
```

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```
/*INCAT_NUM */
/*TNEX_NUM */
TRS
/*PNLC_NUM */
);
*HL =0.3041
*Variable-to-drop: PCM 0.001838 ;

%sudaan_conus(
%str(Run14: interaction tern, TNEX INCAT PNLC CHCS PCM),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM*/
/*AGE_NUM4*PATC_NUM*/
/*PCM_NUM*/
/*INCAT_NUM */
/*TNEX_NUM */
TRS
/*PNLC_NUM */
);
*HL = 0.1605
*Variable-to-drop: TRS 0.005970  ;

%sudaan_conus(
%str(Run15: interaction tern, TNEX INCAT PNLC CHCS PCM TRS ),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM*/
/*AGE_NUM4*PATC_NUM*/
/*PCM_NUM*/
/*INCAT_NUM */
/*TNEX_NUM */
/*TRS*/
/*PNLC_NUM */
);
*HL = 0.1849
*Variable-to-drop:   ;

******************************************************************
*            CHECKING AIC and Rates:              *
******************************************************************;
%Check_AIC_and_rates(InFile=conus, RunNo=0, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
```

```
CHCS_NUM
AGE_NUM4*PATC_NUM
PCM_NUM
INCAT_NUM
TNEX_NUM
TRS
PNLC_NUM
);
*HL = 0.1229
*Variable-to-drop:TNEX_NUM 0.382372 ;

%Check_AIC_and_rates(InFile=conus, RunNo=4, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM 4th*/
AGE_NUM4*PATC_NUM
PCM_NUM
/*INCAT_NUM 3rd*/
/*TNEX_NUM 1st*/
TRS
/*PNLC_NUM 2nd */
);
*HL =0.1271
*Variable-to-drop: 0.001595;

%Check_AIC_and_rates(InFile=conus, RunNo=6, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM 4th*/
AGE_NUM4*PATC_NUM
/*PCM_NUM 5th*/
/*INCAT_NUM 3rd*/
/*TNEX_NUM 1st*/
/*TRS 6th*/
/*PNLC_NUM 2nd */
);
*HL = 0.1326
*Variable-to-drop:0.000664;

%Check_AIC_and_rates(InFile=conus, RunNo=7, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
/*SVC_NUM 7th*/
/*CHCS_NUM 4th*/
AGE_NUM4*PATC_NUM
```

```
/*PCM_NUM 5th*/
/*INCAT_NUM 3rd*/
/*TNEX_NUM 1st*/
/*TRS 6th*/
/*PNLC_NUM 2nd */
);
*HL = 0.1398
*Variable-to-drop:x;

%Check_AIC_and_rates(InFile=conus, RunNo=8, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
AGE_NUM4*PATC_NUM
PCM_NUM
/*
INCAT_NUM
TNEX_NUM
TRS
PNLC_NUM
*/
);
*HL = 0.1083
*Variable-to-drop:CHCS  0.052103 ;

%Check_AIC_and_rates(InFile=conus, RunNo=9, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
INCAT_NUM
TNEX_NUM
TRS
PNLC_NUM
);
*HL = 0.4099
*Variable-to-drop:TNEX 0.381391 ;

%Check_AIC_and_rates(InFile=conus, RunNo=10, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
```

```
PCM_NUM
INCAT_NUM
/*TNEX_NUM */
TRS
PNLC_NUM
);
*HL = 0.3452
*Variable-to-drop:INCAT 0.180884;

%Check_AIC_and_rates(InFile=conus, RunNo=11, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
/*INCAT_NUM */
/*TNEX_NUM */
TRS
PNLC_NUM
);
*HL = 0.2209
*Variable-to-drop: PNLC 0.029142 ;

%Check_AIC_and_rates(InFile=conus, RunNo=12, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
/*INCAT_NUM */
/*TNEX_NUM */
TRS
/*PNLC_NUM */
);
*HL =0.1078
*Variable-to-drop:CHCS 0.047268;

%Check_AIC_and_rates(InFile=conus, RunNo=13, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM*/
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
/*INCAT_NUM */
```

```
/*TNEX_NUM */
TRS
/*PNLC_NUM */
);
*HL =0.3041
*Variable-to-drop: PCM 0.001838 ;

%Check_AIC_and_rates(InFile=conus, RunNo=14, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM*/
/*AGE_NUM4*PATC_NUM*/
/*PCM_NUM*/
/*INCAT_NUM */
/*TNEX_NUM */
TRS
/*PNLC_NUM */
);
*HL = 0.1605
*Variable-to-drop: TRS 0.005970 ;

%Check_AIC_and_rates(InFile=conus, RunNo=15, VariableList=
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
/*CHCS_NUM*/
/*AGE_NUM4*PATC_NUM*/
/*PCM_NUM*/
/*INCAT_NUM */
/*TNEX_NUM */
/*TRS*/
/*PNLC_NUM */
);
*HL = 0.1849
*Variable-to-drop:   ;
```

*===
===================
SUMMARY TABLE Q3 FY2020:

#	Sudaan Fit	Largest Ind.Pvalue	Intercept Only	Intercept & Covariates	Concordant	Discordant	#cov in model
0	0.1229	0.382372	7060214.5	6460468.7	69.1	30.0	12
4	0.1271	0.001595	7060214.5	6470472.6	68.8	29.6	8
6	0.1326	0.000664	7060214.5	6483104.0	68.6	29.7	6
7	0.1398	X	7060214.5	6484928.1	67.1	28.0	5
8	0.1083	0.052103	7060214.5	6468196.1	68.7	29.8	8
9	0.4099	0.381391	7060214.5	6474378.7	68.2	30.8	11
10	0.3452	0.180884	7060214.5	6476292.5	68.0	30.6	10

```
11 0.2209    0.029142       7060214.5    6477488.3         68.0    30.6    9
12 0.1078    0.047268       7060214.5    6480167.6         67.8    30.7    8
13 0.3041    0.001838       7060214.5    6488415.4         67.8    30.8    7
14 0.1605    0.005970       7060214.5    6501253.2         67.6    30.7    6
15 0.1849    x              7060214.5    6504367.6         67.4    30.8    5
```

/* Q3FY2020 */
Final Model:
Sudaan Fit Largest Ind.Pvalue Intercept Only Intercept & Covariates Concordant Discordant #cov in model
11 0.2209   0.029142   7060214.5   6477488.3   68.0   30.6   9

** Note:
Smallest is better for AIC and Discordant.
Largest is better for Concordant and Sudaan fit.;
****
****

****
**Run FINAL CONUS Model:
************************************;
*Run the final sudaan model again for conus once confirmed with Eric/Sabrina;
*Q3FY2020;
%sudaan_conus(
%str(Run11: Conus FINAL MODEL),
AGE_NUM4
RANK_NUM
PATC_NUM
SEX_NUM
SVC_NUM
CHCS_NUM
/*AGE_NUM4*PATC_NUM*/
PCM_NUM
/*INCAT_NUM */
/*TNEX_NUM */
TRS
PNLC_NUM
);
*HL = 0.2209
*Largest pvalue PNLC 0.029142
*Variable-to-drop: X;

*==
=======
Start the modeling for OCONUS
In the full model, all the variables put in the answer tree are used as main effects, and
the interactions are picked based on the tree for Oconus A1 for the current quarter
==
======;

/*Running macro to check ZeroCell*/
%let Vars_in_interactions_oconus = AGE_GRP4 PATC_grp PCM_grp PNLC_grp RANK_grp SEX_grp
                    SVC_grp CHCSAddr TNEX_GRP in_catch TRS ;

```
/*The interactions below are determined based on the oconus A1 tree for the current quarter*/
%let Interactions_from_chaid_oconus =
/*Q3FY2020*/
PATC_GRP * AGE_GRP4
;

title1 "Checks the zero cells for Oconus";
%ZERO_ONE_CELLS(oconus, &Vars_in_interactions_oconus., eligkwn, &Interactions_from_chaid_oconus.);
*Q3FY2020 no zero cells;

/*
If Zero cell found, please add code here to perform following tasks and check zero cell again for Oconus:
  -Check to see how to collapse(OCONUS):
  -Collapse the Zero Cell  +s (OCONUS)
  -Checks zero cell collapsements (OCONUS)

title3 "Checks the zero cells again for Oconus after zero cell collapse ";
%ZERO_ONE_CELLS(oconus, &Vars_in_interactions_conus., eligkwn, &Interactions_from_chaid_conus.);
*/

* * * * * * * * * * * * * * * * * * * * * * * * * * * * *
/* SAS modeling*/
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%macro modelselect_oconus(method= );
title1 "SAS Logistic for OCONUS - &method.";
proc logistic data=oconus descending;
WEIGHT BWT; /*Weighted SAS Model*/
CLASS
AGE_GRP4 (ref='1')
PATC_grp (ref='NADD')
PCM_grp (ref='NON')
PNLC_grp (ref='Other')
RANK_grp (ref='E1234')
SEX_grp (ref='1')
SVC_grp (ref='Army')
IN_CATCH (ref='0')
TRS     (ref='2')
CHCSAddr (ref='0')

/*HASEmail(ref='YES')*/
/param=ref descending;
MODEL eligkwn =
AGE_GRP4
PATC_grp
PCM_grp
PNLC_grp
RANK_grp
SEX_grp
SVC_grp
IN_CATCH
TRS
CHCSAddr
/*Q3FY2020: Two way interaction from Answer Tree*/
```

```
PATC_GRP * AGE_GRP4
/Lackfit rsquare details hierarchy=single selection=&method. slentry=0.15 slstay=0.20;
OUTPUT OUT=out_oconus PREDICTED=predicted;
WEIGHT bwt /norm ; /*Weighted SAS Model*/
run;
%mend modelselect_oconus;

%modelselect_oconus(method=Stepwise);

/*                          Q3FY2020:

                      Summary of Stepwise Selection

              Effect              Number   Score    Wald        Variable
     Step Entered      Removed      DF    In Chi-Square Chi-Square Pr > ChiSq Label

      1 PATC_GRP              2    1  375.0317         <.0001
      2 AGE_GRP4              3    2  289.2742         <.0001
      3 SVC_GRP               2    3  163.1868        <.0001
      4 PCM_GRP               2    4   91.0364        <.0001
      5 RANK_GRP              3    5   49.6166        <.0001
      6 IN_CATCH              1    6   21.7983        <.0001 In-catchment area indicator
      7 AGE_GRP4*PATC_GRP          6    7  28.4474        <.0001
      8 SEX_GRP               1    8   11.1120        0.0009
      9 CHCSADDR              1    9    6.5915        0.0102
     10 TRS              1    10    5.0444        0.0247 TRICARE Reserve Select indicator
     11 PNLC_GRP             1    11    3.6734        0.0553
*/

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*Checks the SUDAAN fit for the the SAS Final Model above
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ***.;
*Proc Sort before Proc Rlogist;
proc sort data=oconus;
by STRAT_nm;
run;

%macro sudaan_oconus(ttl,vars);
title1 "SUDAAN MODELLING USING rLOGISTIC (Data=OCONUS):";
title2 " &ttl.";
proc rlogist data=oconus design=STRWR filetype=SAS;
NEST STRAT_nm / missunit;
weight bwt; *using sampling weight;
CLASS  AGE_num4  PATC_num   PCM_num   PNLC_num   RANK_num   SEX_num
     SVC_num    TRS     incat_num /*tnex_num*/  chcs_num ;
REFLEVEL AGE_num4=1  PATC_num=3  PCM_num=1  pnlc_num=1 RANK_num=1 SEX_num=1
     SVC_num=1   TRS=2    incat_num=1 /*tnex_num=1*/ chcs_num=1 ;
MODEL  eligkwn = &vars.;
idvar MPRID_nm;
print beta sebeta t_beta p_beta
HLCHISQ HLCHIDF HLCHIP HLWALDF HLWALDDF HLWALDP HLSATF HLSATDF HLSATP DF WALDCHI WALDCHP
/betafmt=f7.3 sebetafmt=f7.3 WALDCHIFMT=F8.2 waldchpfmt=f8.6;;
output expected observed nest idvar /filename =pred_o filetype=sas replace;
```

```
rformat AGE_num4 FMT_AGE.;
rformat PATC_num FMT_PAT.;
rformat PCM_num  FMT_PCM.;
rformat PNLC_num  FMT_PNLC.;
rformat RANK_num FMT_RanK.;
rformat sex_num FMT_sex.;
rformat SVC_num  FMT_SVC.;
rformat INCAT_num FMT_INCT.;
rformat trs FMT_TRS.;
*rformat tnex_num FMT_tnex.;
rformat chcs_num fmt_chcs.;
run;
%mend sudaan_oconus;

%macro Oconus_check_AIC_and_rates(InFile=, RunNo=, VariableList=);
title1 "Checks AIC and Concordant/Discordant for Run=&RunNo.)";
proc SURVEYLOGISTIC data=&InFile.;
WEIGHT BWT; /*Weighted SAS Model*/
CLASS
AGE_GRP4 (ref='1')
PATC_grp (ref='NADD')
PCM_grp (ref='NON')
PNLC_grp (ref='Other')
RANK_grp (ref='E1234')
SEX_grp  (ref='1')
SVC_grp  (ref='Army')
IN_CATCH (ref='0')
TRS     (ref='2')
CHCSAddr (ref='0')

/param=ref descending;
MODEL  eligkwn =
&variablelist.;

WEIGHT bwt ; /*Weighted SAS Model*/

ods select FitStatistics Association;
run;
%mend Oconus_check_AIC_and_rates;

/************************/
/* 1st Approach (usual way) */
/************************/
%sudaan_oconus(
%str(Run0: Final model from SAS stepwise),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
AGE_Num4*PATC_Num
SEX_Num
```

```
CHCS_NUM
TRS
PNLC_Num
);
*HL =0.5029
*Variable-to-drop:CHCS 0.499605 ;

%sudaan_oconus(
%str(Run1: drop-CHCS),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
AGE_Num4*PATC_Num
SEX_Num
/*CHCS_NUM 1st*/
TRS
PNLC_Num
);
*HL = 0.1422
*Variable-to-drop:SEX_NUM 0.396674;

%sudaan_oconus(
%str(Run2: drop-CHCS SEX),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
TRS
PNLC_Num
);
*HL = 0.2496
*Variable-to-drop:INCAT 0.450259 ;

%sudaan_oconus(
%str(Run3: drop-CHCS SEX INCAT),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
TRS
```

```
PNLC_Num
);
*HL = 0.2916
*Variable-to-drop:PNLC 0.146517 ;

%sudaan_oconus(
%str(Run4: drop-CHCS SEX INCAT PNLC),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
TRS
/*PNLC_Num 4th*/
);
*HL = 0.0704
*Variable-to-drop:TRS 0.215485;

%sudaan_oconus(
%str(Run5: drop-CHCS SEX INCAT PNLC TRS),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
/*TRS 5th*/
/*PNLC_Num 4th*/
);
*HL = 0.0845
*Variable-to-drop:RANK 0.138098  ;

%sudaan_oconus(
%str(Run6: drop-CHCS SEX INCAT PNLC TRS RANK),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
/*RANK_Num 6th*/
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num  2nd */
/*CHCS_NUM  1st*/
/*TRS    5th*/
/*PNLC_Num  4th*/
);
```

```
*HL = 0.0344
*Variable-to-drop:PCM 0.134754 ;

%sudaan_oconus(
%str(Run7: drop-CHCS SEX INCAT PNLC TRS RANK PCM),
PATC_Num
AGE_Num4
SVC_Num
/*PCM_Num  7th */
/*RANK_Num 6th*/
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num  2nd */
/*CHCS_NUM 1st*/
/*TRS    5th*/
/*PNLC_Num 4th*/
);
*HL =0.3913
*Variable-to-drop:AGE_NUM4 * PATC_NUM 0.039679;

%sudaan_oconus(
%str(Run8: drop-CHCS SEX INCAT PNLC TRS RANK PCM AGE*PATC),
PATC_Num
AGE_Num4
SVC_Num
/*PCM_Num  7th */
/*RANK_Num 6th*/
/*INCAT_NUM 3rd*/
/*AGE_Num4*PATC_Num 8th*/
/*SEX_Num  2nd */
/*CHCS_NUM 1st*/
/*TRS    5th*/
/*PNLC_Num 4th*/
);
*HL = 0.2962
*Variable-to-drop:SVC 0.000129   ;

%sudaan_oconus(
%str(Run9: drop-CHCS SEX INCAT PNLC TRS RANK PCM AGE*PATC SVC),
PATC_Num
AGE_Num4
/*SVC_Num  9th*/
/*PCM_Num  7th */
/*RANK_Num 6th*/
/*INCAT_NUM 3rd*/
/*AGE_Num4*PATC_Num 8th*/
/*SEX_Num  2nd */
/*CHCS_NUM 1st*/
/*TRS    5th*/
/*PNLC_Num 4th*/
);
*HL = 0.2021
*Variable-to-drop:X;
```

```
/**************************/
/* 2nd Approach (drop last 4) */
/**************************/
%sudaan_oconus(
%str(Run10: Drop Last four),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
AGE_Num4*PATC_Num
/*
SEX_Num
CHCS_NUM
TRS
PNLC_Num
*/
);
*HL =0.2431
*Variable-to-drop: INCAT 0.430239 ;

%sudaan_oconus(
%str(Run11: Drop Last four INCAT),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
/*INCAT_NUM*/
AGE_Num4*PATC_Num
/*
SEX_Num
CHCS_NUM
TRS
PNLC_Num
*/
);
*HL = 0.0845
*Variable-to-drop: RANK 0.138098 ;

%sudaan_oconus(
%str(Run12: Drop Last four INCAT RANK),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
/*RANK_Num*/
/*INCAT_NUM*/
AGE_Num4*PATC_Num
/*
SEX_Num
```

```
CHCS_NUM
TRS
PNLC_Num
*/
);
*HL = 0.0344
*Variable-to-drop:PCM 0.134754 ;

/***************************/
/* 3rd Approach (Main effects) */
/***************************/
%sudaan_oconus(
%str(Run13: DROP Interaction),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
/*AGE_Num4*PATC_Num drop interaction*/
SEX_Num
CHCS_NUM
TRS
PNLC_Num
);
*HL = 0.5368
*Variable-to-drop:CHCS 0.483909;

%sudaan_oconus(
%str(Run14: DROP Interaction CHCS),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
/*AGE_Num4*PATC_Num drop interaction*/
SEX_Num
/*CHCS_NUM */
TRS
PNLC_Num
);
*HL = 0.1219
*Variable-to-drop:SEX 0.402854;

%sudaan_oconus(
%str(Run15: DROP Interaction CHCS SEX),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
```

```
/*AGE_Num4*PATC_Num drop interaction*/
/*SEX_Num*/
/*CHCS_NUM */
TRS
PNLC_Num
);
*HL = 0.1341
*Variable-to-drop:INCAT 0.458438;

%sudaan_oconus(
%str(Run16: DROP Interaction CHCS SEX INCAT),
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
/*INCAT_NUM*/
/*AGE_Num4*PATC_Num drop interaction*/
/*SEX_Num*/
/*CHCS_NUM */
TRS
PNLC_Num
);
*HL = 0.0810
*Variable-to-drop:PCM 0.148379 ;

%sudaan_oconus(
%str(Run17: DROP Interaction CHCS SEX INCAT PCM),
PATC_Num
AGE_Num4
SVC_Num
/*PCM_Num*/
RANK_Num
/*INCAT_NUM*/
/*AGE_Num4*PATC_Num drop interaction*/
/*SEX_Num*/
/*CHCS_NUM */
TRS
PNLC_Num
);
*HL = 0.0696
*Variable-to-drop:TRS 0.616680 ;

%sudaan_oconus(
%str(Run18: DROP Interaction CHCS SEX INCAT PCM TRS),
PATC_Num
AGE_Num4
SVC_Num
/*PCM_Num*/
RANK_Num
/*INCAT_NUM*/
/*AGE_Num4*PATC_Num drop interaction*/
/*SEX_Num*/
```

```
/*CHCS_NUM */
/*TRS*/
PNLC_Num
);
*HL = 0.0693
*Variable-to-drop: ;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  CheckingAIC and Concordant/Discordant) for Sudaan Models:
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *.
%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=0, VariableList=
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
AGE_Num4*PATC_Num
SEX_Num
CHCS_NUM
TRS
PNLC_Num
);
*HL =0.5029
*Variable-to-drop:CHCS 0.499605  ;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=1, VariableList=
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
AGE_Num4*PATC_Num
SEX_Num
/*CHCS_NUM 1st*/
TRS
PNLC_Num
);
*HL = 0.1422
*Variable-to-drop:SEX_NUM 0.396674;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=2, VariableList=
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
TRS
```

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PNLC_Num
);
*HL = 0.2496
*Variable-to-drop:INCAT 0.450259 ;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=3, VariableList=
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
TRS
PNLC_Num
);
*HL = 0.2916
*Variable-to-drop:PNLC 0.146517 ;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=5, VariableList=
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
/*TRS 5th*/
/*PNLC_Num 4th*/
);
*HL = 0.0845
*Variable-to-drop:RANK 0.138098 ;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=7, VariableList=
PATC_Num
AGE_Num4
SVC_Num
/*PCM_Num 7th */
/*RANK_Num 6th*/
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
/*TRS   5th*/
/*PNLC_Num 4th*/
);
*HL =0.3913
*Variable-to-drop:AGE_NUM4 * PATC_NUM 0.039679;

```
%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=8, VariableList=
PATC_Num
AGE_Num4
SVC_Num
/*PCM_Num 7th */
/*RANK_Num 6th*/
/*INCAT_NUM 3rd*/
/*AGE_Num4*PATC_Num 8th*/
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
/*TRS    5th*/
/*PNLC_Num 4th*/
);
*HL = 0.2962
*Variable-to-drop:SVC 0.000129  ;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=9, VariableList=
PATC_Num
AGE_Num4
/*SVC_Num 9th*/
/*PCM_Num 7th */
/*RANK_Num 6th*/
/*INCAT_NUM 3rd*/
/*AGE_Num4*PATC_Num 8th*/
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
/*TRS    5th*/
/*PNLC_Num 4th*/
);
*HL = 0.2021
*Variable-to-drop:X;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=10, VariableList=
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
AGE_Num4*PATC_Num
/*
SEX_Num
CHCS_NUM
TRS
PNLC_Num
*/
);
*HL =0.2431
*Variable-to-drop:INCAT 0.430239 ;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=13, VariableList=
PATC_Num
AGE_Num4
```

```
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
/*AGE_Num4*PATC_Num drop interaction*/
SEX_Num
CHCS_NUM
TRS
PNLC_Num
);
*HL = 0.5368
*Variable-to-drop:CHCS 0.483909;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=14, VariableList=
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
/*AGE_Num4*PATC_Num drop interaction*/
SEX_Num
/*CHCS_NUM */
TRS
PNLC_Num
);
*HL = 0.1219
*Variable-to-drop:SEX 0.402854;

%Oconus_check_AIC_and_rates(InFile=oconus, RunNo=15, VariableList=
PATC_Num
AGE_Num4
SVC_Num
PCM_Num
RANK_Num
INCAT_NUM
/*AGE_Num4*PATC_Num drop interaction*/
/*SEX_Num*/
/*CHCS_NUM */
TRS
PNLC_Num
);
*HL = 0.1341
*Variable-to-drop:INCAT 0.458438;
```

```
*=================================================================================
==================
                    SUMMARY TABLE Q3 FY2020 (OCONUS):
```

#	Sudaan Fit	Largest Ind.Pvalue	Intercept Only	Intercept & Covariates	Concordant	Discordant	#cov in model
0	0.5029	0.499605	267846.90	247806.08	70.3	28.2	11
1	0.1422	0.396674	267846.90	248056.22	70.2	28.2	10
2	0.2496	0.450259	267846.90	248074.58	69.8	27.6	9

```
3  0.2916   0.146517      267846.90    248594.91      69.9    27.2    8
5  0.0845   0.138098      267846.90    248867.48      69.8    27.3    6
7  0.3913   0.039679      267846.90    251594.15      68.8    24.9    4
8  0.2962   0.000129      267846.90    253320.63      66.2    28.6    3
9  0.2021   X         267846.90   253675.50      61.4    25.1   2
10 0.2431   0.430239      267846.90    248273.17      69.8    27.8    7
13 0.5368   0.483909      267846.90    250502.89      66.4    31.6    10
14 0.1219   0.402854      267846.90    250586.18      66.2    31.2    9
15 0.1341   0.458438      267846.90    250716.14      65.4    31.7    8

Final:
7  0.3913   0.039679      267846.90    251594.15      68.8    24.9    4
```

** Note:
Smallest is better for AIC and Discordant.
Largest is better for Concordant and Sudaan fit.;

****
****

****
**Run FINAL OCONUS Model:
************************************;
*Run the final sudaan model again for conus once confirmed with Eric/Nancy;

%sudaan_oconus(
%str(Run7: FINAL OCONUS MODEL),
PATC_Num
AGE_Num4
SVC_Num
/*PCM_Num 7th */
/*RANK_Num 6th*/
/*INCAT_NUM 3rd*/
AGE_Num4*PATC_Num
/*SEX_Num 2nd */
/*CHCS_NUM 1st*/
/*TRS   5th*/
/*PNLC_Num 4th*/
);
*HL =0.3913
*Variable-to-drop:X
*large individual pavlue=AGE_NUM4 * PATC_NUM 0.039679 ;

*===
=======
Compute the unknown eligibility adjustment factor A1
===
======;
data pred (Drop=STRAT_nm);
set pred_c pred_o;
run;

proc sort data=pred;

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```
by mprid_nm;
run;

proc sort data=logmdA1;
by mprid_nm;
run;

data logmdA1 only1 only2 problem;
merge logmdA1(in=A) pred(in=B);
by mprid_nm;
if A and B then output logmdA1;
else if A and NOT B then output only1;
else if B and NOT A then output only2;
else output problem;
run;

**********************
Output final file:
***********************,
data out.logmdA1;
set logmdA1(rename=(expected=PscoreA1) drop=MPRID_c9 stratum1);
label TNEX_GRP="Facility's TNEX region"
     PscoreA1="Propensity score for unknown eligibility adjustment";
run;

Title1 "Proc Print if PscoreA1 is Missing (we should not have any):";
proc freq data=out.logmdA1;
tables pscoreA1/list missing;
where pscoreA1=.;
run;

title1 "Univariate of expected";
title2;
proc univariate data=out.logmdA1;
var PscoreA1;
run;

title1 "Contents of OUT.logmdA1";
title2;
proc contents data=OUT.logmdA1;
run;

proc printto;
run;

******************* The End ********************;
```

F.7.B   Q3FY2020\Programs\Weighting\NewWeights\Zero_One_Cells.SAS - Include file for logmdA1.sas

```
*********************************************************************************
*******
*** MACRO
*** Project: Charter School (6043-100)
*** Program: H:\SCRATCH\HXu\CommonProgramsData\Zero_One_Cells.sas
*** Purpose: Check the zero cells
***
*** Inputs:
*** Outputs:
***
*** Note: This macro is originally written by Fan Zhang from NSF
*********************************************************************************
*******;

%MACRO ZERO_ONE_CELLS(INPUT_DATA, CLASS_VARS, INPUT_VARS, BY_VARS);

PROC TABULATE DATA=&INPUT_DATA OUT=TABLE_TEMP1 (DROP=_TYPE__PAGE__TABLE_);
  CLASS &CLASS_VARS.;
  VAR &INPUT_VARS.;
  TABLES &BY_VARS.,
      &INPUT_VARS.*(MEAN N);
RUN;

DATA TABLE_TEMP2;
  SET TABLE_TEMP1;
  IF &INPUT_VARS._MEAN IN (0, 1);
RUN;

PROC PRINT DATA=TABLE_TEMP2;
  SUM &INPUT_VARS._N;
RUN;

%MEND ZERO_ONE_CELLS;
```

F.8 Q3FY2020\Programs\Weighting\NewWeights\adjwt1.SAS - Calculate the unknown eligibility adjusted weight

```
dm 'clear output;clear log';
*************************************************************************
*** Program : Adjwt1.sas
*** Task   : 50713.Y1.T02.013.000
*** Purpose : Create the weighting class cells based on the propensity from
***           the unknown eligibility modeling
***           Calculate the unknown eligibility adjusted weight
*** Inputs  : logmdA1.sas7bdat, frame309.41Ha.sas7bat
*** Outputs : adjwt1.sas7bdat
*** Modified: Sabrina R. for Q1FY2020
***
*** Note   : Using ENBGSMPL2 instead of ENBGSMPL.
***          We used ENBGSMPL2 to create Stratum Starting from Q1FY2020
***          Q2FY2020: rename ENBGSMPL2 -> ENBGSMP2
*************************************************************************;
options mprint MACROGEN compress=yes ls=132 ps=58 mergenoby=ERROR validvarname=upcase nocenter
formchar= "|----|+|-–+=|-/\<>*" orientation=portrait mprint symbolgen spool obs=max;

%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
        %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log)); /*Grid is case sensitive*/
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));

proc printto log="&logname." new;
ods listing;
proc printto print="&lstname." new;

%let quarter=Q3FY2020;

libname in    "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly;  /*
logmdA1.sas7bdat */
libname in_f  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly;  /*
framea.sas7bdat */
libname out   "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal"; /* adjwt1.sas7bdat */

title1 "Program: Adjwt1.sas (&quarter.)";
title2 "Purpose: Calculate the unknown Eligibility Adjusted Weight";
title3 "                                 ";

title4 "Checking Univariate of Propensity Score (PscoreA1) for CONUS:";
proc univariate data=in.logmdA1 plot;
var PscoreA1;
where conus='1';
run;

title4 "Checking Univariate of Propensity Score (PscoreA1) for OCONUS:";
proc univariate data=in.logmdA1 plot;
var PscoreA1;
where conus='0';
```

```
run;

*Q3FY2020:;
***Calculate the 20th percentiles within conus region;
%macro univ_conus(inputdata=, step=, region=, var=, cellvar=, outputdata=);

proc univariate data=&inputdata. noprint;
var &var.;
where conus="&region.";
output out=out pctlpts =20 40 60 80 pctlpre=cutoff;
run;

title3 "Cutoff points for conus=&region.";
proc print data=out;
var cutoff20 cutoff40 cutoff60 cutoff80;
run;

data temp;
set &inputdata.;
M=1;
where conus="&region.";
run;

data out;
set out;
M=1;
run;

data &outputdata.;
merge temp out;
by M;
run;

data &outputdata.;
set &outputdata.;
length &cellvar. $4;

if &var.<=cutoff20 then &cellvar. = "&step.&region.01";
else if &var.<=cutoff40 then &cellvar. = "&step.&region.02";
else if &var.<=cutoff60 then &cellvar. = "&step.&region.03";
else if &var.<=cutoff80 then &cellvar. = "&step.&region.04";
else if &var. >cutoff80 then &cellvar. = "&step.&region.05";
run;

data &outputdata.;
set &outputdata.;
drop cutoff20 cutoff40 cutoff60 cutoff80 M;
run;

title1 "Freq of &cellvar.*&var. for conus=&region.";
proc freq data=&outputdata.;
tables &cellvar. &cellvar.*&var. /missing list;
run;
```

```
%mend univ_conus;

***Calculate the 25th percentiles within oconus region;
%macro univ_oconus(inputdata=, step=, region=, var=, cellvar=, outputdata=);

proc univariate data=&inputdata. noprint;
var &var.;
where conus="&region.";
output out=out pctlpts =25 50 75 pctlpre=cutoff;
run;

title1 "Cutoff points for conus=&region.";
proc print data=out;
var cutoff25 cutoff50 cutoff75;
run;

data temp;
set &inputdata.;
M=1;
where conus="&region.";
run;

data out;
set out;
M=1;
run;

data &outputdata.;
merge temp out;
by M;
run;

data &outputdata.;
set &outputdata.;
length &cellvar. $4;

if &var.<=cutoff25 then &cellvar. = "&step.&region.01";
else if &var.<=cutoff50 then &cellvar. = "&step.&region.02";
else if &var.<=cutoff75 then &cellvar. = "&step.&region.03";
else if &var. >cutoff75 then &cellvar. = "&step.&region.04";
run;

data &outputdata.;
set &outputdata.;
drop cutoff25 cutoff50 cutoff75 M;
run;

title1 "Freq of &cellvar.*&var. for conus=&region.";
proc freq data=&outputdata.;
tables &cellvar. &cellvar.*&var. /missing list;
run;
%mend univ_oconus;
```

****
Compute the dencile of PscoreA1 within conus/oconus region
**;
%univ_conus(inputdata=in.logmdA1, step=1, region=1, var=PscoreA1, cellvar=Pcell_A1, outputdata=A1conus);
%univ_oconus(inputdata=in.logmdA1, step=1, region=0, var=PscoreA1, cellvar=Pcell_A1, outputdata=A1oconus);

/*
Q3FY2020:
Checking Weighting Class Construction:
N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q3FY2020\Programs\Weighting\NewWeights\Chk

FINAL: Using Run2 for Q3FY2020

Run1: Overall DE=7.48744, Max Stratum DE=1.91478
Run2: Overall DE=7.52680, Max Stratum DE=1.75837
Run3: Overall DE=7.85485, Max Stratum DE=2.33544
Run4: Overall DE=8.01417, Max Stratum DE=1.83974
Run5: Overall DE=7.89838, Max Stratum DE=1.83974
Run6: Overall DE=7.72795, Max Stratum DE=1.68673

Run1: Creating 5 CONUS (20 40 60 80) and 4 OCONUS (25 50 75) Weighting Class

Obs	PCELL_A1	CNTG1	CNTG2	CNTG3	CELLCNT	SUMG1	SUMG2	SUMG3	SUMBWT	A1
1	1001	116	0	3607	3723	1403.35	0.00	45608.97	47012.32	33.5001
2	1002	170	0	3525	3695	4067.53	0.00	71055.55	75123.08	18.4690
3	1003	439	0	3541	3980	16928.98	0.00	123374.62	140303.59	8.2878
4	1004	628	0	2099	2727	22508.62	0.00	63715.26	86223.87	3.8307
5	1101	597	0	16651	17248	15444.63	0.00	428355.02	443799.66	28.7349
6	1102	953	3	17214	18170	43195.36	308.21	832760.85	876264.42	20.1424
7	1103	1541	2	15140	16683	77194.32	139.11	857144.65	934478.08	12.0838
8	1104	2799	3	14889	17691	219107.75	28.29	1116706.62	1335842.67	6.0960
9	1105	3897	8	12432	16337	1020989.72	14908.65	2553892.49	3589790.86	3.4654
	=====	=====	=====	=======	==========	========	==========	==========		
	11140	16	89098	100254	1420840.26	15384.27	6092614.03	7528838.56		

Run2: Creating 5 CONUS (20 40 60 80) and 4 OCONUS (25 50 75) Weighting Class and Collapsing (1001 with 1002) and (1101 with 1102)

Obs	PCELL_A1	CNTG1	CNTG2	CNTG3	CELLCNT	SUMG1	SUMG2	SUMG3	SUMBWT	A1
1	1002	286	0	7132	7418	5470.88	0.00	116664.52	122135.41	22.3246
2	1003	439	0	3541	3980	16928.98	0.00	123374.62	140303.59	8.2878
3	1004	628	0	2099	2727	22508.62	0.00	63715.26	86223.87	3.8307
4	1102	1550	3	33865	35418	58639.99	308.21	1261115.88	1320064.08	22.3936
5	1103	1541	2	15140	16683	77194.32	139.11	857144.65	934478.08	12.0838
6	1104	2799	3	14889	17691	219107.75	28.29	1116706.62	1335842.67	6.0960
7	1105	3897	8	12432	16337	1020989.72	14908.65	2553892.49	3589790.86	3.4654
	=====	=====	=====	=======	==========	========	==========	==========		
	11140	16	89098	100254	1420840.26	15384.27	6092614.03	7528838.56		

Run3: Creating 4 CONUS (25 50 75) and 3 OCONUS (33.33 66.66) Weighting Class

Obs	PCELL_A1	CNTG1	CNTG2	CNTG3	CELLCNT	SUMG1	SUMG2	SUMG3	SUMBWT	A1
1	1001	151	0	4842	4993	1806.91	0.00	57707.72	59514.63	32.9373

```
2    1002    423    0    4251     4674    12380.71    0.00      121922.75    134303.47   10.8478
3    1003    779    0    3679     4458    30720.86    0.00      124123.92    154844.78   5.0404
4    1101    744    2    20942    21688   19671.46    194.74    547977.27    567843.47   28.5834
5    1102    1556   1    21081    22638   69279.29    113.47    1093953.54   1163346.30  16.7647
6    1103    2670   3    17658    20331   205097.66   143.65    1323927.87   1529169.17  7.4506
7    1104    4817   10   16645    21472   1081883.37  14932.41  2823000.96   3919816.74  3.5738
          =====  =====  =====   =======  ==========  ========  ==========  ==========
          11140   16    89098   100254   1420840.26  15384.27  6092614.03   7528838.56
```

Run4: Creating 4 CONUS (25 50 75) and 3 OCONUS (33.33 66.66) Weighting Class and Collapsing (1001 with 1002) and (1101 with 1102)

```
Obs  PCELL_A1  CNTG1  CNTG2  CNTG3   CELLCNT    SUMG1     SUMG2       SUMG3       SUMBWT     A1
1    1002      574    0     9093    9667    14187.62    0.00     179630.47    193818.09   13.6611
2    1003      779    0     3679    4458    30720.86    0.00     124123.92    154844.78   5.0404
3    1102      2300   3     42023   44326   88950.75    308.21   1641930.81   1731189.77  19.3951
4    1103      2670   3     17658   20331   205097.66   143.65   1323927.87   1529169.17  7.4506
5    1104      4817   10    16645   21472   1081883.37  14932.41 2823000.96   3919816.74  3.5738
          =====  =====  =====   =======  ==========  ========  ==========  ==========
          11140   16    89098   100254   1420840.26  15384.27  6092614.03   7528838.56
```

Run5: Creating 4 CONUS (25 50 75) and 3 OCONUS (50 75) Weighting Class

```
Obs  PCELL_A1  CNTG1  CNTG2  CNTG3   CELLCNT    SUMG1     SUMG2       SUMG3       SUMBWT     A1
1    1001      286    0     7132    7418    5470.88     0.00     116664.52    122135.41   22.3246
2    1002      439    0     3541    3980    16928.98    0.00     123374.62    140303.59   8.2878
3    1003      628    0     2099    2727    22508.62    0.00     63715.26     86223.87    3.8307
4    1102      2300   3     42023   44326   88950.75    308.21   1641930.81   1731189.77  19.3951
5    1103      2670   3     17658   20331   205097.66   143.65   1323927.87   1529169.17  7.4506
6    1104      4817   10    16645   21472   1081883.37  14932.41 2823000.96   3919816.74  3.5738
          =====  =====  =====   =======  ==========  ========  ==========  ==========
          11140   16    89098   100254   1420840.26  15384.27  6092614.03   7528838.56
```

Run5: Creating 3 CONUS (60 90) and 3 OCONUS (60 90) Weighting Class

```
Obs  PCELL_A1  CNTG1  CNTG2  CNTG3   CELLCNT    SUMG1     SUMG2       SUMG3       SUMBWT     A1
1    1001      515    0     8729    9244    11131.55    0.00     161232.16    172363.71   15.4843
2    1002      615    0     3453    4068    24663.50    0.00     120977.81    145641.31   5.9051
3    1003      223    0     590     813     9113.43     0.00     21544.42     30657.85    3.3640
4    1101      3091   5     49005   52101   135834.31   447.32   2118260.52   2254542.16  16.5433
5    1102      4958   6     23011   27975   547153.60   2939.64  2290805.61   2840898.86  5.1644
6    1103      1738   5     4310    6053    692943.87   11997.30 1379793.50   2084734.67  2.9573
          =====  =====  =====   =======  ==========  ========  ==========  ==========
          11140   16    89098   100254   1420840.26  15384.27  6092614.03   7528838.56
*/
```

```
***combine conus/oconus together;
data merged;
set A1conus A1oconus;
/****************************************************\
 Comment Out the next 2 lines next quarter if not needed:
\****************************************************/
*Q3FY2020;
```

```
if Pcell_A1='1001' then Pcell_A1='1002';
else if Pcell_A1='1101' then Pcell_A1='1102';
run;


*************************************************************************
* Start to calculate the adjusted weight using the weighting class method
**************************************************************************;

%MACRO PROCESS(DOMAIN1, INPT);

 *** Initial Information. ***;
 /*Q3FY2020 - commented out b/c missmatched varible names, this can be added back
   in Q1FY2021 once varname changed in sampling title1 "Frame (FRAMEA) Count";
  proc freq data=in_f.framea;
  table ENBGSMP2 / list missing;
  run; */
  title1 "Weighted Counts Using BWT as the Weight - excluding fnstatus=32";
  proc freq data=&inpt.;
  table ENBGSMP2 fnstatus / list missing;
  weight bwt;
  run;

  title1 "Sample Counts - excluding fnstatus=32";
  proc freq data=&inpt.;
  table ENBGSMP2 fnstatus web*fnstatus / list missing;
  run;

  PROC SORT DATA=&inpt.;
  BY &DOMAIN1.;
  RUN;

*************************************************************************
* Calculate adjustment factor A1 for each cell.
* This is the Eligibility Determination adjustment.
**************************************************************************;
Data  cellsa1 (keep=sumbwt sumg1-sumg3 A1 cellcnt cntg1-cntg3 &domain1. )
    mpridsa1 (keep=mprid fnstatus bwt &domain1. com_geo ENBGSMP2)
  ;
  SET &INPT.;
  BY &DOMAIN1.;

  IF FIRST.&DOMAIN1. THEN DO;
    CELLCNT = 0;
    cntg1  = 0;
    cntg2  = 0;
    cntg3  = 0;
    SUMBWT = 0.0;
    SUMG1  = 0.0;
    SUMG2  = 0.0;
    SUMG3  = 0.0;
    A1 = 0.0;
  END;
  CELLCNT + 1;
```

```
*****************************************************
* Accumulate total weight sum
*****************************************************;

SUMBWT + BWT;


*****************************************************
* Accumulate group 1 weight sum
*****************************************************;
IF FNSTATUS IN (11,12) THEN
    do;
      SUMG1 + BWT;
      cntg1 + 1;
    end;


*****************************************************
* Accumulate group 2 weight sum
*****************************************************;
ELSE IF FNSTATUS in (20,31) THEN
    do;
      SUMG2 + BWT;
      cntg2 + 1;
    end;


*****************************************************
* Accumulate group 3 weight sum
*****************************************************;
ELSE IF FNSTATUS in (41,42) THEN
    do;
      SUMG3 + BWT;
      cntg3 + 1;
    end;

  RETAIN SUMBWT SUMG1-SUMG3 A1 CELLCNT cntg1-cntg3 MPRID;

  IF LAST.&DOMAIN1. THEN DO;
    A1 = SUMBWT/(SUMG1 + SUMG2);
    OUTPUT CELLSA1;
  END;

  OUTPUT MPRIDSA1;

RUN;

title1 "Checks the Adjustment ratio for unknown eligibility adjustment:";
proc print data=cellsa1 noobs;
var &domain1. cntg1-cntg3 cellcnt sumg1-sumg3 sumbwt a1;
sum cellcnt cntg1 cntg2 cntg3 sumbwt sumg1 sumg2 sumg3;
run;

title2 "Prints if: ( a1> 7 ) or ( cntg1 + cntg2 < 100)";
proc print data=cellsa1;
```

```
where ( a1> 7 ) or ( cntg1 + cntg2 < 100 );
var &domain1. cntg1-cntg3 cellcnt sumg1-sumg3 sumbwt a1;
sum cellcnt cntg1 cntg2 cntg3 sumbwt sumg1 sumg2 sumg3;
run;

title1 "Univariate of Adjustment ratio (A1)";
proc univariate data=cellsa1 normal ;
var a1;
run;

proc sort data=mpridsa1;
by &domain1.;
run;

proc sort data=cellsa1;
by &domain1.;
run;

data adj_one;
merge mpridsa1 cellsa1;
by &domain1.;
if fnstatus in (11,12,20,31) then adj1 = a1;
  else adj1 = 0;
adjwt1 = adj1 * bwt;
run;

title1 "Checks crosstab of Selected Variables: ";
proc freq data=adj_one;
table &domain1.*fnstatus*adj1/list missing;
run;

/*
title2 "where adjwt1 ~=0";
proc freq data=adj_one;
tables adjwt1*&domain1.*bwt/missing list;
where adjwt1 ~=0;
run;
*/

title1 " Checking the individuals with the largest weight";
proc sort data=adj_one out=sorted;
by descending adjwt1;
run;
title2 " sorting adjwt1 descending order (obs=75)";
proc print data=sorted (obs=75);
var &domain1. fnstatus BWT a1 adj1 adjwt1 ;
run;

proc means data=adj_one n sum NOPRINT;
class ENBGSMP2;
var adjwt1;
output out=print sum=sum;
run;
```

```
Title1 "Print the Proc Means of Adjwt1 by ENBGSMP2";
Proc print data=print;
sum _freq_ sum;
where _type_=1;
run;


*******************************************************************************
* Sort the original data
*******************************************************************************;
PROC SORT DATA=&INPT.;
BY MPRID;
RUN;


*******************************************************************************
* Sort the ADJ_ONE data set
*******************************************************************************;
PROC SORT DATA=adj_one;
BY MPRID;
RUN;


*******************************************************************************
* Append the adjusted weight variable (adjwt1)
*******************************************************************************;
Data adj_one(Drop=bwt com_geo ENBGSMP2 FNSTATUS Pcell_A1);
  Set Adj_one;
run;

DATA Out.adjwt1;
  MERGE adj_one(in=A) &INPT.(in=B);
  BY MPRID;
  if A and B;
RUN;

title1 "Sum of Adjusted Weight (Adjwt1) by Final Status";
proc means data=Out.adjwt1 n sum NOPRINT;
class fnstatus;
var adjwt1;
output out=print sum=sum;
run;

Proc print data=print noobs;
sum _freq_ sum;
where _type_=1;
run;

title1 "Proc Univariate of Adjusted Weight";
title2 "Propensity Score Weighting Method - Individual Level Adjwt";
title3 " where fnstatus=11";
proc univariate data=Out.adjwt1 normal ;
where fnstatus=11;
var adjwt1;
run;
```

```
/*Beneficiary's tnexreg*/
proc sort data=Out.adjwt1;
by tnexreg;
run;

title1 "Distribution of weights by tnexreg";
title2 " where fnstatus=11";
proc means data=Out.adjwt1 noprint ;
where fnstatus=11;
var adjwt1;
by tnexreg;
output out=out_tnex(drop=_type__freq_) n=n mean=mean std=stddev min=min max=max ;
run;

proc print data=out_tnex;
sum n;
run;

/*Facility's tnexreg*/
proc sort data=Out.adjwt1;
by TNEX_GRP;
run;

title1 "Distribution of weights by Facility's TNEX region: TNEX_GRP";
title2 " where fnstatus=11";
proc means data=Out.adjwt1 noprint ;
where fnstatus=11;
var adjwt1;
by TNEX_GRP;
output out=out_tnex(drop=_type__freq_) n=n mean=mean std=stddev min=min max=max ;
run;

proc print data=out_tnex;
sum n;
run;

*****************************************************************************
* Calculate final weight based on user-specified parameters.
*****************************************************************************.
%MEND PROCESS;
%PROCESS(Pcell_A1, merged);
RUN;

/*Added in Q1FY2013*/
title1 "Checks ADJWT1>10000:";
data max1;
set Out.adjwt1;
if adjwt1>10000;
run;

*****************************************************************************
*** Checking Max DE by Stratum requested by Eric:
```

```
*******************************************************************************;
**create dataset of completes only;
%include
"/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/design_effects_un
equal_weights.sas";

data ForDE;
set out.adjwt1;
where fnstatus=11;
run;

%design_effects_unequal_weights (ForDE, stratum,  adjwt1, deff_overall, deff_stratum );

title1 'Design Effects Overall';
proc print data = deff_overall noobs; run;

title1 'Max Design Effect by Stratum:';
proc sort data=deff_stratum;  by descending design_effect;
run;
proc print data = deff_stratum (obs=1) noobs;
run;
*******************************************************************************;

title1 "Proc Contents of ADJWT1:";
proc contents data=Out.adjwt1;
run;

title1 "sum of base weight compared to adjusted weight 1";
proc means data=out.adjwt1 sum n;
var bwt adjwt1;
run;

proc printto;
run;

**********The end**********;
```

F.9 Q3FY2020\Programs\Weighting\NewWeights\adjwt2.SAS - Calculate the nonresponse adjusted weight

```
********************************************************************
*** Program: Adjwt2.sas
*** Task   : 50713.Y1.T02.013.000
*** Purpose: Calculate the nonresponse adjusted weight
*** Inputs : smplA2.sas7bdat,
***          adjwt1.sas7bdat
*** Outputs: adjwt2.sas7bdat
*** Note   : Using ENBGSMPL2 instead of ENBGSMPL.
***          We used ENBGSMPL2 to create Stratum Starting from Q1FY2020
***          Q3FY2020: Rename ENBGSMPL2 -> ENBGSMP2c
********************************************************************;
options mprint MACROGEN compress=yes ls=132 ps=58 mergenoby=ERROR validvarname=upcase nocenter
formchar="|----|+|-–+=|-/\<>*" orientation=portrait mprint symbolgen spool obs=max;

%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
        %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log)); /*Grid is case sensitive*/
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));

proc printto log="&logname." new;
ods listing;
proc printto print="&lstname." new;

%let quarter=Q3FY2020;

libname in  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly;
libname out "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal";

title1 "Program: adjwt2.sas (&quarter.)";
title2 "Purpose: Calculate the nonresponse adjusted weight";

********************************************************************
Merge smplA2 with adjwt1 to get the variable adjwt1
********************************************************************;
proc sort data=in.smplA2 out=smplA2;
by MPRID;
run;

proc sort data=in.adjwt1(keep=MPRID adj1 adjwt1)
out=adjwt1;
by MPRID;
run;

data merged only1 only2 problem;
merge smplA2(in=A) adjwt1(in=B);
by MPRID;
if A and B then output merged;
else if A and NOT B then output only1;
else if B and NOT A then output only2;
```

```
else output problem;
run;

*****************************************************************************
Since there is not much going on in 2nd stage, we decided not to do the modeling,
and instead to create the weight cells based on the A2 tree for the current quarter.
Pcell_A2=adjustment stage||region||cell index.
adjustment stage: 1-unknown eligbility adjustment stage, 2 - nonresponse adjustment stage
region: 1 - conus, 0-oconus
cell index: 01-#of terminal nodes
*****************************************************************************,
data merged;
set merged;
length Pcell_A2 $4;

/*Based on A2_conus_tree.htm*/
/*Q3FY2020*/
if conus='1' then do;
  if AGE_GRP4='4' then do;
     if RANK_GRP in ('E56789101112','E1234','W45O45678910') Then pcell_a2 = '2101';
     else if RANK_GRP in ('W123O123') Then pcell_a2 = '2102';
  end;
  else if AGE_GRP4 in ('3','2') then do;
     if SVC_GRP in ('Army','Air Force') then pcell_a2 = '2103';
                    else if SVC_GRP in ('N/M/C/O/U') then pcell_a2 ='2104';
  end;
  else if AGE_GRP4='1' then pcell_a2 ='2105';
end;

/*Based on A2_oconus_tree.htm*/
/*Q3FY2020*/
else if conus='0' then do;
        if AGE_GRP4 in ('4') then pcell_a2 = '2001';
        else if AGE_GRP4 in ('1','2','3') then pcell_a2 = '2002';
end;
run;

title3 'Check the construction of weighting classes';
proc freq data=merged;
tables conus*Pcell_A2/missing list;
run;

/*Q3FY2020*/
title3 'Check the Construction of Weighting Classes (CONUS)';
proc freq data=merged;
where conus='1';
tables Pcell_A2*conus*AGE_GRP4*RANK_GRP*SVC_GRP/missing list;
run;

/*Q3FY2020*/
title3 'Check the Construction of Weighting Classes (OCONUS)';
proc freq data=merged;
where conus='0';
```

```
tables pcell_a2*conus*AGE_GRP4/missing list;
run;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Calculate nonresponse adjusted weight based on user-specified domains.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *,
%MACRO PROCESS(DOMAIN2, INPT);

title1 "Freq of fnstatus";
proc freq data=&inpt.;
tables fnstatus/missing list;
run;

proc sort data=&inpt.;
BY &domain2.;
run;

DATA CELLSA2 (KEEP= &domain2. NUMER DENOM numercnt denomcnt A2);
  set &inpt. ;
  BY &domain2.;

  IF FIRST.&domain2. THEN DO;
    A2 = 0.0;
    NUMER = 0.0;
    DENOM = 0.0;
    numercnt = 0;
    denomcnt = 0;
  END;

  RETAIN NUMER DENOM A2 numercnt denomcnt;

  IF FNSTATUS IN (11,12,20) THEN
    do;
      NUMER + adjwt1;
      numercnt + 1;
    end;

  IF FNSTATUS = 11 THEN
    do;
      DENOM + adjwt1;
      denomcnt + 1;
    end;

  IF LAST.&domain2. THEN DO;
    A2 = NUMER/DENOM;
    OUTPUT CELLSA2;
  END;
RUN;

title1 "Check for CELLSA2 Data Set";
title2 "Checks the Adjustment Ratio";
proc print data=cellsa2;
var &domain2. numercnt denomcnt numer denom a2;
```

```
sum numer denom numercnt denomcnt;
run;

title1 "Checks the Adjustment Ratio";
title2 "Print if ( a2 > 7 ) or ( denomcnt < 100)";
proc print data=cellsa2;
where ( a2 > 7 ) or ( denomcnt < 100);
var &domain2. numercnt denomcnt numer denom a2;
sum numer denom numercnt denomcnt;
run;

title1 "Proc Univarate of Adjustment Ratio (A2)";
proc univariate data=cellsa2 normal ;
var a2;
run;

proc sort data=cellsa2;
by &domain2.;
run;

data adjwt2;
merge &inpt. cellsa2;
by &domain2.;
if fnstatus = 11 then adj2 = a2;
  else adj2 = 0;
adjwt2 = adj2 * adjwt1;
label adjwt2 = "Nonrsponse adjusted weight";
KEEP MPRID fnstatus ENBGSMP2 adj1 adj2 adjwt1 &domain2. a2 adjwt2 ;
run;

title1 "Check for ADJWT2 Data Set";
title4 "Cross Freq of fnstatus and Adjustment Factor (adj2) with variaous Domains";
proc freq data=adjwt2;
table &domain2.*fnstatus*adj2 / list missing;
run;

proc means data=adjwt2 n sum NOPRINT;
class fnstatus;
var adjwt2;
output out=print sum=sum;
run;

title1 "Printing proc means of Adjust2 by fnstatus";
Proc print data=print noobs;
sum _freq_ sum;
where _type_=1;
run;

proc means data=adjwt2 n sum NOPRINT;
class ENBGSMP2;
var adjwt2;
output out=print sum=sum;
run;
```

```
title1 "Printing proc means of Adjust2 by ENBGSMP2";
Proc print data=print noobs;
sum _freq_ sum;
where _type_=1;
run;

/*Output Final Data*/
data Out.adjwt2;
set adjwt2;
run;
%MEND PROCESS;

%PROCESS(Pcell_A2, merged);

title1 "Proc Contents of Nonresponse Adjusted Weight (Adjwt2)";
proc contents data=Out.adjwt2;
run;

proc printto;
run;

********* The End ***********;
```

F.10 Q3FY2020\Programs\Weighting\NewWeights\adjwtp.SAS - Calculate the final adjusted weight

```
*********************************************************************************
*** Program: adjwtp.sas
*** Task  : 50713.Y1.T02.013.000
*** Purpose: Assign the final adjusted weight for all sample cases
*** Inputs: Adjwt1.sas7bdat adjwt2.sas7bdat, selectq.sas7bdat, framea.sas7bdat
*** Outputs: Adjwtp.sas7bdat
*** Note  : Using ENBGSMPL2 instead of ENBGSMPL.
***       We used ENBGSMPL2 to create Stratum Starting from Q1FY2020
***       Q3FY2020: Rename ENBGSMPL2 -> ENBGSMP2
*********************************************************************************;
options mprint MACROGEN compress=yes ls=132 ps=58 mergenoby=ERROR validvarname=upcase nocenter
formchar="|----|+|--+=|-/\<>*" orientation=portrait mprint symbolgen spool obs=max;

%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
        %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log)); /*Grid is case sensitive*/
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));

proc printto log="&logname." new;
ods listing;
proc printto print="&lstname." new;

%let quarter=Q3FY2020;

libname inr  "/sasdata/Projects/50713_HCS_Restricted/DATA/&QUARTER." access=readonly; *Extract.sas7bdat;
libname in  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly; *
adjwt1.sas7bdat, adjwt2.sas7bdat;
                                              * selectq.sas7bdat;
libname in_f "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly; *
framea.sas7bdat;
libname out  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal";

title1 "Program: Adjwtp.sas (&quarter.)";
title2 "Purpose: Assign the final adjusted weight";
title3 "                        ";

*******************************************************************************
* Sort the original data selectq.sd2
*******************************************************************************;
proc sort data=in.selectq
  (keep=BWT COM_GEO D_HEALTH dageqy ENBGSMPL ENBGSMPL2 FNSTATUS MPCSMPL MPRID
      PATCAT PCM PNLCATCD PNSEXCD SERVAFF SEXSMPL STRATUM
      SVCSMPL WEB TNEXREG DBENCAT TNEX_GP2)
  out=selectq;
  format _all_;
  by mprid;
run;

*******************************************************************************
```

```
* Sort the ADJWT1, ADJWT2, data set
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
proc sort data=selectq;
by MPRID;
run;

/*Q3FY2020: Renaming the variable to make length 8, in future qtrs will be done in sampling */
data selectq;
set selectq;
RENAME ENBGSMPL2=ENBGSMP2;
run;

PROC SORT DATA=in.adjwt1(keep=mprid pcell_a1 a1 adj1 adjwt1) out=adjwt1;
BY MPRID;
RUN;

PROC SORT DATA=in.adjwt2(keep=mprid pcell_a2 a2 adj2 adjwt2) out=adjwt2;
BY MPRID;
RUN;

PROC SORT DATA=in.smplA1A2(keep=mprid conus TNEX_GRP chcsaddr /*fnstatus*/) out=smplA1A2;
BY MPRID;
RUN;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Append final weight variable (adjwt)
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
/*Output final data file*/
DATA adjwtp;
  MERGE selectq adjwt1 adjwt2 smplA1A2;
  BY MPRID;

  encounter=chcsaddr;
  drop chcsaddr;

*Assign a1, adj1, adjwt1 for fnstatus=32;
  if fnstatus = 32 then do;
    a1=1;
    adj1=1;
    adjwt1 = bwt*adj1;
   end;
*Assign a2, adj2, adjwt2 for fnstatus in (31, 32, 41, 42);
  if fnstatus in (31, 32, 41, 42) then do;
   if fnstatus in (31, 32) then do;
    a2=1;
    adj2=1;
   end;
   else if fnstatus in (41, 42) then do;
    a2=0;
    adj2=0;
   end;
   adjwt2=adj2*adjwt1;
  end;
```

```
adjwt = adjwt2;
RUN;

title1 'Sum of Adjusted Weight (Adjwt) By Final Status';
proc means data=adjwtp n sum NOPRINT;
class fnstatus;
var adjwt;
output out=print sum=sum;
run;

Proc print data=print noobs;
sum _freq_ sum;
where _type_=1;
run;

title1 'Frame counts By ENBGSMP2';
/*proc freq data=in.framea; - Q3FY2020 m=comment outt b/c missmatch in var name.
                Can be restored in Q1FY2021 when varname changed in sampling
tables ENBGSMP2/missinglist;
run;*/

title1 'Sum of Adjwt By ENBGSMP2';
proc means data=adjwtp n sum NOPRINT;
class ENBGSMP2;
var adjwt;
output out=print2 sum=sum;
run;
Proc print data=print2 noobs;
sum _freq_ sum;
where _type_=1;
run;

title1 'Selectq using BWT as the weight';
title2 'Sum of BWT by Final Status';
proc means data=selectq n sum NOPRINT;
class fnstatus;
var bwt;
output out=print sum=sum;
run;

Proc print data=print noobs;
sum _freq_ sum;
where _type_=1;
run;

title1 'Sum of BWT by ENBGSMP2';
proc means data=selectq n sum NOPRINT;
class ENBGSMP2;
var bwt;
output out=print2 sum=sum;
run;
Proc print data=print2 noobs;
```

```
sum _freq_ sum;
where _type_=1;
run;

title1 'Summary Table: Crosstab of Selected Variables:';
proc sort data=adjwtp out=chk;
by pcell_a1 pcell_a2 fnstatus;
run;

data sub_chk;
set chk(keep= com_geo stratum pcell_a1 pcell_a2 fnstatus bwt adj1 adj2 adjwt);
by pcell_a1 pcell_a2 fnstatus;
prodadjs = adj1 * adj2;
retain cellcnt sumadjwt;
if first.fnstatus then
  do;
    cellcnt = 1;
    sumadjwt = adjwt;
  end;
  else
    do;
      cellcnt = cellcnt +1;
      sumadjwt = sumadjwt + adjwt;
    end;
if last.fnstatus then output sub_chk;
run;

proc print data=sub_chk noobs;
var pcell_a1 pcell_a2 fnstatus bwt adj1 adj2 prodadjs adjwt cellcnt sumadjwt;
sum cellcnt sumadjwt;
run;

proc freq data=sub_chk noprint;
tables prodadjs/missing list out=prodadjs;
run;

title1 "Univariate of Prodadjs = adj1 * adj2";
proc univariate data=prodadjs normal;
var prodadjs;
run;

title1 "Univariate of Adjwt (fnstatus=11)";
proc univariate data=adjwtp normal ;
where fnstatus=11;
var adjwt;
run;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Creating Summary Table with Largest ADJWT:
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
title1 " Checking the individuals with the largest adjwt";
proc sort data=adjwtp out=sorted;
by descending adjwt;
```

```
run;

data sorted;
set sorted;
prodadjs=a1*a2;
if (ADJWT1>9000 and stratum~='6999999') then flag=1;
run;

Title1 "Proc Print: Checking the individuals with the largest adjwt (obs=75 descending)";
Title2 "  if (ADJWT1>9000 and Stratum~='6999999') then flag=1";
proc print data=sorted (obs=75) noobs;
var stratum pcell_a1 pcell_a2 BWT fnstatus a1 adj1 adjwt1 a2 adj2 adjwt prodadjs flag;
run;

* * * * * * * * * * * * * * * * * * * * * * * * * * *
Output Data File:
* * * * * * * * * * * * * * * * * * * * * * * * * * * * *,
data OUT.adjwtp;
set adjwtp;
drop a1 a2 ;
run;

*tnexreg;
proc sort data=out.adjwtp;
by tnexreg;
run;

title1 "Distribution of weights by tnexreg for FNSTATUS=11";
proc means data=out.adjwtp noprint ;
where fnstatus=11;
var adjwt;
by tnexreg;
output out=out_tnex(drop=_type__freq_) n=n mean=mean std=stddev min=min max=max ;
run;

proc print data=out_tnex;
sum n;
run;

title1 "Contents of OUT.adjwtp";
proc contents data=out.adjwtp;
run;

proc printto;
run;

* * * * * * * * * * * The End * * * * * * * * * * * * *;
```

F.11.AQ3FY2020\Programs\Weighting\NewWeights\postwt.SAS - Do the poststratification

```
*****************************************************************************************
*********
*** Program : postwt.sas
*** Task    : 50713.Y1.T02.013.000
*** Purpose : Do the poststratification to force weighted counts to population counts in certain domain.
*** Inputs  : framea_revised.sas7bdat: the frame file
***        adjwtp_revised.sas7bdat: weighted survey data
*** Outputs : postwt.sas7bdat: final weight data after poststratification
*** Written : Haixia Xu on 12/27/2006
*** Modified: Sabrina R. for Q1FY2020
***        Q3FY2020: rename ENBGSMPL2 -> ENBGSMP2
*****************************************************************************************
***********;
options mprint MACROGEN compress=yes ls=132 ps=58 mergenoby=ERROR validvarname=upcase nocenter
formchar="|----|+|-–+=|-/\<>*" orientation=portrait mprint symbolgen spool obs=max;

%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
       %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log)); /*Grid is case sensitive*/
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));

proc printto log="&logname." new;
ods listing;
proc printto print="&lstname." new;

%let quarter=Q3FY2020;

Title1 "Program: postwt.sas (&quarter.)";
Title2 "Purpose: Do the poststratification";
Title3 "                   ";

*** Set up the input and output paths. ***;
libname in  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly; /*
adjwtp.sas7bdat */
libname out "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal";            /*
postwt.sas7bdat */

libname library v9 "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal/fmtlib"
access=readonly;

%include
"/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/calpoststr.sas";
%include
"/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/design_effects_un
equal_weights.sas";

Title1 "Program: postwt.sas (&quarter.)";
Title2 "Purpose: Do the poststratification";
Title3 "                   ";
```

```
***Frame***;
data framea;
set in.Framea;
length postcell $5;
postcell=substr(stratum,1,5);
rename ENBGSMPL2=ENBGSMP2; /* Q3FY2020 rename to match new var name - can be removed in next qtr */
run;

Title4 "Checking the Construction of PostCell";
Title5 " Postcell=substr(stratum,1,5)";
proc freq data=framea;
tables stratum*Postcell/list missing;
run;

proc sort data=framea;
by MPRID;
run;

proc sort data=in.adjwtp out=adjwt;
by MPRID;
run;

data adjwt;
merge adjwt(in=A) framea(in=B keep=mprid postcell group) ;
by MPRID;
if A and B;
run;

*************************************************************************
*** Do the Poststratification
*************************************************************************;
options compress=yes;
%calpoststr(smpldata=adjwt, frmedata=framea, domain=postcell, preadjwt=adjwt, psratio=ps, postwt=postwt,
outdata=OUT.postwt);

Title1 "Proc Univariate of Postwt (where Postwt>0):";
proc univariate data=out.postwt plot;
var postwt ;
where postwt>0;
run;

Title1 "Proc Univariate of Postwt (where (postwt>0 and group~='6')):";
proc univariate data=out.postwt plot;
var postwt ;
where (postwt>0 and group~='6');
run;

*************************************************************************
*** Compare the weighted counts and the population counts by the domains
*************************************************************************;
options compress=no;
%macro comparecnt(smpldata=, frmedata=, domain=, weight=);
```

```
proc freq data=&smpldata. NOPRINT;
tables &domain./missing list out=weight_s(rename=(count=wtcnt) drop=percent);
weight &weight.;
run;

proc freq data=&frmedata. NOPRINT;
tables &domain./missing list out=unweight_f(rename=(count=popcnt) drop=percent);
run;

data cnt_sf;
merge weight_s(in=A) unweight_f(in=B);
by &domain.;
if a and not b and popcnt=. then popcnt=0;
if b and not a and wtcnt=. then wtcnt=0;
diff = wtcnt - popcnt;
*reldiff=diff/popcnt;
run;

proc print data=cnt_sf;
sum wtcnt popcnt diff;
run;

proc univariate data=cnt_sf;
var diff;
run;

%mend comparecnt;

title1 'Check to see if the poststratification is done correctly';
title2 'Compare the weighted count and the frame count by the different domains';
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=postcell, weight=postwt);
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=group,    weight=postwt);
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=TNEX_GRP, weight=postwt);
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=TNEX_GP2, weight=postwt);
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=PCM,      weight=postwt);
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=ENBGSMP2,weight=postwt);
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=patcat,   weight=postwt);
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=stratum,  weight=postwt);
%comparecnt(smpldata=in.postwt, frmedata=framea, domain=com_geo,  weight=postwt);

*_____
*Domain=(TNEX_GRP*PCM)
*_____;
title1 'Check to see if the poststratification is done correctly';
title2 'Compare the weighted count and the frame count by (TNEX*PCM)';
proc freq data=in.postwt NOPRINT;
tables TNEX_GRP*PCM/missing list out=weight_s(rename=(count=wtcnt) drop=percent);
weight postwt;
run;

proc freq data=framea NOPRINT;
tables TNEX_GRP*PCM/missing list out=unweight_f(rename=(count=popcnt) drop=percent);
```

```
run;

data cnt_sf;
merge weight_s(in=A) unweight_f(in=B);
by TNEX_GRP PCM;
diff = wtcnt - popcnt;
if A and B;
run;

proc print data=cnt_sf;
sum wtcnt popcnt diff ;
run;

proc univariate data=cnt_sf;
var diff ;
run;

*_____
*Domain=(TNEX_GRP*PCM)
where Group=(1,2,3)
*_____;
title1 'Check to see if the poststratification is done correctly';
title2 'Compare the weighted count and the frame count by (TNEX*PCM)';
title3 " where, Group = (1,2,3)";
proc freq data=in.postwt NOPRINT;
tables TNEX_GRP*PCM/missing list out=weight_s(rename=(count=wtcnt) drop=percent);
weight postwt;
where group IN ('1','2','3');
run;

proc freq data=framea NOPRINT;
tables TNEX_GRP*PCM/missing list out=unweight_f(rename=(count=popcnt) drop=percent);
where group IN ('1','2','3');
run;

data cnt_sf;
merge weight_s(in=A) unweight_f(in=B);
by TNEX_GRP PCM;
diff = wtcnt - popcnt;
if A and B;
run;

proc print data=cnt_sf;
sum wtcnt popcnt diff;
run;

proc univariate data=cnt_sf;
var diff ;
run;

*********************************************************************************
*** Compare the weighted sum before and after the poststratification
********************************************************************************;
```

```
%macro procmeans(weightvar=, classvar=);
proc means data=OUT.postwt noprint;
class &classvar.;
var &weightvar.;
output out=out sum=/autoname;
run;

data print;
set out;
where _type_=1;
run;

title1 "weighted info by &classvar. using &weightvar. as weight";
proc print data=print;
sum _freq_ bwt_sum adjwt1_sum adjwt2_sum adjwt_sum postwt_sum;
run;
%mend procmeans;

%procmeans(weightvar= bwt adjwt1 adjwt2 adjwt postwt, classvar=fnstatus);

********************
*Additional Checking:
*********************.
data chk;
set OUT.postwt;
run;

Proc sort data=chk;
by decending postwt ;
run;

Title1 "Checking 75 largest Postwts:";
Proc print data=chk(obs=75);
var postcell stratum postwt ps adjwt adjwt2 adj2 adjwt1 adj1 bwt;
run;

****************************************************************************
*** Output the datasets
****************************************************************************.
options compress=yes;

data out.postwt;
set out.postwt(drop=adjwt );
label  ENBGSMP2 ='Revised enrollee/beneficiary group (w/o TRS)'
    PCM      ='Primary care Manager Code';
run;

****************************************************************************
*** Calculate the Design Effects
****************************************************************************.

**create dataset of completes only;
data postwt_fnl;
```

```
set out.postwt;
where fnstatus=11;
run;

%design_effects_unequal_weights (postwt_fnl, postcell,  postwt, deff_overall, deff_postcell);
%design_effects_unequal_weights (postwt_fnl, com_geo,   postwt, deff_overall, deff_cac);
%design_effects_unequal_weights (postwt_fnl, ENBGSMP2, postwt, deff_overall, deff_enb2 );
%design_effects_unequal_weights (postwt_fnl, tnexreg,   postwt, deff_overall, deff_tnexreg);
%design_effects_unequal_weights (postwt_fnl, TNEX_GP2,  postwt, deff_overall, deff_tnexgp2);
%design_effects_unequal_weights (postwt_fnl, TNEX_GRP,  postwt, deff_overall, deff_tnexgrp);
%design_effects_unequal_weights (postwt_fnl, conus,     postwt, deff_overall, deff_conus);

title1 'Design Effects Overall';
proc print data = deff_overall noobs;
run;

*** For postcell ***;
title1 "Design Effects for postcell";
proc print data= deff_postcell noobs;
sum _freq_;
run;

*** For geographic Area ***;
title1 "Design Effects for com_geo";
proc print data= deff_cac noobs;
sum _freq_;
run;

*** For ENBGSMP2 Groups ***;
title1 'Design Effects for ENBGSMP2';
proc print data= deff_enb2 noobs;
sum _freq_;
run;

*** For Beneficiary TNEX Region ***;
title1 'Design Effects for TNEXREG';
proc print data= deff_tnexreg noobs;
sum _freq_;
run;

*** For tnexgp2 region ***;
title1 "Design Effects for conus";
proc print data= deff_tnexgp2 noobs;
sum _freq_;
run;

*** For Facility TNEX region ***;
title1 "Design Effects for Facility's TNEX region";
proc print data= deff_tnexgrp noobs;
sum _freq_;
run;

*** For conus region ***;
```

```
title1 "Design Effects for conus";
proc print data= deff_conus noobs;
sum _freq_;
run;

title1 "Checking Weighting Cell where postwt>15000";
proc freq data=out.postwt;
tables pcell_A1*pcell_A2*postwt/list missing;
where postwt>15000;
run;

Title1 "Univariate of Postwt where Postwt>0:";
proc univariate data=out.postwt plot;
var postwt ;
where postwt>0;
run;

title1 "Contents of OUT.postwt";
proc contents data=OUT.postwt;
run;

proc printto;
run;

* * * * * * * * * * The end * * * * * * * * * * *;
```

F.11.B Q3FY2020\Programs\Weighting\NewWeights\calpoststr.SAS - Include file for postwt.sas, trim.sas, postwt_trimmed.sas

```sas
**************************************************************
* Macro to do the poststrification
**************************************************************.
%macro calpoststr(smpldata=, frmedata=, domain=, preadjwt=, psratio=, postwt=, outdata=);

proc freq data=&smpldata. NOPRINT;
where fnstatus in (11, 31, 32);
tables &domain./missing list out=unweight_s(rename=(count=unwtcnt) drop=percent);
run;

proc freq data=&smpldata. NOPRINT;
tables &domain./missing list out=weight_s(rename=(count=wtcnt) drop=percent);
weight &preadjwt.;
run;

proc freq data=&frmedata. NOPRINT;
tables &domain./missing list out=unweight_f(rename=(count=popcnt) drop=percent);
run;

data cnt_sf out.only_f_calpoststr;
merge unweight_s(in=A) weight_s(in=B) unweight_f(in=C);
by &domain.;
if A and B and C then do;
  &psratio.=popcnt/wtcnt;
  label &psratio.="poststratification ratio";
  output cnt_sf;
end;
else if C and NOT A then output out.only_f_calpoststr;
run;

*Sorting data with Poststratification Ratio by PS;
proc sort data=cnt_sf out=test;
by &psratio.;
run;

title3 "Check the calculation of poststratification ratio";
title4 "(sorted by PS)";
proc print data=test noobs;
sum unwtcnt wtcnt popcnt;
run;

title3 "Checking Min/Max of UNWTCNT:";
proc means data=test n min max mean;
var UNWTCNT;
run;

title3 "Univariate of poststratification ratio";
proc univariate data=cnt_sf;
var &psratio.;
```

```
run;

title3 "Check the small cells or too small/large ratios - or (unwtcnt<15) or (&psratio. < 0.75) or (&psratio. > 2)";
proc print data=cnt_sf;
where (&psratio. > 2) or (&psratio. < 0.75) or (unwtcnt <15);
run;

* Append cnt_sf back to the adjusted weight data;
proc sort data=&smpldata.;
by &domain.;
run;

data &outdata.;
merge &smpldata. cnt_sf(keep=&psratio. &domain.);
by &domain.;
run;

data &outdata.;
set &outdata.;
if fnstatus in (11, 31, 32) then &psratio.=&psratio.;
else if fnstatus in (12, 20, 41, 42) then &psratio.=0;
&postwt. = &preadjwt.*&psratio.;
run;

title3 "check the calculation of final weight";
proc print data=&outdata.(obs=200);
var &domain. fnstatus &preadjwt. &psratio. &postwt.;
run;

/*
title3 "Univariate of final weight";
proc univariate data=&outdata.;
var &postwt.;
where fnstatus=11;
run;
*/
%mend calpoststr;
```

F.11.CQ3FY2020\Programs\Weighting\NewWeights\design_effects_unequal_weights.sas - Include file for postwt.sas, trim.sas, postwt_trimmed.sas

* *

Name: design_effects_unequal_weights

Purpose:
Calculate the design effects due to unequal weights. Creates two data sets. One data set contains the overall design effect and the information used to calculate the design effect. The other data set contains the design effects for each category of the analysis variable and the information used to calculate these design effects. In the two data sets, the additional information refers to the number of observations, the sum of the squared weights, and the sum of the weights squared.

Programmer: Darryl V. Creel

Parameters: There are five:

  (1) in_data_set - The input data set.

  (2) analysis_variable - The analysis variable contains the categories
                by which the design effects are calculated.

  (3) weight_variable - The weight variable.

  (4) out_overall_data_set - Name of the data set that contains the
                overall design effect.

  (5) out_data_set - Name of the output data set that contains the
            design effects for each category of the analysis
            variable.

Output: There are two data sets:

  (1) A data set that contains the overall design effect and the
      information used to calculte the overall design effect. It
      includes observations that have a missing value for the analysis
      variable. This data set is named by the out_overall_data_set
      parameter.

  (2) A data set that contains the design effects for each category
      of the analysis variable and the information used to calculate
      these design effects. There is one observation for each category
      of the analysis variable, including a missing category, if there
      are missing values for the analysis variable. This data set is
      named by the out_data_set parameter.

Side Effects: None

Notes:
  (1) Use with SAS V8.

(2) Do NOT use the following variable names as parameters:
    (a) _weight_variables
    (b) _overall_design_effect
    (c) _design_effect.

```
***********************************************************************;
%macro design_effects_unequal_weights
  ( in_data_set,
    analysis_variable,
    weight_variable,
    out_overall_data_set,
    out_data_set );

  data _weight_variables;
    set &in_data_set. ( keep = &analysis_variable. &weight_variable. );
    &weight_variable._sq = &weight_variable. * &weight_variable.;
  run;

  proc means data = _weight_variables missing noprint;
    var &weight_variable. &weight_variable._sq;
    output out = _overall_design_effect
        sum ( &weight_variable. &weight_variable._sq ) =
        sum_&weight_variable. sum_&weight_variable._sq;
  run;

  data &out_overall_data_set.;
    set _overall_design_effect ( drop = _type_ );
    design_effect = ( _freq_ * sum_&weight_variable._sq ) / ( sum_&weight_variable. * sum_&weight_variable. );
  run;

  proc sort data = _weight_variables;
    by &analysis_variable.;
  run;

  proc means data = _weight_variables missing noprint;
    var &weight_variable. &weight_variable._sq;
    by &analysis_variable;
    output out = _design_effect
        sum ( &weight_variable. &weight_variable._sq ) =
        sum_&weight_variable. sum_&weight_variable._sq;
  run;

  data &out_data_set.;
    set _design_effect ( drop = _type_ );
    design_effect = ( _freq_ * sum_&weight_variable._sq ) / ( sum_&weight_variable. * sum_&weight_variable. );
  run;

  proc datasets;
    delete _weight_variables _overall_design_effect _design_effect;
  run;

%mend design_effects_unequal_weights;
```

F.12 Q3FY2020\Programs\Weighting\NewWeights\trim.sas - Trim the large adjusted weights by one or more of 6 domains

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*** Project: Health Care Survey of DoD Beneficiaries - Adult
*** Task No: 50713.Y1.T02.013.000
*** Purpose: Trim the Large Adjusted Weights by One or More of Domains:
***        Postcell,enbgsmpl2,Patcat,Tnexreg, PCM and Servaff
*** Program: Trim.sas
*** Inputs: postwt.sas7bdat - post weight data
*** Outputs: trimmed.sas7bdat
*** Written: 1)Sky Andrecheck 6/07
*** Updated: 1)H. Xu on 03/29/2007 for q3fy2007 weighitng
***        2)Sabrina Rahman on 06/25/2008 for q3fy2008 weighting
***         (last macro minmax is new for q3fy2008 to produce
***          some tables we need to take trimmin decision)
***        3)Sabrina Rahman on 09/26/2008 for q4fy2008 weighting
***        4)S.Rahman on 09/21/2011 for Q4Fy2011 Adult Weighting
***         Trimmed 2 times with postcell and then patcat, this is
***         a different order then the original trim.sas program
***         See "trimming decision" note in folder
***         L:\Q4FY2011\Programs\Weighting\NewWeights\checking
***        5)Sabrina R. 06/26/2012: Similar to Q1FY2012 and Q4FY2011
***         we are trimming ONCE in Q3FY2012 using PATCAT. Trimming
***         by Postcell do not do much, using enbgsmpl2 have max weight
***         over 10,000. Trimming once by PATCAT seems our best option.
***        6) Starting in Q2FY2016, included DBENCAT design effects
***        7) Q1FY2017: Instead of "cutoff=means+stdev*6" we are using
***         "cutoff=means+stdev*4" to avoid large DE (4+).
***         Also, trim Domain "TNEXREG" looks better than PATCAT. so
***         we are using TNEXREG as our final Trimming Domain.
***        8) Using cutoff=means+stdev*6 as before.
***        9) Added Macro Variable for Final Trim Weight and Domain
***        10) Added a Trimming Summary table
***        11) Using ENBGSMPL2 instead of ENBGSMPL.
***         We used ENBGSMPL2 to create Stratum Starting from Q1FY2020
***                    12) Q3FY2020: rename ENBGSMPL2 -> ENBGSMP2
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
options mprint MACROGEN compress=yes ls=132 ps=58 mergenoby=ERROR validvarname=upcase nocenter
formchar= "|----|+|-–+=|-/\<>*" orientation=portrait mprint symbolgen spool obs=max;

%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
        %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log)); /*Grid is case sensitive*/
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));

proc printto log="&logname."  new;
ods listing;
proc printto print="&lstname." new;

*Udpated the Macro Variables;
%let quarter        = Q3FY2020;
```

```
%let no          = 6;      *Cutoff=Means+STDev*&No.;
%LET TrimWtThisQtr    = Newtrim4; *Final Trimmed Weight;
%LET TrimDomainThisQtr = Tnexreg;  *Final Trimmed Domain;

*** Set up the input and output paths. ***;
libname in   "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal" access=readonly; /* adjwtp,
framea.sas7bdat */
libname out "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal";          /*
trimmed.sas7bdat */

%include
"/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/calpoststr.sas";
%include
"/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/design_effects_un
equal_weights.sas";

title1 "Program: Trim.sas (&quarter.)";
title2 "Purpose: Trim the Large Adjusted Weights ";
title3 "                ";

data trim;
set in.postwt;
tnexENBGSMP2=tnexreg||ENBGSMP2;
groupENBGSMP2=group||ENBGSMP2;
run;

Title4 'Checking CrossTab of group*ENBGSMP2:';
proc freq data=trim;
table group*ENBGSMP2/list missing;
run;

**create dataset of completes only;
data postwt_fnl;
set in.postwt;
where fnstatus=11;
run;

***Using include macro : Design_effects_unequal_weights***;
%design_effects_unequal_weights ( postwt_fnl, postcell, postwt, deff_overall, deff_postcell );
%design_effects_unequal_weights ( postwt_fnl, com_geo,  postwt, deff_overall, deff_cac );
%design_effects_unequal_weights ( postwt_fnl, ENBGSMP2, postwt, deff_overall, deff_enb );
%design_effects_unequal_weights ( postwt_fnl, tnexreg,  postwt, deff_overall, deff_tnexreg );
%design_effects_unequal_weights ( postwt_fnl, TNEX_GP2, postwt, deff_overall, deff_tnexgp2);
%design_effects_unequal_weights ( postwt_fnl, TNEX_GRP, postwt, deff_overall, deff_tnexgrp);
%design_effects_unequal_weights ( postwt_fnl, conus,    postwt, deff_overall, deff_conus );
%design_effects_unequal_weights ( postwt_fnl, servaff,  postwt, deff_overall, deff_servaff );
%design_effects_unequal_weights ( postwt_fnl, TNEX_GRP servaff, postwt, deff_overall, deff_TNEXservaff );
%design_effects_unequal_weights ( postwt_fnl, patcat,   postwt, deff_overall, deff_patcat );
%design_effects_unequal_weights ( postwt_fnl, pcm,      postwt, deff_overall, deff_pcm );
%design_effects_unequal_weights ( postwt_fnl, TNEX_GRP pcm, postwt, deff_overall, deff_TNEXpcm );
%design_effects_unequal_weights ( postwt_fnl, dbencat,  postwt, deff_overall, deff_bencat );
%design_effects_unequal_weights ( postwt_fnl, group,    postwt, deff_overall, deff_group);
```

```
Title1 "Original Design Effects (Before Trimming)";
Title2 'Design Effects Overall';
proc print data = deff_overall noobs;
run;

*** For postcell ***;
Title1 "Design Effects for postcell";
proc print data= deff_postcell noobs;
sum _freq_;
run;

*** For geographic Area ***;
Title1 "Design Effects for com_geo";
proc print data= deff_cac noobs;
sum _freq_;
run;

*** For ENBGSMP2 Groups ***;
Title1 'Design Effects for ENBGSMP2';
proc print data= deff_enb noobs;
sum _freq_;
run;

*** For Beneficiary TNEX Region ***;
Title1 'Design Effects for TNEXREG';
proc print data= deff_tnexreg noobs;
sum _freq_;
run;

*** For Facility TNEX region (TNEX_GP2) ***;
Title1 "Design Effects for Facility's TNEX region (TNEX_GP2)";
proc print data= deff_tnexgp2 noobs;
sum _freq_;
run;

*** For Facility TNEX region (TNEX_GRP) ***;
Title1 "Design Effects for Facility's TNEX region (TNEX_GRP)";
proc print data= deff_tnexgrp noobs;
sum _freq_;
run;

*** For conus region ***;
Title1 "Design Effects for conus";
proc print data= deff_conus noobs;
sum _freq_;
run;

*** For Service Affiliation for the facility ***;
Title1 "Design Effects for Facility's Service Affiliation";
proc print data= deff_servaff noobs;
sum _freq_;
run;
```

```
*** For TNEX_GRP*Servaff ***;
Title1 "Design Effects for TNEX_GRP by Servaff";
proc print data= deff_TNEXservaff noobs;
sum _freq_;
run;

*** For PATCAT ***;
Title1 "Design Effects for PATCAT";
proc print data= deff_patcat noobs;
sum _freq_;
run;

*** For PCM ***;
Title1 "Design Effects for PCM";
proc print data= deff_pcm noobs;
sum _freq_;
run;

*** For TNEX_GRP*PCM ***;
Title1 "Design Effects for TNEX_GRP by PCM";
proc print data= deff_TNEXpcm noobs;
sum _freq_;
run;

*** For dbencat ***;
Title1 "Design Effects for Bencat";
proc print data= deff_bencat noobs;
sum _freq_;
run;

*** For group ***;
Title1 "Design Effects for Group";
proc print data= deff_Group noobs;
sum _freq_;
run;

***********************************************************
 Creating Data with Original Design Effects (Before Trimming):
***********************************************************;
data overall;
set deff_overall;
original=design_effect;
mergevar=1;
run;

data postcell;
set deff_postcell;
original=design_effect;
run;

data cac;
set deff_cac;
original=design_effect;
```

```
run;

data enb;
set deff_enb;
original=design_effect;
run;

data tnexreg;
set deff_tnexreg;
original=design_effect;
run;

data tnexgrp;
set deff_tnexgrp;
original=design_effect;
run;

data conus;
set deff_conus;
original=design_effect;
run;

data servaff;
set deff_servaff;
original=design_effect;
run;

data tnexservaff;
set deff_tnexservaff;
original=design_effect;
run;

data pcm;
set deff_pcm;
original=design_effect;
run;

data patcat;
set deff_patcat;
original=design_effect;
run;

data tnexpcm;
set deff_tnexpcm;
original=design_effect;
run;

data bencat;
set deff_bencat;
original=design_effect;
run;

data group;
```

```
set deff_group;
original=design_effect;
run;

*******************************************************************
*Q1FY2020: Added new to create dataset of completes only and w/o 65+:
*******************************************************************;
data postwt_fnl_no_gp6;
set in.postwt;
where (fnstatus=11 and group~='6');
run;

%design_effects_unequal_weights ( postwt_fnl_no_gp6, postcell,  postwt, deff_overall_no_Gp6,
deff_postcell_no_Gp6);
%design_effects_unequal_weights ( postwt_fnl_no_gp6, group,     postwt, deff_overall_no_Gp6,
deff_group_no_Gp6);
%design_effects_unequal_weights ( postwt_fnl_no_gp6, patcat,    postwt, deff_overall_no_Gp6,
deff_patcat_no_Gp6);

Title1 "Original Design Effects:";
Title2 'Design Effects Overall (Before Trimming W/O 65+)';
proc print data = deff_overall_no_Gp6 noobs;
run;

*** For GROUP ***;
Title1 "Design Effects for GROUP (Before Trimming W/O 65+)";
proc print data= deff_group_no_Gp6 noobs;
sum _freq_;
run;

*** For PATCAT ***;
Title1 "Design Effects for PATCAT (Before Trimming W/O 65+)";
proc print data= deff_patcat_no_Gp6 noobs;
sum _freq_;
run;

*Creating Data with Original Design Effects (Before Trimming W/O 65+):;
data overall_no_Gp6;
set deff_overall_no_Gp6;
original=design_effect;
mergevar=1;
run;

data group_no_Gp6;
set deff_group_no_Gp6;
original=design_effect;
run;

data patcat_no_Gp6;
set deff_patcat_no_Gp6;
original=design_effect;
run;
```

```
***************************
    * Trimming Macro *
***************************;
%macro trimmer(domain=, oldw=, neww=);
Title1 "MACRO TRIMMER:  DOMAIN=&Domain., TRIMMING=&oldw.:";
Title2 "=========================================";
Title3 "                                ";

data trim;
set trim;
%if &neww.^= Newtrim1 %then %do;
drop number means stdev sumweight cutoff toobig trimadj sumold sumnew;
%end;
run;

proc sort data=trim;
by &domain;
run;

* Checks the Calculation of CutOff Point (Cutoff=Means+StDev*6) by &domain:;
proc means data=trim n mean std sum noprint;
var &oldw;
by &domain;
where fnstatus=11;
output out=meanspostwt n=number mean=means std=stdev
        sum=sumweight max=maxi min=mini;
run;

data trim;
merge trim meanspostwt;
by &domain;
*cutoff=means+stdev*6;
cutoff=means+stdev*&no.;
toobig=.;
trimadj=.;
if &oldw>cutoff and fnstatus=11 then toobig=1;
if toobig=1 then &neww=cutoff;
if cutoff=. and toobig=1 then &neww=&oldw;
if toobig=. then &neww=&oldw;
run;

*****************************************************
Added new 04/29/2019
*****************************************************;
data toobig;
set trim;
where toobig=1;
  amt_above = &oldw - cutoff;
run;

proc summary data=toobig;
var toobig amt_above;
output out=totals sum=;
```

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```
run;

title4 "print = chk_trim_amount_&neww.";
proc print data=totals;
run;
*****************************,
data meanspostwt;
set meanspostwt;
cutoff=means+stdev*&no.;
run;

title2 " here, number=# of respondents (fnstatus=11)";
proc print data=meanspostwt;
var &domain number means stdev mini maxi cutoff;
run;

*************************************************
*Calculation of SumOld, SumNew and TrimAdj Factor:
*************************************************;
proc means data=trim sum noprint;
var &oldw &neww;
by &domain;
where fnstatus=11;
output out=meansbig sum=sumold sumnew;
run;

*Merging SumOld SumNew with Trim data;
data trim;
merge trim meansbig;
by &domain;
run;

*03/30/2012: A Freq Checking;
proc sort data=trim out=chk;
by postwt;
run;

title2 "Checks for NewTrim Weight (Before Adjusting)";
title3 "   If &oldw>CutOff and Fnstatus=11 then TooBig=1 and &neww.=cutoff:";
proc freq data=chk;
tables &oldw.*postcell*means*stdev*toobig*CUTOFF*&neww./list missing nopercent;
where toobig=1;
run;

*Calculation of trimadj and &neww;
data trim;
set trim;
/*cutoff~=. filter guards against divide by zero error
  if there is only 1 obs in domain */
if cutoff~=. then trimadj=sumold/sumnew;
if trimadj=. or fnstatus~=11 then trimadj=1;
&neww=trimadj*&neww;
run;
```

```
*Checking the Calculation of TrimAdj Factor;
Title2 "Checking the Calculation of TrimAdj Factor (first 10 obs, where, TrimAdj~=1): ";
title3 "   TrimAdj = (SumOld/SumNew) by &Domain.:";
title4 "   &neww   = trimadj*&neww";
Proc Print data=Trim (Obs=10) Noobs;
Var &domain FNSTATUS &oldw. SumOld SumNew TrimAdj  &neww;
where TrimAdj~=1;
Run;

title2 "Checks for NewTrim Weight (After Adjustment):";
title3 "   where, &neww.=(TrimAdj*&neww.):";
proc freq data=trim;
tables &oldw.*postcell*CUTOFF*TOOBIG*trimadj*&neww./list missing /*nocum*/ nopercent;
where toobig=1;
run;

proc means data=trim sum noprint;
var &oldw &neww;
by &domain;
output out=sumcheck2 sum=old new;
run;

data sumcheck2;
set sumcheck2;
diff=new-old;
run;

title2 "Proc Means of Diff=(New-Old):";
title3 "  where, New & Old are Sum of &oldw. & &neww. Weights resp";
proc means data=sumcheck2;
var diff;
run;

proc means data=trim sum noprint;
var &oldw &neww;
by &domain;
where fnstatus=11;
output out=sumcheck sum=old new;
run;

data sumcheck;
set sumcheck;
diff=new-old;
run;

title2 "Proc Means of Diff=(New-Old), where fnstatus=11";
proc means data=sumcheck;
var diff;
run;

title2 "Print of Old and New Weight by Domain:";
title3 " where, New/Old is Sum of &oldw. & &neww. Weights:";
```

```
proc print data=sumcheck2;
var &domain old new;
run;

title2 "CrossTab of Variable (where &oldw>5000):";
proc freq data=trim;
table &oldw*&neww*toobig*stratum*&domain/list missing;
where &oldw>5000;
run;

title2 "More Checking for Trim Weight:";
title3 " Proc Freq of Variables (where toobig=1):";
proc freq data=trim;
table toobig*&oldw*&neww*stratum*&domain /list missing;
where toobig=1;
run;

title2 "Proc Print of Variables (where toobig=1):";
proc print data=trim NOOBS;
var toobig postcell com_geo ENBGSMP2 tnexreg conus servaff pcm patcat;
where toobig=1;
sum toobig;
run;

*************************************************
Calculation of Design Effects after Trimming:
*************************************************;
**Create Dataset of Completes ONLY for Design Effects Calculation:;
title2 "   DESIGN EFFECTS USING NEWTRIM WEIGHT (&neww.):";
title3 "                              ";
data postwt_fnl;
set trim;
where fnstatus=11;
run;

%design_effects_unequal_weights ( postwt_fnl, postcell,       &neww, deff_overall, deff_postcell);
%design_effects_unequal_weights ( postwt_fnl, com_geo,        &neww, deff_overall, deff_cac);
%design_effects_unequal_weights ( postwt_fnl, ENBGSMP2,       &neww, deff_overall, deff_enb);
%design_effects_unequal_weights ( postwt_fnl, tnexreg,        &neww, deff_overall, deff_tnexreg);
%design_effects_unequal_weights ( postwt_fnl, TNEX_GRP,       &neww, deff_overall, deff_tnexgrp);
%design_effects_unequal_weights ( postwt_fnl, conus,          &neww, deff_overall, deff_conus);
%design_effects_unequal_weights ( postwt_fnl, servaff,        &neww, deff_overall, deff_servaff);
%design_effects_unequal_weights ( postwt_fnl, TNEX_GRP servaff, &neww, deff_overall, deff_TNEXservaff);
%design_effects_unequal_weights ( postwt_fnl, pcm,            &neww, deff_overall, deff_pcm);
%design_effects_unequal_weights ( postwt_fnl, patcat,         &neww, deff_overall, deff_patcat);
%design_effects_unequal_weights ( postwt_fnl, TNEX_GRP pcm,   &neww, deff_overall, deff_TNEXpcm);
%design_effects_unequal_weights ( postwt_fnl, dbencat,        &neww, deff_overall, deff_bencat);
%design_effects_unequal_weights ( postwt_fnl, group,          &neww, deff_overall, deff_group);

Title2 '   Design Effects Overall';
proc print data = deff_overall;
run;
```

```
*** For postcell ***;
Title2 "   Design Effects for postcell";
proc print data= deff_postcell;
sum _freq_;
run;

*** For geographic Area ***;
Title2 "   Design Effects for com_geo";
proc print data= deff_cac;
sum _freq_;
run;

*** For ENBGSMP2 Groups ***;
Title2 '   Design Effects for ENBGSMP2';
proc print data= deff_enb;
sum _freq_;
run;

*** For Beneficiary TNEX Region ***;
Title2 '   Design Effects for TNEXREG';
proc print data= deff_tnexreg;
sum _freq_;
run;

*** For Facility TNEX region ***;
Title2 "   Design Effects for Facility's TNEX region";
proc print data= deff_tnexgrp;
sum _freq_;
run;

*** For conus region ***;
Title2 "   Design Effects for conus";
proc print data= deff_conus;
sum _freq_;
run;

*** For Service Affiliation for the facility  ***;
Title2 "   Design Effects for Facility's Service Affiliation";
proc print data= deff_servaff;
sum _freq_;
run;

*** For TNEX_GRP*Servaff ***;
Title2 "   Design Effects for TNEX_GRP by Servaff";
proc print data= deff_TNEXservaff;
sum _freq_;
run;

*** For PCM ***;
Title2 "   Design Effects for PCM";
proc print data= deff_pcm;
sum _freq_;
run;
```

```
*** For PATCAT ***;
Title2 "  Design Effects for PATCAT";
proc print data= deff_patcat;
sum _freq_;
run;

*** For TNEX_GRP*PCM ***;
Title2 "  Design Effects for TNEX_GRP by PCM";
proc print data= deff_TNEXpcm;
sum _freq_;
run;

*** For Bencat ***;
Title2 "  Design Effects for Bencat";
proc print data= deff_bencat;
sum _freq_;
run;

*** For Group ***;
Title2 "  Design Effects for Group";
proc print data= deff_Group;
sum _freq_;
run;

title2 "  Proc MEANS of &neww:";
proc means data=trim;
var &oldw &neww;
run;

*****************************************************
Added new 04/29/2019
*****************************************************;
Proc Means data=trim noprint;
var &neww.;
output out=chk_max max=maxwt;
run;

data totals;      set totals;      mergevar=1; run;
data deff_overall; set deff_overall; mergevar=1; run;
data chk_max;     set chk_max;     mergevar=1; run;

data summary problem;
merge totals(in=A Drop=_TYPE_ _FREQ_)
   deff_overall(in=B rename=(_FREQ_=tot_complete))
   chk_max(in=C Drop=_TYPE_ _FREQ_);
by mergevar;
If A and B then output;
Else output problem;
run;

data summary_&neww.(keep=domain_name wt_var tot_complete toobig amt_above design_effect maxwt
cutoff_rule);
```

```
length domain_name wt_var $15.;
set summary;
domain_name="&domain.";
wt_var="&neww.";
cutoff_rule="means+stdev*&no.";
run;
proc print data=summary_&neww. noobs;
run;


*****************************************************************************
Q1FY2020: Added new to Calculation of Design Effects after Trimming W/O 65+:
*****************************************************************************,
Title1 "  DESIGN EFFECTS USING NEWTRIM WEIGHT (&neww.) W/O 65+:";
data postwt_fnl_no_gp6;
set trim;
where (fnstatus=11 and group~='6');
run;

%design_effects_unequal_weights ( postwt_fnl_no_gp6, postcell,  &neww, deff_overall_no_gp6,
deff_postcell_no_gp6);
%design_effects_unequal_weights ( postwt_fnl_no_gp6, group,    &neww, deff_overall_no_gp6,
deff_group_no_gp6);
%design_effects_unequal_weights ( postwt_fnl_no_gp6, patcat,   &neww, deff_overall_no_gp6,
deff_patcat_no_gp6);

Title2 "  Design Effects Overall(W/O 65+)";
proc print data = deff_overall_no_gp6;
run;

*** For GROUP ***;
Title2 "  Design Effects for GROUP(W/O 65+)";
proc print data= deff_group_no_gp6;
sum _freq_;
run;

*** For PATCAT ***;
Title2 "  Design Effects for PATCAT(W/O 65+)";
proc print data= deff_patcat_no_gp6;
sum _freq_;
run;
%mend trimmer;

*******************************
  MACRO TO CREATE DESIGN EFFECTS
*******************************,
%macro CreateDE(DE=);
*Create Design Effects after Trimming:;
data deff_overall;
set deff_overall;
mergevar=1;
run;

data overall;
```

```
merge overall  deff_overall;
&de.=design_effect;
by mergevar;
run;

data postcell;
merge postcell deff_postcell;
by postcell;
&de.=design_effect;
run;

data cac;
merge cac deff_cac;
by com_geo;
&de.=design_effect;
run;

data enb;
merge enb deff_enb;
by ENBGSMP2;
&de.=design_effect;
run;

data tnexreg;
merge tnexreg deff_tnexreg;
by tnexreg;
&de.=design_effect;
run;

data tnexgrp;
merge tnexgrp deff_tnexgrp;
by TNEX_GRP;
&de.=design_effect;
run;

data conus;
merge conus deff_conus;
by conus;
&de.=design_effect;
run;

data servaff;
merge servaff deff_servaff;
by servaff;
&de.=design_effect;
run;

data tnexservaff;
merge tnexservaff deff_tnexservaff;
by TNEX_GRP servaff;
&de.=design_effect;
run;
```

```
data patcat;
merge patcat deff_patcat;
by patcat;
&de.=design_effect;
run;

data pcm;
merge pcm deff_pcm;
by pcm;
&de.=design_effect;
run;

data tnexpcm;
merge tnexpcm deff_tnexpcm;
by TNEX_GRP pcm;
&de.=design_effect;
run;

data bencat;
merge bencat deff_bencat;
by dbencat;
&de.=design_effect;
run;

data group;
merge group deff_group;
by group;
&de.=design_effect;
run;

*****************************************************************
Q1FY2020: Added new to Check Design Effects after Trimming W/O 65+:
*****************************************************************;
data deff_overall_no_gp6;
set deff_overall_no_gp6;
mergevar=1;
run;

data overall_no_gp6;
merge overall_no_gp6 deff_overall_no_gp6;
&de.=design_effect;
by mergevar;
run;

data group_no_gp6;
merge group_no_gp6 deff_group_no_gp6;
by group;
&de.=design_effect;
run;

data patcat_no_gp6;
merge patcat_no_gp6 deff_patcat_no_gp6;
by patcat;
```

```
&de.=design_effect;
run;
%mend CreateDE;

***********************************
 CALLS MACRO TRIMMER and CREATEDe:
************************************;
%trimmer(domain=Postcell, oldw=Postwt, neww=Newtrim1);
%CreateDE(De=De1);

%trimmer(domain=ENBGSMP2, oldw=Postwt, neww=Newtrim2);
%CreateDE(De=De2);

%trimmer(domain=Patcat,   oldw=Postwt, neww=Newtrim3);
%CreateDE(De=De3);

%trimmer(domain=Tnexreg,  oldw=Postwt, neww=Newtrim4);
%CreateDE(De=De4);

%trimmer(domain=Pcm,      oldw=Postwt, neww=Newtrim5);
%CreateDE(De=De5);

%trimmer(domain=Servaff,  oldw=Postwt, neww=Newtrim6);
%CreateDE(De=De6);

*********************************
 *  PROC PRINT OF DESIGN EFFECTS:
**********************************;
Title1 "PROC PRINT OF DESIGN EFFECTS (by Different Trimmed Weights):";
Title2 "Postcell,ENBGSMP2,Patcat,Tnexreg, PCM and Servaff";
proc print data=overall noobs;
var original de1 de2 de3 de4 de5 de6;
run;

proc print data=postcell noobs;
var postcell original de1 de2 de3 de4 de5 de6;
run;

proc print data=cac noobs;
var com_geo original de1 de2 de3 de4 de5 de6;
run;

proc print data=enb noobs;
var ENBGSMP2 original de1 de2 de3 de4 de5 de6;
run;

proc print data=tnexreg noobs;
var tnexreg original de1 de2 de3 de4 de5 de6;
run;

proc print data=tnexgrp noobs;
var TNEX_GRP original de1 de2 de3 de4 de5 de6;
run;
```

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```
proc print data=conus noobs;
var conus original de1 de2 de3 de4 de5 de6;
run;

proc print data=servaff noobs;
var servaff original de1 de2 de3 de4 de5 de6;
run;

proc print data=tnexservaff noobs;
var TNEX_GRP servaff original de1 de2 de3 de4 de5 de6;
run;

proc print data=patcat noobs;
var patcat original de1 de2 de3 de4 de5 de6;
run;

proc print data=pcm noobs;
var pcm original de1 de2 de3 de4 de5 de6;
run;

proc print data=tnexpcm noobs;
var TNEX_GRP pcm original de1 de2 de3 de4 de5 de6;
run;

proc print data=bencat noobs;
var dbencat original de1 de2 de3 de4 de5 de6;
run;

proc print data=group noobs;
var group original de1 de2 de3 de4 de5 de6;
run;

********************************************************
*Q1FY2020: Added new to calculate Design Effect W/O 65+:
********************************************************;
Title1 "PROC PRINT OF DESIGN EFFECTS (by Different Trimmed Weights)- W/O 65+:";
Title2 "Postcell,ENBGSMP2,Patcat,Tnexreg, PCM and Servaff";
proc print data=overall_no_gp6 noobs;
var original de1 de2 de3 de4 de5 de6;
run;

proc print data=group_no_gp6 noobs;
var group original de1 de2 de3 de4 de5 de6;
run;

proc print data=patcat_no_gp6 noobs;
var patcat original de1 de2 de3 de4 de5 de6;
run;

*********************
Calculate Differences:
*********************;
```

```
data overall;
set overall;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data postcell;
set postcell;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data cac;
set cac;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data enb;
set enb;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data tnexreg;
set tnexreg;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data tnexgrp;
set tnexgrp;
diff1=sum_newtrim1/sum_postwt;
```

```
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data conus;
set conus;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data servaff;
set servaff;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data tnexservaff;
set tnexservaff;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data patcat;
set patcat;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data pcm;
set pcm;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
```

```
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data tnexpcm;
set tnexpcm;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

data bencat;
set bencat;
diff1=sum_newtrim1/sum_postwt;
diff2=sum_newtrim2/sum_postwt;
diff3=sum_newtrim3/sum_postwt;
diff4=sum_newtrim4/sum_postwt;
diff5=sum_newtrim5/sum_postwt;
diff6=sum_newtrim6/sum_postwt;
run;

* * * * * * * * * * * * *
* Proc Print:
* * * * * * * * * * * * * *;
%macro print(infile=, var=);
proc print data=&infile.;
var &var. sum_postwt sum_newtrim1 sum_newtrim2 sum_newtrim3 sum_newtrim4
    sum_newtrim5 sum_newtrim6 diff1 diff2 diff3 diff4 diff5 diff6;
run;
%mend print;
%print(infile=overall);
%print(infile=postcell, var=postcell);
%print(infile=cac,     var=com_geo);
%print(infile=enb,     var=ENBGSMP2);
%print(infile=tnexreg, var=tnexreg);
%print(infile=tnexgrp, var=TNEX_GRP);
%print(infile=conus,   var=conus);
%print(infile=servaff, var=servaff);

%print(infile=tnexservaff, var=TNEX_GRP servaff);
%print(infile=patcat,  var=patcat);
%print(infile=pcm,     var=pcm);
%print(infile=tnexpcm, var=TNEX_GRP pcm);
%print(infile=bencat,  var=dbencat);

Title1 "Trimming Summary Table-1";
Title2 " CrossTab of trim weight variables where POSTWT>8500";
Title3 " here, NewTrim1=Postcell, NewTrim2=ENBGSMP2, NewTrim3=PATCAT, NewTrim4=Tnexreg,
NewTrim5=PCM, NewTrim6=Servaff";
```

```
Title4
"==========================================================================================
====================";
proc freq data=trim;
table postwt*newtrim1*newtrim2*newtrim3*newtrim4*newtrim5*newtrim6*stratum/list missing nocum;
where POSTWT>8500;
run;


*************************
Added new 04/29/2019:
*************************;
Data Trim_summary;
Set
summary_newtrim1
summary_newtrim2
summary_newtrim3
summary_newtrim4
summary_newtrim5
summary_newtrim6;
Run;

Title1 "Trimming Summary Table-2: ";
Title2 "=========================";
Title3 "                    ";
Proc Print Data=Trim_summary noobs;
var wt_var domain_name tot_complete cutoff_rule toobig amt_above maxwt design_effect;
Run;


**********************************************
 Creating data Trimmed with Final Trimmed Weight
**********************************************;
data trimmed;
set trim;
trimwt=&TrimWtThisQtr.;
run;

Title1 "Trimming Summary Table-3:";
Title2 "Proc Means (here, Trimwt=&TrimWtThisQtr.(Domain=&TrimDomainThisQtr.) -- for &QUARTER.)";
Title3 "  NewTrim1=Postcell,  NewTrim2=ENBGSMP2";
Title4 "  NewTrim3=PATCAT,    NewTrim4=Tnexreg";
Title5 "  NewTrim5=PCM,      NewTrim6=Servaff";
Proc Means data=trimmed;
var postwt newtrim1-newtrim6 Trimwt; *BV 6/2/14 Added newtrim6 to output list;
run;

Title1 "Proc Univariate (Var=Trimwt)";
Title2 "  here, Trimwt=&TrimWtThisQtr. and Domain=&TrimDomainThisQtr.-- for &QUARTER.";
Proc Univariate Data=Trimmed;
Var Trimwt;
Run;


********************************************
 OUTPUT DATA WITH FINAL TRIMMED WEIGHT
```

```
************************************;
data out.trimmed;
set trimmed;
drop sumnew sumold trimadj toobig cutoff sumweight stdev number means
newtrim1 newtrim2 newtrim3 newtrim4 newtrim5 newtrim6;
run;

proc printto;
run;

******************** End of Main Program *********************;
```

F.239

F.13　Q3FY2020\Programs\Weighting\NewWeights\postwt_trimmed.sas - Do the poststratification again after trimming

```
********************************************************************************
*** Project: Health Care Survey of DoD Beneficiaries - Adult
*** Purpose: Do the poststratification again after trimming
***       force weighted counts to population counts in certain domain.
*** Task no: 50713.Y1.T02.013.000
*** Program: Postwt_trimmed.sas
***
*** Inputs: framea.sas7bdat - frame file
***       trimmed.sas7bdat - trimmed survey data

*** Outputs: postwt_trimmed.sas7bdat: final weight data after poststratification
*** Written: Haixia Xu on 12/27/2006
*** Modified:Sabrina R. for Q1FY2020
*** Note   :Using ENBGSMPL2 instead of ENBGSMPL.
***       We used ENBGSMPL2 to create Stratum Starting from Q1FY2020
***       Q3FY2020: rename ENBGSMPL2 -> ENBGSMP2
********************************************************************************;
options mprint MACROGEN compress=yes ls=132 ps=58 mergenoby=ERROR validvarname=upcase nocenter
formchar="|----|+|-–+=|-/\<>*" orientation=portrait mprint symbolgen spool obs=max;

%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
        %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log)); /*Grid is case sensitive*/
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));

proc printto log="&logname." new;
ods listing;
proc printto print="&lstname." new;

%let quarter=Q3FY2020;

*** Set up the input and output paths. ***;
libname in  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&quarter./Data/AFinal" access=readonly; /* adjwtp,
framea.sas7bdat */
libname out "/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Data/AFinal"; /*
postwt_trimmed.sas7bdat */

%include
"/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/calpoststr.sas";
%include
"/sasdata/Projects/50713_HCS/DATA/HCSDB/&QUARTER./Programs/Weighting/NewWeights/design_effects_un
equal_weights.sas";

title1 "Program: Postwt_trimmed.sas (&quarter.)";
title2 "Purpose: Do the poststratification again after Trimming";
title3 "                         ";

***Frame***;
data framea;
```

```sas
set in.Framea;
length postcell $5;
postcell=substr(stratum,1,5);
rename ENBGSMPL2=ENBGSMP2; /* Q3FY2020 rename to match new var name - can be removed next qtr */
run;

Title3 "Checking the Construction of PostCell";
Title4 " Postcell=substr(stratum,1,5)";
proc freq data=framea;
tables stratum*Postcell/list missing;
run;

*Reading trimmed data;
data adjwt;
  set in.trimmed;
run;

************************************************************************************
*** Do the Poststratification & OUTPUT Postwt_Trimmed.sas7bdat data :
************************************************************************************;
options compress=yes;
%calpoststr(smpldata=adjwt, frmedata=framea, domain=postcell, preadjwt=trimwt,
        psratio=ps2, postwt=postwt2, outdata=OUT.postwt_trimmed);

title1 "Univariate of Postwt (where Postwt>0)";
proc univariate data=OUT.postwt_trimmed;
var Postwt2 ;
where postwt2>0;
run;

************************************************************************************
*** Compare the weighted counts and the population counts by the domains
************************************************************************************;
options compress=no;
%macro comparecnt(smpldata=, frmedata=, domain=, weight=);

proc freq data=&smpldata. NOPRINT;
tables &domain./missing list out=weight_s(rename=(count=wtcnt) drop=percent);
weight &weight.;
run;

proc freq data=&frmedata. NOPRINT;
tables &domain./missing list out=unweight_f(rename=(count=popcnt) drop=percent);
run;

data cnt_sf;
merge weight_s(in=A) unweight_f(in=B);
by &domain.;
if a and not b and popcnt=. then popcnt=0;
if b and not a and wtcnt=. then wtcnt=0;
diff = wtcnt - popcnt;
*reldiff=diff/popcnt;
*if A and B;
```

```
run;

proc print data=cnt_sf;
sum wtcnt popcnt diff;
run;

proc univariate data=cnt_sf;
var diff ;
run;

%mend comparecnt;

title1 'Check to see if the poststratification is done correctly';
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=postcell,  weight=postwt2);

title1 'Compare the weighted count and the frame count by the different domains';
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=group,    weight=postwt2);
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=TNEX_GP2, weight=postwt2);
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=TNEX_GRP, weight=postwt2);
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=PCM,      weight=postwt2);
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=ENBGSMP2, weight=postwt2);
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=patcat,   weight=postwt2);
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=stratum,  weight=postwt2);
%comparecnt(smpldata=in.postwt_trimmed, frmedata=framea, domain=com_geo,  weight=postwt2);

title1 'Compare the weighted count and the frame count by TNEX_GRP*PCM';
proc freq data=in.postwt_trimmed NOPRINT;
tables TNEX_GRP*PCM/missing list out=weight_s(rename=(count=wtcnt) drop=percent);
weight postwt;
run;

proc freq data=framea NOPRINT;
tables TNEX_GRP*PCM/missing list out=unweight_f(rename=(count=popcnt) drop=percent);
run;

data cnt_sf;
merge weight_s(in=A) unweight_f(in=B);
by TNEX_GRP PCM;
diff = wtcnt - popcnt;
if A and B;
run;

proc print data=cnt_sf;
sum wtcnt popcnt diff;
run;

proc univariate data=cnt_sf;
var diff;
run;

*********************************************************************************
*** Compare the weighted sum before and after the poststratification
********************************************************************************;
```

```
%macro procmeans(weightvar=, classvar=);
proc means data=OUT.postwt_trimmed noprint;
class &classvar.;
var &weightvar.;
output out=out sum=/autoname;
run;

data print;
set out;
where _type_=1;
run;

title1 "Summary Table:";
title2 "weighted info by &classvar. using &weightvar. as weight";
proc print data=print;
sum _freq_ bwt_sum adjwt1_sum adjwt2_sum postwt_sum trimwt_sum postwt2_sum;
run;
%mend procmeans;

%procmeans(weightvar= bwt adjwt1 adjwt2 postwt trimwt postwt2, classvar=fnstatus);

*********************************************************
*** Output the datasets
*********************************************************;

options compress=yes;

data out.postwt_trimmed;
set out.postwt_trimmed;
label ENBGSMP2 ='Revised enrollee/beneficiary group (w/o TRS)'
     PCM     = 'Primary care Manager Code';
run;

*********************************************************
*** Calculate the Design Effects
*********************************************************;

**create dataset of completes only;
data postwt_fnl;
set out.postwt_trimmed;
where fnstatus=11;
run;

%design_effects_unequal_weights ( postwt_fnl, postcell, postwt2, deff_overall, deff_postcell);
%design_effects_unequal_weights ( postwt_fnl, com_geo,  postwt2, deff_overall, deff_cac);
%design_effects_unequal_weights ( postwt_fnl, ENBGSMP2, postwt2, deff_overall, deff_enb2);
%design_effects_unequal_weights ( postwt_fnl, tnexreg,  postwt2, deff_overall, deff_tnexreg);
%design_effects_unequal_weights ( postwt_fnl, TNEX_GRP, postwt2, deff_overall, deff_TNEX_GRP);
%design_effects_unequal_weights ( postwt_fnl, TNEX_GP2, postwt2, deff_overall, deff_TNEX_GP2);
%design_effects_unequal_weights ( postwt_fnl, conus,    postwt2, deff_overall, deff_conus);
%design_effects_unequal_weights ( postwt_fnl, servaff,  postwt2, deff_overall, deff_servaff);
%design_effects_unequal_weights ( postwt_fnl, TNEX_GRP servaff,  postwt2, deff_overall, deff_TNEX2servaff);
%design_effects_unequal_weights ( postwt_fnl, dbencat,  postwt2, deff_overall, deff_bencat);
```

```
title1 'Design Effects Overall';
proc print data = deff_overall noobs;
run;

*** For postcell ***;
title1 "Design Effects for postcell";
proc print data= deff_postcell noobs;
sum _freq_;
run;

*** For geographic Area ***;
title1 "Design Effects for com_geo";
proc print data= deff_cac noobs;
sum _freq_;
run;

*** For ENBGSMP2 Groups ***;
title1 'Design Effects for ENBGSMP2';
proc print data= deff_enb2 noobs;
sum _freq_;
run;

*** For Beneficiary TNEX Region ***;
title1 'Design Effects for TNEXREG';
proc print data= deff_tnexreg noobs;
sum _freq_;
run;

*** For Facility TNEX_GP2 region ***;
title1 "Design Effects for Facility's TNEX region (E,W,O)";
proc print data= DEFF_TNEX_GP2 noobs;
sum _freq_;
run;

*** For Facility TNEX_GRP region ***;
title1 "Design Effects for Facility's TNEX region (N,S,W,O)";
proc print data= deff_TNEX_GRP noobs;
sum _freq_;
run;

*** For conus region ***;
title1 "Design Effects for conus";
proc print data= deff_conus noobs;
sum _freq_;
run;

*** For Service Affiliation for the facility ***;
title1 "Design Effects for Facility's Service Affiliation";
proc print data= deff_servaff noobs;
sum _freq_;
run;
```

```
*** For TNEX_GRP*Servaff ***;
title1 "Design Effects for TNEX_GRP by Servaff";
proc print data= deff_TNEX2servaff noobs;
sum _freq_;
run;

*** For Bencat ***;
title1 'Design Effects for BENCAT';
proc print data= deff_bencat noobs;
sum _freq_;
run;

Title1 "Univariate of Postwt2 where Postwt>0:";
proc univariate data=OUT.postwt_trimmed;
var postwt2 ;
where postwt2>0;
run;

title1 "Contents of Final Output File:";
proc contents data=OUT.postwt_trimmed;
run;

proc printto;
run;

* * * * * * * * * * * * * * * * * * * * * * * The end * * * * * * * * * * * * * * * * * * * * * * * * ;
```

F.14   Q3FY2020\Programs\Weighting\NewWeights\repwtp_trimmed.SAS - Create the replicate weights

```
*******************************************************************
* PROGRAM: Repwtp_Trimmed.sas
* TASK:    DOD QUARTERLY HEALTH CARE SURVEY
* Task No: 50713.Y1.T02.013.000
* PURPOSE: CALCULATE REPLICATE WEIGHTS FOR DOD SURVEY
*        USING THE NEW WEIGHTING METHOD.
* WRITTEN: 12/30/1999 BY Keith Ranthbun
* Modified 1) Haixia Xu on 12/27/2006
*        2) H. Xu on 03/30/2007 for q3fy2007 weighting
*
* INPUTS : postwt_trimmed.sas7bdat - Final Weights file
*        framea.sas7bdat
*
* OUTPUTS: repwtp.sas7bdat - Replicate Weights File
*
* Note   : 1) Beginning in Q1FY2011, we create POSTCELL from Sampling Stratum
*          Oldway: Postcell=(Group||Comgeo)
*          Newway: Postcell=substr(Stratum,1,5)
*        2) The order of trimming was switched in Q4FY2011. See "trimming decision"
*          note in L:\Q4FY2011\Programs\Weighting\NewWeights\checking
*        3) Q1FY2017: using Trim Domain TnexReg for this quarter.
*        4) Q3FY2017: added Macro Variables for Final Trim Wt & Domain @ Line 412
*        5) Q1FY2019: Using revised frame data
*        6) Using ENBGSMPL2 instead of ENBGSMPL.
*          We used ENBGSMPL2 to create Stratum Starting from Q1FY2020
*          Q3FY2020: rename ENBGSMPL2 -> ENBGSMP2
*******************************************************************;
options mprint MACROGEN compress=yes ls=132 ps=58 mergenoby=ERROR validvarname=upcase nocenter
formchar="|----|+|--+=|-/\<>*" orientation=portrait mprint symbolgen spool obs=max;

%let pgmpath=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),
        %scan(&_sasprogramfile,-1,'/'),));
%let logname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.log)); /*Grid is case sensitive*/
%let lstname=%sysfunc(tranwrd(%sysfunc(compress(&_sasprogramfile,"'")),.sas,.lst));

proc printto log="&logname." new;
ods listing;
proc printto print="&lstname." new;

*Update Macro Variables;
%LET Quarter        = Q3FY2020;
%LET TrimWtThisQtr   = Newtrim4;
%LET TrimDomainThisQtr = Tnexreg;

title1 "Program: Repwtp_Trimmed.sas (&quarter.)";
title2 "Purpose: Create the Replicate Weights";
title3 "                        ";
```

```
LIBNAME INv6  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&quarter./Data/AFinal" access=readonly; /*
framea.sas7bdat */
LIBNAME IN   "/sasdata/Projects/50713_HCS/DATA/HCSDB/&quarter./Data/AFinal" access=readonly; /*
postwt.sas7bdat */
LIBNAME OUT  "/sasdata/Projects/50713_HCS/DATA/HCSDB/&quarter./Data/AFinal"; /* repwtp.sas7bdat */

/* MACRO FOR TRIMMING */
%macro trimmer(domain,oldw,neww);
data trim;
set trim;
*%if &neww.^= newtrim1 %then %do;
*drop number means stdev sumweight cutoff toobig trimadj sumold sumnew;
*%end;
run;

proc sort data=trim;
by &domain;
run;

proc means data=trim n mean std sum noprint;
var &oldw;
by &domain;
where fnstatus=11;
output out=meanspostwt(drop=_FREQ_ _TYPE_) n=number mean=means std=stdev sum=sumweight;
run;

data trim;
merge trim meanspostwt;
by &domain;
cutoff=means+stdev*6;
toobig=.;
trimadj=.;
if &oldw>cutoff and fnstatus=11 then toobig=1;
if toobig=1 then &neww=cutoff;
if cutoff=. and toobig=1 then &neww=&oldw;
if toobig=. then &neww=&oldw;
run;

proc means data=trim sum noprint;
var &oldw &neww;
by &domain;
where fnstatus=11;
output out=meansbig(drop=_FREQ_ _TYPE_) sum=sumold sumnew;
run;

data trim;
merge trim meansbig;
by &domain;
run;

data trim;
set trim;
/* cutoff~=. filter guards against divide by zero error if there is only 1 obs in domain */
```

```
if cutoff~=. then trimadj=sumold/sumnew;
if trimadj=. or fnstatus~=11 then trimadj=1;
&neww=trimadj*&neww;
run;

proc means data=trim sum noprint;
var &oldw &neww;
by &domain;
where fnstatus=11;
output out=sumcheck sum=old new;
run;

/*
data sumcheck;
set sumcheck;
diff=new-old;
run;

proc means data=sumcheck;
var diff;
run;

proc print data=sumcheck;
var &domain old new;
run;

proc freq data=trim;
table &oldw*&neww*toobig*stratum/list missing;
where &oldw>4000;
run;

proc freq data=trim;
table toobig*&oldw*&neww*stratum /list missing;
where toobig=1;
run;
*/
%mend trimmer;

%MACRO PROCESS(DOMAIN1,DOMAIN2,DOMAIN3,reps);
*******************************************************************
* calculate the population counts to be used in the poststratification
*******************************************************************;
data framea;
set in.framea;
length POSTCELL $5;
postcell=substr(stratum,1,5);  *Creating Postcell from Sampling Stratum;
rename ENBGSMPL2=ENBGSMP2; /* Q2FY2020 rename to match new var name - can be removed in Q3 */
run;

proc freq data=framea NOPRINT;
tables &domain3./missing list out=framecnt(drop=percent rename=(count=popcnt));
run;
```

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Sort the final weights file by user-specified domains
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;

PROC SORT DATA=IN.postwt_trimmed OUT=postwt;
    BY stratum MPRID ;
RUN;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Append SUBSET index (I) to each observation
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
DATA SUBSETS;
  SET postwt;
  BY stratum MPRID;

  IF _N_ = 1 OR MOD(_N_-1,&reps.) = 0 THEN SUBSET = 1;
  ELSE SUBSET + 1;

  RETAIN SUBSET;
  BBWT = BWT * (&reps. / (&reps. - 1));
RUN;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Generate JackKnife/replicated weights adjwt01-adjwt60
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
%DO I = 1 %TO &reps.;

DATA SUBSET;
  SET SUBSETS;
  IF &I. = SUBSET THEN DELETE; *Remove the current subset;
RUN;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Calculate adjustment factor A1 for each cell
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;

proc sort data=subset;
by &domain1.;
run;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Calculate adjustment factor A1 for each cell.
* This is the Eligibility Determination adjustment.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
DATA CELLSA1 (KEEP=SUMBBWT SUMG1-SUMG3 A1 CELLCNT cntg1-cntg3 &domain1.)
    MPRIDSA1 (KEEP=MPRID FNSTATUS BBWT &DOMAIN1. &DOMAIN2. &domain3. stratum com_geo enbgsmpl
ENBGSMP2 patcat Tnexreg pcm)
  ;
  SET subset;
  BY &DOMAIN1.;
```

```
if FNSTATUS in (11, 12, 20, 31, 41, 42) THEN DO;

   IF FIRST.&DOMAIN1. THEN DO;
      CELLCNT = 0;
      cntg1  = 0;
      cntg2  = 0;
      cntg3  = 0;
      SUMBBWT  = 0.0;
      SUMG1  = 0.0;
      SUMG2  = 0.0;
      SUMG3  = 0.0;
      A1 = 0.0;
   END;
   CELLCNT + 1;

   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   * Accumulate total weight sum
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * .
                                                                                                        ,

   SUMBBWT + BBWT;

   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   * Accumulate group 1 weight sum
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * .
                                                                                                        ,

   IF FNSTATUS IN (11,12) THEN
      do;
         SUMG1 + BBWT;
         cntg1 + 1;
      end;

   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   * Accumulate group 2 weight sum
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * .
                                                                                                        ,

   ELSE IF FNSTATUS in (20,31) THEN
      do;
         SUMG2 + BBWT;
         cntg2 + 1;
      end;

   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
   * Accumulate group 3 weight sum
   * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * .
                                                                                                        ,

   ELSE IF FNSTATUS in (41,42) THEN
      do;
         SUMG3 + BBWT;
         cntg3 + 1;
      end;

   RETAIN SUMBBWT SUMG1-SUMG3 A1 CELLCNT cntg1-cntg3 MPRID;
```

F.250

```
  IF LAST.&DOMAIN1. THEN DO;
    A1 = (SUMG1 + SUMG2 + SUMG3)/(SUMG1 + SUMG2);
    OUTPUT CELLSA1;
  END;
END;

  OUTPUT MPRIDSA1;
RUN;

proc sort data=mpridsa1;
by &domain1.;
run;

proc sort data=cellsa1;
by &domain1.;
run;

data adj_one;
merge mpridsa1 cellsa1;
by &domain1.;
if fnstatus in (11,12,20,31) then adj1 = a1;
  else if fnstatus = 32 then adj1=1;
  else adj1 = 0;
adj_wt1 = adj1 * bbwt;
run;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Calculate adjustment factor A2 for each cell.
* This is the Nonresponse adjustment and creates the final weight (adjwt).
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;

proc sort data=adj_one;
by &domain2.;
run;

DATA CELLSA2 (KEEP= &domain2. NUMER DENOM numercnt denomcnt A2);
  set adj_one;
  BY &domain2.;

IF FNSTATUS in (11, 12, 20) THEN DO;

  IF FIRST.&domain2. THEN DO;
    A2 = 0.0;
    NUMER = 0.0;
    DENOM = 0.0;
    numercnt = 0;
    denomcnt = 0;
  END;

  RETAIN NUMER DENOM A2 numercnt denomcnt;

  IF FNSTATUS IN (11,12,20) THEN
    do;
```

F.251

```
      NUMER + adj_wt1;
      numercnt + 1;
    end;

  IF FNSTATUS = 11 THEN
    do;
      DENOM + adj_wt1;
      denomcnt + 1;
    end;

  IF LAST.&domain2. THEN DO;
    A2 = NUMER/DENOM;
    OUTPUT CELLSA2;
  END;
END;

RUN;

proc sort data=adj_one;
by &domain2.;
run;

proc sort data=cellsa2;
by &domain2.;
run;

data adj_two;
merge adj_one cellsa2;
by &domain2.;
if fnstatus = 11 then adj2 = a2;
  else if fnstatus in (31, 32) then adj2 = 1;
  else adj2 = 0;
adj_wt2 = adj2 * adj_wt1;
run;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Calculate poststratification adjustment factor ps for each cell.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *,
proc freq data=adj_two NOPRINT;
tables &domain3./missing list out=weighted(drop=percent rename=(count=wtcnt));
weight adj_wt2;
run;

proc sort data=framecnt;
by &domain3.;
run;

proc sort data=weighted;
by &domain3.;
run;

data ps;
merge framecnt(in=A) weighted(in=B);
```

```
by &domain3.;
ps = popcnt/wtcnt;
if A and B;
run;

proc sort data=ps;
by &domain3.;
run;

proc sort data=adj_two;
by &domain3.;
run;

data subset&i.;
merge adj_two ps;
by &domain3.;
jkweight = ps * adj_wt2;
subset = &i.;
*KEEP MPRID subset jkweight;
run;

proc sort data=subset&i.;
by mprid;
run;

*********************************;
/*      TRIMMING        */
*********************************;
data trim;
set subset&i.;
run;

******************************************
*Trimming Domains:
  NewTrim1=Postcell    NewTrim2=Enbgsmpl2
  NewTrim3=PATCAT      NewTrim4=Tnexreg
  NewTrim5=PCM         NewTrim6=Servaff
******************************************;
*Running Trimmer Macro with Trimming Decision for Current Quarter;
%trimmer(&TrimDomainThisQtr.,jkweight, &TrimWtThisQtr.);

******************************
TRIMWT THIS QUARTER:
******************************;
data trim;
set trim;
trimwt=&TrimWtThisQtr.;
run;

*********************************
  POSTSTRATIFY THE TRIMMED WEIGHTS
*********************************;
proc freq data=trim NOPRINT;
```

```
tables &domain3./missing list out=weighted(drop=percent rename=(count=wtcnt));
weight trimwt;
run;

proc sort data=framecnt;
by &domain3.;
run;

proc sort data=weighted;
by &domain3.;
run;

data ps;
merge framecnt(in=A) weighted(in=B);
by &domain3.;
ps2 = popcnt/wtcnt;
if A and B;
run;

proc sort data=ps;
by &domain3.;
run;

proc sort data=trim;
by &domain3.;
run;

data subset&i.;
merge trim ps(drop=popcnt wtcnt);
by &domain3.;
jkweight2 = ps2 * trimwt;
subset = &i.;
*KEEP MPRID subset jkweight2;
run;

proc sort data=subset&i.;
by mprid;
run;

/*
proc means data=subset&i.;
var jkweight2;
run;
*/

*****************************************************************************
*****************************************************************************
* End of JackKnife/replicated weights WRWT01-WRWT60 assignments
*****************************************************************************
****************************************************************************;
%END;

*****************************************************************************
```

```
* Combine all of the JackKnife weight subsets by MPRID
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
DATA ALLSETS;
  SET SUBSET1   SUBSET2   SUBSET3   SUBSET4   SUBSET5
     SUBSET6   SUBSET7   SUBSET8   SUBSET9   SUBSET10
     SUBSET11  SUBSET12  SUBSET13  SUBSET14  SUBSET15
     SUBSET16  SUBSET17  SUBSET18  SUBSET19  SUBSET20
     SUBSET21  SUBSET22  SUBSET23  SUBSET24  SUBSET25
     SUBSET26  SUBSET27  SUBSET28  SUBSET29  SUBSET30
     SUBSET31  SUBSET32  SUBSET33  SUBSET34  SUBSET35
     SUBSET36  SUBSET37  SUBSET38  SUBSET39  SUBSET40
     SUBSET41  SUBSET42  SUBSET43  SUBSET44  SUBSET45
     SUBSET46  SUBSET47  SUBSET48  SUBSET49  SUBSET50
     SUBSET51  SUBSET52  SUBSET53  SUBSET54  SUBSET55
     SUBSET56  SUBSET57  SUBSET58  SUBSET59  SUBSET60
   ;
     BY MPRID;
   ARRAY JKWT(&reps.) wrwt1-wrwt&reps.; RETAIN wrwt1-wrwt&reps.;
     IF FIRST.MPRID THEN DO;
     DO I = 1 TO &reps.; DROP I;
       JKWT(I) = . ;
     END;
 END;
  JKWT(SUBSET) = JKWEIGHT2;
  IF LAST.MPRID THEN OUTPUT;
  KEEP MPRID SUBSET wrwt1-wrwt&reps.;
RUN;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Sort the original data, get the final weight (WRWT), append the
* JackKnife/Replicated weights (WRWT1-WRWT60), and label variables.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
PROC SORT DATA=IN.postwt_trimmed OUT=trimwt;
BY MPRID;
RUN;

proc sort data=allsets;
by mprid;
run;

options compress=yes;

* * * * * * * * * * * * * * * * * * * *
 OUTPUT FINAL DATA :
* * * * * * * * * * * * * * * * * * * * ;
DATA OUT.repwtp;
  MERGE trimwt ALLSETS;
  BY MPRID;

  LABEL
    MPRID  = 'MPR ID Number'
    WRWT1  = 'Replicated/JackKnife Weight 1'
    WRWT2  = 'Replicated/JackKnife Weight 2'
```

```
WRWT3  = 'Replicated/JackKnife Weight 3'
WRWT4  = 'Replicated/JackKnife Weight 4'
WRWT5  = 'Replicated/JackKnife Weight 5'
WRWT6  = 'Replicated/JackKnife Weight 6'
WRWT7  = 'Replicated/JackKnife Weight 7'
WRWT8  = 'Replicated/JackKnife Weight 8'
WRWT9  = 'Replicated/JackKnife Weight 9'
WRWT10 = 'Replicated/JackKnife Weight 10'
WRWT11 = 'Replicated/JackKnife Weight 11'
WRWT12 = 'Replicated/JackKnife Weight 12'
WRWT13 = 'Replicated/JackKnife Weight 13'
WRWT14 = 'Replicated/JackKnife Weight 14'
WRWT15 = 'Replicated/JackKnife Weight 15'
WRWT16 = 'Replicated/JackKnife Weight 16'
WRWT17 = 'Replicated/JackKnife Weight 17'
WRWT18 = 'Replicated/JackKnife Weight 18'
WRWT19 = 'Replicated/JackKnife Weight 19'
WRWT20 = 'Replicated/JackKnife Weight 20'
WRWT21 = 'Replicated/JackKnife Weight 21'
WRWT22 = 'Replicated/JackKnife Weight 22'
WRWT23 = 'Replicated/JackKnife Weight 23'
WRWT24 = 'Replicated/JackKnife Weight 24'
WRWT25 = 'Replicated/JackKnife Weight 25'
WRWT26 = 'Replicated/JackKnife Weight 26'
WRWT27 = 'Replicated/JackKnife Weight 27'
WRWT28 = 'Replicated/JackKnife Weight 28'
WRWT29 = 'Replicated/JackKnife Weight 29'
WRWT30 = 'Replicated/JackKnife Weight 30'
WRWT31 = 'Replicated/JackKnife Weight 31'
WRWT32 = 'Replicated/JackKnife Weight 32'
WRWT33 = 'Replicated/JackKnife Weight 33'
WRWT34 = 'Replicated/JackKnife Weight 34'
WRWT35 = 'Replicated/JackKnife Weight 35'
WRWT36 = 'Replicated/JackKnife Weight 36'
WRWT37 = 'Replicated/JackKnife Weight 37'
WRWT38 = 'Replicated/JackKnife Weight 38'
WRWT39 = 'Replicated/JackKnife Weight 39'
WRWT40 = 'Replicated/JackKnife Weight 40'
WRWT41 = 'Replicated/JackKnife Weight 41'
WRWT42 = 'Replicated/JackKnife Weight 42'
WRWT43 = 'Replicated/JackKnife Weight 43'
WRWT44 = 'Replicated/JackKnife Weight 44'
WRWT45 = 'Replicated/JackKnife Weight 45'
WRWT46 = 'Replicated/JackKnife Weight 46'
WRWT47 = 'Replicated/JackKnife Weight 47'
WRWT48 = 'Replicated/JackKnife Weight 48'
WRWT49 = 'Replicated/JackKnife Weight 49'
WRWT50 = 'Replicated/JackKnife Weight 50'
WRWT51 = 'Replicated/JackKnife Weight 51'
WRWT52 = 'Replicated/JackKnife Weight 52'
WRWT53 = 'Replicated/JackKnife Weight 53'
WRWT54 = 'Replicated/JackKnife Weight 54'
WRWT55 = 'Replicated/JackKnife Weight 55'
```

```
          WRWT56 = 'Replicated/JackKnife Weight 56'
          WRWT57 = 'Replicated/JackKnife Weight 57'
          WRWT58 = 'Replicated/JackKnife Weight 58'
          WRWT59 = 'Replicated/JackKnife Weight 59'
          WRWT60 = 'Replicated/JackKnife Weight 60'
    ;
RUN;

TITLE1 "2011 DoD Quarterly Health Survey Final/Replicated Weights";
title2 "Checks for the Replicate Weights";
TITLE3 "Program Name: Repwtp_Trimmed.sas";

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Check the structure of the data set OUT.repwtp;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
proc sort data=OUT.repwtp out=sorted;
by stratum mprid;
run;

proc print data=sorted (obs=500);
var stratum mprid SUBSET fnstatus postwt trimwt postwt2 wrwt1-wrwt5;
run;

Title1 " here, TRIMWT=&TrimWtThisQtr.(&TrimDomainThisQtr.) for &Quarter.:";
PROC MEANS DATA=OUT.repwtp n sum;
VAR  postwt trimwt postwt2 WRWT1-WRWT&reps.;
RUN;

PROC SORT DATA=OUT.repwtp out=repwtp;
BY MPRID;
RUN;

DATA OUT.repwtp;
  SET repwtp;
  BY MPRID;

  ARRAY WGTS(&reps.) WRWT1-WRWT&reps.;
  DO I = 1 TO &reps.; DROP I;
    IF WGTS(I) EQ . THEN WGTS(I) = 0;
  END;

  KEEP MPRID BWT postwt trimwt postwt2 WRWT1-WRWT&reps. fnstatus &domain1.
      &domain2. &domain3. com_geo web encounter;
RUN;

title1 "Check the replicate weights -- for all 100,000 cases";
PROC MEANS DATA=OUT.repwtp n sum;
VAR  postwt trimwt postwt2 wrwt1-wrwt&reps.;
output out=sums sum(postwt trimwt postwt2 wrwt1-wrwt&reps.)=postwt trimwt postwt2 wrwt1-wrwt&reps.;
RUN;

proc transpose data=sums out=t_sums;
var postwt trimwt postwt2 wrwt1-wrwt&reps.;
```

```
run;

proc univariate data=t_sums normal ;
var col1;
run;

title1 "Check the replicate weights -- for the final completes";
PROC MEANS DATA=OUT.repwtp n sum;
where fnstatus=11;
VAR  postwt trimwt postwt2 wrwt1-wrwt&reps.;
output out=sums sum(postwt trimwt postwt2 wrwt1-wrwt&reps.)=postwt trimwt postwt2 wrwt1-wrwt&reps.;
Run;

proc transpose data=sums out=t_sums;
var postwt trimwt postwt2 wrwt1-wrwt&reps.;
run;

proc univariate data=t_sums normal ;
var col1;
run;

**added for Amang q4 2002;
data repwt2;
  set OUT.repwtp;
  where fnstatus = 11;
  array subset2(60) wrwt1-wrwt60;
  do m=1 to 60;
    if subset2(m)=0 then
      subset=m;
  end;
run;

proc sort data = repwt2;
by subset;
run;

proc means data = repwt2 noprint;
by subset;
var postwt2 wrwt1-wrwt60;
output out = amang sum= / autoname;
run;

***added by Haixia on 05/11/2005 for q1, 2005 weighting.
rename wrwt1_sum, ..., wrwt60_sum as sum_wrwt1, ..., sum_wrwt60
so the numbered range list sum_wrwt1 - sum_wrwt60 can be used in the proc print below;

data amang;
set amang;
rename postwt2_sum = sum_postwt2;
%do i =1 %to 60;
rename wrwt&i._sum = sum_wrwt&i.;
%end;
run;
```

```
proc print data = amang;
sum _freq_ sum_postwt2  sum_wrwt1 - sum_wrwt60;
run;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* CREATE FINAL REPWT DATASET FOR KEITH -- Rename the variables
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *.
data OUT.repwtp (drop = postwt postwt2 com_geo trimwt encounter web);
set in.repwtp;
fwrwt = postwt2;
%do i =1 %to 60;
rename wrwt&i. = fwrwt&i.;
%end;
label &domain1. = 'Weighting cell in the unknown eligibility adjustment';
label &domain2. = 'Weighting cell in the nonresponse adjustment';
label &domain3. = "ps cell for new wts - for all 3 quarters";
label fwrwt     = "Final NEW Weight";
run;

data OUT.repwtp;
set OUT.repwtp;
* Label wts;
   %DO I = 1 %TO 60;
      LABEL   FWRWT&I. = "Replicated/JackKnife NEW Weight &I.";
   %END;
run;

PROC CONTENTS DATA=OUT.repwtp;
run;

%MEND process;

%PROCESS(pcell_a1, pcell_a2, postcell, 60);

proc printto;
run;

* * * * * * * * * * * * * * * * * * * * *   END * * * * * * * * * * * * * * * * * * * * * * * * *;
```

F.15   Q3FY2020\Programs\WEIGHTING\ADDWGTSA.SAS - Merge the final quarterly weights with the final questionnaire/sample file - Run Quarterly

```
*************************************************************************
*
* PROGRAM:  ADDWGTSA.SAS
* TASK:    DOD HEALTH CARE SURVEY ANALYSIS (6401-903)
* PURPOSE:  MERGE THE FINAL WEIGHTS FILE WITH THE FINAL
*      QUESTIONNAIRE/SAMPLE FILE
*
* WRITTEN:  02/02/2001 BY KEITH RATHBUN
*
* INPUTS:  1) REPWTP.sas7bdat - Final/Replicated Weights file - FORM A
*      2) MERGEQ.sas7bdat - Final FORM A Questionnaire/Sample File
*
* OUTPUTS:  1) HCSyyq_n.sas7bdat - Final FORM A Questionnaire/Sample File
*        combined with Final/Replicated Weights file - FORM A
*       where  yy = Year
*           q = Quarter Number
*           n = Final Dataset Suffix/Version Number
*      2) HCSyyq_v.XPT  - Final Public-Use Adult SAS XPORT Dataset
*
* MODIFIED:
*      02/10/2017 BY MTURBYFILL Changed file paths and capitalization to match SAS Grid.
*                  03/05/2018 by MTURBYFILL Renamed HURRICANE, applies only to Q1FY2018
*      04/30/2018 BY MTURBYFILL Renamed public use file to _1A
*      05/01/2018 BY ICONNOR COMMENTED OUT XPT EXPORT AT END OF PROGRAM
*      04/03/2019 BY ICONNOR, DROPPED NBR_EMAILS AND TNEXREG
*
*************************************************************************;
* Define global parameters.
*************************************************************************;
%LET DSN1 = HCS&YR.&QT._1A; * Public-Use data set;
%LET DSN2 = HCS&YR.&QT._2; * Private-Use data set;
%LET DSN3 = HCS&YR.&QT._3; * Private-Use data set;
%LET DSNw = REPWTP;   * Final and replicate weight file;
%LET QTR  = Q&QT.FY20&YR.; * Current Quarters data folder name;


*************************************************************************
* Define libraries and options.
*************************************************************************;
LIBNAME IN1    "&DATAPATH.";
LIBNAME IN2    "/sasdata/Projects/50713_HCS_Restricted/DATA/&QTR.";          * Location of restricted-use
sample file;
LIBNAME OUT    "&DATAPATH.";
LIBNAME LIBRARY "&FMTPATH.";

OPTIONS PS=79 LS=132 COMPRESS=NO NOCENTER MPRINT MLOGIC;


*************************************************************************
* Merge the final weights file with the final Questionnaire/Sample file
*************************************************************************;
```

```
PROC SORT DATA=IN1.&DSNw  OUT=&DSNw;  BY MPRID; RUN;
PROC SORT DATA=IN1.MERGEQ  OUT=MERGEQ; BY MPRID; RUN;

PROC CONTENTS DATA=IN1.&DSNw;  Title 'repwtp- New weights'; RUN;
PROC CONTENTS DATA=IN1.MERGEQ; Title 'mergeq'; RUN;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Create and attach XCATCH (Catchment Reporting variable) to final dataset.
* Note that dataset TMPXCTCH with XCATCH is created by this include file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
DATA TEMP1;
  SET MERGEQ;
  IF FNSTATUS = 11;
RUN;

%INCLUDE "XCATCH.INC"; * Requires input dataset called TEMP1;

PROC SORT DATA=TMPXCTCH; BY MPRID; RUN;

DATA OUT.&DSN1(DROP=PRN    DMIS_ID  D_PAR   ENRID
              CACSMPL SERVAREA DCATCH   MSM
              D_FAC   DAGEQY   FIELDAGE PNLCATCD
              DMEDELG MEDTYPE  MBRRELCD MRTLSTAT INTTIME)
    T_&DSN2(DROP=PRN DMIS_ID  D_PAR )
        ;
  MERGE MERGEQ(IN=IN2 DROP=MIQCNTL COM_GEO Sent_email nbr_emails XTNEXREG)
     TMPXCTCH(IN=IN3)
     &DSNw(IN=IN1 KEEP=MPRID POSTCELL FWRWT FWRWT1–FWRWT60
             RENAME=(fwrwt=FWRWT  postcell=POSTCELL
                 fwrwt1=FWRWT1 fwrwt2=FWRWT2 fwrwt3=FWRWT3 fwrwt4=FWRWT4 fwrwt5=FWRWT5
                 fwrwt6=FWRWT6 fwrwt7=FWRWT7 fwrwt8=FWRWT8 fwrwt9=FWRWT9 fwrwt10=FWRWT10
                 fwrwt11=FWRWT11 fwrwt12=FWRWT12 fwrwt13=FWRWT13 fwrwt14=FWRWT14
fwrwt15=FWRWT15
                 fwrwt16=FWRWT16 fwrwt17=FWRWT17 fwrwt18=FWRWT18 fwrwt19=FWRWT19
fwrwt20=FWRWT20
                 fwrwt21=FWRWT21 fwrwt22=FWRWT22 fwrwt23=FWRWT23 fwrwt24=FWRWT24
fwrwt25=FWRWT25
                 fwrwt26=FWRWT26 fwrwt27=FWRWT27 fwrwt28=FWRWT28 fwrwt29=FWRWT29
fwrwt30=FWRWT30
                 fwrwt31=FWRWT31 fwrwt32=FWRWT32 fwrwt33=FWRWT33 fwrwt34=FWRWT34
fwrwt35=FWRWT35
                 fwrwt36=FWRWT36 fwrwt37=FWRWT37 fwrwt38=FWRWT38 fwrwt39=FWRWT39
fwrwt40=FWRWT40
                 fwrwt41=FWRWT41 fwrwt42=FWRWT42 fwrwt43=FWRWT43 fwrwt44=FWRWT44
fwrwt45=FWRWT45
                 fwrwt46=FWRWT46 fwrwt47=FWRWT47 fwrwt48=FWRWT48 fwrwt49=FWRWT49
fwrwt50=FWRWT50
                 fwrwt51=FWRWT51 fwrwt52=FWRWT52 fwrwt53=FWRWT53 fwrwt54=FWRWT54
fwrwt55=FWRWT55
                 fwrwt56=FWRWT56 fwrwt57=FWRWT57 fwrwt58=FWRWT58 fwrwt59=FWRWT59
fwrwt60=FWRWT60
             ));
  BY MPRID;
```

```
   IF FNSTATUS = 11;

   IF NOT (IN1 AND IN2)
   THEN PUT "ERROR: NO MATCHING MPRID WITH MERGEQ..sas7bdat AND &DSNw..sas7bdat";

   IF IN1 AND IN2 AND IN3;

   FORMAT XCATCH CACR.
    ;

    DHAFLAG=PUT(XCATCH,DHASRV.); /* Redefining DHAFLAG to match bene reports, 2020/04/23*/

RUN;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Extract private-use variables from quarterly sample file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
DATA SAMPLA02;
  SET IN2.SAMPLA02
    (KEEP=MPRID MASTCD MAPRZIP MAPRZIPX PNBRTHDT PGCD RANKCD MSA_ID);
RUN;
PROC SORT DATA=SAMPLA02; BY MPRID; RUN;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Append private-use variables to the public-use file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
DATA OUT.&DSN2;
  MERGE T_&DSN2(IN=IN1) SAMPLA02(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2; *KEEP only eligible respondents;
  DROP INTTIME;
RUN;


/*  The third file is the same as the one above, but with INTTIME included. MT 3/26/2015 */

DATA OUT.&DSN3;
  MERGE T_&DSN2(IN=IN1) SAMPLA02(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2; *KEEP only eligible respondents;
RUN;

TITLE1 "DOD Quarterly Health Care Survey (6663-300)";
TITLE2 "Program Name: ADDWGTSA.SAS";
TITLE3 "Program Inputs: Mergeq.sas7bdat -- &DSNw..sas7bdat";
TITLE4 "Program Outputs: &DSN1..sas7bdat/XPT";
PROC CONTENTS DATA=OUT.&DSN1; RUN;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Output the restricted use CONTENTS text file for delivery with the
* database CD.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
```

```
PROC PRINTTO PRINT="&DSN2..TXT" NEW; RUN;
OPTIONS PAGENO=1;
TITLE4 "Program Outputs: &DSN2..sas7bdat/XPT";
PROC CONTENTS DATA=OUT.&DSN2; RUN;
PROC PRINTTO; RUN;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Define and generate SAS Transport file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
/***COMMENTING OUT THE EXPORT HERE BECAUSE IT IS BEING CREATED IN THE
WINDOWSVERSIONFORDHA PROGRAM (IMC 2018)****/
/*LIBNAME XFILE1 XPORT "&datapath./&DSN1..XPT";
PROC COPY IN=OUT OUT=XFILE1; * Converts input file to transport file;
      SELECT &DSN1;    * Selects sas7bdat file to copy;
RUN;

LIBNAME XFILE2 XPORT "&datapath./&DSN2..XPT";
PROC COPY IN=OUT OUT=XFILE2; * Converts input file to transport file;
      SELECT &DSN2;    * Selects sas7bdat file to copy;
RUN;

LIBNAME XFILE3 XPORT "&datapath./&DSN3..XPT";
PROC COPY IN=OUT OUT=XFILE3; * Converts input file to transport file;
      SELECT &DSN3;    * Selects sas7bdat file to copy;
RUN;
*/
```

F.16   WEIGHTING\FIX2018XCATCH.SAS - Fix catchment reporting variable (XCATCH) for 2018 - Annual

```
****************************************************************************
*
* PROGRAM: Fix2014XCATCH.SAS
* PURPOSE: Fix catchment reporting variable (XCATCH) for 2013
* WRITTEN  November 6, 2007 BY Keith Rathbun
* TASK:   2012 DoD Database Development (6244-300)
*
* INPUTS:  1) FRAMEA.sas7bdat - 2013 Quarterly Sample Frames
*       2) HCS13A_1/2.sas7bdat - 2013 Combined Annual HCSDB dataset
*
* UPDATES: 1) September 17, 2009 by Emma Ernst for 2009 database
*       2) September 2, 2010 by Mike Rudacille for 2010 database
*       3) September 23, 2011 by Mike Rudacille for 2011 database
*       4) September 19, 2012 by Amanda Kudis for 2012 database
*       5) June 02, 2014 by Amanda Kudis for 2014 database
*       6) July 21, 2015 by Matt Turbyfill for 2015 database
*       7) July 11, 2017 by Matt Turbyfill for 2017 database
*       8) June 15, 2018 by Matt Turbyfill for 2018 database
*       9) July 20, 2020 by Matt Turbyfill for 2020 database.  Converted back to Windows.
*
* OUTPUTS: 1) XCATCH13.sas7bdat - 2013 combined corrected Annual HCSDB dataset
*         (output in the 2014 data area)
*
* NOTES:  1) XCATCH needed to be redefined with the 2014 definition
*         on the 2013 annual dataset
*
****************************************************************************;
%LET YR = 18;
%LET RPTYR = 20;

/*set directory*/
x "cd N:/Project/50713_HCS/SASGRID/DATA/HCSDB/20&RPTYR./Programs/Weighting";

proc printto log= "Fix20&YR.XCATCH.log";run;
proc printto print= "Fix20&YR.XCATCH.lst";run;

OPTIONS NOFMTERR NOCENTER LS=132 PS=80 COMPRESS=YES MPRINT;
LIBNAME OUT   "../../Data";
LIBNAME IN20&YR. "../../../20&YR.E2/Data" access=readonly;

****************************************************************************
* Extract variables necessary to construct XCATCH by QUARTER.
****************************************************************************;
%MACRO GET_QTR(QTR=);
  PROC SORT DATA=IN20&YR..HCS&YR.A_2
    (KEEP=MPRID ENRID PCM DCATCH D_HEALTH D_FAC SERVAFF XREGION PATCAT QUARTER TNEXREG)
    OUT=TEMP1_&QTR;
    BY MPRID;
    WHERE QUARTER = "&QTR";
```

```
  RUN;
%MEND;


%GET_QTR(QTR=Q1FY20&YR.);
%GET_QTR(QTR=Q2FY20&YR.);
%GET_QTR(QTR=Q3FY20&YR.);
*%GET_QTR(QTR=Q4FY2013);


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Extract D_PAR for use with creating XCATCH.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%MACRO GETD_PAR(LOC=);
  LIBNAME IN "../../../&LOC./Data/AFinal";
  PROC SORT DATA=IN.FRAMEA(KEEP=MPRID D_PAR) OUT=&LOC.;
    BY MPRID;
  RUN;
%MEND;


%GETD_PAR(LOC=Q1FY20&YR.);
%GETD_PAR(LOC=Q2FY20&YR.);
%GETD_PAR(LOC=Q3FY20&YR.);
*%GETD_PAR(LOC=Q4FY2013);

DATA Q1;
  MERGE Q1FY20&YR.(IN=IN1) TEMP1_Q1FY20&YR.(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2;
RUN;

DATA Q2;
  MERGE Q2FY20&YR.(IN=IN1) TEMP1_Q2FY20&YR.(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2;
RUN;

DATA Q3;
  MERGE Q3FY20&YR.(IN=IN1) TEMP1_Q3FY20&YR.(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2;
RUN;
/*
DATA Q4;
  MERGE Q4FY2013(IN=IN1) TEMP1_Q4FY2013(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2;
RUN;
*/
DATA TEMP1;
  SET Q1 Q2 Q3; *Q4;
  BY MPRID;

  IF     SERVAFF = 'A' THEN XSERVAFF = 1; * Army;
  ELSE IF SERVAFF = 'F' THEN XSERVAFF = 2; * Air Force;
```

F.265

```
   ELSE IF SERVAFF = 'N' THEN XSERVAFF = 3; * Navy;
   ELSE XSERVAFF = 4;                * Other;

   ***************************************************************************
   * Assign XTNEXREG and XOCONUS using XREGION.
   ***************************************************************************,
   IF XREGION IN (1,2,5) THEN XTNEXREG = 1;
   ELSE IF XREGION IN (3,4,6) THEN XTNEXREG = 2;
   ELSE IF XREGION IN (7,8,9,10,11,12,16) THEN XTNEXREG = 3;
   ELSE IF XREGION IN (13,14,15) THEN XTNEXREG = 4;
   ELSE IF XREGION = . THEN DO; /* MER 03/23/10 - If XREGION is missing, set XTNEXREG = TNEXREG */
     IF TNEXREG = 'N' THEN XTNEXREG=1;
     ELSE IF TNEXREG = 'S' THEN XTNEXREG=2;
     ELSE IF TNEXREG = 'W' THEN XTNEXREG=3;
     ELSE IF TNEXREG = 'O' THEN XTNEXREG=4;
     ELSE XTNEXREG=.;
   END;

   IF XREGION     = 13 THEN XOCONUS = 1;
   ELSE IF XREGION = 14 THEN XOCONUS = 2;
   ELSE IF XREGION = 15 THEN XOCONUS = 3;
RUN;

***************************************************************************
* Create and attach XCATCH (Catchment Reporting variable) to final dataset.
* Note that dataset TMPXCTCH with XCATCH is created by this include file.
***************************************************************************,
%INCLUDE "XCATCH20&YR..INC"; * Requires input dataset called TEMP1;
PROC SORT DATA=TMPXCTCH; BY MPRID; RUN;

PROC SORT DATA=IN20&YR..HCS&YR.A_1A(DROP=XCATCH) OUT=HCS&YR.A_1;
  BY MPRID;
RUN;

DATA OUT.XCATCH&YR.;
  MERGE HCS&YR.A_1(IN=IN1) TMPXCTCH(IN=IN2);
  BY MPRID;
  FORMAT _ALL_;
  KEEP MPRID XCATCH QUARTER;

    IF 9200<=XCATCH <=9699 THEN XCATCH=XCATCH-100;
  IF XCATCH=9902 THEN XCATCH=9901;
RUN;

TITLE1 "Annual DOD Health Care Survey Database (6244-300)";
TITLE2 "Program Name: Fix20&YR.XCATCH.SAS By Keith Rathbun";
TITLE3 "Program Inputs: 20&YR. HCSDB sample and analysis files";
TITLE4 "Program Output: XCATCH&YR..sas7bdat - FY 20&YR. Combined XCATCH dataset";

PROC FREQ;
  TABLES XCATCH /MISSING LIST;
RUN;
proc printto;run;
```

F.17 WEIGHTING\FIX2019XCATCH.SAS - Fix catchment reporting variable (XCATCH) for 2019 - Annual

```
****************************************************************
*
* PROGRAM: Fix2014XCATCH.SAS
* PURPOSE: Fix catchment reporting variable (XCATCH) for 2013
* WRITTEN  November 6, 2007 BY Keith Rathbun
* TASK:   2012 DoD Database Development (6244-300)
*
* INPUTS:  1) FRAMEA.sas7bdat - 2013 Quarterly Sample Frames
*       2) HCS13A_1/2.sas7bdat - 2013 Combined Annual HCSDB dataset
*
* UPDATES: 1) September 17, 2009 by Emma Ernst for 2009 database
*       2) September 2, 2010 by Mike Rudacille for 2010 database
*       3) September 23, 2011 by Mike Rudacille for 2011 database
*       4) September 19, 2012 by Amanda Kudis for 2012 database
*       5) June 02, 2014 by Amanda Kudis for 2014 database
*       6) July 21, 2015 by Matt Turbyfill for 2015 database
*       7) July 11, 2017 by Matt Turbyfill for 2017 database
*       8) June 15, 2018 by Matt Turbyfill for 2018 database
*       9) July 20, 2020 by Matt Turbyfill for 2020 database.  Converted back to Windows.
*
* OUTPUTS: 1) XCATCH13.sas7bdat - 2013 combined corrected Annual HCSDB dataset
*         (output in the 2014 data area)
*
* NOTES:  1) XCATCH needed to be redefined with the 2014 definition
*         on the 2013 annual dataset
*
****************************************************************;
%LET YR = 19;
%LET RPTYR = 20;

/*set directory*/
x "cd N:/Project/50713_HCS/SASGRID/HCSDB/20&RPTYR./Programs/Weighting";

proc printto log= "Fix20&YR.XCATCH.log";run;
proc printto print= "Fix20&YR.XCATCH.lst";run;

OPTIONS NOFMTERR NOCENTER LS=132 PS=80 COMPRESS=YES MPRINT;
LIBNAME OUT   "../../Data";
LIBNAME IN20&YR. "../../../20&YR./Data" access=readonly;

****************************************************************
* Extract variables necessary to construct XCATCH by QUARTER.
****************************************************************;
%MACRO GET_QTR(QTR=);
  PROC SORT DATA=IN20&YR..HCS&YR.A_2
     (KEEP=MPRID ENRID PCM DCATCH D_HEALTH D_FAC SERVAFF XREGION PATCAT QUARTER TNEXREG)
     OUT=TEMP1_&QTR;
    BY MPRID;
    WHERE QUARTER = "&QTR";
```

```
  RUN;
%MEND;

%GET_QTR(QTR=Q1FY20&YR.);
%GET_QTR(QTR=Q2FY20&YR.);
%GET_QTR(QTR=Q3FY20&YR.);
*%GET_QTR(QTR=Q4FY2013);

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Extract D_PAR for use with creating XCATCH.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%MACRO GETD_PAR(LOC=);
  LIBNAME IN "../../../&LOC./Data/AFinal";
  PROC SORT DATA=IN.FRAMEA(KEEP=MPRID D_PAR) OUT=&LOC.;
    BY MPRID;
  RUN;
%MEND;

%GETD_PAR(LOC=Q1FY20&YR.);
%GETD_PAR(LOC=Q2FY20&YR.);
%GETD_PAR(LOC=Q3FY20&YR.);
*%GETD_PAR(LOC=Q4FY2013);

DATA Q1;
  MERGE Q1FY20&YR.(IN=IN1) TEMP1_Q1FY20&YR.(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2;
RUN;

DATA Q2;
  MERGE Q2FY20&YR.(IN=IN1) TEMP1_Q2FY20&YR.(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2;
RUN;

DATA Q3;
  MERGE Q3FY20&YR.(IN=IN1) TEMP1_Q3FY20&YR.(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2;
RUN;
/*
DATA Q4;
  MERGE Q4FY2013(IN=IN1) TEMP1_Q4FY2013(IN=IN2);
  BY MPRID;
  IF IN1 AND IN2;
RUN;
*/
DATA TEMP1;
  SET Q1 Q2 Q3; *Q4;
  BY MPRID;

  IF     SERVAFF = 'A' THEN XSERVAFF = 1; * Army;
  ELSE IF SERVAFF = 'F' THEN XSERVAFF = 2; * Air Force;
```

```
    ELSE IF SERVAFF = 'N' THEN XSERVAFF = 3; * Navy;
    ELSE XSERVAFF = 4;                  * Other;

    * * * * ** * * * * ** * * * ** * * * ** * * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * *
    *  Assign XTNEXREG and XOCONUS using XREGION.
    * * * * ** * * * * ** * * * ** * * * ** * * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * *,
    IF XREGION IN (1,2,5) THEN XTNEXREG = 1;
    ELSE IF XREGION IN (3,4,6) THEN XTNEXREG = 2;
    ELSE IF XREGION IN (7,8,9,10,11,12,16) THEN XTNEXREG = 3;
    ELSE IF XREGION IN (13,14,15) THEN XTNEXREG = 4;
    ELSE IF XREGION = . THEN DO; /* MER 03/23/10 - If XREGION is missing, set XTNEXREG = TNEXREG */
      IF TNEXREG = 'N' THEN XTNEXREG=1;
      ELSE IF TNEXREG = 'S' THEN XTNEXREG=2;
      ELSE IF TNEXREG = 'W' THEN XTNEXREG=3;
      ELSE IF TNEXREG = 'O' THEN XTNEXREG=4;
      ELSE XTNEXREG=.;
    END;

    IF XREGION    = 13 THEN XOCONUS = 1;
    ELSE IF XREGION = 14 THEN XOCONUS = 2;
    ELSE IF XREGION = 15 THEN XOCONUS = 3;
 RUN;

 * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * *
 * Create and attach XCATCH (Catchment Reporting variable) to final dataset.
 * Note that dataset TMPXCTCH with XCATCH is created by this include file.
 * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * * ** * * *,
 %INCLUDE "XCATCH20&YR..INC"; * Requires input dataset called TEMP1;
 PROC SORT DATA=TMPXCTCH; BY MPRID; RUN;

 PROC SORT DATA=IN20&YR..HCS&YR.A_1A(DROP=XCATCH) OUT=HCS&YR.A_1;
   BY MPRID;
 RUN;

 DATA OUT.XCATCH&YR.;
   MERGE HCS&YR.A_1(IN=IN1) TMPXCTCH(IN=IN2);
   BY MPRID;
   FORMAT _ALL_;
   KEEP MPRID XCATCH QUARTER;

    IF 9200<=XCATCH <=9699 THEN XCATCH=XCATCH-100;
   IF XCATCH=9902 THEN XCATCH=9901;
 RUN;

 TITLE1 "Annual DOD Health Care Survey Database (6244-300)";
 TITLE2 "Program Name: Fix20&YR.XCATCH.SAS By Keith Rathbun";
 TITLE3 "Program Inputs: 20&YR. HCSDB sample and analysis files";
 TITLE4 "Program Output: XCATCH&YR..sas7bdat - FY 20&YR. Combined XCATCH dataset";

 PROC FREQ;
   TABLES XCATCH /MISSING LIST;
 RUN;
 proc printto;run;
```

F.18.A WEIGHTING\COMB2020.SAS - Combine quarterly datasets into one annual file - Annual

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
*  PROGRAM: COMB2019.SAS
*  TASK:    ANNUAL DOD HEALTH CARE SURVEY ANALYSIS (6244-300)
*  PURPOSE:  Combine quarterly datasets into one annual file.
*
*  WRITTEN:  12/23/2002 BY KEITH RATHBUN.
*
*   INPUTS:  1) HCSyyq_2.sas7bdat - Q1-Q4 DOD HCS Analysis files
*              Where yy = Year (11)
*                  q = Quarter Number (1-4)
*
*  MODIFIED: 1) September 17, 2009 by Emma Ernst for 2009 database
*          2) October 12, 2010 by Mike Rudacille for 2010 database
*            Switched from HCSyyq_1 to HCSyyq_2, as some of the necessary variables
*            are now only available in the restricted use dataset
*          3) September 23, 2011 by Mike Rudacille for 2011 database
*          4) September 20, 2012 by Amanda Kudis for 2012 database
*          5) July 24, 2013 by Amanda Kudis for 2013 datasets
*          6) June 02, 2014 by Amanda Kudis for 2014 datasets
*          7) July 21, 2015 by Matt Turbyfill for 2015 datasets
*          8) July 21, 2016 by Matt Turbyfill for 2016 datasets
*          9) June 15, 2018 by Matt Turbyfill for 2018 datasets
*          10) July 20, 2002 by Matt Turbyfill for 2020 datasets
*              No Q2 trickle data.
*              COM_GEO_OLD FLAG_ REGION_COL JSFLAG ACV STRATUM_OLD nbr_emails no longer need to be
dropped.
*
*   OUTPUT:  1) COMB2015.sas7bdat - Combined quarterly datasets in one annual file
*
*    NOTES:  1) The output dataset produced by this program contains all
*            of the original quarterly responses plus additional
*            responses that "trickled" in after the end of the
*            fielding period. The variable called QUARTER can be used
*            to identify which version of the quarterly survey is
*            applicable to the respondent.
*
*  INCLUDES: 1) XCATCH.INC - Create catchment reporting variable
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Assign data libraries and options
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%LET YR = 20;

/*set directory*/
x "cd /sasdata/Projects/50713_HCS/DATA/HCSDB/20&YR./Programs/Weighting";

proc printto print="COMB2020.lst";run;
proc printto log="COMB2020.log";run;
```

```
LIBNAME INQ1     "../../../Q1FY20&YR.t/Data/AFinal";
LIBNAME INQ2     "../../../Q2FY20&YR./Data/AFinal";
LIBNAME INQ3     "../../../Q3FY20&YR./Data/AFinal"; *AMK NO TRICKLE FOR 2014; *IMC NO TRICKLE FOR Q3;
LIBNAME OUT      "../../Data";
LIBNAME LIBRARY  "../../Data/fmtlib/";

OPTIONS COMPRESS=YES LS=142 PS=79 NOCENTER NOFMTERR;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Extract variable names for each quarter for overlap checking purposes.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *.
PROC CONTENTS DATA=INQ1.HCS&YR.1_2 OUT=Q1(KEEP=NAME) NOPRINT; RUN;
PROC SORT; BY NAME; RUN;

PROC CONTENTS DATA=INQ2.HCS&YR.2_2 OUT=Q2(KEEP=NAME) NOPRINT; RUN;
PROC SORT; BY NAME; RUN;

PROC CONTENTS DATA=INQ3.HCS&YR.3_2 OUT=Q3(KEEP=NAME) NOPRINT; RUN;
PROC SORT; BY NAME; RUN;

/*
PROC IMPORT DATAFILE =
'N:\Project\40309_HCS\SASGRID\DATA\HCSDB\2017\Programs\Weighting\Var_Order.xlsx'
OUT=VAR_ORDER DBMS=XLSX REPLACE;
GETNAMES=NO;
RUN;

PROC SQL;
SELECT A
INTO :VARORDER
SEPARATED BY ','
FROM VAR_ORDER
;
QUIT;
%PUT &VARORDER;
*/
/*PROC CONTENTS DATA=INQ4.HCS144_2 OUT=Q4(KEEP=NAME) NOPRINT; RUN; *AMK NO Q4 FOR 2014;
PROC SORT; BY NAME; RUN;*/

DATA VARIABLES;
  MERGE Q1(IN=INQ1) Q2(IN=INQ2) Q3(IN=INQ3) /*Q4(IN=INQ4)*/;*AMK NO Q4 FOR 2014;
  BY NAME;
  LENGTH Q1-Q3  $3; *AMK NO Q4 FOR 2014;
  IF INQ1 THEN Q1 = "YES"; ELSE Q1 = "NO";
  IF INQ2 THEN Q2 = "YES"; ELSE Q2 = "NO";
  IF INQ3 THEN Q3 = "YES"; ELSE Q3 = "NO";
  /*IF INQ4 THEN Q4 = "YES"; ELSE Q4 = "NO";*AMK NO Q4 FOR 2014;*/
RUN;

TITLE1 "Annual DOD Health Care Survey Database (6244-300)";
TITLE2 "Program Name: COMB20&YR..SAS By Keith Rathbun";
```

TITLE3 "Program Inputs: HCSyyq_2.sas7bdat - Q1-Q3 DOD HCS Sample and Analysis files"; *AMK NO Q4 FOR 2014;
TITLE4 "Program Output: COMB20&YR..sas7bdat - Combined quarterly datasets in one annual file";

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Print summary of variable name quarterly overlap.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
PROC PRINT; RUN;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Combine quarterly datasets with all of the "trickle" data into one file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
DATA COMB20&YR.(DROP= XCATCH
            /*GEOCELLH2 /* Xcatch will be recreated based on annual counts */);
  SET INQ1.HCS&YR.1_2        /* MER 10/5/11 - MISS_3 was out of scope in 2011 and was dropped */
    INQ2.HCS&YR.2_2 /*(rename=(GEOCELLH=GEOCELLH2))*/   /* starting in Q2. This DROP statement can be
removed in COMB2012 */
    INQ3.HCS&YR.3_2         /* AMK REMOVED (DROP=MISS_3) for 2012*/
    /*INQ4.HCS124_2*/; *AMK NO Q4 FOR 2014;
  BY MPRID;
  LABEL FIELDAGE = "Age at start of fielding period"
     DAGEQY  = "Age at time of data collection"
;

run;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Sort by MPRID and check for duplicates.  There should not be duplicates.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
PROC SORT DATA=COMB20&YR. NODUPKEY OUT=TEMP1; BY MPRID; RUN;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Create and attach XCATCH (Catchment Reporting variable) to final dataset.
* Note that dataset TEMP with XCATCH is created by this include file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%INCLUDE "XCATCH.INC"; * Requires input dataset called TEMP1;
PROC SORT DATA=TMPXCTCH; BY MPRID; RUN;

DATA OUT.COMB20&YR.
   HCS&YR.1_2x(KEEP=MPRID XCATCH) HCS&YR.2_2x(KEEP=MPRID XCATCH)
   HCS&YR.3_2x(KEEP=MPRID XCATCH) /*HCS124_2x(KEEP=MPRID XCATCH)*/; *AMK NO Q4 FOR 2014;

 MERGE TEMP1(IN=IN1) TMPXCTCH(IN=IN2);
 BY MPRID;
 IF IN1 AND IN2 THEN DO;
   IF XCATCH = 1450 THEN XCATCH = 117; /* MER 11/&YR./08 Map new Lackland */
                     /* catchment area to old one    */

   IF XCATCH = 37 THEN XCATCH = 67; /* MER 11/7/12 Map old Walter Reed */
                   /* catchment area to new one     */
   OUTPUT OUT.COMB20&YR.;
   IF QUARTER="Q1FY20&YR." THEN OUTPUT HCS&YR.1_2x;
   IF QUARTER="Q2FY20&YR." THEN OUTPUT HCS&YR.2_2x;
```

```
    IF QUARTER="Q3FY20&YR." THEN OUTPUT HCS&YR.3_2x;
    *IF QUARTER="Q4FY2012" THEN OUTPUT HCS124_2x;*AMK NO Q4 FOR 2014;
  END;

RUN;

/***For annual 2016 run, quarterly files XCATCH values are not updated***/

/* AMK 6/16/ Don't over write quaterly until after code review
DATA INQ1.HCS&YR.1_2;
  UPDATE INQ1.HCS&YR.1_2 HCS&YR.1_2x;
  BY MPRID;
RUN;

DATA INQ2.HCS&YR.2_2;
  UPDATE INQ2.HCS&YR.2_2 HCS&YR.2_2x;
  BY MPRID;
RUN;

DATA INQ3.HCS&YR.3_2;
  UPDATE INQ3.HCS&YR.3_2 HCS&YR.3_2x;
  BY MPRID;
RUN;
*/
/*DATA INQ4.HCS124_2;
  UPDATE INQ4.HCS124_2 HCS124_2x;
  BY MPRID;
RUN;*//*AMK NO Q4 FOR 2013*/

PROC CONTENTS DATA=OUT.COMB20&YR.; RUN;

proc printto;run;
```

F.18.B WEIGHTING\XCATCH.INC - Create detailed CACSMPL for annual report cards - Annual

```
********************************************************************
*
* PROGRAM:  XCATCH.INC
* TASK:     DOD HEALTH CARE SURVEY ANALYSIS (6077-300)
* PURPOSE:  CREATE DETAILED CACSMPL FOR ANNUAL REPORT CARDS
*
* WRITTEN:  01/20/2004 BY KEITH RATHBUN
*
* MODIFIED: 1) 02/14/2005 BY LUCY LU. RENAME STEP1Q.INC TO XCATCH.INC
*           2) 03/10/2005 BY LUCY LU, REVISED PROGRAM TO RUN 2002 AND 2003 FILES
*           3) 01/06/2006 BY KEITH RATHBUN.  Updated for 2006.  Removed
*              PROCESS macro.
*           4) 6/1/2020:  Added additional home port GEOCELL assignments (6335-6342)
*
*
* INPUTS:   1) TEMP1.sas7bdat - Temporary SAS dataset
*           2) TMA.sas7bdat - TMA-provided catchment definitions
*
* OUTPUT:   1) TEMP.sas7bdat  - Temporary SAS dataset
*
* NOTES:    1) This program is setup to run for all survey years as long
*              as the necessary variables are passed to it in TEMP1.
*           2) Required variables in TEMP1 dataset include the following:
*              MPRID, ENRID, PCM, DCATCH, D_PAR, D_HEALTH, and D_FAC.
*
* INCLUDES: 1) AssignGEOCELL.inc
*           2) AssignCOM_GEO.inc
*
********************************************************************;
%put &yr.;
%put /../../../Q3FY20&YR./Data/AFinal;

LIBNAME TMA V9 "../../../Q3FY20&YR./Data/AFinal";
DATA TEMP(KEEP=MPRID GEOCELL PCM ENRID XTNEXRG2 XSERVAFF XOCONUS PATCAT);
  SET TEMP1;
  BY MPRID;
  if pcm = 'MTF' then do;
    %INCLUDE "../../../Q3FY20&YR./Programs/Sampling/assigngeocell.inc";
    else if ('1976'<=enrid<='1980') or ('6301'<=enrid<='6323') or ('6335'<=enrid<='6342') or
      ('6991'<=enrid<='6994') or ('6501'<=enrid<='6512') or
      ('7166'<=enrid<='7195') or ('6700'<=enrid<='6881') or enrid='0000'
      then geocell=dcatch; *administrative assignment 1976-1980 added q4 2002, 6700-6881 added q1 2004,
                 0000 added q1,2005;
        else if ('8001'<=enrid<='8036') or ('6901'<=enrid<='6919')
      then geocell = dcatch; *Managed care contractor assignment, added in q1 2005; *8001-8036 added q2
2005;
    else if ('3031'<=enrid<='3057')
      then geocell = dcatch; ***On board ship***;
    else if enrid in ('0002', '0041', '0044', '0082', '0111', '0213', '0235', '0585', '5208', '0250',
```

```
                     '0449', '0626', '0012')
        then geocell = dcatch; ***Inactive***;  *0626 added q2 2003, 0012 added q4 2003,
                              0041, 0044, 0082, 0111, 0213, 0235, 0585 added q2 2005;
      else if enrid = ' ' then geocell = dcatch; ***enrolled, but missing ENRID, added q2 2005***;
      *********************************************************************;
      else if ('0190' <= enrid <='0199') then geocell = dcatch;**BYDON;
      *********************************************************************;
      else geocell = enrid;
    end;
  else if patcat='ACTDTY' then geocell=dcatch; /*Added in q1fy2007, Put the rest of ACTDTY in their dcatch for
sampling purpose*/
  else geocell=dcatch;
RUN;

PROC SORT DATA=TEMP; BY GEOCELL; RUN;

data TMA (keep = geocell d_par d_fac d_instal d_health d_dmis servaff);
  set TMA.TMA (rename=(facility_Type_Code__6_char_maxim=d_fac
       installation_Name__35_character=d_instal
       dmis_facility_Name__30_character=d_dmis
       facility_Service_Code=servaff));

  length d_par $4.;
  d_par = DMIS_PARENT_ID;
  length geocell $4.;
  geocell = DMIS_ID;
  length d_health $2.;
  d_health = HEALTH_Service_region;
run;

PROC SORT DATA=TMA; BY GEOCELL; RUN;

DATA TEMP;
  MERGE TEMP(IN=IN1) TMA(IN=IN2);
  BY GEOCELL;
  LENGTH FLAG $15;
  IF IN1 AND IN2 THEN FLAG = "BOTH";
  ELSE IF IN1 THEN FLAG = "HCSDB ONLY";
  ELSE FLAG = "TMA XLS ONLY";
  IF IN1;
RUN;

PROC FREQ;
  TABLES FLAG /MISSING LIST;
RUN;

DATA TEMP(KEEP=MPRID XCATCH XTNEXRG2 XSERVAFF XOCONUS);
  SET TEMP;
  LENGTH XCATCH 8;
  com_geo = geocell;
  if pcm = 'MTF' then do;
    %INCLUDE "../../../Q3FY20&YR./Programs/Sampling/assigncom_geo.inc";
    else if ('1976' <= enrid <= '1980' ) or ( '6301' <= enrid <= '6323' ) or ( '6335' <= enrid <= '6342' ) or
```

```
          ('6991' <= enrid <= '6994')  or ('6501' <= enrid <= '6512') or
          ('7166' <= enrid <= '7195') or ( '6700' <= enrid <= '6881' ) or enrid = '0000' or
          ('8001' <= enrid <= '8036') or ('6901' <= enrid <= '6919') or
          ('3031' <= enrid <= '3057') or
          enrid in ('0002','0041','0044','0082','0111','0213','0235','0585','5208','0250',
                  '0449','0626','0012') or
          ('0190' <= enrid <= '0199') then com_geo = geocell;
      else com_geo = d_par;
    end;
    else if patcat='ACTDTY' then com_geo=d_par;

    if d_fac='NONCAT' or d_fac='TGRO' or d_fac="TPR" or d_fac="TOP" then do;
      if d_health in ('01','02','05','17') or (d_health = '23' and xtnexrg2=1) then com_geo = '9901';
      else if d_health in ('03','04','06','18') or (d_health = '23' and xtnexrg2=1) then com_geo = '9901';
      else if d_health in ('07','08','09','10','11','12','19','24') then com_geo = '9903';
      else if d_health in ('00','13','14','15') then com_geo = '9904';
    end;
*********************************************************************************
                                                                               ;
***d_fac="TPR" and d_health = '17', '18', '19' were added above for Q4, 2004,  ***;
***since we got the new regions 17(North T_NEX),18(South T_NEX),19(West T_NEX).***;
*********************************************************************************
                                                                               ;

    *** If the facility is unknown then set com_geo indicates unknown facility ***;
    *** '0999' added 03/15 to account for id 6992;
    if com_geo in ('9900','0999','0998',' ') then com_geo = '9904';


*********************************************************************************
                                                                               ;
***Made the following 9 Navy sites stand alone in q1,2005:     ***;
***'0026','0068','0231','0378','0387','0405','0407','0508','6215'***;
*********************************************************************************
                                                                               ;
    if geocell in ('0026','0068','0231','0378','0387','0405','0407','0508','6215','0366') then com_geo=geocell;

    xcatch = INPUT(com_geo,8.);
    label xcatch = "XCATCH - Catchment Area (Reporting)";
RUN;

PROC SORT DATA=TEMP; BY XCATCH; RUN;

PROC SUMMARY DATA=TEMP NWAY;
    CLASS XCATCH;
    OUTPUT OUT=TEMPCNT(DROP=_TYPE_ rename=_FREQ_=XCATCHno);
RUN;

PROC PRINT DATA=TEMPCNT;
RUN;

DATA TMPXCTCH(KEEP=MPRID XCATCH);
  MERGE TEMPCNT TEMP;
  BY XCATCH;

 /*** JMA 10/25/2006 Values of Xcatch which occur less than 20 times in
  *** the dataset will be updated
  ***/
```

```
IF XCATCHno < 60 THEN DO;
  XCATCH=SUM(9000,100*XTNEXRG2,XSERVAFF);

  IF XOCONUS=1 THEN XCATCH=SUM(9300,XSERVAFF);
  IF XOCONUS=2 THEN XCATCH=SUM(9400,XSERVAFF);
  IF XOCONUS=3 THEN XCATCH=SUM(9500,XSERVAFF);
END;

RUN;
```

F.18.CQ3FY2020\PROGRAMS\SAMPLING\assigngeocell.inc - Include file for XCATCH.INC, FIX2018XCATCH.SAS, and FIX2019XCATCH.SAS

```
***************************************************;
*** Administration assignment          ***;
***************************************************;
if enrid = '0149' then geocell=dcatch;
else if enrid = '0150' then geocell=dcatch;
else if enrid = '0151' then geocell=dcatch;
else if enrid = '0152' then geocell=dcatch;
else if enrid = '0153' then geocell=dcatch;
else if enrid = '0154' then geocell=dcatch;
else if enrid = '0161' then geocell=dcatch;
else if enrid = '0162' then geocell=dcatch;
else if enrid = '0164' then geocell=dcatch;
else if enrid = '0165' then geocell=dcatch;
else if enrid = '0166' then geocell=dcatch;
else if enrid = '0169' then geocell=dcatch;
else if enrid = '0171' then geocell=dcatch;
else if enrid = '0173' then geocell=dcatch;
else if enrid = '0175' then geocell=dcatch;
else if enrid = '0176' then geocell=dcatch;
else if enrid = '0177' then geocell=dcatch;
else if enrid = '0178' then geocell=dcatch;
else if enrid = '0179' then geocell=dcatch;
else if enrid = '0482' then geocell=dcatch;
else if enrid = '1320' then geocell=dcatch;
else if enrid = '5002' then geocell=dcatch;
else if enrid = '5003' then geocell=dcatch;
else if enrid = '5271' then geocell=dcatch;
else if enrid = '5273' then geocell=dcatch;
else if enrid = '5274' then geocell=dcatch;
else if enrid = '5275' then geocell=dcatch;
else if enrid = '5293' then geocell=dcatch;
else if enrid = '5294' then geocell=dcatch;
else if enrid = '5409' then geocell=dcatch;
else if enrid = '5500' then geocell=dcatch;
else if enrid = '5501' then geocell=dcatch;
else if enrid = '5502' then geocell=dcatch;
else if enrid = '5508' then geocell=dcatch;
else if enrid = '5513' then geocell=dcatch;
else if enrid = '5515' then geocell=dcatch;
else if enrid = '5516' then geocell=dcatch;
else if enrid = '5517' then geocell=dcatch;
else if enrid = '5518' then geocell=dcatch;
else if enrid = '5519' then geocell=dcatch;
else if enrid = '5520' then geocell=dcatch;
else if enrid = '5521' then geocell=dcatch;
else if enrid = '5522' then geocell=dcatch;
else if enrid = '5523' then geocell=dcatch;
else if enrid = '5526' then geocell=dcatch;
else if enrid = '5527' then geocell=dcatch;
```

```
else if enrid = '5528' then geocell=dcatch;
else if enrid = '5529' then geocell=dcatch;
else if enrid = '5530' then geocell=dcatch;
else if enrid = '5531' then geocell=dcatch;
else if enrid = '5532' then geocell=dcatch;
else if enrid = '5533' then geocell=dcatch;
else if enrid = '5534' then geocell=dcatch;
else if enrid = '5535' then geocell=dcatch;
else if enrid = '5537' then geocell=dcatch;
else if enrid = '5614' then geocell=dcatch;
else if enrid = '5615' then geocell=dcatch;
else if enrid = '5616' then geocell=dcatch;
else if enrid = '5617' then geocell=dcatch;
else if enrid = '5618' then geocell=dcatch;
else if enrid = '5619' then geocell=dcatch;
else if enrid = '5620' then geocell=dcatch;
else if enrid = '5621' then geocell=dcatch;
else if enrid = '5622' then geocell=dcatch;
else if enrid = '5623' then geocell=dcatch;
else if enrid = '5624' then geocell=dcatch;
else if enrid = '5625' then geocell=dcatch;
else if enrid = '5626' then geocell=dcatch;
else if enrid = '5627' then geocell=dcatch;
else if enrid = '5628' then geocell=dcatch;
else if enrid = '5629' then geocell=dcatch;
else if enrid = '5630' then geocell=dcatch;
else if enrid = '5631' then geocell=dcatch;
else if enrid = '5632' then geocell=dcatch;
else if enrid = '5633' then geocell=dcatch;
else if enrid = '5634' then geocell=dcatch;
else if enrid = '5635' then geocell=dcatch;
else if enrid = '5636' then geocell=dcatch;
else if enrid = '5637' then geocell=dcatch;
else if enrid = '5638' then geocell=dcatch;
else if enrid = '5639' then geocell=dcatch;
else if enrid = '5640' then geocell=dcatch;
else if enrid = '5641' then geocell=dcatch;
else if enrid = '5642' then geocell=dcatch;
else if enrid = '5643' then geocell=dcatch;
else if enrid = '5644' then geocell=dcatch;
else if enrid = '5645' then geocell=dcatch;
else if enrid = '5646' then geocell=dcatch;
else if enrid = '5647' then geocell=dcatch;
else if enrid = '5648' then geocell=dcatch;
else if enrid = '5649' then geocell=dcatch;
else if enrid = '5650' then geocell=dcatch;
else if enrid = '5651' then geocell=dcatch;
else if enrid = '5652' then geocell=dcatch;
else if enrid = '5653' then geocell=dcatch;
else if enrid = '5654' then geocell=dcatch;
else if enrid = '5655' then geocell=dcatch;
else if enrid = '5656' then geocell=dcatch;
else if enrid = '5657' then geocell=dcatch;
```

```
else if enrid = '5658' then geocell=dcatch;
else if enrid = '5659' then geocell=dcatch;
else if enrid = '5660' then geocell=dcatch;
else if enrid = '5661' then geocell=dcatch;
else if enrid = '5662' then geocell=dcatch;
else if enrid = '5663' then geocell=dcatch;
else if enrid = '5664' then geocell=dcatch;
else if enrid = '5665' then geocell=dcatch;
else if enrid = '5666' then geocell=dcatch;
else if enrid = '5667' then geocell=dcatch;
else if enrid = '5668' then geocell=dcatch;
else if enrid = '5669' then geocell=dcatch;
else if enrid = '5670' then geocell=dcatch;
else if enrid = '5671' then geocell=dcatch;
else if enrid = '5672' then geocell=dcatch;
else if enrid = '5673' then geocell=dcatch;
else if enrid = '5674' then geocell=dcatch;
else if enrid = '5675' then geocell=dcatch;
else if enrid = '5676' then geocell=dcatch;
else if enrid = '5677' then geocell=dcatch;
else if enrid = '5678' then geocell=dcatch;
else if enrid = '5679' then geocell=dcatch;
else if enrid = '5681' then geocell=dcatch;
else if enrid = '5682' then geocell=dcatch;
else if enrid = '5683' then geocell=dcatch;
else if enrid = '5684' then geocell=dcatch;
else if enrid = '5685' then geocell=dcatch;
else if enrid = '5686' then geocell=dcatch;
else if enrid = '5687' then geocell=dcatch;
else if enrid = '5688' then geocell=dcatch;
else if enrid = '5689' then geocell=dcatch;
else if enrid = '5690' then geocell=dcatch;
else if enrid = '5691' then geocell=dcatch;
else if enrid = '5692' then geocell=dcatch;
else if enrid = '5693' then geocell=dcatch;
else if enrid = '5694' then geocell=dcatch;
else if enrid = '5696' then geocell=dcatch;
else if enrid = '5697' then geocell=dcatch;
else if enrid = '5698' then geocell=dcatch;
else if enrid = '5699' then geocell=dcatch;
else if enrid = '5995' then geocell=dcatch;
else if enrid = '5996' then geocell=dcatch;
else if enrid = '5997' then geocell=dcatch;
else if enrid = '5998' then geocell=dcatch;
else if enrid = '5999' then geocell=dcatch;
else if enrid = '6000' then geocell=dcatch;
else if enrid = '6001' then geocell=dcatch;
else if enrid = '6002' then geocell=dcatch;
else if enrid = '6003' then geocell=dcatch;
else if enrid = '6005' then geocell=dcatch;
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else if enrid = '6008' then geocell=dcatch;
else if enrid = '6009' then geocell=dcatch;
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else if enrid = '7399' then geocell=dcatch;
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else if enrid = '7448' then geocell=dcatch;
else if enrid = '7530' then geocell=dcatch;
else if enrid = '9990' then geocell=dcatch;
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*** Dental assignment            ***;
*******************************************************;
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else if enrid = '0457' then geocell=dcatch;
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else if enrid = '0492' then geocell=dcatch;
else if enrid = '0816' then geocell=dcatch;
else if enrid = '0892' then geocell=dcatch;
else if enrid = '1023' then geocell=dcatch;
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else if enrid = '1037' then geocell=dcatch;
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else if enrid = '1086' then geocell=dcatch;
else if enrid = '1092' then geocell=dcatch;
else if enrid = '1093' then geocell=dcatch;
else if enrid = '1100' then geocell=dcatch;
else if enrid = '1105' then geocell=dcatch;
else if enrid = '1107' then geocell=dcatch;
else if enrid = '1110' then geocell=dcatch;
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else if enrid = '1763' then geocell=dcatch;
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else if enrid = '1784' then geocell=dcatch;
else if enrid = '1785' then geocell=dcatch;
else if enrid = '1789' then geocell=dcatch;
else if enrid = '1817' then geocell=dcatch;
else if enrid = '1818' then geocell=dcatch;
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else if enrid = '1924' then geocell=dcatch;
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else if enrid = '7305' then geocell=dcatch;
else if enrid = '7310' then geocell=dcatch;
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else if enrid = '7315' then geocell=dcatch;
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else if enrid = '7319' then geocell=dcatch;
else if enrid = '7320' then geocell=dcatch;
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else if enrid = '7324' then geocell=dcatch;
else if enrid = '7325' then geocell=dcatch;
else if enrid = '7326' then geocell=dcatch;
else if enrid = '7327' then geocell=dcatch;
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else if enrid = '7340' then geocell=dcatch;
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else if enrid = '7348' then geocell=dcatch;
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*** Inactive assignment              ***;
*************************************************;
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else if enrid = '0116' then geocell=dcatch;
else if enrid = '0155' then geocell=dcatch;
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else if enrid = '0276' then geocell=dcatch;
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else if enrid = '0477' then geocell=dcatch;
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else if enrid = '8716' then geocell=dcatch;
else if enrid = '8729' then geocell=dcatch;
else if enrid = '8730' then geocell=dcatch;
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else if enrid = '8747' then geocell=dcatch;
else if enrid = '8751' then geocell=dcatch;
else if enrid = '8753' then geocell=dcatch;
else if enrid = '8762' then geocell=dcatch;
else if enrid = '8773' then geocell=dcatch;
else if enrid = '8777' then geocell=dcatch;
else if enrid = '8902' then geocell=dcatch;
else if enrid = '8904' then geocell=dcatch;
else if enrid = '8905' then geocell=dcatch;
else if enrid = '8906' then geocell=dcatch;
else if enrid = '8908' then geocell=dcatch;
else if enrid = '8909' then geocell=dcatch;
else if enrid = '8910' then geocell=dcatch;
else if enrid = '8911' then geocell=dcatch;
else if enrid = '8914' then geocell=dcatch;
else if enrid = '8915' then geocell=dcatch;
else if enrid = '8917' then geocell=dcatch;
else if enrid = '8918' then geocell=dcatch;
else if enrid = '8919' then geocell=dcatch;
else if enrid = '8920' then geocell=dcatch;
else if enrid = '8921' then geocell=dcatch;
else if enrid = '8923' then geocell=dcatch;
else if enrid = '8925' then geocell=dcatch;
else if enrid = '8926' then geocell=dcatch;
else if enrid = '8927' then geocell=dcatch;
else if enrid = '8928' then geocell=dcatch;
else if enrid = '8929' then geocell=dcatch;
else if enrid = '8930' then geocell=dcatch;
else if enrid = '8931' then geocell=dcatch;
else if enrid = '8932' then geocell=dcatch;
else if enrid = '8933' then geocell=dcatch;
else if enrid = '8935' then geocell=dcatch;
else if enrid = '8937' then geocell=dcatch;
```

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else if enrid = '8938' then geocell=dcatch;
else if enrid = '8940' then geocell=dcatch;
else if enrid = '8941' then geocell=dcatch;
else if enrid = '8942' then geocell=dcatch;
else if enrid = '8943' then geocell=dcatch;
else if enrid = '8944' then geocell=dcatch;
else if enrid = '8945' then geocell=dcatch;
else if enrid = '8946' then geocell=dcatch;
else if enrid = '8947' then geocell=dcatch;
else if enrid = '8948' then geocell=dcatch;
else if enrid = '8949' then geocell=dcatch;
else if enrid = '8950' then geocell=dcatch;
else if enrid = '8951' then geocell=dcatch;
else if enrid = '8953' then geocell=dcatch;
else if enrid = '8954' then geocell=dcatch;
else if enrid = '8955' then geocell=dcatch;
else if enrid = '8956' then geocell=dcatch;
else if enrid = '8957' then geocell=dcatch;
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else if enrid = '8959' then geocell=dcatch;
else if enrid = '8960' then geocell=dcatch;
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else if enrid = '8964' then geocell=dcatch;
else if enrid = '8965' then geocell=dcatch;
else if enrid = '8966' then geocell=dcatch;
else if enrid = '8967' then geocell=dcatch;
else if enrid = '8968' then geocell=dcatch;
else if enrid = '8969' then geocell=dcatch;
else if enrid = '8971' then geocell=dcatch;
else if enrid = '8972' then geocell=dcatch;
else if enrid = '8974' then geocell=dcatch;
else if enrid = '8975' then geocell=dcatch;
else if enrid = '8976' then geocell=dcatch;
else if enrid = '8978' then geocell=dcatch;
else if enrid = '8979' then geocell=dcatch;
else if enrid = '8980' then geocell=dcatch;
else if enrid = '8981' then geocell=dcatch;
else if enrid = '8982' then geocell=dcatch;
else if enrid = '8983' then geocell=dcatch;
else if enrid = '8984' then geocell=dcatch;
else if enrid = '8985' then geocell=dcatch;
else if enrid = '8986' then geocell=dcatch;
else if enrid = '8988' then geocell=dcatch;
else if enrid = '8989' then geocell=dcatch;
else if enrid = '8990' then geocell=dcatch;
else if enrid = '8991' then geocell=dcatch;
else if enrid = '8992' then geocell=dcatch;
else if enrid = '8993' then geocell=dcatch;
else if enrid = '8994' then geocell=dcatch;
else if enrid = '8995' then geocell=dcatch;
else if enrid = '8996' then geocell=dcatch;
else if enrid = '8997' then geocell=dcatch;
```

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else if enrid = '8998' then geocell=dcatch;
else if enrid = '8999' then geocell=dcatch;
else if enrid = '9991' then geocell=dcatch;
else if enrid = '9998' then geocell=dcatch;
else if enrid = '9999' then geocell=dcatch;
********************************************************;
*** On board ship assignment                ***;
********************************************************;
else if enrid = '3002' then geocell=dcatch;
else if enrid = '3003' then geocell=dcatch;
********************************************************;
*** Managed care contractor assignment          ***;
********************************************************;
else if enrid = '6913' then geocell=dcatch;
else if enrid = '6914' then geocell=dcatch;
else if enrid = '6915' then geocell=dcatch;
else if enrid = '6917' then geocell=dcatch;
else if enrid = '6918' then geocell=dcatch;
else if enrid = '6919' then geocell=dcatch;
else if enrid = '6923' then geocell=dcatch;
else if enrid = '6924' then geocell=dcatch;
********************************************************;
*** Uniformed Services Family Health Plan assignment ***;
********************************************************;
else if enrid = '0189' then geocell=dcatch;
else if enrid = '0190' then geocell=dcatch;
else if enrid = '0191' then geocell=dcatch;
else if enrid = '0192' then geocell=dcatch;
else if enrid = '0193' then geocell=dcatch;
else if enrid = '0194' then geocell=dcatch;
else if enrid = '0195' then geocell=dcatch;
else if enrid = '0196' then geocell=dcatch;
else if enrid = '0197' then geocell=dcatch;
else if enrid = '0198' then geocell=dcatch;
else if enrid = '0199' then geocell=dcatch;
```

F.18.DQ3FY2020\PROGRAMS\SAMPLING\assigncom_geo.inc - Include file for XCATCH.INC, FIX2018XCATCH.SAS, and FIX2019XCATCH.SAS

```
*****************************************************;
*** Administration assignment          ***;
*****************************************************;
if enrid = '0149' then com_geo=geocell;
else if enrid = '0150' then com_geo=geocell;
else if enrid = '0151' then com_geo=geocell;
else if enrid = '0152' then com_geo=geocell;
else if enrid = '0153' then com_geo=geocell;
else if enrid = '0154' then com_geo=geocell;
else if enrid = '0161' then com_geo=geocell;
else if enrid = '0162' then com_geo=geocell;
else if enrid = '0164' then com_geo=geocell;
else if enrid = '0165' then com_geo=geocell;
else if enrid = '0166' then com_geo=geocell;
else if enrid = '0169' then com_geo=geocell;
else if enrid = '0171' then com_geo=geocell;
else if enrid = '0173' then com_geo=geocell;
else if enrid = '0175' then com_geo=geocell;
else if enrid = '0176' then com_geo=geocell;
else if enrid = '0177' then com_geo=geocell;
else if enrid = '0178' then com_geo=geocell;
else if enrid = '0179' then com_geo=geocell;
else if enrid = '0482' then com_geo=geocell;
else if enrid = '1320' then com_geo=geocell;
else if enrid = '5002' then com_geo=geocell;
else if enrid = '5003' then com_geo=geocell;
else if enrid = '5271' then com_geo=geocell;
else if enrid = '5273' then com_geo=geocell;
else if enrid = '5274' then com_geo=geocell;
else if enrid = '5275' then com_geo=geocell;
else if enrid = '5293' then com_geo=geocell;
else if enrid = '5294' then com_geo=geocell;
else if enrid = '5409' then com_geo=geocell;
else if enrid = '5500' then com_geo=geocell;
else if enrid = '5501' then com_geo=geocell;
else if enrid = '5502' then com_geo=geocell;
else if enrid = '5508' then com_geo=geocell;
else if enrid = '5513' then com_geo=geocell;
else if enrid = '5515' then com_geo=geocell;
else if enrid = '5516' then com_geo=geocell;
else if enrid = '5517' then com_geo=geocell;
else if enrid = '5518' then com_geo=geocell;
else if enrid = '5519' then com_geo=geocell;
else if enrid = '5520' then com_geo=geocell;
else if enrid = '5521' then com_geo=geocell;
else if enrid = '5522' then com_geo=geocell;
else if enrid = '5523' then com_geo=geocell;
else if enrid = '5526' then com_geo=geocell;
else if enrid = '5527' then com_geo=geocell;
```

```
else if enrid = '5528' then com_geo=geocell;
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else if enrid = '5532' then com_geo=geocell;
else if enrid = '5533' then com_geo=geocell;
else if enrid = '5534' then com_geo=geocell;
else if enrid = '5535' then com_geo=geocell;
else if enrid = '5537' then com_geo=geocell;
else if enrid = '5614' then com_geo=geocell;
else if enrid = '5615' then com_geo=geocell;
else if enrid = '5616' then com_geo=geocell;
else if enrid = '5617' then com_geo=geocell;
else if enrid = '5618' then com_geo=geocell;
else if enrid = '5619' then com_geo=geocell;
else if enrid = '5620' then com_geo=geocell;
else if enrid = '5621' then com_geo=geocell;
else if enrid = '5622' then com_geo=geocell;
else if enrid = '5623' then com_geo=geocell;
else if enrid = '5624' then com_geo=geocell;
else if enrid = '5625' then com_geo=geocell;
else if enrid = '5626' then com_geo=geocell;
else if enrid = '5627' then com_geo=geocell;
else if enrid = '5628' then com_geo=geocell;
else if enrid = '5629' then com_geo=geocell;
else if enrid = '5630' then com_geo=geocell;
else if enrid = '5631' then com_geo=geocell;
else if enrid = '5632' then com_geo=geocell;
else if enrid = '5633' then com_geo=geocell;
else if enrid = '5634' then com_geo=geocell;
else if enrid = '5635' then com_geo=geocell;
else if enrid = '5636' then com_geo=geocell;
else if enrid = '5637' then com_geo=geocell;
else if enrid = '5638' then com_geo=geocell;
else if enrid = '5639' then com_geo=geocell;
else if enrid = '5640' then com_geo=geocell;
else if enrid = '5641' then com_geo=geocell;
else if enrid = '5642' then com_geo=geocell;
else if enrid = '5643' then com_geo=geocell;
else if enrid = '5644' then com_geo=geocell;
else if enrid = '5645' then com_geo=geocell;
else if enrid = '5646' then com_geo=geocell;
else if enrid = '5647' then com_geo=geocell;
else if enrid = '5648' then com_geo=geocell;
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else if enrid = '5650' then com_geo=geocell;
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else if enrid = '5652' then com_geo=geocell;
else if enrid = '5653' then com_geo=geocell;
else if enrid = '5654' then com_geo=geocell;
else if enrid = '5655' then com_geo=geocell;
else if enrid = '5656' then com_geo=geocell;
else if enrid = '5657' then com_geo=geocell;
```

```
else if enrid = '5658' then com_geo=geocell;
else if enrid = '5659' then com_geo=geocell;
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else if enrid = '5662' then com_geo=geocell;
else if enrid = '5663' then com_geo=geocell;
else if enrid = '5664' then com_geo=geocell;
else if enrid = '5665' then com_geo=geocell;
else if enrid = '5666' then com_geo=geocell;
else if enrid = '5667' then com_geo=geocell;
else if enrid = '5668' then com_geo=geocell;
else if enrid = '5669' then com_geo=geocell;
else if enrid = '5670' then com_geo=geocell;
else if enrid = '5671' then com_geo=geocell;
else if enrid = '5672' then com_geo=geocell;
else if enrid = '5673' then com_geo=geocell;
else if enrid = '5674' then com_geo=geocell;
else if enrid = '5675' then com_geo=geocell;
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else if enrid = '5681' then com_geo=geocell;
else if enrid = '5682' then com_geo=geocell;
else if enrid = '5683' then com_geo=geocell;
else if enrid = '5684' then com_geo=geocell;
else if enrid = '5685' then com_geo=geocell;
else if enrid = '5686' then com_geo=geocell;
else if enrid = '5687' then com_geo=geocell;
else if enrid = '5688' then com_geo=geocell;
else if enrid = '5689' then com_geo=geocell;
else if enrid = '5690' then com_geo=geocell;
else if enrid = '5691' then com_geo=geocell;
else if enrid = '5692' then com_geo=geocell;
else if enrid = '5693' then com_geo=geocell;
else if enrid = '5694' then com_geo=geocell;
else if enrid = '5696' then com_geo=geocell;
else if enrid = '5697' then com_geo=geocell;
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else if enrid = '5699' then com_geo=geocell;
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else if enrid = '5996' then com_geo=geocell;
else if enrid = '5997' then com_geo=geocell;
else if enrid = '5998' then com_geo=geocell;
else if enrid = '5999' then com_geo=geocell;
else if enrid = '6000' then com_geo=geocell;
else if enrid = '6001' then com_geo=geocell;
else if enrid = '6002' then com_geo=geocell;
else if enrid = '6003' then com_geo=geocell;
else if enrid = '6005' then com_geo=geocell;
else if enrid = '6007' then com_geo=geocell;
else if enrid = '6008' then com_geo=geocell;
else if enrid = '6009' then com_geo=geocell;
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```
else if enrid = '6010' then com_geo=geocell;
else if enrid = '6011' then com_geo=geocell;
else if enrid = '6012' then com_geo=geocell;
else if enrid = '6020' then com_geo=geocell;
else if enrid = '6021' then com_geo=geocell;
else if enrid = '6022' then com_geo=geocell;
else if enrid = '6024' then com_geo=geocell;
else if enrid = '6036' then com_geo=geocell;
else if enrid = '6343' then com_geo=geocell;
else if enrid = '7038' then com_geo=geocell;
else if enrid = '7148' then com_geo=geocell;
else if enrid = '7285' then com_geo=geocell;
else if enrid = '7380' then com_geo=geocell;
else if enrid = '7383' then com_geo=geocell;
else if enrid = '7384' then com_geo=geocell;
else if enrid = '7386' then com_geo=geocell;
else if enrid = '7387' then com_geo=geocell;
else if enrid = '7389' then com_geo=geocell;
else if enrid = '7390' then com_geo=geocell;
else if enrid = '7391' then com_geo=geocell;
else if enrid = '7393' then com_geo=geocell;
else if enrid = '7394' then com_geo=geocell;
else if enrid = '7395' then com_geo=geocell;
else if enrid = '7397' then com_geo=geocell;
else if enrid = '7398' then com_geo=geocell;
else if enrid = '7399' then com_geo=geocell;
else if enrid = '7400' then com_geo=geocell;
else if enrid = '7448' then com_geo=geocell;
else if enrid = '7530' then com_geo=geocell;
else if enrid = '9990' then com_geo=geocell;
*****************************************************;
*** Inactive assignment              ***;
*****************************************************;
else if enrid = '0000' then com_geo=geocell;
else if enrid = '0002' then com_geo=geocell;
else if enrid = '0007' then com_geo=geocell;
else if enrid = '0011' then com_geo=geocell;
else if enrid = '0012' then com_geo=geocell;
else if enrid = '0016' then com_geo=geocell;
else if enrid = '0017' then com_geo=geocell;
else if enrid = '0020' then com_geo=geocell;
else if enrid = '0021' then com_geo=geocell;
else if enrid = '0022' then com_geo=geocell;
else if enrid = '0023' then com_geo=geocell;
else if enrid = '0025' then com_geo=geocell;
else if enrid = '0027' then com_geo=geocell;
else if enrid = '0031' then com_geo=geocell;
else if enrid = '0037' then com_geo=geocell;
else if enrid = '0040' then com_geo=geocell;
else if enrid = '0041' then com_geo=geocell;
else if enrid = '0044' then com_geo=geocell;
else if enrid = '0054' then com_geo=geocell;
else if enrid = '0063' then com_geo=geocell;
```

```
else if enrid = '0065' then com_geo=geocell;
else if enrid = '0070' then com_geo=geocell;
else if enrid = '0071' then com_geo=geocell;
else if enrid = '0072' then com_geo=geocell;
else if enrid = '0080' then com_geo=geocell;
else if enrid = '0081' then com_geo=geocell;
else if enrid = '0082' then com_geo=geocell;
else if enrid = '0087' then com_geo=geocell;
else if enrid = '0088' then com_geo=geocell;
else if enrid = '0099' then com_geo=geocell;
else if enrid = '0102' then com_geo=geocell;
else if enrid = '0111' then com_geo=geocell;
else if enrid = '0115' then com_geo=geocell;
else if enrid = '0116' then com_geo=geocell;
else if enrid = '0155' then com_geo=geocell;
else if enrid = '0156' then com_geo=geocell;
else if enrid = '0157' then com_geo=geocell;
else if enrid = '0167' then com_geo=geocell;
else if enrid = '0168' then com_geo=geocell;
else if enrid = '0170' then com_geo=geocell;
else if enrid = '0172' then com_geo=geocell;
else if enrid = '0174' then com_geo=geocell;
else if enrid = '0189' then com_geo=geocell;
else if enrid = '0195' then com_geo=geocell;
else if enrid = '0196' then com_geo=geocell;
else if enrid = '0197' then com_geo=geocell;
else if enrid = '0199' then com_geo=geocell;
else if enrid = '0205' then com_geo=geocell;
else if enrid = '0211' then com_geo=geocell;
else if enrid = '0213' then com_geo=geocell;
else if enrid = '0214' then com_geo=geocell;
else if enrid = '0215' then com_geo=geocell;
else if enrid = '0218' then com_geo=geocell;
else if enrid = '0219' then com_geo=geocell;
else if enrid = '0220' then com_geo=geocell;
else if enrid = '0221' then com_geo=geocell;
else if enrid = '0222' then com_geo=geocell;
else if enrid = '0223' then com_geo=geocell;
else if enrid = '0224' then com_geo=geocell;
else if enrid = '0225' then com_geo=geocell;
else if enrid = '0227' then com_geo=geocell;
else if enrid = '0228' then com_geo=geocell;
else if enrid = '0234' then com_geo=geocell;
else if enrid = '0235' then com_geo=geocell;
else if enrid = '0236' then com_geo=geocell;
else if enrid = '0237' then com_geo=geocell;
else if enrid = '0240' then com_geo=geocell;
else if enrid = '0241' then com_geo=geocell;
else if enrid = '0242' then com_geo=geocell;
else if enrid = '0243' then com_geo=geocell;
else if enrid = '0244' then com_geo=geocell;
else if enrid = '0245' then com_geo=geocell;
else if enrid = '0246' then com_geo=geocell;
```

```
else if enrid = '0249' then com_geo=geocell;
else if enrid = '0251' then com_geo=geocell;
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else if enrid = '0254' then com_geo=geocell;
else if enrid = '0257' then com_geo=geocell;
else if enrid = '0258' then com_geo=geocell;
else if enrid = '0259' then com_geo=geocell;
else if enrid = '0264' then com_geo=geocell;
else if enrid = '0267' then com_geo=geocell;
else if enrid = '0268' then com_geo=geocell;
else if enrid = '0270' then com_geo=geocell;
else if enrid = '0271' then com_geo=geocell;
else if enrid = '0273' then com_geo=geocell;
else if enrid = '0274' then com_geo=geocell;
else if enrid = '0276' then com_geo=geocell;
else if enrid = '0277' then com_geo=geocell;
else if enrid = '0278' then com_geo=geocell;
else if enrid = '0279' then com_geo=geocell;
else if enrid = '0281' then com_geo=geocell;
else if enrid = '0282' then com_geo=geocell;
else if enrid = '0283' then com_geo=geocell;
else if enrid = '0286' then com_geo=geocell;
else if enrid = '0288' then com_geo=geocell;
else if enrid = '0289' then com_geo=geocell;
else if enrid = '0291' then com_geo=geocell;
else if enrid = '0292' then com_geo=geocell;
else if enrid = '0293' then com_geo=geocell;
else if enrid = '0294' then com_geo=geocell;
else if enrid = '0295' then com_geo=geocell;
else if enrid = '0297' then com_geo=geocell;
else if enrid = '0298' then com_geo=geocell;
else if enrid = '0299' then com_geo=geocell;
else if enrid = '0300' then com_geo=geocell;
else if enrid = '0303' then com_geo=geocell;
else if enrid = '0304' then com_geo=geocell;
else if enrid = '0307' then com_geo=geocell;
else if enrid = '0312' then com_geo=geocell;
else if enrid = '0313' then com_geo=geocell;
else if enrid = '0314' then com_geo=geocell;
else if enrid = '0315' then com_geo=geocell;
else if enrid = '0318' then com_geo=geocell;
else if enrid = '0320' then com_geo=geocell;
else if enrid = '0323' then com_geo=geocell;
else if enrid = '0324' then com_geo=geocell;
else if enrid = '0331' then com_geo=geocell;
else if enrid = '0332' then com_geo=geocell;
else if enrid = '0334' then com_geo=geocell;
else if enrid = '0336' then com_geo=geocell;
else if enrid = '0340' then com_geo=geocell;
else if enrid = '0341' then com_geo=geocell;
else if enrid = '0342' then com_geo=geocell;
else if enrid = '0343' then com_geo=geocell;
else if enrid = '0345' then com_geo=geocell;
```

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else if enrid = '0346' then com_geo=geocell;
else if enrid = '0347' then com_geo=geocell;
else if enrid = '0349' then com_geo=geocell;
else if enrid = '0354' then com_geo=geocell;
else if enrid = '0355' then com_geo=geocell;
else if enrid = '0359' then com_geo=geocell;
else if enrid = '0361' then com_geo=geocell;
else if enrid = '0363' then com_geo=geocell;
else if enrid = '0365' then com_geo=geocell;
else if enrid = '0367' then com_geo=geocell;
else if enrid = '0368' then com_geo=geocell;
else if enrid = '0372' then com_geo=geocell;
else if enrid = '0373' then com_geo=geocell;
else if enrid = '0376' then com_geo=geocell;
else if enrid = '0377' then com_geo=geocell;
else if enrid = '0379' then com_geo=geocell;
else if enrid = '0383' then com_geo=geocell;
else if enrid = '0384' then com_geo=geocell;
else if enrid = '0388' then com_geo=geocell;
else if enrid = '0389' then com_geo=geocell;
else if enrid = '0391' then com_geo=geocell;
else if enrid = '0392' then com_geo=geocell;
else if enrid = '0393' then com_geo=geocell;
else if enrid = '0394' then com_geo=geocell;
else if enrid = '0396' then com_geo=geocell;
else if enrid = '0397' then com_geo=geocell;
else if enrid = '0399' then com_geo=geocell;
else if enrid = '0400' then com_geo=geocell;
else if enrid = '0402' then com_geo=geocell;
else if enrid = '0403' then com_geo=geocell;
else if enrid = '0404' then com_geo=geocell;
else if enrid = '0406' then com_geo=geocell;
else if enrid = '0408' then com_geo=geocell;
else if enrid = '0409' then com_geo=geocell;
else if enrid = '0411' then com_geo=geocell;
else if enrid = '0429' then com_geo=geocell;
else if enrid = '0438' then com_geo=geocell;
else if enrid = '0439' then com_geo=geocell;
else if enrid = '0440' then com_geo=geocell;
else if enrid = '0442' then com_geo=geocell;
else if enrid = '0444' then com_geo=geocell;
else if enrid = '0445' then com_geo=geocell;
else if enrid = '0446' then com_geo=geocell;
else if enrid = '0447' then com_geo=geocell;
else if enrid = '0448' then com_geo=geocell;
else if enrid = '0449' then com_geo=geocell;
else if enrid = '0450' then com_geo=geocell;
else if enrid = '0451' then com_geo=geocell;
else if enrid = '0452' then com_geo=geocell;
else if enrid = '0453' then com_geo=geocell;
else if enrid = '0454' then com_geo=geocell;
else if enrid = '0456' then com_geo=geocell;
else if enrid = '0458' then com_geo=geocell;
```

```
else if enrid = '0459' then com_geo=geocell;
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else if enrid = '0461' then com_geo=geocell;
else if enrid = '0462' then com_geo=geocell;
else if enrid = '0463' then com_geo=geocell;
else if enrid = '0465' then com_geo=geocell;
else if enrid = '0466' then com_geo=geocell;
else if enrid = '0467' then com_geo=geocell;
else if enrid = '0468' then com_geo=geocell;
else if enrid = '0469' then com_geo=geocell;
else if enrid = '0470' then com_geo=geocell;
else if enrid = '0475' then com_geo=geocell;
else if enrid = '0476' then com_geo=geocell;
else if enrid = '0477' then com_geo=geocell;
else if enrid = '0478' then com_geo=geocell;
else if enrid = '0480' then com_geo=geocell;
else if enrid = '0481' then com_geo=geocell;
else if enrid = '0484' then com_geo=geocell;
else if enrid = '0485' then com_geo=geocell;
else if enrid = '0486' then com_geo=geocell;
else if enrid = '0487' then com_geo=geocell;
else if enrid = '0488' then com_geo=geocell;
else if enrid = '0489' then com_geo=geocell;
else if enrid = '0490' then com_geo=geocell;
else if enrid = '0491' then com_geo=geocell;
else if enrid = '0493' then com_geo=geocell;
else if enrid = '0494' then com_geo=geocell;
else if enrid = '0495' then com_geo=geocell;
else if enrid = '0499' then com_geo=geocell;
else if enrid = '0500' then com_geo=geocell;
else if enrid = '0501' then com_geo=geocell;
else if enrid = '0502' then com_geo=geocell;
else if enrid = '0503' then com_geo=geocell;
else if enrid = '0504' then com_geo=geocell;
else if enrid = '0505' then com_geo=geocell;
else if enrid = '0506' then com_geo=geocell;
else if enrid = '0507' then com_geo=geocell;
else if enrid = '0510' then com_geo=geocell;
else if enrid = '0511' then com_geo=geocell;
else if enrid = '0512' then com_geo=geocell;
else if enrid = '0514' then com_geo=geocell;
else if enrid = '0515' then com_geo=geocell;
else if enrid = '0516' then com_geo=geocell;
else if enrid = '0520' then com_geo=geocell;
else if enrid = '0521' then com_geo=geocell;
else if enrid = '0523' then com_geo=geocell;
else if enrid = '0524' then com_geo=geocell;
else if enrid = '0526' then com_geo=geocell;
else if enrid = '0527' then com_geo=geocell;
else if enrid = '0528' then com_geo=geocell;
else if enrid = '0529' then com_geo=geocell;
else if enrid = '0530' then com_geo=geocell;
else if enrid = '0531' then com_geo=geocell;
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else if enrid = '0532' then com_geo=geocell;
else if enrid = '0533' then com_geo=geocell;
else if enrid = '0535' then com_geo=geocell;
else if enrid = '0536' then com_geo=geocell;
else if enrid = '0537' then com_geo=geocell;
else if enrid = '0538' then com_geo=geocell;
else if enrid = '0539' then com_geo=geocell;
else if enrid = '0540' then com_geo=geocell;
else if enrid = '0541' then com_geo=geocell;
else if enrid = '0542' then com_geo=geocell;
else if enrid = '0543' then com_geo=geocell;
else if enrid = '0544' then com_geo=geocell;
else if enrid = '0546' then com_geo=geocell;
else if enrid = '0547' then com_geo=geocell;
else if enrid = '0548' then com_geo=geocell;
else if enrid = '0549' then com_geo=geocell;
else if enrid = '0550' then com_geo=geocell;
else if enrid = '0551' then com_geo=geocell;
else if enrid = '0552' then com_geo=geocell;
else if enrid = '0557' then com_geo=geocell;
else if enrid = '0558' then com_geo=geocell;
else if enrid = '0559' then com_geo=geocell;
else if enrid = '0560' then com_geo=geocell;
else if enrid = '0561' then com_geo=geocell;
else if enrid = '0562' then com_geo=geocell;
else if enrid = '0563' then com_geo=geocell;
else if enrid = '0564' then com_geo=geocell;
else if enrid = '0565' then com_geo=geocell;
else if enrid = '0566' then com_geo=geocell;
else if enrid = '0567' then com_geo=geocell;
else if enrid = '0568' then com_geo=geocell;
else if enrid = '0569' then com_geo=geocell;
else if enrid = '0571' then com_geo=geocell;
else if enrid = '0572' then com_geo=geocell;
else if enrid = '0573' then com_geo=geocell;
else if enrid = '0574' then com_geo=geocell;
else if enrid = '0575' then com_geo=geocell;
else if enrid = '0577' then com_geo=geocell;
else if enrid = '0578' then com_geo=geocell;
else if enrid = '0579' then com_geo=geocell;
else if enrid = '0581' then com_geo=geocell;
else if enrid = '0582' then com_geo=geocell;
else if enrid = '0583' then com_geo=geocell;
else if enrid = '0584' then com_geo=geocell;
else if enrid = '0585' then com_geo=geocell;
else if enrid = '0586' then com_geo=geocell;
else if enrid = '0587' then com_geo=geocell;
else if enrid = '0588' then com_geo=geocell;
else if enrid = '0589' then com_geo=geocell;
else if enrid = '0590' then com_geo=geocell;
else if enrid = '0591' then com_geo=geocell;
else if enrid = '0592' then com_geo=geocell;
else if enrid = '0593' then com_geo=geocell;
```

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else if enrid = '0594' then com_geo=geocell;
else if enrid = '0595' then com_geo=geocell;
else if enrid = '0596' then com_geo=geocell;
else if enrid = '0597' then com_geo=geocell;
else if enrid = '0598' then com_geo=geocell;
else if enrid = '0599' then com_geo=geocell;
else if enrid = '0601' then com_geo=geocell;
else if enrid = '0602' then com_geo=geocell;
else if enrid = '0603' then com_geo=geocell;
else if enrid = '0604' then com_geo=geocell;
else if enrid = '0605' then com_geo=geocell;
else if enrid = '0606' then com_geo=geocell;
else if enrid = '0608' then com_geo=geocell;
else if enrid = '0613' then com_geo=geocell;
else if enrid = '0616' then com_geo=geocell;
else if enrid = '0619' then com_geo=geocell;
else if enrid = '0623' then com_geo=geocell;
else if enrid = '0626' then com_geo=geocell;
else if enrid = '0627' then com_geo=geocell;
else if enrid = '0628' then com_geo=geocell;
else if enrid = '0630' then com_geo=geocell;
else if enrid = '0631' then com_geo=geocell;
else if enrid = '0632' then com_geo=geocell;
else if enrid = '0634' then com_geo=geocell;
else if enrid = '0636' then com_geo=geocell;
else if enrid = '0641' then com_geo=geocell;
else if enrid = '0642' then com_geo=geocell;
else if enrid = '0643' then com_geo=geocell;
else if enrid = '0644' then com_geo=geocell;
else if enrid = '0645' then com_geo=geocell;
else if enrid = '0646' then com_geo=geocell;
else if enrid = '0647' then com_geo=geocell;
else if enrid = '0648' then com_geo=geocell;
else if enrid = '0651' then com_geo=geocell;
else if enrid = '0652' then com_geo=geocell;
else if enrid = '0654' then com_geo=geocell;
else if enrid = '0655' then com_geo=geocell;
else if enrid = '0656' then com_geo=geocell;
else if enrid = '0657' then com_geo=geocell;
else if enrid = '0658' then com_geo=geocell;
else if enrid = '0659' then com_geo=geocell;
else if enrid = '0660' then com_geo=geocell;
else if enrid = '0661' then com_geo=geocell;
else if enrid = '0702' then com_geo=geocell;
else if enrid = '0800' then com_geo=geocell;
else if enrid = '0801' then com_geo=geocell;
else if enrid = '0803' then com_geo=geocell;
else if enrid = '0807' then com_geo=geocell;
else if enrid = '0809' then com_geo=geocell;
else if enrid = '0810' then com_geo=geocell;
else if enrid = '0811' then com_geo=geocell;
else if enrid = '0812' then com_geo=geocell;
else if enrid = '0813' then com_geo=geocell;
```

```
else if enrid = '0815' then com_geo=geocell;
else if enrid = '0817' then com_geo=geocell;
else if enrid = '0818' then com_geo=geocell;
else if enrid = '0819' then com_geo=geocell;
else if enrid = '0820' then com_geo=geocell;
else if enrid = '0821' then com_geo=geocell;
else if enrid = '0822' then com_geo=geocell;
else if enrid = '0823' then com_geo=geocell;
else if enrid = '0824' then com_geo=geocell;
else if enrid = '0826' then com_geo=geocell;
else if enrid = '0827' then com_geo=geocell;
else if enrid = '0828' then com_geo=geocell;
else if enrid = '0829' then com_geo=geocell;
else if enrid = '0830' then com_geo=geocell;
else if enrid = '0831' then com_geo=geocell;
else if enrid = '0832' then com_geo=geocell;
else if enrid = '0833' then com_geo=geocell;
else if enrid = '0834' then com_geo=geocell;
else if enrid = '0835' then com_geo=geocell;
else if enrid = '0836' then com_geo=geocell;
else if enrid = '0838' then com_geo=geocell;
else if enrid = '0839' then com_geo=geocell;
else if enrid = '0840' then com_geo=geocell;
else if enrid = '0841' then com_geo=geocell;
else if enrid = '0842' then com_geo=geocell;
else if enrid = '0843' then com_geo=geocell;
else if enrid = '0844' then com_geo=geocell;
else if enrid = '0845' then com_geo=geocell;
else if enrid = '0846' then com_geo=geocell;
else if enrid = '0847' then com_geo=geocell;
else if enrid = '0848' then com_geo=geocell;
else if enrid = '0849' then com_geo=geocell;
else if enrid = '0850' then com_geo=geocell;
else if enrid = '0851' then com_geo=geocell;
else if enrid = '0854' then com_geo=geocell;
else if enrid = '0855' then com_geo=geocell;
else if enrid = '0856' then com_geo=geocell;
else if enrid = '0857' then com_geo=geocell;
else if enrid = '0859' then com_geo=geocell;
else if enrid = '0860' then com_geo=geocell;
else if enrid = '0863' then com_geo=geocell;
else if enrid = '0864' then com_geo=geocell;
else if enrid = '0865' then com_geo=geocell;
else if enrid = '0866' then com_geo=geocell;
else if enrid = '0867' then com_geo=geocell;
else if enrid = '0868' then com_geo=geocell;
else if enrid = '0869' then com_geo=geocell;
else if enrid = '0870' then com_geo=geocell;
else if enrid = '0872' then com_geo=geocell;
else if enrid = '0874' then com_geo=geocell;
else if enrid = '0875' then com_geo=geocell;
else if enrid = '0876' then com_geo=geocell;
else if enrid = '0877' then com_geo=geocell;
```

```
else if enrid = '0878' then com_geo=geocell;
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else if enrid = '0882' then com_geo=geocell;
else if enrid = '0883' then com_geo=geocell;
else if enrid = '0884' then com_geo=geocell;
else if enrid = '0885' then com_geo=geocell;
else if enrid = '0886' then com_geo=geocell;
else if enrid = '0887' then com_geo=geocell;
else if enrid = '0888' then com_geo=geocell;
else if enrid = '0889' then com_geo=geocell;
else if enrid = '0890' then com_geo=geocell;
else if enrid = '0891' then com_geo=geocell;
else if enrid = '0893' then com_geo=geocell;
else if enrid = '0894' then com_geo=geocell;
else if enrid = '0895' then com_geo=geocell;
else if enrid = '0896' then com_geo=geocell;
else if enrid = '0897' then com_geo=geocell;
else if enrid = '0898' then com_geo=geocell;
else if enrid = '0899' then com_geo=geocell;
else if enrid = '0955' then com_geo=geocell;
else if enrid = '0980' then com_geo=geocell;
else if enrid = '0981' then com_geo=geocell;
else if enrid = '0984' then com_geo=geocell;
else if enrid = '0997' then com_geo=geocell;
else if enrid = '0998' then com_geo=geocell;
else if enrid = '1000' then com_geo=geocell;
else if enrid = '1001' then com_geo=geocell;
else if enrid = '1002' then com_geo=geocell;
else if enrid = '1003' then com_geo=geocell;
else if enrid = '1004' then com_geo=geocell;
else if enrid = '1005' then com_geo=geocell;
else if enrid = '1007' then com_geo=geocell;
else if enrid = '1008' then com_geo=geocell;
else if enrid = '1009' then com_geo=geocell;
else if enrid = '1010' then com_geo=geocell;
else if enrid = '1011' then com_geo=geocell;
else if enrid = '1012' then com_geo=geocell;
else if enrid = '1013' then com_geo=geocell;
else if enrid = '1018' then com_geo=geocell;
else if enrid = '1020' then com_geo=geocell;
else if enrid = '1021' then com_geo=geocell;
else if enrid = '1022' then com_geo=geocell;
else if enrid = '1024' then com_geo=geocell;
else if enrid = '1026' then com_geo=geocell;
else if enrid = '1027' then com_geo=geocell;
else if enrid = '1028' then com_geo=geocell;
else if enrid = '1029' then com_geo=geocell;
else if enrid = '1030' then com_geo=geocell;
else if enrid = '1031' then com_geo=geocell;
else if enrid = '1032' then com_geo=geocell;
else if enrid = '1033' then com_geo=geocell;
```

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else if enrid = '1034' then com_geo=geocell;
else if enrid = '1035' then com_geo=geocell;
else if enrid = '1036' then com_geo=geocell;
else if enrid = '1038' then com_geo=geocell;
else if enrid = '1039' then com_geo=geocell;
else if enrid = '1040' then com_geo=geocell;
else if enrid = '1041' then com_geo=geocell;
else if enrid = '1042' then com_geo=geocell;
else if enrid = '1043' then com_geo=geocell;
else if enrid = '1044' then com_geo=geocell;
else if enrid = '1045' then com_geo=geocell;
else if enrid = '1046' then com_geo=geocell;
else if enrid = '1047' then com_geo=geocell;
else if enrid = '1048' then com_geo=geocell;
else if enrid = '1049' then com_geo=geocell;
else if enrid = '1050' then com_geo=geocell;
else if enrid = '1051' then com_geo=geocell;
else if enrid = '1052' then com_geo=geocell;
else if enrid = '1053' then com_geo=geocell;
else if enrid = '1054' then com_geo=geocell;
else if enrid = '1055' then com_geo=geocell;
else if enrid = '1056' then com_geo=geocell;
else if enrid = '1057' then com_geo=geocell;
else if enrid = '1058' then com_geo=geocell;
else if enrid = '1059' then com_geo=geocell;
else if enrid = '1060' then com_geo=geocell;
else if enrid = '1061' then com_geo=geocell;
else if enrid = '1062' then com_geo=geocell;
else if enrid = '1063' then com_geo=geocell;
else if enrid = '1064' then com_geo=geocell;
else if enrid = '1065' then com_geo=geocell;
else if enrid = '1066' then com_geo=geocell;
else if enrid = '1067' then com_geo=geocell;
else if enrid = '1068' then com_geo=geocell;
else if enrid = '1069' then com_geo=geocell;
else if enrid = '1070' then com_geo=geocell;
else if enrid = '1071' then com_geo=geocell;
else if enrid = '1072' then com_geo=geocell;
else if enrid = '1073' then com_geo=geocell;
else if enrid = '1075' then com_geo=geocell;
else if enrid = '1077' then com_geo=geocell;
else if enrid = '1079' then com_geo=geocell;
else if enrid = '1080' then com_geo=geocell;
else if enrid = '1082' then com_geo=geocell;
else if enrid = '1083' then com_geo=geocell;
else if enrid = '1084' then com_geo=geocell;
else if enrid = '1085' then com_geo=geocell;
else if enrid = '1087' then com_geo=geocell;
else if enrid = '1088' then com_geo=geocell;
else if enrid = '1089' then com_geo=geocell;
else if enrid = '1090' then com_geo=geocell;
else if enrid = '1091' then com_geo=geocell;
else if enrid = '1094' then com_geo=geocell;
```

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else if enrid = '1095' then com_geo=geocell;
else if enrid = '1096' then com_geo=geocell;
else if enrid = '1097' then com_geo=geocell;
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else if enrid = '1099' then com_geo=geocell;
else if enrid = '1101' then com_geo=geocell;
else if enrid = '1102' then com_geo=geocell;
else if enrid = '1103' then com_geo=geocell;
else if enrid = '1104' then com_geo=geocell;
else if enrid = '1106' then com_geo=geocell;
else if enrid = '1108' then com_geo=geocell;
else if enrid = '1109' then com_geo=geocell;
else if enrid = '1112' then com_geo=geocell;
else if enrid = '1114' then com_geo=geocell;
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else if enrid = '1145' then com_geo=geocell;
else if enrid = '1146' then com_geo=geocell;
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else if enrid = '1159' then com_geo=geocell;
else if enrid = '1160' then com_geo=geocell;
else if enrid = '1161' then com_geo=geocell;
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else if enrid = '1169' then com_geo=geocell;
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else if enrid = '1172' then com_geo=geocell;
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else if enrid = '1185' then com_geo=geocell;
else if enrid = '1186' then com_geo=geocell;
else if enrid = '1187' then com_geo=geocell;
else if enrid = '1189' then com_geo=geocell;
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else if enrid = '1192' then com_geo=geocell;
else if enrid = '1193' then com_geo=geocell;
else if enrid = '1195' then com_geo=geocell;
else if enrid = '1196' then com_geo=geocell;
else if enrid = '1197' then com_geo=geocell;
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else if enrid = '1199' then com_geo=geocell;
else if enrid = '1200' then com_geo=geocell;
else if enrid = '1201' then com_geo=geocell;
else if enrid = '1202' then com_geo=geocell;
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else if enrid = '1205' then com_geo=geocell;
else if enrid = '1206' then com_geo=geocell;
else if enrid = '1207' then com_geo=geocell;
else if enrid = '1208' then com_geo=geocell;
else if enrid = '1209' then com_geo=geocell;
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else if enrid = '1211' then com_geo=geocell;
else if enrid = '1212' then com_geo=geocell;
else if enrid = '1213' then com_geo=geocell;
else if enrid = '1214' then com_geo=geocell;
else if enrid = '1215' then com_geo=geocell;
else if enrid = '1216' then com_geo=geocell;
else if enrid = '1217' then com_geo=geocell;
else if enrid = '1218' then com_geo=geocell;
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else if enrid = '1227' then com_geo=geocell;
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else if enrid = '1242' then com_geo=geocell;
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else if enrid = '1251' then com_geo=geocell;
else if enrid = '1253' then com_geo=geocell;
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else if enrid = '1256' then com_geo=geocell;
else if enrid = '1261' then com_geo=geocell;
else if enrid = '1262' then com_geo=geocell;
else if enrid = '1263' then com_geo=geocell;
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else if enrid = '1267' then com_geo=geocell;
else if enrid = '1268' then com_geo=geocell;
else if enrid = '1270' then com_geo=geocell;
else if enrid = '1272' then com_geo=geocell;
else if enrid = '1273' then com_geo=geocell;
else if enrid = '1275' then com_geo=geocell;
else if enrid = '1300' then com_geo=geocell;
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else if enrid = '1302' then com_geo=geocell;
else if enrid = '1303' then com_geo=geocell;
else if enrid = '1304' then com_geo=geocell;
else if enrid = '1305' then com_geo=geocell;
else if enrid = '1306' then com_geo=geocell;
else if enrid = '1307' then com_geo=geocell;
else if enrid = '1308' then com_geo=geocell;
else if enrid = '1309' then com_geo=geocell;
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else if enrid = '1323' then com_geo=geocell;
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else if enrid = '1329' then com_geo=geocell;
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else if enrid = '1383' then com_geo=geocell;
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else if enrid = '1399' then com_geo=geocell;
```

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else if enrid = '1416' then com_geo=geocell;
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else if enrid = '1529' then com_geo=geocell;
```

```
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else if enrid = '1551' then com_geo=geocell;
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```

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else if enrid = '1642' then com_geo=geocell;
else if enrid = '1643' then com_geo=geocell;
else if enrid = '1645' then com_geo=geocell;
else if enrid = '1647' then com_geo=geocell;
else if enrid = '1648' then com_geo=geocell;
else if enrid = '1650' then com_geo=geocell;
else if enrid = '1651' then com_geo=geocell;
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else if enrid = '1654' then com_geo=geocell;
else if enrid = '1655' then com_geo=geocell;
else if enrid = '1661' then com_geo=geocell;
```

```
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else if enrid = '1677' then com_geo=geocell;
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else if enrid = '1683' then com_geo=geocell;
else if enrid = '1684' then com_geo=geocell;
else if enrid = '1685' then com_geo=geocell;
else if enrid = '1686' then com_geo=geocell;
else if enrid = '1687' then com_geo=geocell;
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else if enrid = '1695' then com_geo=geocell;
else if enrid = '1696' then com_geo=geocell;
else if enrid = '1698' then com_geo=geocell;
else if enrid = '1699' then com_geo=geocell;
else if enrid = '1700' then com_geo=geocell;
else if enrid = '1701' then com_geo=geocell;
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else if enrid = '1703' then com_geo=geocell;
else if enrid = '1704' then com_geo=geocell;
else if enrid = '1705' then com_geo=geocell;
else if enrid = '1706' then com_geo=geocell;
else if enrid = '1707' then com_geo=geocell;
else if enrid = '1708' then com_geo=geocell;
else if enrid = '1709' then com_geo=geocell;
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else if enrid = '1713' then com_geo=geocell;
else if enrid = '1714' then com_geo=geocell;
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else if enrid = '1717' then com_geo=geocell;
else if enrid = '1720' then com_geo=geocell;
else if enrid = '1721' then com_geo=geocell;
else if enrid = '1722' then com_geo=geocell;
else if enrid = '1723' then com_geo=geocell;
else if enrid = '1724' then com_geo=geocell;
else if enrid = '1725' then com_geo=geocell;
```

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else if enrid = '1726' then com_geo=geocell;
else if enrid = '1727' then com_geo=geocell;
else if enrid = '1728' then com_geo=geocell;
else if enrid = '1729' then com_geo=geocell;
else if enrid = '1730' then com_geo=geocell;
else if enrid = '1731' then com_geo=geocell;
else if enrid = '1732' then com_geo=geocell;
else if enrid = '1733' then com_geo=geocell;
else if enrid = '1734' then com_geo=geocell;
else if enrid = '1735' then com_geo=geocell;
else if enrid = '1736' then com_geo=geocell;
else if enrid = '1737' then com_geo=geocell;
else if enrid = '1738' then com_geo=geocell;
else if enrid = '1739' then com_geo=geocell;
else if enrid = '1740' then com_geo=geocell;
else if enrid = '1742' then com_geo=geocell;
else if enrid = '1743' then com_geo=geocell;
else if enrid = '1744' then com_geo=geocell;
else if enrid = '1745' then com_geo=geocell;
else if enrid = '1747' then com_geo=geocell;
else if enrid = '1748' then com_geo=geocell;
else if enrid = '1749' then com_geo=geocell;
else if enrid = '1751' then com_geo=geocell;
else if enrid = '1753' then com_geo=geocell;
else if enrid = '1754' then com_geo=geocell;
else if enrid = '1755' then com_geo=geocell;
else if enrid = '1756' then com_geo=geocell;
else if enrid = '1757' then com_geo=geocell;
else if enrid = '1758' then com_geo=geocell;
else if enrid = '1759' then com_geo=geocell;
else if enrid = '1760' then com_geo=geocell;
else if enrid = '1762' then com_geo=geocell;
else if enrid = '1764' then com_geo=geocell;
else if enrid = '1765' then com_geo=geocell;
else if enrid = '1766' then com_geo=geocell;
else if enrid = '1767' then com_geo=geocell;
else if enrid = '1768' then com_geo=geocell;
else if enrid = '1769' then com_geo=geocell;
else if enrid = '1770' then com_geo=geocell;
else if enrid = '1771' then com_geo=geocell;
else if enrid = '1773' then com_geo=geocell;
else if enrid = '1774' then com_geo=geocell;
else if enrid = '1775' then com_geo=geocell;
else if enrid = '1776' then com_geo=geocell;
else if enrid = '1777' then com_geo=geocell;
else if enrid = '1779' then com_geo=geocell;
else if enrid = '1781' then com_geo=geocell;
else if enrid = '1782' then com_geo=geocell;
else if enrid = '1786' then com_geo=geocell;
else if enrid = '1787' then com_geo=geocell;
else if enrid = '1788' then com_geo=geocell;
else if enrid = '1790' then com_geo=geocell;
else if enrid = '1791' then com_geo=geocell;
```

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else if enrid = '1792' then com_geo=geocell;
else if enrid = '1793' then com_geo=geocell;
else if enrid = '1794' then com_geo=geocell;
else if enrid = '1795' then com_geo=geocell;
else if enrid = '1796' then com_geo=geocell;
else if enrid = '1797' then com_geo=geocell;
else if enrid = '1798' then com_geo=geocell;
else if enrid = '1799' then com_geo=geocell;
else if enrid = '1800' then com_geo=geocell;
else if enrid = '1801' then com_geo=geocell;
else if enrid = '1802' then com_geo=geocell;
else if enrid = '1803' then com_geo=geocell;
else if enrid = '1804' then com_geo=geocell;
else if enrid = '1805' then com_geo=geocell;
else if enrid = '1806' then com_geo=geocell;
else if enrid = '1807' then com_geo=geocell;
else if enrid = '1808' then com_geo=geocell;
else if enrid = '1810' then com_geo=geocell;
else if enrid = '1811' then com_geo=geocell;
else if enrid = '1812' then com_geo=geocell;
else if enrid = '1813' then com_geo=geocell;
else if enrid = '1814' then com_geo=geocell;
else if enrid = '1816' then com_geo=geocell;
else if enrid = '1819' then com_geo=geocell;
else if enrid = '1820' then com_geo=geocell;
else if enrid = '1821' then com_geo=geocell;
else if enrid = '1822' then com_geo=geocell;
else if enrid = '1823' then com_geo=geocell;
else if enrid = '1824' then com_geo=geocell;
else if enrid = '1831' then com_geo=geocell;
else if enrid = '1832' then com_geo=geocell;
else if enrid = '1834' then com_geo=geocell;
else if enrid = '1837' then com_geo=geocell;
else if enrid = '1838' then com_geo=geocell;
else if enrid = '1839' then com_geo=geocell;
else if enrid = '1840' then com_geo=geocell;
else if enrid = '1842' then com_geo=geocell;
else if enrid = '1845' then com_geo=geocell;
else if enrid = '1846' then com_geo=geocell;
else if enrid = '1847' then com_geo=geocell;
else if enrid = '1849' then com_geo=geocell;
else if enrid = '1855' then com_geo=geocell;
else if enrid = '1856' then com_geo=geocell;
else if enrid = '1857' then com_geo=geocell;
else if enrid = '1858' then com_geo=geocell;
else if enrid = '1859' then com_geo=geocell;
else if enrid = '1860' then com_geo=geocell;
else if enrid = '1861' then com_geo=geocell;
else if enrid = '1862' then com_geo=geocell;
else if enrid = '1863' then com_geo=geocell;
else if enrid = '1865' then com_geo=geocell;
else if enrid = '1867' then com_geo=geocell;
else if enrid = '1868' then com_geo=geocell;
```

```
else if enrid = '1869' then com_geo=geocell;
else if enrid = '1871' then com_geo=geocell;
else if enrid = '1872' then com_geo=geocell;
else if enrid = '1873' then com_geo=geocell;
else if enrid = '1874' then com_geo=geocell;
else if enrid = '1876' then com_geo=geocell;
else if enrid = '1877' then com_geo=geocell;
else if enrid = '1878' then com_geo=geocell;
else if enrid = '1884' then com_geo=geocell;
else if enrid = '1885' then com_geo=geocell;
else if enrid = '1896' then com_geo=geocell;
else if enrid = '1903' then com_geo=geocell;
else if enrid = '1904' then com_geo=geocell;
else if enrid = '1905' then com_geo=geocell;
else if enrid = '1908' then com_geo=geocell;
else if enrid = '1910' then com_geo=geocell;
else if enrid = '1911' then com_geo=geocell;
else if enrid = '1913' then com_geo=geocell;
else if enrid = '1915' then com_geo=geocell;
else if enrid = '1919' then com_geo=geocell;
else if enrid = '1920' then com_geo=geocell;
else if enrid = '1922' then com_geo=geocell;
else if enrid = '1923' then com_geo=geocell;
else if enrid = '1925' then com_geo=geocell;
else if enrid = '1926' then com_geo=geocell;
else if enrid = '1927' then com_geo=geocell;
else if enrid = '1928' then com_geo=geocell;
else if enrid = '1929' then com_geo=geocell;
else if enrid = '1930' then com_geo=geocell;
else if enrid = '1931' then com_geo=geocell;
else if enrid = '1932' then com_geo=geocell;
else if enrid = '1933' then com_geo=geocell;
else if enrid = '1934' then com_geo=geocell;
else if enrid = '1935' then com_geo=geocell;
else if enrid = '1936' then com_geo=geocell;
else if enrid = '1937' then com_geo=geocell;
else if enrid = '1938' then com_geo=geocell;
else if enrid = '1942' then com_geo=geocell;
else if enrid = '1943' then com_geo=geocell;
else if enrid = '1944' then com_geo=geocell;
else if enrid = '1945' then com_geo=geocell;
else if enrid = '1947' then com_geo=geocell;
else if enrid = '1949' then com_geo=geocell;
else if enrid = '1950' then com_geo=geocell;
else if enrid = '1955' then com_geo=geocell;
else if enrid = '1957' then com_geo=geocell;
else if enrid = '1958' then com_geo=geocell;
else if enrid = '1960' then com_geo=geocell;
else if enrid = '1961' then com_geo=geocell;
else if enrid = '1962' then com_geo=geocell;
else if enrid = '1963' then com_geo=geocell;
else if enrid = '1964' then com_geo=geocell;
else if enrid = '1966' then com_geo=geocell;
```

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else if enrid = '1967' then com_geo=geocell;
else if enrid = '1969' then com_geo=geocell;
else if enrid = '1970' then com_geo=geocell;
else if enrid = '1971' then com_geo=geocell;
else if enrid = '1972' then com_geo=geocell;
else if enrid = '1973' then com_geo=geocell;
else if enrid = '1975' then com_geo=geocell;
else if enrid = '1976' then com_geo=geocell;
else if enrid = '1977' then com_geo=geocell;
else if enrid = '1978' then com_geo=geocell;
else if enrid = '1979' then com_geo=geocell;
else if enrid = '1980' then com_geo=geocell;
else if enrid = '1981' then com_geo=geocell;
else if enrid = '1982' then com_geo=geocell;
else if enrid = '1983' then com_geo=geocell;
else if enrid = '1984' then com_geo=geocell;
else if enrid = '1985' then com_geo=geocell;
else if enrid = '1986' then com_geo=geocell;
else if enrid = '1988' then com_geo=geocell;
else if enrid = '1989' then com_geo=geocell;
else if enrid = '1990' then com_geo=geocell;
else if enrid = '1991' then com_geo=geocell;
else if enrid = '1993' then com_geo=geocell;
else if enrid = '1996' then com_geo=geocell;
else if enrid = '1997' then com_geo=geocell;
else if enrid = '1998' then com_geo=geocell;
else if enrid = '1999' then com_geo=geocell;
else if enrid = '2002' then com_geo=geocell;
else if enrid = '2003' then com_geo=geocell;
else if enrid = '2005' then com_geo=geocell;
else if enrid = '2168' then com_geo=geocell;
else if enrid = '2169' then com_geo=geocell;
else if enrid = '2171' then com_geo=geocell;
else if enrid = '2500' then com_geo=geocell;
else if enrid = '3000' then com_geo=geocell;
else if enrid = '3081' then com_geo=geocell;
else if enrid = '3082' then com_geo=geocell;
else if enrid = '3083' then com_geo=geocell;
else if enrid = '3084' then com_geo=geocell;
else if enrid = '3085' then com_geo=geocell;
else if enrid = '3506' then com_geo=geocell;
else if enrid = '3507' then com_geo=geocell;
else if enrid = '3526' then com_geo=geocell;
else if enrid = '3562' then com_geo=geocell;
else if enrid = '3563' then com_geo=geocell;
else if enrid = '3564' then com_geo=geocell;
else if enrid = '3565' then com_geo=geocell;
else if enrid = '3566' then com_geo=geocell;
else if enrid = '3567' then com_geo=geocell;
else if enrid = '3568' then com_geo=geocell;
else if enrid = '3569' then com_geo=geocell;
else if enrid = '3570' then com_geo=geocell;
else if enrid = '3571' then com_geo=geocell;
```

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else if enrid = '3609' then com_geo=geocell;
else if enrid = '3610' then com_geo=geocell;
else if enrid = '3612' then com_geo=geocell;
else if enrid = '3613' then com_geo=geocell;
else if enrid = '3615' then com_geo=geocell;
else if enrid = '3625' then com_geo=geocell;
else if enrid = '4001' then com_geo=geocell;
else if enrid = '5192' then com_geo=geocell;
else if enrid = '5193' then com_geo=geocell;
else if enrid = '5198' then com_geo=geocell;
else if enrid = '5201' then com_geo=geocell;
else if enrid = '5202' then com_geo=geocell;
else if enrid = '5203' then com_geo=geocell;
else if enrid = '5204' then com_geo=geocell;
else if enrid = '5205' then com_geo=geocell;
else if enrid = '5206' then com_geo=geocell;
else if enrid = '5207' then com_geo=geocell;
else if enrid = '5208' then com_geo=geocell;
else if enrid = '5209' then com_geo=geocell;
else if enrid = '5211' then com_geo=geocell;
else if enrid = '5212' then com_geo=geocell;
else if enrid = '5213' then com_geo=geocell;
else if enrid = '5214' then com_geo=geocell;
else if enrid = '5215' then com_geo=geocell;
else if enrid = '5268' then com_geo=geocell;
else if enrid = '5269' then com_geo=geocell;
else if enrid = '5270' then com_geo=geocell;
else if enrid = '5272' then com_geo=geocell;
else if enrid = '5276' then com_geo=geocell;
else if enrid = '5277' then com_geo=geocell;
else if enrid = '5278' then com_geo=geocell;
else if enrid = '5279' then com_geo=geocell;
else if enrid = '5280' then com_geo=geocell;
else if enrid = '5281' then com_geo=geocell;
else if enrid = '5282' then com_geo=geocell;
else if enrid = '5283' then com_geo=geocell;
else if enrid = '5284' then com_geo=geocell;
else if enrid = '5285' then com_geo=geocell;
else if enrid = '5286' then com_geo=geocell;
else if enrid = '5338' then com_geo=geocell;
else if enrid = '5340' then com_geo=geocell;
else if enrid = '5351' then com_geo=geocell;
else if enrid = '5383' then com_geo=geocell;
else if enrid = '5385' then com_geo=geocell;
else if enrid = '5386' then com_geo=geocell;
else if enrid = '5387' then com_geo=geocell;
else if enrid = '5390' then com_geo=geocell;
else if enrid = '5394' then com_geo=geocell;
else if enrid = '5396' then com_geo=geocell;
else if enrid = '5400' then com_geo=geocell;
else if enrid = '5402' then com_geo=geocell;
else if enrid = '5403' then com_geo=geocell;
else if enrid = '5404' then com_geo=geocell;
```

```
else if enrid = '5405' then com_geo=geocell;
else if enrid = '5406' then com_geo=geocell;
else if enrid = '5411' then com_geo=geocell;
else if enrid = '5412' then com_geo=geocell;
else if enrid = '5415' then com_geo=geocell;
else if enrid = '5416' then com_geo=geocell;
else if enrid = '5418' then com_geo=geocell;
else if enrid = '5422' then com_geo=geocell;
else if enrid = '5425' then com_geo=geocell;
else if enrid = '5426' then com_geo=geocell;
else if enrid = '5427' then com_geo=geocell;
else if enrid = '5428' then com_geo=geocell;
else if enrid = '5433' then com_geo=geocell;
else if enrid = '5438' then com_geo=geocell;
else if enrid = '5439' then com_geo=geocell;
else if enrid = '5440' then com_geo=geocell;
else if enrid = '5441' then com_geo=geocell;
else if enrid = '5443' then com_geo=geocell;
else if enrid = '5446' then com_geo=geocell;
else if enrid = '5447' then com_geo=geocell;
else if enrid = '5450' then com_geo=geocell;
else if enrid = '5451' then com_geo=geocell;
else if enrid = '5452' then com_geo=geocell;
else if enrid = '5454' then com_geo=geocell;
else if enrid = '5456' then com_geo=geocell;
else if enrid = '5459' then com_geo=geocell;
else if enrid = '5461' then com_geo=geocell;
else if enrid = '5462' then com_geo=geocell;
else if enrid = '5463' then com_geo=geocell;
else if enrid = '5464' then com_geo=geocell;
else if enrid = '5472' then com_geo=geocell;
else if enrid = '5474' then com_geo=geocell;
else if enrid = '5476' then com_geo=geocell;
else if enrid = '5477' then com_geo=geocell;
else if enrid = '5478' then com_geo=geocell;
else if enrid = '5479' then com_geo=geocell;
else if enrid = '5480' then com_geo=geocell;
else if enrid = '5481' then com_geo=geocell;
else if enrid = '5485' then com_geo=geocell;
else if enrid = '5489' then com_geo=geocell;
else if enrid = '5490' then com_geo=geocell;
else if enrid = '5491' then com_geo=geocell;
else if enrid = '5494' then com_geo=geocell;
else if enrid = '5495' then com_geo=geocell;
else if enrid = '5496' then com_geo=geocell;
else if enrid = '5498' then com_geo=geocell;
else if enrid = '5499' then com_geo=geocell;
else if enrid = '5504' then com_geo=geocell;
else if enrid = '5512' then com_geo=geocell;
else if enrid = '5514' then com_geo=geocell;
else if enrid = '5525' then com_geo=geocell;
else if enrid = '5591' then com_geo=geocell;
else if enrid = '5680' then com_geo=geocell;
```

```
else if enrid = '5695' then com_geo=geocell;
else if enrid = '6004' then com_geo=geocell;
else if enrid = '6006' then com_geo=geocell;
else if enrid = '6013' then com_geo=geocell;
else if enrid = '6015' then com_geo=geocell;
else if enrid = '6016' then com_geo=geocell;
else if enrid = '6017' then com_geo=geocell;
else if enrid = '6018' then com_geo=geocell;
else if enrid = '6019' then com_geo=geocell;
else if enrid = '6023' then com_geo=geocell;
else if enrid = '6025' then com_geo=geocell;
else if enrid = '6029' then com_geo=geocell;
else if enrid = '6038' then com_geo=geocell;
else if enrid = '6040' then com_geo=geocell;
else if enrid = '6073' then com_geo=geocell;
else if enrid = '6074' then com_geo=geocell;
else if enrid = '6075' then com_geo=geocell;
else if enrid = '6077' then com_geo=geocell;
else if enrid = '6078' then com_geo=geocell;
else if enrid = '6097' then com_geo=geocell;
else if enrid = '6098' then com_geo=geocell;
else if enrid = '6099' then com_geo=geocell;
else if enrid = '6100' then com_geo=geocell;
else if enrid = '6101' then com_geo=geocell;
else if enrid = '6102' then com_geo=geocell;
else if enrid = '6121' then com_geo=geocell;
else if enrid = '6123' then com_geo=geocell;
else if enrid = '6162' then com_geo=geocell;
else if enrid = '6181' then com_geo=geocell;
else if enrid = '6192' then com_geo=geocell;
else if enrid = '6198' then com_geo=geocell;
else if enrid = '6202' then com_geo=geocell;
else if enrid = '6203' then com_geo=geocell;
else if enrid = '6204' then com_geo=geocell;
else if enrid = '6205' then com_geo=geocell;
else if enrid = '6206' then com_geo=geocell;
else if enrid = '6208' then com_geo=geocell;
else if enrid = '6209' then com_geo=geocell;
else if enrid = '6210' then com_geo=geocell;
else if enrid = '6211' then com_geo=geocell;
else if enrid = '6212' then com_geo=geocell;
else if enrid = '6213' then com_geo=geocell;
else if enrid = '6216' then com_geo=geocell;
else if enrid = '6217' then com_geo=geocell;
else if enrid = '6218' then com_geo=geocell;
else if enrid = '6219' then com_geo=geocell;
else if enrid = '6220' then com_geo=geocell;
else if enrid = '6222' then com_geo=geocell;
else if enrid = '6223' then com_geo=geocell;
else if enrid = '6316' then com_geo=geocell;
else if enrid = '6325' then com_geo=geocell;
else if enrid = '6338' then com_geo=geocell;
else if enrid = '6501' then com_geo=geocell;
```

```
else if enrid = '6502' then com_geo=geocell;
else if enrid = '6503' then com_geo=geocell;
else if enrid = '6504' then com_geo=geocell;
else if enrid = '6505' then com_geo=geocell;
else if enrid = '6506' then com_geo=geocell;
else if enrid = '6507' then com_geo=geocell;
else if enrid = '6508' then com_geo=geocell;
else if enrid = '6509' then com_geo=geocell;
else if enrid = '6510' then com_geo=geocell;
else if enrid = '6511' then com_geo=geocell;
else if enrid = '6512' then com_geo=geocell;
else if enrid = '6513' then com_geo=geocell;
else if enrid = '6601' then com_geo=geocell;
else if enrid = '6602' then com_geo=geocell;
else if enrid = '6603' then com_geo=geocell;
else if enrid = '6604' then com_geo=geocell;
else if enrid = '6605' then com_geo=geocell;
else if enrid = '6606' then com_geo=geocell;
else if enrid = '6607' then com_geo=geocell;
else if enrid = '6608' then com_geo=geocell;
else if enrid = '6609' then com_geo=geocell;
else if enrid = '6610' then com_geo=geocell;
else if enrid = '6611' then com_geo=geocell;
else if enrid = '6612' then com_geo=geocell;
else if enrid = '6613' then com_geo=geocell;
else if enrid = '6614' then com_geo=geocell;
else if enrid = '6615' then com_geo=geocell;
else if enrid = '6616' then com_geo=geocell;
else if enrid = '6700' then com_geo=geocell;
else if enrid = '6701' then com_geo=geocell;
else if enrid = '6702' then com_geo=geocell;
else if enrid = '6703' then com_geo=geocell;
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else if enrid = '6709' then com_geo=geocell;
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else if enrid = '6711' then com_geo=geocell;
else if enrid = '6712' then com_geo=geocell;
else if enrid = '6713' then com_geo=geocell;
else if enrid = '6714' then com_geo=geocell;
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else if enrid = '6723' then com_geo=geocell;
else if enrid = '6724' then com_geo=geocell;
else if enrid = '6725' then com_geo=geocell;
```

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else if enrid = '6731' then com_geo=geocell;
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else if enrid = '6733' then com_geo=geocell;
else if enrid = '6734' then com_geo=geocell;
else if enrid = '6735' then com_geo=geocell;
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else if enrid = '6737' then com_geo=geocell;
else if enrid = '6738' then com_geo=geocell;
else if enrid = '6739' then com_geo=geocell;
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else if enrid = '6741' then com_geo=geocell;
else if enrid = '6742' then com_geo=geocell;
else if enrid = '6743' then com_geo=geocell;
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else if enrid = '6748' then com_geo=geocell;
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else if enrid = '6751' then com_geo=geocell;
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else if enrid = '6754' then com_geo=geocell;
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else if enrid = '6770' then com_geo=geocell;
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else if enrid = '6774' then com_geo=geocell;
else if enrid = '6775' then com_geo=geocell;
else if enrid = '6776' then com_geo=geocell;
else if enrid = '6777' then com_geo=geocell;
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else if enrid = '6779' then com_geo=geocell;
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else if enrid = '6787' then com_geo=geocell;
else if enrid = '6788' then com_geo=geocell;
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else if enrid = '6790' then com_geo=geocell;
else if enrid = '6791' then com_geo=geocell;
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else if enrid = '6794' then com_geo=geocell;
else if enrid = '6795' then com_geo=geocell;
else if enrid = '6796' then com_geo=geocell;
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else if enrid = '6807' then com_geo=geocell;
else if enrid = '6808' then com_geo=geocell;
else if enrid = '6809' then com_geo=geocell;
else if enrid = '6810' then com_geo=geocell;
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else if enrid = '6813' then com_geo=geocell;
else if enrid = '6814' then com_geo=geocell;
else if enrid = '6815' then com_geo=geocell;
else if enrid = '6816' then com_geo=geocell;
else if enrid = '6817' then com_geo=geocell;
else if enrid = '6818' then com_geo=geocell;
else if enrid = '6819' then com_geo=geocell;
else if enrid = '6820' then com_geo=geocell;
else if enrid = '6821' then com_geo=geocell;
else if enrid = '6822' then com_geo=geocell;
else if enrid = '6823' then com_geo=geocell;
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else if enrid = '6827' then com_geo=geocell;
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else if enrid = '6829' then com_geo=geocell;
else if enrid = '6830' then com_geo=geocell;
else if enrid = '6831' then com_geo=geocell;
else if enrid = '6832' then com_geo=geocell;
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else if enrid = '6859' then com_geo=geocell;
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else if enrid = '6862' then com_geo=geocell;
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else if enrid = '6864' then com_geo=geocell;
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else if enrid = '6867' then com_geo=geocell;
else if enrid = '6869' then com_geo=geocell;
else if enrid = '6870' then com_geo=geocell;
else if enrid = '6871' then com_geo=geocell;
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else if enrid = '6873' then com_geo=geocell;
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else if enrid = '6891' then com_geo=geocell;
else if enrid = '6894' then com_geo=geocell;
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else if enrid = '7056' then com_geo=geocell;
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else if enrid = '7169' then com_geo=geocell;
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else if enrid = '7184' then com_geo=geocell;
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else if enrid = '7206' then com_geo=geocell;
else if enrid = '7207' then com_geo=geocell;
else if enrid = '7209' then com_geo=geocell;
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else if enrid = '7215' then com_geo=geocell;
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else if enrid = '7225' then com_geo=geocell;
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else if enrid = '7229' then com_geo=geocell;
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else if enrid = '7234' then com_geo=geocell;
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else if enrid = '7242' then com_geo=geocell;
else if enrid = '7245' then com_geo=geocell;
else if enrid = '7246' then com_geo=geocell;
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else if enrid = '7258' then com_geo=geocell;
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else if enrid = '7270' then com_geo=geocell;
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else if enrid = '7274' then com_geo=geocell;
else if enrid = '7275' then com_geo=geocell;
else if enrid = '7276' then com_geo=geocell;
else if enrid = '7277' then com_geo=geocell;
else if enrid = '7278' then com_geo=geocell;
else if enrid = '7279' then com_geo=geocell;
else if enrid = '7287' then com_geo=geocell;
else if enrid = '7292' then com_geo=geocell;
else if enrid = '7297' then com_geo=geocell;
else if enrid = '7298' then com_geo=geocell;
else if enrid = '7299' then com_geo=geocell;
else if enrid = '7301' then com_geo=geocell;
else if enrid = '7302' then com_geo=geocell;
else if enrid = '7304' then com_geo=geocell;
else if enrid = '7306' then com_geo=geocell;
else if enrid = '7308' then com_geo=geocell;
else if enrid = '7309' then com_geo=geocell;
else if enrid = '7312' then com_geo=geocell;
else if enrid = '7314' then com_geo=geocell;
else if enrid = '7316' then com_geo=geocell;
else if enrid = '7321' then com_geo=geocell;
else if enrid = '7322' then com_geo=geocell;
else if enrid = '7331' then com_geo=geocell;
else if enrid = '7332' then com_geo=geocell;
else if enrid = '7335' then com_geo=geocell;
else if enrid = '7336' then com_geo=geocell;
else if enrid = '7338' then com_geo=geocell;
else if enrid = '7343' then com_geo=geocell;
else if enrid = '7382' then com_geo=geocell;
else if enrid = '7385' then com_geo=geocell;
else if enrid = '7388' then com_geo=geocell;
else if enrid = '7392' then com_geo=geocell;
else if enrid = '7396' then com_geo=geocell;
else if enrid = '7401' then com_geo=geocell;
else if enrid = '7402' then com_geo=geocell;
else if enrid = '7403' then com_geo=geocell;
else if enrid = '7404' then com_geo=geocell;
else if enrid = '7405' then com_geo=geocell;
else if enrid = '7407' then com_geo=geocell;
else if enrid = '7408' then com_geo=geocell;
else if enrid = '7409' then com_geo=geocell;
else if enrid = '7413' then com_geo=geocell;
```

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else if enrid = '7415' then com_geo=geocell;
else if enrid = '7416' then com_geo=geocell;
else if enrid = '7417' then com_geo=geocell;
else if enrid = '7418' then com_geo=geocell;
else if enrid = '7419' then com_geo=geocell;
else if enrid = '7420' then com_geo=geocell;
else if enrid = '7421' then com_geo=geocell;
else if enrid = '7422' then com_geo=geocell;
else if enrid = '7423' then com_geo=geocell;
else if enrid = '7424' then com_geo=geocell;
else if enrid = '7425' then com_geo=geocell;
else if enrid = '7426' then com_geo=geocell;
else if enrid = '7427' then com_geo=geocell;
else if enrid = '7428' then com_geo=geocell;
else if enrid = '7429' then com_geo=geocell;
else if enrid = '7432' then com_geo=geocell;
else if enrid = '7435' then com_geo=geocell;
else if enrid = '7436' then com_geo=geocell;
else if enrid = '7438' then com_geo=geocell;
else if enrid = '7440' then com_geo=geocell;
else if enrid = '7441' then com_geo=geocell;
else if enrid = '7442' then com_geo=geocell;
else if enrid = '7444' then com_geo=geocell;
else if enrid = '7445' then com_geo=geocell;
else if enrid = '7446' then com_geo=geocell;
else if enrid = '7447' then com_geo=geocell;
else if enrid = '7449' then com_geo=geocell;
else if enrid = '7450' then com_geo=geocell;
else if enrid = '7451' then com_geo=geocell;
else if enrid = '7452' then com_geo=geocell;
else if enrid = '7453' then com_geo=geocell;
else if enrid = '7454' then com_geo=geocell;
else if enrid = '7455' then com_geo=geocell;
else if enrid = '7456' then com_geo=geocell;
else if enrid = '7457' then com_geo=geocell;
else if enrid = '7458' then com_geo=geocell;
else if enrid = '7460' then com_geo=geocell;
else if enrid = '7461' then com_geo=geocell;
else if enrid = '7462' then com_geo=geocell;
else if enrid = '7463' then com_geo=geocell;
else if enrid = '7464' then com_geo=geocell;
else if enrid = '7465' then com_geo=geocell;
else if enrid = '7466' then com_geo=geocell;
else if enrid = '7467' then com_geo=geocell;
else if enrid = '7468' then com_geo=geocell;
else if enrid = '7469' then com_geo=geocell;
else if enrid = '7470' then com_geo=geocell;
else if enrid = '7475' then com_geo=geocell;
else if enrid = '7536' then com_geo=geocell;
else if enrid = '7537' then com_geo=geocell;
else if enrid = '7538' then com_geo=geocell;
else if enrid = '7901' then com_geo=geocell;
else if enrid = '7902' then com_geo=geocell;
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else if enrid = '7903' then com_geo=geocell;
else if enrid = '7904' then com_geo=geocell;
else if enrid = '7905' then com_geo=geocell;
else if enrid = '7906' then com_geo=geocell;
else if enrid = '7907' then com_geo=geocell;
else if enrid = '7908' then com_geo=geocell;
else if enrid = '7909' then com_geo=geocell;
else if enrid = '7910' then com_geo=geocell;
else if enrid = '7911' then com_geo=geocell;
else if enrid = '7912' then com_geo=geocell;
else if enrid = '7916' then com_geo=geocell;
else if enrid = '8001' then com_geo=geocell;
else if enrid = '8002' then com_geo=geocell;
else if enrid = '8003' then com_geo=geocell;
else if enrid = '8004' then com_geo=geocell;
else if enrid = '8005' then com_geo=geocell;
else if enrid = '8006' then com_geo=geocell;
else if enrid = '8007' then com_geo=geocell;
else if enrid = '8008' then com_geo=geocell;
else if enrid = '8009' then com_geo=geocell;
else if enrid = '8010' then com_geo=geocell;
else if enrid = '8011' then com_geo=geocell;
else if enrid = '8012' then com_geo=geocell;
else if enrid = '8013' then com_geo=geocell;
else if enrid = '8014' then com_geo=geocell;
else if enrid = '8015' then com_geo=geocell;
else if enrid = '8016' then com_geo=geocell;
else if enrid = '8017' then com_geo=geocell;
else if enrid = '8018' then com_geo=geocell;
else if enrid = '8019' then com_geo=geocell;
else if enrid = '8020' then com_geo=geocell;
else if enrid = '8021' then com_geo=geocell;
else if enrid = '8022' then com_geo=geocell;
else if enrid = '8023' then com_geo=geocell;
else if enrid = '8024' then com_geo=geocell;
else if enrid = '8025' then com_geo=geocell;
else if enrid = '8026' then com_geo=geocell;
else if enrid = '8027' then com_geo=geocell;
else if enrid = '8028' then com_geo=geocell;
else if enrid = '8029' then com_geo=geocell;
else if enrid = '8030' then com_geo=geocell;
else if enrid = '8031' then com_geo=geocell;
else if enrid = '8032' then com_geo=geocell;
else if enrid = '8033' then com_geo=geocell;
else if enrid = '8034' then com_geo=geocell;
else if enrid = '8035' then com_geo=geocell;
else if enrid = '8036' then com_geo=geocell;
else if enrid = '8303' then com_geo=geocell;
else if enrid = '8503' then com_geo=geocell;
else if enrid = '8505' then com_geo=geocell;
else if enrid = '8508' then com_geo=geocell;
else if enrid = '8510' then com_geo=geocell;
else if enrid = '8516' then com_geo=geocell;
```

```
else if enrid = '8521' then com_geo=geocell;
else if enrid = '8524' then com_geo=geocell;
else if enrid = '8530' then com_geo=geocell;
else if enrid = '8539' then com_geo=geocell;
else if enrid = '8540' then com_geo=geocell;
else if enrid = '8548' then com_geo=geocell;
else if enrid = '8554' then com_geo=geocell;
else if enrid = '8555' then com_geo=geocell;
else if enrid = '8558' then com_geo=geocell;
else if enrid = '8559' then com_geo=geocell;
else if enrid = '8561' then com_geo=geocell;
else if enrid = '8565' then com_geo=geocell;
else if enrid = '8569' then com_geo=geocell;
else if enrid = '8575' then com_geo=geocell;
else if enrid = '8579' then com_geo=geocell;
else if enrid = '8581' then com_geo=geocell;
else if enrid = '8584' then com_geo=geocell;
else if enrid = '8585' then com_geo=geocell;
else if enrid = '8589' then com_geo=geocell;
else if enrid = '8596' then com_geo=geocell;
else if enrid = '8603' then com_geo=geocell;
else if enrid = '8605' then com_geo=geocell;
else if enrid = '8612' then com_geo=geocell;
else if enrid = '8614' then com_geo=geocell;
else if enrid = '8632' then com_geo=geocell;
else if enrid = '8661' then com_geo=geocell;
else if enrid = '8665' then com_geo=geocell;
else if enrid = '8666' then com_geo=geocell;
else if enrid = '8685' then com_geo=geocell;
else if enrid = '8686' then com_geo=geocell;
else if enrid = '8708' then com_geo=geocell;
else if enrid = '8716' then com_geo=geocell;
else if enrid = '8729' then com_geo=geocell;
else if enrid = '8730' then com_geo=geocell;
else if enrid = '8734' then com_geo=geocell;
else if enrid = '8747' then com_geo=geocell;
else if enrid = '8751' then com_geo=geocell;
else if enrid = '8753' then com_geo=geocell;
else if enrid = '8762' then com_geo=geocell;
else if enrid = '8773' then com_geo=geocell;
else if enrid = '8777' then com_geo=geocell;
else if enrid = '8902' then com_geo=geocell;
else if enrid = '8904' then com_geo=geocell;
else if enrid = '8905' then com_geo=geocell;
else if enrid = '8906' then com_geo=geocell;
else if enrid = '8908' then com_geo=geocell;
else if enrid = '8909' then com_geo=geocell;
else if enrid = '8910' then com_geo=geocell;
else if enrid = '8911' then com_geo=geocell;
else if enrid = '8914' then com_geo=geocell;
else if enrid = '8915' then com_geo=geocell;
else if enrid = '8917' then com_geo=geocell;
else if enrid = '8918' then com_geo=geocell;
```

```
else if enrid = '8919' then com_geo=geocell;
else if enrid = '8920' then com_geo=geocell;
else if enrid = '8921' then com_geo=geocell;
else if enrid = '8923' then com_geo=geocell;
else if enrid = '8925' then com_geo=geocell;
else if enrid = '8926' then com_geo=geocell;
else if enrid = '8927' then com_geo=geocell;
else if enrid = '8928' then com_geo=geocell;
else if enrid = '8929' then com_geo=geocell;
else if enrid = '8930' then com_geo=geocell;
else if enrid = '8931' then com_geo=geocell;
else if enrid = '8932' then com_geo=geocell;
else if enrid = '8933' then com_geo=geocell;
else if enrid = '8935' then com_geo=geocell;
else if enrid = '8937' then com_geo=geocell;
else if enrid = '8938' then com_geo=geocell;
else if enrid = '8940' then com_geo=geocell;
else if enrid = '8941' then com_geo=geocell;
else if enrid = '8942' then com_geo=geocell;
else if enrid = '8943' then com_geo=geocell;
else if enrid = '8944' then com_geo=geocell;
else if enrid = '8945' then com_geo=geocell;
else if enrid = '8946' then com_geo=geocell;
else if enrid = '8947' then com_geo=geocell;
else if enrid = '8948' then com_geo=geocell;
else if enrid = '8949' then com_geo=geocell;
else if enrid = '8950' then com_geo=geocell;
else if enrid = '8951' then com_geo=geocell;
else if enrid = '8953' then com_geo=geocell;
else if enrid = '8954' then com_geo=geocell;
else if enrid = '8955' then com_geo=geocell;
else if enrid = '8956' then com_geo=geocell;
else if enrid = '8957' then com_geo=geocell;
else if enrid = '8958' then com_geo=geocell;
else if enrid = '8959' then com_geo=geocell;
else if enrid = '8960' then com_geo=geocell;
else if enrid = '8962' then com_geo=geocell;
else if enrid = '8963' then com_geo=geocell;
else if enrid = '8964' then com_geo=geocell;
else if enrid = '8965' then com_geo=geocell;
else if enrid = '8966' then com_geo=geocell;
else if enrid = '8967' then com_geo=geocell;
else if enrid = '8968' then com_geo=geocell;
else if enrid = '8969' then com_geo=geocell;
else if enrid = '8971' then com_geo=geocell;
else if enrid = '8972' then com_geo=geocell;
else if enrid = '8974' then com_geo=geocell;
else if enrid = '8975' then com_geo=geocell;
else if enrid = '8976' then com_geo=geocell;
else if enrid = '8978' then com_geo=geocell;
else if enrid = '8979' then com_geo=geocell;
else if enrid = '8980' then com_geo=geocell;
else if enrid = '8981' then com_geo=geocell;
```

```
else if enrid = '8982' then com_geo=geocell;
else if enrid = '8983' then com_geo=geocell;
else if enrid = '8984' then com_geo=geocell;
else if enrid = '8985' then com_geo=geocell;
else if enrid = '8986' then com_geo=geocell;
else if enrid = '8988' then com_geo=geocell;
else if enrid = '8989' then com_geo=geocell;
else if enrid = '8990' then com_geo=geocell;
else if enrid = '8991' then com_geo=geocell;
else if enrid = '8992' then com_geo=geocell;
else if enrid = '8993' then com_geo=geocell;
else if enrid = '8994' then com_geo=geocell;
else if enrid = '8995' then com_geo=geocell;
else if enrid = '8996' then com_geo=geocell;
else if enrid = '8997' then com_geo=geocell;
else if enrid = '8998' then com_geo=geocell;
else if enrid = '8999' then com_geo=geocell;
else if enrid = '9991' then com_geo=geocell;
else if enrid = '9998' then com_geo=geocell;
else if enrid = '9999' then com_geo=geocell;
****************************************************;
*** On board ship assignment              ***;
****************************************************;
else if enrid = '3002' then com_geo=geocell;
else if enrid = '3003' then com_geo=geocell;
****************************************************;
*** Managed care contractor assignment      ***;
****************************************************;
else if enrid = '6913' then com_geo=geocell;
else if enrid = '6914' then com_geo=geocell;
else if enrid = '6915' then com_geo=geocell;
else if enrid = '6917' then com_geo=geocell;
else if enrid = '6918' then com_geo=geocell;
else if enrid = '6919' then com_geo=geocell;
else if enrid = '6923' then com_geo=geocell;
else if enrid = '6924' then com_geo=geocell;
```

F.19 WEIGHTING\ADDWGTS.SAS - Merge the combined annual weights with the final questionnaire/sample file - Annual

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
* PROGRAM: ADDWGTS.SAS
* TASK:    DOD HEALTH CARE SURVEY ANALYSIS (6244-300)
* PURPOSE:  MERGE THE FINAL WEIGHTS FILE WITH THE FINAL
*        QUESTIONNAIRE/SAMPLE FILE
*
* WRITTEN:  02/02/2001 BY KEITH RATHBUN
*
* MODIFIED: 1) 01/15/2002 BY KEITH RATHBUN: Updated to combine all quarterly
*           datasets including trickles with the annual weights file.
*        2) 12/30/2002 BY KEITH RATHBUN: Updated for 2002 survey.
*        3) 01/20/2004 BY LUCY LU: Updated for 2003 survey.
*        4) 02/10/2004 BY KEITH RATHBUN: Added catchment reporting variable
*          (XCATCH) constructed in STEP1Q.
*        5) 03/03/05 BY LUCY LU: Updateed for 2004 annual survey.
*           -- Create macro variables and eliminate macro program,
*           -- update the length statement for year 2004.
*        6) 01/04/2006 BY KEITH RATHBUN: Updated for 2005 survey.
*        7) 09/18/2007 BY LUCY LU: Updated for 2007 survey.
*        8) 09/17/2009 BY Emma Ernst: Updated for 2009 survey.
*        9) 10/13/2010 BY MIKE RUDACILLE: Updated for 2010 survey.
*            Modified to produce both public and private use datasets.
*        10) 09/23/2011 BY MIKE RUDACILLE: Updated for 2011 survey.
*        11) 09/20/2012 by AMANDA KUDIS: Updated for 2012 survey.
*        12) 07/24/13 BY AMANDA KUDIS: Updates for 2013 survey.
*        13) 07/11/17 BY MATT TURBYFILL: Updates for 2017 survey.
*        14) 06/27/18 BY MATT TURBYFILL: Updates for 2018 survey.
*            Removed HEDIS-only fields.
*        15) 06/29/18 BY IRNA MAY CONNOR: ADDED 5_BI1-4 notes in length statement.
*        16) 07/05/2018 BY IRNA MAY CONNOR: REMOVED STRATUMO and commented out
*          AA AB AC AD AE AF DCW_ID DHP_CODE ALLCOUNT GEOCELLH in line 71
*        17) 07/06/2018 BY IRNA MAY CONNOR: REMOVED SELECTIONPROB_ALL
*             STRATUM_H STRATUM_4 FLAG_COMGEO_STRATUM4_SAME
*             FLAG_LIST_OF_53 FROM FINAL DATASET
*
* INPUTS:  1) CREPWT.sas7bdat - Final/Replicated Weights file - FORM A
*       2) COMB2014.sas7bdat - Combined Q1-Q3 FORM A Questionnaire/Sample File *AMK NO Q4 FOR 2014;
*
* OUTPUTS:  1) HCSyyA_n.sas7bdat - Final FORM A Questionnaire/Sample File
*        combined with Final/Replicated Weights file - FORM A
*        where  yy = Year
*            A = Form A - Annual
*            n = Final Dataset Suffix/Version Number
*       2) HCSyyA_n.XPT - Final Adult SAS XPORT Dataset
*        where  yy = Year
*            A = Form A - Annual
*            n = Final Dataset Suffix/Version Number
*
```

```
* NOTES:   1) This program combines all of the quarterly input datasets
*          including trickles with the annual weights file.
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;

%LET YR = 20;

LIBNAME OUT        "..\..\DATA";
LIBNAME WTS        "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\20&YR.\Data\";
LIBNAME LIBRARY "..\..\Data\FMTLIB\WindowsVersionforDHA";

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER NOFMTERR VALIDVARNAME=V7;

%LET DSNI_1 = CREPWT;
%LET DSNI_2 = COMB20&YR.;
%LET DSNO_1 = HCS&YR.A_1A;
%LET DSNO_2 = HCS&YR.A_2;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Merge the final weights file with the final Questionnaire/Sample file
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
PROC SORT DATA=WTS.&DSNI_1 OUT=&DSNI_1; WHERE FNSTATUS EQ 11; BY MPRID; RUN;
PROC SORT DATA=OUT.&DSNI_2 OUT=&DSNI_2; BY MPRID; RUN;

DATA &DSNO_2(DROP= DRP_RND1  /* jma Oct 24 2008 */
/*AA AB AC AD AE AF DCW_ID DHP_CODE ALLCOUNT GEOCELLH*/ /*not in the 2018 dataset*/

     );

  MERGE &DSNI_2(IN=IN2 )
      &DSNI_1(IN=IN1 KEEP=MPRID CFWT CFWT1-CFWT180 FNSTATUS); /*HEDIS: Different fields merged in*/
  BY MPRID;

  IF FNSTATUS = 11;
  IF IN1 AND IN2;
  IF NOT (IN1 AND IN2) THEN PUT "ERROR: NO MATCHING MPRID WITH &DSNI_1..sas7bdat AND
&DSNI_2..sas7bdat";

/**** 2019 Missing XOCONUS Hardcode ****/
  IF XREGION = . AND XREGION = . AND DCATCH = '0625' THEN DO;
    XREGION = 13;
    XOCONUS = 2;
    XTNEXREG= 4;
    XTNEXRG2= 3;
    XCATCH = SUM(9400,XSERVAFF);
  END;

  FORMAT CACSMPL CACR.  WEB WEB.  /* MER 11/7/12 - changed from CAC to CACR format */
      /*TRICKDUP $trckdup. */

    N1 N2 N3 N4 N5 N5_BI2 N5_BI3 N5_BI5
    N6 N7 N8 N8_01 N9 N10 N10_B1
    N12 N13 N14 N15 N16 N17 N18_BF1 N18_BF2
```

```
      N18 N19A N19B N20 N21 N21_BG1 N21_BG2 N21_BG3
      N23_HT N23_WT N24 N24_BJ1 N24_BJ2
      notes.

      XBMI xbmi.;

   LABEL CFWT='Combined Annual NEW Weight';

  RUN;

DATA OUT.&DSNO_2 ;
 ****************************************************************************
 * Reorder file for documentation purposes.
 ***************************************************************************,
 LENGTH
   MPRID      $ 8      /* ID             */
   SVCSMPL      8       /* sampling variable */
   SEXSMPL      8       /* sampling variable */
   STRATUM    $ 7       /* sampling variable */
   CACSMPL      8       /* sampling variable */
   ENBGSMPL   $ 2       /* sampling variable */
   ENBGSMPL2  $ 2        /* sampling variable */
   MPCSMPL      8       /* sampling variable */
   NHFF         8       /* sampling variable */
   SERVAREA   $ 2       /* sampling variable */
   QUARTER    $ 8       /* sampling variable */
   /*PRN        8*/       /* sampling variable */
   DCATCH     $ 4       /* sampling variable */
   ENRID      $ 4       /* sampling variable */
   /*DMIS_ID    $ 9*/      /* sampling variable */
   MSM        $ 2       /* sampling variable */
   D_FAC      $ 9       /* sampling variable */
   /*D_PAR      $ 4*/      /* sampling variable */
   D_HEALTH   $ 2       /* sampling variable */
   TNEXREG    $ 1       /* sampling variable */
   SERVAFF    $ 1       /* sampling variable */
   /*COM_GEO    $ 4*/      /* sampling variable *//* MER 7/20/10 - Added to sampling vars so it won't be */
                          /* at the end of the proc contents by default anymore. */
                          /* This variable gets dropped in ADDWGTSA.sas.       */

   MRTLSTAT   $ 1       /* DEERS variable   */
   RACEETHN   $ 1        /* DEERS variable   */
   PNSEXCD    $ 1       /* DEERS variable   */
   DAGEQY     $ 3       /* DEERS variable   */
   RDAGEQY      3       /* DEERS variable   */
   FIELDAGE   $ 3       /* DEERS variable   */
   RFLDAGE      3       /* DEERS variable   */
   PCM        $ 3      /* DEERS variable   */
   DBENCAT    $ 3       /* DEERS variable   */
   DMEDELG    $ 1        /* DEERS variable   */
   DSPONSVC   $ 1       /* DEERS variable   */
   MBRRELCD   $ 1        /* DEERS variable   */
   MEDTYPE    $ 1       /* DEERS variable   */
```

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```
PATCAT     $ 7      /* DEERS variable   */
PNTYPCD    $ 1      /* DEERS variable   */
PNLCATCD   $ 1      /* DEERS variable   */
DELGENRC   $ 3      /* DEERS variable   */
DENRGRPC   $ 1      /* DEERS variable   */


H&YR.001    4      /* Questionnaire variable   */
H&YR.002A   4       /* Questionnaire variable   */
H&YR.002C   4       /* Questionnaire variable   */
H&YR.002N   4       /* Questionnaire variable   */
H&YR.002O   4       /* Questionnaire variable   */
H&YR.002P   4       /* Questionnaire variable   */
H&YR.002Q   4       /* Questionnaire variable   */
H&YR.002S   4       /* Questionnaire variable   */
H&YR.002T   4       /* Questionnaire variable   */
H&YR.002V   4       /* Questionnaire variable   */
H&YR.002K   4       /* Questionnaire variable   */
H&YR.002U   4       /* Questionnaire variable   */
H&YR.002F   4       /* Questionnaire variable   */
H&YR.002G   4       /* Questionnaire variable   */
H&YR.002H   4       /* Questionnaire variable   */
H&YR.002I   4       /* Questionnaire variable   */
H&YR.002J   4       /* Questionnaire variable   */
H&YR.002M   4        /* Questionnaire variable   */
H&YR.002R   4       /* Questionnaire variable   */
H&YR.002L   4       /* Questionnaire variable   */
H&YR.003    4      /* Questionnaire variable   */
H&YR.004    4      /* Questionnaire variable   */
H&YR.005    4      /* Questionnaire variable   */
H&YR.006    4      /* Questionnaire variable   */
H&YR.007    4      /* Questionnaire variable   */
H&YR.008    4      /* Questionnaire variable   */
H&YR.009    4      /* Questionnaire variable   */
H&YR.010    4      /* Questionnaire variable   */
H&YR.011    4      /* Questionnaire variable   */
H&YR.012    4      /* Questionnaire variable   */
H&YR.013    4      /* Questionnaire variable   */
H&YR.014    4      /* Questionnaire variable   */
H&YR.015    4      /* Questionnaire variable   */
H&YR.016    4      /* Questionnaire variable   */
H&YR.017    4      /* Questionnaire variable   */
H&YR.018    4      /* Questionnaire variable   */
H&YR.019    4      /* Questionnaire variable   */
H&YR.020    4      /* Questionnaire variable   */
H&YR.021    4      /* Questionnaire variable   */
H&YR.022    4      /* Questionnaire variable   */
H&YR.023    4      /* Questionnaire variable   */
H&YR.024    4      /* Questionnaire variable   */
H&YR.025    4      /* Questionnaire variable   */
H&YR.026    4      /* Questionnaire variable   */
H&YR.027    4      /* Questionnaire variable   */
H&YR.028    4      /* Questionnaire variable   */
H&YR.029    4      /* Questionnaire variable   */
```

```
H&YR.030      4       /* Questionnaire variable   */
H&YR.031      4       /* Questionnaire variable   */

H&YR.033      4       /* Questionnaire variable   */
H&YR.034      4       /* Questionnaire variable   */
H&YR.035      4       /* Questionnaire variable   */
H&YR.036      4       /* Questionnaire variable   */
H&YR.037      4       /* Questionnaire variable   */
H&YR.038      4       /* Questionnaire variable   */
H&YR.039      4       /* Questionnaire variable   */
H&YR.040      4       /* Questionnaire variable   */
H&YR.041      4       /* Questionnaire variable   */
H&YR.042      4       /* Questionnaire variable   */
H&YR.043      4       /* Questionnaire variable   */
H&YR.044      4       /* Questionnaire variable   */
H&YR.045      4       /* Questionnaire variable   */
H&YR.046      4       /* Questionnaire variable   */
H&YR.047      4       /* Questionnaire variable   */
H&YR.048      4       /* Questionnaire variable   */
H&YR.049      4       /* Questionnaire variable   */
H&YR.050      4       /* Questionnaire variable   */
H&YR.051      4       /* Questionnaire variable   */
H&YR.052      4       /* Questionnaire variable   */
H&YR.053      4       /* Questionnaire variable   */
H&YR.054      4       /* Questionnaire variable   */
H&YR.055      4       /* Questionnaire variable   */
H&YR.056      4       /* Questionnaire variable   */
H&YR.057A     4        /* Questionnaire variable   */
H&YR.057B     4        /* Questionnaire variable   */
H&YR.057C     4        /* Questionnaire variable   */
H&YR.057D     4        /* Questionnaire variable   */

H&YR.058      4       /* Questionnaire variable   */
H&YR.059B     4        /* Questionnaire variable   */
H&YR.060      4       /* Questionnaire variable   */
H&YR.061      4       /* Questionnaire variable   */
H&YR.062      4       /* Questionnaire variable   */
H&YR.063      4       /* Questionnaire variable   */
H&YR.064      4       /* Questionnaire variable   */
H&YR.065      4       /* Questionnaire variable   */

H&YR.071F     4        /* Questionnaire variable   */
H&YR.071I     4        /* Questionnaire variable   */
H&YR.072      4       /* Questionnaire variable   */
H&YR.073      4       /* Questionnaire variable   */
H&YR.073A     4        /* Questionnaire variable   */
H&YR.073B     4        /* Questionnaire variable   */
H&YR.073C     4        /* Questionnaire variable   */
H&YR.073D     4        /* Questionnaire variable   */
H&YR.073E     4        /* Questionnaire variable   */
SREDA      4       /* Questionnaire variable   */
SRRACEA    4       /* Questionnaire variable   */
SRRACEB    4       /* Questionnaire variable   */
```

```
SRRACEC     4      /* Questionnaire variable    */
SRRACED     4      /* Questionnaire variable    */
SRRACEE     4      /* Questionnaire variable    */
    /* SRRACEF    4 */    /* Questionnaire variable    */ /* not used in 2018*/
SRAGE      4      /* Questionnaire variable    */

S&YR.009    4      /* Q1 & Q2 & Q3 Supplement     */
S&YR.010    4      /* Q1 & Q2 & Q3 Supplement     */
S&YR.011    4      /* Q1 & Q2 & Q3 Supplement     */
S&YR.014    4      /* Q1 & Q2 & Q3 Supplement     */
S&YR.B01    4      /* Q1 & Q2 & Q3 Supplement     */
S&YR.B02    4      /* Q1 & Q2 & Q3 Supplement     */
S&YR.B03    4      /* Q1 & Q2 & Q3 Supplement     */
S&YR.B04    4      /* Q1 & Q2 & Q3 Supplement     */

S&YR.B01    4      /* Q1 Supplemental    */
S&YR.B02    4      /* Q1 Supplemental    */
S&YR.B03    4      /* Q1 Supplemental    */
S&YR.B04    4      /* Q1 Supplemental    */

S&YR.BF2    4      /* Q3 Supplement    */
S&YR.BF3    4      /* Q3 Supplement    */
S&YR.BF4    4      /* Q1 & Q2 & Q3 Supplement     */
S&YR.BF5    4      /* Q3 Supplement    */
S&YR.BF7    4      /* Q3 Supplement    */
S&YR.BF8A    4      /* Q3 Supplement    */
S&YR.BF8B    4      /* Q3 Supplement    */
S&YR.BF8C    4      /* Q3 Supplement    */
S&YR.BF8D    4      /* Q3 Supplement    */
S&YR.BF8E    4      /* Q3 Supplement    */
S&YR.BF8F    4      /* Q3 Supplement    */
S&YR.BF8G    4      /* Q3 Supplement    */
S&YR.BF8H    4      /* Q3 Supplement    */
S&YR.BF8I    4      /* Q3 Supplement    */
S&YR.BF8J    4      /* Q3 Supplement    */
S&YR.BF9    4      /* Q3 Supplement    */
S&YR.BF10    4      /* Q3 Supplement    */
S&YR.BF11    4      /* Q3 Supplement    */

S&YR.BG01    4      /* Q3 Supplement    */
S&YR.BG02    4      /* Q3 Supplement    */
S&YR.BG03    4      /* Q3 Supplement    */

S&YR.BI02A    4      /* Q1 Supplement    */
S&YR.BI02B    4      /* Q1 Supplement    */
S&YR.BI02C    4      /* Q1 Supplement    */
S&YR.BI02D    4      /* Q1 Supplement    */
S&YR.BI02E    4      /* Q1 Supplement    */
S&YR.BI03    4      /* Q1 Supplement    */
S&YR.BI04    4      /* Q1 Supplement    */
S&YR.BI06    4      /* Q1 Supplement    */
S&YR.BI07    4      /* Q1 Supplement    */
S&YR.BI08    4      /* Q1 Supplement    */
```

```
S&YR.BI09      4      /* Q1 Supplement    */
S&YR.BI12      4      /* Q1 Supplement    */
S&YR.BI14      4      /* Q1 Supplement    */
S&YR.BI15      4      /* Q1 Supplement    */
S&YR.BI16      4      /* Q1 Supplement    */
S&YR.BI19      4      /* Q1 Supplement    */
S&YR.BI20      4      /* Q1 Supplement    */
S&YR.BI21      4      /* Q1 Supplement    */
S&YR.BI22      4      /* Q1 Supplement    */
S&YR.BI23      4      /* Q1 Supplement    */
S&YR.BJ01      4      /* Q2 Supplement    */
S&YR.BJ02      4      /* Q2 Supplement    */
S&YR.BJ03      4      /* Q2 Supplement    */
S&YR.BJ04      4      /* Q2 Supplement    */
S&YR.BJ05      4      /* Q2 Supplement    */
S&YR.BJ06      4      /* Q2 Supplement    */
S&YR.BJ07      4      /* Q2 Supplement    */
S&YR.BJ08      4      /* Q2 Supplement    */
S&YR.BJ09      4      /* Q2 Supplement    */
S&YR.BJ10      4      /* Q2 Supplement    */
S&YR.BJ11      4      /* Q2 Supplement    */
S&YR.BJ12      4      /* Q2 Supplement    */
S&YR.BJ13      4      /* Q2 Supplement    */
S&YR.BJ14      4      /* Q2 Supplement    */
      ONTIME     $ 3      /* Survey fielding variable */
FLAG_FIN   $ 5      /* Survey fielding variable */
DUPFLAG    $ 3      /* Survey fielding variable */
FNSTATUS    8      /* Survey fielding variable */
KEYCOUNT     8      /* Survey fielding variable */
WEB        8      /* Survey fielding variable */


      SURVTYPE     8      /* Survey fielding variable */
/** jma 11/17/11 MIQCNTL   $ 12  ***/     /* Survey fielding variable */

/* EXPFLAG     8      /* CS flag variable    *//*AMK removed for 2013*/
N1        8      /* CS flag variable    */
N2        8      /* CS flag variable    */
N3        8      /* CS flag variable    */
N4        8      /* CS flag variable    */
N5        8      /* CS flag variable    */
N5_BI2     8      /* CS flag variable    */
N5_BI3     8      /* CS flag variable    */
N5_BI5     8      /* CS flag variable    */
N6        8      /* CS flag variable    */
N7        8      /* CS flag variable    */
N8        8      /* CS flag variable    */
N8_01     8      /* CS flag variable    */
N9        8      /* CS flag variable    */
N10       8      /* CS flag variable    */
N10_B1    8      /* CS flag variable    */
N12       8      /* CS flag variable    */
N13       8      /* CS flag variable    */
N14       8      /* CS flag variable    */
```

```
N15        8      /* CS flag variable   */
N16        8      /* CS flag variable   */
N17        8      /* CS flag variable   */
N18        8      /* CS flag variable   */
N18_BF1    8       /* CS flag variable   */
N18_BF2    8       /* CS flag variable   */
N19A       8       /* CS flag variable   */
N19B       8       /* CS flag variable   */
N20        8      /* CS flag variable   */
N21        8      /* CS flag variable   */
N21_BG1    8       /* CS flag variable   */
N21_BG2    8       /* CS flag variable   */
N21_BG3    8       /* CS flag variable   */
N23_HT     8      /* CS flag variable   */
N23_WT     8       /* CS flag variable   */
N24        8      /* CS flag variable   */
N24_BJ1    8       /* CS flag variable   */
N24_BJ2    8       /* CS flag variable   */
MISS_1     8      /* CS Count        */
MISS_4     8      /* CS Count        */
MISS_5     8      /* CS Count        */
MISS_6     8      /* CS Count        */
MISS_7     8      /* CS Count        */
MISS_9     8      /* CS Count        */
MISS_TOT   8       /* CS Count         */

DHAFLAG    8      /* constructed     */
XENRLLMT   8       /* constructed     */
XENR_PCM   8       /* constructed     */
XINS_COV   8      /* constructed     */
XBENCAT    8      /* constructed     */
XENR_RSV   8       /* constructed     */
XINS_RSV   8      /* constructed     */
XREGION    3      /* constructed     */
XTNEXRG2   3       /* constructed     */
XCATCH     8      /* constructed     */
USA        3     /* constructed     */
XOCONUS    3      /* constructed     */
OUTCATCH   8       /* constructed     */
XSEXA      8      /* constructed     */
XBMI       8      /* constructed     */
XBMICAT    3      /* constructed     */
XBNFGRP    8      /* constructed     */
XSERVAFF   3      /* constructed     */
KMILOPQY   8       /* constructed     */
KCIVOPQY   8       /* constructed     */
KCIVINS    8      /* constructed     */
HP_PRNTL   8      /* constructed     */
HP_MAMOG   8       /* constructed     */
HP_MAM50   8       /* constructed     */
HP_PAP     8      /* constructed     */
HP_BP      8      /* constructed     */
HP_FLU     8      /* constructed     */
```

```
HP_OBESE    8     /* constructed    */
HP_SMOKE    8     /* constructed    */
HP_SMKH3    8     /* constructed    */
HP_CESH3    8     /* constructed    */

POSTCELL    $5    /* Postratification Variables */

BWT         8     /* weights      */

CFWT        8     /* weights      */
CFWT1       8     /* weights      */
CFWT2       8     /* weights      */
CFWT3       8     /* weights      */
CFWT4       8     /* weights      */
CFWT5       8     /* weights      */
CFWT6       8     /* weights      */
CFWT7       8     /* weights      */
CFWT8       8     /* weights      */
CFWT9       8     /* weights      */
CFWT10      8     /* weights      */
CFWT11      8     /* weights      */
CFWT12      8     /* weights      */
CFWT13      8     /* weights      */
CFWT14      8     /* weights      */
CFWT15      8     /* weights      */
CFWT16      8     /* weights      */
CFWT17      8     /* weights      */
CFWT18      8     /* weights      */
CFWT19      8     /* weights      */
CFWT20      8     /* weights      */
CFWT21      8     /* weights      */
CFWT22      8     /* weights      */
CFWT23      8     /* weights      */
CFWT24      8     /* weights      */
CFWT25      8     /* weights      */
CFWT26      8     /* weights      */
CFWT27      8     /* weights      */
CFWT28      8     /* weights      */
CFWT29      8     /* weights      */
CFWT30      8     /* weights      */
CFWT31      8     /* weights      */
CFWT32      8     /* weights      */
CFWT33      8     /* weights      */
CFWT34      8     /* weights      */
CFWT35      8     /* weights      */
CFWT36      8     /* weights      */
CFWT37      8     /* weights      */
CFWT38      8     /* weights      */
CFWT39      8     /* weights      */
CFWT40      8     /* weights      */
CFWT41      8     /* weights      */
CFWT42      8     /* weights      */
CFWT43      8     /* weights      */
```

```
CFWT44    8    /* weights        */
CFWT45    8    /* weights        */
CFWT46    8    /* weights        */
CFWT47    8    /* weights        */
CFWT48    8    /* weights        */
CFWT49    8    /* weights        */
CFWT50    8    /* weights        */
CFWT51    8    /* weights        */
CFWT52    8    /* weights        */
CFWT53    8    /* weights        */
CFWT54    8    /* weights        */
CFWT55    8    /* weights        */
CFWT56    8    /* weights        */
CFWT57    8    /* weights        */
CFWT58    8    /* weights        */
CFWT59    8    /* weights        */
CFWT60    8    /* weights        */
CFWT61    8    /* weights        */
CFWT62    8    /* weights        */
CFWT63    8    /* weights        */
CFWT64    8    /* weights        */
CFWT65    8    /* weights        */
CFWT66    8    /* weights        */
CFWT67    8    /* weights        */
CFWT68    8    /* weights        */
CFWT69    8    /* weights        */
CFWT70    8    /* weights        */
CFWT71    8    /* weights        */
CFWT72    8    /* weights        */
CFWT73    8    /* weights        */
CFWT74    8    /* weights        */
CFWT75    8    /* weights        */
CFWT76    8    /* weights        */
CFWT77    8    /* weights        */
CFWT78    8    /* weights        */
CFWT79    8    /* weights        */
CFWT80    8    /* weights        */
CFWT81    8    /* weights        */
CFWT82    8    /* weights        */
CFWT83    8    /* weights        */
CFWT84    8    /* weights        */
CFWT85    8    /* weights        */
CFWT86    8    /* weights        */
CFWT87    8    /* weights        */
CFWT88    8    /* weights        */
CFWT89    8    /* weights        */
CFWT90    8    /* weights        */
CFWT91    8    /* weights        */
CFWT92    8    /* weights        */
CFWT93    8    /* weights        */
CFWT94    8    /* weights        */
CFWT95    8    /* weights        */
CFWT96    8    /* weights        */
```

```
CFWT97     8     /* weights     */
CFWT98     8     /* weights     */
CFWT99     8     /* weights     */
CFWT100    8     /* weights     */
CFWT101    8     /* weights     */
CFWT102    8     /* weights     */
CFWT103    8     /* weights     */
CFWT104    8     /* weights     */
CFWT105    8     /* weights     */
CFWT106    8     /* weights     */
CFWT107    8     /* weights     */
CFWT108    8     /* weights     */
CFWT109    8     /* weights     */
CFWT110    8     /* weights     */
CFWT111    8     /* weights     */
CFWT112    8     /* weights     */
CFWT113    8     /* weights     */
CFWT114    8     /* weights     */
CFWT115    8     /* weights     */
CFWT116    8     /* weights     */
CFWT117    8     /* weights     */
CFWT118    8     /* weights     */
CFWT119    8     /* weights     */
CFWT120    8     /* weights     */
CFWT121    8     /* weights     */
CFWT122    8     /* weights     */
CFWT123    8     /* weights     */
CFWT124    8     /* weights     */
CFWT125    8     /* weights     */
CFWT126    8     /* weights     */
CFWT127    8     /* weights     */
CFWT128    8     /* weights     */
CFWT129    8     /* weights     */
CFWT130    8     /* weights     */
CFWT131    8     /* weights     */
CFWT132    8     /* weights     */
CFWT133    8     /* weights     */
CFWT134    8     /* weights     */
CFWT135    8     /* weights     */
CFWT136    8     /* weights     */
CFWT137    8     /* weights     */
CFWT138    8     /* weights     */
CFWT139    8     /* weights     */
CFWT140    8     /* weights     */
CFWT141    8     /* weights     */
CFWT142    8     /* weights     */
CFWT143    8     /* weights     */
CFWT144    8     /* weights     */
CFWT145    8     /* weights     */
CFWT146    8     /* weights     */
CFWT147    8     /* weights     */
CFWT148    8     /* weights     */
CFWT149    8     /* weights     */
```

```
     CFWT150    8    /* weights      */
     CFWT151    8    /* weights      */
     CFWT152    8    /* weights      */
     CFWT153    8    /* weights      */
     CFWT154    8    /* weights      */
     CFWT155    8    /* weights      */
     CFWT156    8    /* weights      */
     CFWT157    8    /* weights      */
     CFWT158    8    /* weights      */
     CFWT159    8    /* weights      */
     CFWT160    8    /* weights      */
     CFWT161    8    /* weights      */
     CFWT162    8    /* weights      */
     CFWT163    8    /* weights      */
     CFWT164    8    /* weights      */
     CFWT165    8    /* weights      */
     CFWT166    8    /* weights      */
     CFWT167    8    /* weights      */
     CFWT168    8    /* weights      */
     CFWT169    8    /* weights      */
     CFWT170    8    /* weights      */
     CFWT171    8    /* weights      */
     CFWT172    8    /* weights      */
     CFWT173    8    /* weights      */
     CFWT174    8    /* weights      */
     CFWT175    8    /* weights      */
     CFWT176    8    /* weights      */
     CFWT177    8    /* weights      */
     CFWT178    8    /* weights      */
     CFWT179    8    /* weights      */
     CFWT180    8    /* weights      */

    ;

  SET  &DSNO_2 /*(DROP=STRATUM_OLD FLAG_REGION_COL NBR_EMAILS COM_GEO_OLD)*/;

  LABEL XCATCH = "XCATCH - Catchment Area (Reporting) ";
  FORMAT XCATCH CACR.;
  BY MPRID;
RUN;

TITLE1 "DOD Annual Health Care Survey (0663-300)";
TITLE2 "Program Name: ADDWGTS.SAS";
TITLE3 "Program Inputs: &DSNI_1..sas7bdat -- &DSNI_2..sas7bdat";
TITLE4 "Program Outputs: &DSNO_1..sas7bdat -- &DSNO_2..sas7bdat";

PROC CONTENTS POSITION; RUN;

/* Create public-use dataset */
DATA OUT.&DSNO_1;
  SET OUT.&DSNO_2(DROP=MSA_ID /** jma 11/17/2011 ***/
            CACSMPL  SERVAREA DCATCH   MSM
            D_FAC   DAGEQY  FIELDAGE PNLCATCD
```

```
             DMEDELG  MEDTYPE  MBRRELCD MRTLSTAT
             PNBRTHDT PGCD    MASTCD   MAPRZIP
             MAPRZIPX RANKCD   ENRID   XTNEXREG);
RUN;

PROC CONTENTS POSITION; RUN;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Output the restricted use CONTENTS text file for delivery with the
* database CD.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
PROC PRINTTO PRINT="&DSNO_2..TXT" NEW; RUN;
OPTIONS PAGENO=1;
TITLE4 "Program Outputs: &DSNO_2..sas7bdat/XPT";
PROC CONTENTS DATA=OUT.&DSNO_2; RUN;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Define and generate SAS Transport file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
/*** COMMENTING OUT THE EXPORT HERE BECAUSE IT IS BEING CREATED IN THE
WINDOWS VERSION FOR DHA PROGRAM ****/
/*
LIBNAME XFILE1 XPORT "..\..\data\&DSNO_1..XPT";
PROC COPY IN=OUT OUT=XFILE1; * Converts input file to transport file;
     SELECT &DSNO_1;    * Selects sas7bdat file to copy;
RUN;

LIBNAME XFILE2 XPORT "..\..\data\&DSNO_2..XPT";
PROC COPY IN=OUT OUT=XFILE2; * Converts input file to transport file;
     SELECT &DSNO_2;    * Selects sas7bdat file to copy;
RUN;
*/
```

F.20 Q3FY2020\PROGRAMS\HCSDB_Database_BatchProgram.SAS - Run all database creation programs as a single process

```
*-----------------------------------------------------
Program: HCSDB_Database_BatchProgram.sas
Programmer: Amanda Kudis
Date: 9/26/14

Notes: The following changes must still be made within
    the programs each quarter.
    1) Macro variables in this program updated
    2) Format library - Updated with new formats
    3) MergeSyn - No updates
    4) CschmYRq.sas
        a) Program name with new YR
        b) New note logic added, old note logic removed
    5) CschmYRq.fmt
        a) Program name with new YR
        b) New variable formats and labels added, old removed
    6) SelectQ.sas
        a) Overlap_fnstatus.inc(called in selectq.sas) - Verify which
          TSS data each quarter overlaps with and update file. If
          there is no selectq to compare to, but there are overlap cases
          then updated NOSELECTQ (below) to Y.
    7) Convarq.sas - No updates
    8) Mergeq.sas - Add new/remove old variables to length statement
    9) Addwgtsa.sas - No updates
    10) Database_QA.sas - Update note frequencies to match
        variables in the coding scheme document.

-----------------------------------------------------;
options source2 mprint nofmterr /*mlogic symbolgen */msglevel=i FORMCHAR='|-++++++++++=Ã-/\<>*';


*-------------------------------------
Set MACRO variables
-------------------------------------;

%LET YR = 20;
%LET QT = 3;

/*FIELDATE and FIELDLBL are the date that the survey first goes into the field.
Q1: Oct. 1 of the previous year
Q2: Jan. 1 of the current year
Q3: Apr. 1 of the current year
Q4: Jul. 1 of the current year
*/
%LET FIELDATE = 04012020; * mmddyyyy;
%LET FIELDLBL = Apr 1st 2020;
%LET NOSELECTQ = N; /*UPDATE TO Y WHEN NO TSS SELECTQ AVAILABLE TO COMPARE TO OVERLAP CASES;*/
%LET EXPATH = /sasdata/Projects/50713_HCS_Restricted/DATA/Q&QT.FY20&YR.;/* Ask for location of Extract
dataset, currently Sabrina Rahman */
```

```
%LET INRLIB= /sasdata/Projects/50713_HCS_Restricted/DATA/Q&QT.FY20&YR.; /*Location of SAMPLA02
dataset, should not change quarter to quarter*/
%LET TSS_LIB=/sasdata/Projects/50713_TSS/DATA/Beneficiary/2020/Data; /*This should be the location of the
TSS Selectq dataset, as long as there is one available*/
%LET OVERLAP_FNAME = Selectq;

%LET PATH = /sasdata/Projects/50713_HCS/DATA/HCSDB/Q&QT.FY20&YR.;

%LET DATAPATH= &path./Data/AFinal;
%LET FMTPATH=  &path./Data/AFinal/fmtlib;
%LET EMAILPATH = SQL_Email_Data_Q&QT.FY20&YR..csv;

*Set last quarter based on current quarter;
%LET LSTQ=%SYSEVALF(&QT.-1);
%LET LSTYR = &YR.;
%MACRO M;
%IF &LSTQ=0 %then %DO;
        %LET LSTQ=3;
        %LET LSTYR = %EVAL(&YR - 1);
%end;
%MEND; %M;
%put &lstyr.;
%put &lstq.;

proc printto print = "&path./Programs/HCSDB_Database_BatchProgram.lst" log =
"&path./Programs/HCSDB_Database_BatchProgram.log" new;
run;

*Set trickle flag based on folder name;
%macro settrickle;
%global trickle path;
%let folder = %sysfunc(getoption(SYSIN));
%if %index("&folder.", Q&QT.FY20&YR.t)>0 %then %let trickle=1;
%else %let trickle=0;

/*data _null_;*/
/*path=tranwrd("&folder.", "\Programs\HCSDB_Database_BatchProgram.sas", "");*/
/*call symput('path',trim(path)); */
/*run; */
%mend; %settrickle;
%put &trickle;
%put &path;

*-------------------------------------
Call programs
--------------------------------------;

%macro runprog(dir, file);

/*Change the current directory.  This is so the filepath references in each program work correctly.*/
x "cd &dir.";

%include "&dir./&file..sas";
```

```
/*Clear all formats*/
proc datasets memtype=catalog;
delete formats;
run;
quit;

/*Clear all datasets form WORK library*/
proc datasets lib=work kill nolist memtype=data;
quit;

/*Clear all macro programs except for MACROVARS and RUNPROG.*/
/*7/30/2020 MT - Additional code uses _SASSERVERNAME to identify if code is being run interactively*/
%if %symexist(_SASSERVERNAME) %then %do;
        proc catalog catalog=work.sasmac1 force;/*Interactive*/
%end;
%else %do;
        proc catalog catalog=work.sasmacr force;/*Batch*/
%end;
save RUNPROG /et=MACRO;
quit;
run;

%mend;

%runprog(dir=&path./Data/AFinal/fmtlib, file = Hafmt);
%runprog(dir=&path./Programs/Weighting, file = mergesyn);

%runprog(dir=&path./Programs/CodingScheme,file=Cschm&YR.q);
%runprog(dir=&path./Programs/Weighting, file = selectq);
%runprog(dir=&path./Programs/Construct, file = Convarq);

%runprog(dir=&path./Programs/Construct, file = Mergeq);

%runprog(dir=&path./Programs/Construct, file = Database_QA);

/*Addwgtsa.sas gets run separately from the other programs.*/

%runprog(dir=&path./Programs/Weighting, file =addwgtsa);

proc printto;run;
```

F.21.A Response_Rate\ANNUAL_RR.SAS - Combine Q1-Q3 and annual Response Rates into one excel file

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROGRAM: ANNUAL_RR.SAS
* TASK:    DOD HEALTH CARE SURVEY ANALYSIS (50713.BY.T02.013.200)
* PURPOSE: Combine Q1-Q3 and Annual Response_Rates.xls files
*        into one file called Response_Rates_Annual.xls.
* WRITTEN: 03/15/2005 BY KEITH RATHBUN
*
* MODIFIED:
*
* INPUT:   1) RESPONSE_RATES.XLS files (Q1-Q3 and Annual)
*          2) EMPTY_ANNUAL.XLS file (empty template)
*
* OUTPUT:  1) RESPONSE_RATES_ANNUAL.XLS
*
* INCLUDES: None
*
* NOTES:
*
* 1) This program must be run in BATCH mode.  DO NOT modify the directory
*    references to be hard-wired to support interactive use.
* 2) For FY2012, dropping HAS_EMAIL
* 3) From FY2013: We do not receiving any Q3t and Q4 Weights. Annual Wt and RR
*    are calculated using Q1t, Q2t and Q3 quarters.
* 3) We need to run programs in order of table02.sas, annual_rr.sas.
* 4) We can run table02_xcatch.sas anytime at this point, since it is
*    independent from other two above.
* 5) For FY2017, using Combining HCSDB and HEDIS for all domain except CASSmpl
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
OPTIONS PS=79 LS=132 COMPRESS=YES ERRORS=20 NOXWAIT NOCENTER mprint mlogic symbolgen NOXSYNC;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Assign Q1-Q3 and annual spreadsheet file names and year.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
%LET YEAR  = 2020;

%let path=N:\Project\50713_HCS\SASGRID\DATA\HCSDB\&year.\Programs\Response_Rate;

%LET FILE1  =
N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q1FY&year.t\Programs\Response_Rate\RESPONSE_RATES.XLS;
%LET FILE2  =
N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q2FY&year.\Programs\Response_Rate\RESPONSE_RATES.XLS;
%LET FILE3  =
N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q3FY&year.\Programs\Response_Rate\RESPONSE_RATES.XLS;
%LET FILE4  =
N:\Project\50713_HCS\SASGRID\DATA\HCSDB\&year.\Programs\Response_Rate\RESPONSE_RATES.XLS;

LIBNAME LIBRARY
"N:\Project\50713_HCS\SASGRID\DATA\HCSDB\&year.\Data\fmtlib\WindowsVersionForDHA";
```

```
%LET Sleepno = 30;

TITLE1 "Program: ANNUAL_RR.SAS (FY=&YEAR.):";
TITLE2 "Purpose: Combine Q1-Q3, HEDIS and Annual Response Rate XLS files for
FY&YEAR.(50713.BY.T02.013.200)";

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Assign sheetnames and establish global variables.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* All of the response_rates.xls files must be populated with the following
* sheetnames (generated by TABLE02.SAS):
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;

%LET DSN1  = TABLE02A;
%LET DSN2  = xoconus;
%LET DSN3  = usa;
%LET DSN4  = sexsmpl;
%LET DSN5  = enbgsmp2;
%LET DSN6  = enbgsmpl;
%LET DSN7  = cacsmpl;
%LET DSN8  = patcat;
%LET DSN9  = servaff;
%LET DSN10 = dhaflag;
%LET DSN11 = svcsmpl;
%LET DSN12 = xtnexrg2;
%LET DSN13 = patcatsvcsmpl;
%LET DSN14 = patcatsexsmpl;
%LET DSN15 = xtnexrg2cacsmpl;


* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Macro used to read Q1-Q3 and annual spreadsheet files.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%MACRO READXLS(DSN=, NUMDOM=);
  %IF &NUMDOM LE 1 %THEN %DO; * Read 3 columns in sheet;
    FILENAME INDATA DDE "excel|&DSN!r5c1:r9999c3";
  %END;
  %ELSE %IF &NUMDOM = 2 %THEN %DO; * Read 4 columns in sheet;
    FILENAME INDATA DDE "excel|&DSN!r5c1:r9999c4";
  %END;
  %ELSE %IF &NUMDOM = 3 %THEN %DO; * Read 5 columns in sheet;
    FILENAME INDATA DDE "excel|&DSN!r5c1:r9999c5";
  %END;
  DATA &DSN.&I;
    INFILE INDATA DLM='09'X NOTAB LRECL=500 PAD MISSOVER DSD;
    /*LENGTH DOMAIN1-DOMAIN3 $40;*/
    LENGTH DSN $30;
    %IF &NUMDOM = 0 %THEN %DO;
            LENGTH DOMAIN1 $40;
      INPUT DOMAIN1 : $CHAR40.
         RR    : 4.1
         RRW   : 4.1;
      DOMAIN1 = "TABLE02A";
    %END;
```

F.383

```
   %IF &NUMDOM = 1 %THEN %DO;
          LENGTH DOMAIN1 $40;
    INPUT DOMAIN1 : $CHAR40.
        RR    : 4.1
        RRW   : 4.1;
   %END;
   %ELSE %IF &NUMDOM = 2 %THEN %DO;
          LENGTH DOMAIN1 DOMAIN2 $40;
    INPUT DOMAIN1 : $CHAR40.
        DOMAIN2 : $CHAR40.
        RR    : 4.1
        RRW   : 4.1;
   %END;
   %ELSE %IF &NUMDOM = 3 %THEN %DO;
          LENGTH DOMAIN1-DOMAIN3 $40;
    INPUT DOMAIN1 : $CHAR40.
        DOMAIN2 : $CHAR40.
        DOMAIN3 : $CHAR40.
        RR    : 4.1
        RRW   : 4.1;
   %END;
   NUMDOM = &NUMDOM;
   FNUM = &I;
   DSN = "&DSN";
  RUN;
%MEND READXLS;

*************************************************************************
* Read Q1-Q3 and annual spreadsheet files.
*************************************************************************,
%MACRO READIT;
 /*%GLOBAL I;*/
 %DO I = 1 %TO 4;
 %PUT CHECK &&FILE&I;
   X "START &&FILE&I";
          DATA _NULL_;
            S=SLEEP(&Sleepno.);
          RUN;
   %READXLS(DSN=&DSN1,  NUMDOM=0);
   %READXLS(DSN=&DSN2,  NUMDOM=1);
   %READXLS(DSN=&DSN3,  NUMDOM=1);
   %READXLS(DSN=&DSN4,  NUMDOM=1);
   %READXLS(DSN=&DSN5,  NUMDOM=1);
   %READXLS(DSN=&DSN6,  NUMDOM=1);
   %READXLS(DSN=&DSN7,  NUMDOM=1);
   %READXLS(DSN=&DSN8,  NUMDOM=1);
   %READXLS(DSN=&DSN9,  NUMDOM=1);
   %READXLS(DSN=&DSN10, NUMDOM=1);
   %READXLS(DSN=&DSN11, NUMDOM=1);
          %READXLS(DSN=&DSN12, NUMDOM=1);
   %READXLS(DSN=&DSN13, NUMDOM=2);
          %READXLS(DSN=&DSN14, NUMDOM=2);
   %READXLS(DSN=&DSN15, NUMDOM=2);
```

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Quit spreadsheet application.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *,

   FILENAME CMDS DDE "EXCEL|SYSTEM";
   DATA _NULL_;
     FILE CMDS;
                  PUT '[CLOSE]';
     PUT '[QUIT]';
   RUN;
         DATA _NULL_;
           S=SLEEP(&Sleepno.);
         RUN;
 %END;
%MEND READIT;

%READIT;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Macro used to merge the Q1-Q3 and annual spreadsheet files by DOMAIN(s).
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *,
%MACRO MERGEIT(DSN=, NUMDOM=);
 %IF &NUMDOM LE 1 %THEN %DO;
    PROC SORT DATA=&DSN.1; BY DOMAIN1; RUN;
    PROC SORT DATA=&DSN.2; BY DOMAIN1; RUN;
    PROC SORT DATA=&DSN.3; BY DOMAIN1; RUN;
    PROC SORT DATA=&DSN.4; BY DOMAIN1; RUN;
    /*PROC SORT DATA=&DSN.5; BY DOMAIN1; RUN;*/
 %END;
 %ELSE %IF &NUMDOM = 2 %THEN %DO;
    PROC SORT DATA=&DSN.1; BY DOMAIN1 DOMAIN2; RUN;
    PROC SORT DATA=&DSN.2; BY DOMAIN1 DOMAIN2; RUN;
    PROC SORT DATA=&DSN.3; BY DOMAIN1 DOMAIN2; RUN;
    PROC SORT DATA=&DSN.4; BY DOMAIN1 DOMAIN2; RUN;
    /*PROC SORT DATA=&DSN.5; BY DOMAIN1 DOMAIN2; RUN;*/
 %END;
 %ELSE %IF &NUMDOM = 3 %THEN %DO;
    PROC SORT DATA=&DSN.1; BY DOMAIN1 DOMAIN2 DOMAIN3; RUN;
    PROC SORT DATA=&DSN.2; BY DOMAIN1 DOMAIN2 DOMAIN3; RUN;
    PROC SORT DATA=&DSN.3; BY DOMAIN1 DOMAIN2 DOMAIN3; RUN;
    PROC SORT DATA=&DSN.4; BY DOMAIN1 DOMAIN2 DOMAIN3; RUN;
    /*PROC SORT DATA=&DSN.5; BY DOMAIN1 DOMAIN2 DOMAIN3; RUN;*/
 %END;
 DATA MERGED_&DSN;
   MERGE &DSN.1(RENAME=(RR=RR1 RRW=RRW1))
       &DSN.2(RENAME=(RR=RR2 RRW=RRW2))
       &DSN.3(RENAME=(RR=RR3 RRW=RRW3))
       &DSN.4(RENAME=(RR=RR4 RRW=RRW4))
       /*&DSN.5(RENAME=(RR=RR5 RRW=RRW5))*/;
   %IF &NUMDOM LE 1 %THEN %DO;
     BY DOMAIN1;
   %END;
```

```
      %ELSE %IF &NUMDOM = 2 %THEN %DO;
        BY DOMAIN1 DOMAIN2;
      %END;
      %ELSE %IF &NUMDOM = 3 %THEN %DO;
        BY DOMAIN1 DOMAIN2 DOMAIN3;
      %END;
    RUN;
  %MEND MERGEIT;

  *********************************************************************
  * Merge the Q1-Q3 and annual spreadsheet files by DOMAIN(s).
  *********************************************************************.
  %MERGEIT(DSN=&DSN1, NUMDOM=0);
  %MERGEIT(DSN=&DSN2, NUMDOM=1);
  %MERGEIT(DSN=&DSN3, NUMDOM=1);
  %MERGEIT(DSN=&DSN4, NUMDOM=1);
  %MERGEIT(DSN=&DSN5, NUMDOM=1);
  %MERGEIT(DSN=&DSN6, NUMDOM=1);
  %MERGEIT(DSN=&DSN7, NUMDOM=1);
  %MERGEIT(DSN=&DSN8, NUMDOM=1);
  %MERGEIT(DSN=&DSN9, NUMDOM=1);
  %MERGEIT(DSN=&DSN10, NUMDOM=1);
  %MERGEIT(DSN=&DSN11, NUMDOM=1);
  %MERGEIT(DSN=&DSN12, NUMDOM=1);
  %MERGEIT(DSN=&DSN13, NUMDOM=2);
  %MERGEIT(DSN=&DSN14, NUMDOM=2);
  %MERGEIT(DSN=&DSN15, NUMDOM=2);

  *********************************************************************
  * Macro used to write the combined annual spreadsheet file for each DOMAIN/DSN.
  *********************************************************************.
  %MACRO WRITEXLS(DSN=, NUMDOM=);
    DATA _NULL_;
      SET MERGED_&DSN;
      *******************************************************
      * Add values for each DOMAIN to each sheet.
      *******************************************************.
      %IF &NUMDOM LE 1 %THEN %DO;
        FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c11";
                /*FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c9";*/
        FILE OUTDATA DLM='09'X NOTAB LRECL=500;
        LENGTH OLINE $50;
        IF _N_ = 1 THEN DO;
          OLINE = "RESPONSE RATES FOR &YEAR";
          PUT OLINE;
          OLINE = "FOR DOMAIN = &DSN";
          PUT OLINE /;
          H1 = "DOMAIN";   H2 = "Q1 RR"; H3 = "Q1 RRW";
          H4 = "Q2 RR";    H5 = "Q2 RRW";
          H6 = "Q3 RR";    H7 = "Q3 RRW";
          /*H8 = "HE RR";    H9 = "HE RRW";*/
          H10 = "Annual RR"; H11 = "Annual RRW";
          PUT H1  : $CHAR50.
```

F.386

```
         H2  : $CHAR50.
         H3  : $CHAR50.
         H4  : $CHAR50.
         H5  : $CHAR50.
         H6  : $CHAR50.
         H7  : $CHAR50.
        /*H8  : $CHAR50.
         H9  : $CHAR50.*/
         H10 : $CHAR50.
         H11 : $CHAR50.
       ;
     END;
     PUT DOMAIN1: $CHAR40.
        RR1   : 4.1
        RRW1  : 4.1
        RR2   : 4.1
        RRW2  : 4.1
        RR3   : 4.1
        RRW3  : 4.1
        RR4   : 4.1
        RRW4  : 4.1
       /*RR5   : 4.1
        RRW5  : 4.1*/
       ;
%END;
%ELSE %IF &NUMDOM = 2 %THEN %DO;
   FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c12";
          /*FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c10";*/
   FILE OUTDATA DLM='09'X NOTAB LRECL=500;
   LENGTH OLINE $50;
   IF _N_ = 1 THEN DO;
     OLINE = "RESPONSE RATES FOR &YEAR";
     PUT OLINE;
     OLINE = "FOR DOMAIN = &DSN";
     PUT OLINE /;
     H1 = "DOMAIN1";   H2 = "DOMAIN2";
     H3 = "Q1 RR";     H4 = "Q1 RRW";
     H5 = "Q2 RR";     H6 = "Q2 RRW";
     H7 = "Q3 RR";     H8 = "Q3 RRW";
    /*H9 = "HE RR";     H10 = "HE RRW";*/
     H11 = "Annual RR"; H12 = "Annual RRW";
     PUT H1  : $CHAR50.
       H2  : $CHAR50.
       H3  : $CHAR50.
       H4  : $CHAR50.
       H5  : $CHAR50.
       H6  : $CHAR50.
       H7  : $CHAR50.
       H8  : $CHAR50.
      /*H9  : $CHAR50.
       H10 : $CHAR50.*/
       H11 : $CHAR50.
       H12 : $CHAR50.
```

```
       ;
    END;
    PUT DOMAIN1 : $CHAR40.
      DOMAIN2 : $CHAR40.
      RR1   : 4.1
      RRW1  : 4.1
      RR2   : 4.1
      RRW2  : 4.1
      RR3   : 4.1
      RRW3  : 4.1
      RR4   : 4.1
      RRW4  : 4.1
      /*RR5  : 4.1
      RRW5  : 4.1*/
      ;
  %END;
  %ELSE %IF &NUMDOM = 3 %THEN %DO;
    FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c13";
                /*FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c11";*/
    FILE OUTDATA DLM='09'X NOTAB LRECL=500;
    LENGTH OLINE $50;
    IF _N_ = 1 THEN DO;
      OLINE = "RESPONSE RATES FOR &YEAR";
      PUT OLINE;
      OLINE = "FOR DOMAIN = &DSN";
      PUT OLINE /;
      H1  = "DOMAIN1";  H2  = "DOMAIN2"; H3 = "DOMAIN3";
      H4  = "Q1 RR";    H5  = "Q1 RRW";
      H6  = "Q2 RR";    H7  = "Q2 RRW";
      H8  = "Q3 RR";    H9  = "Q3 RRW";
      /*H10 = "Q4 RR";  H11 = "Q4 RRW";*/
      H12 = "Annual RR"; H13 = "Annual RRW";
      PUT H1  : $CHAR50.
        H2  : $CHAR50.
        H3  : $CHAR50.
        H4  : $CHAR50.
        H5  : $CHAR50.
        H6  : $CHAR50.
        H7  : $CHAR50.
        H8  : $CHAR50.
        H9  : $CHAR50.
        /*H10 : $CHAR50.
        H11 : $CHAR50.*/
        H12 : $CHAR50.
        H13 : $CHAR50.
        ;
    END;
    PUT DOMAIN1 : $CHAR40.
      DOMAIN2 : $CHAR40.
      DOMAIN3 : $CHAR40.
      RR1   : 4.1
      RRW1  : 4.1
      RR2   : 4.1
```

```
        RRW2  : 4.1
        RR3   : 4.1
        RRW3  : 4.1
        RR4   : 4.1
        RRW4  : 4.1
        /*RR5  : 4.1
        RRW5  : 4.1*/
         ;
      %END;
    RUN;
%MEND;
```

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Copy empty template file to the combined annual response rate spreadsheet
* and start the XLS file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;

X "COPY &path.\EMPTY_ANNUAL.XLS &path.\RESPONSE_RATES_ANNUAL.XLS";
data _null_;
x=sleep(&Sleepno.);
run;
X "START &path.\RESPONSE_RATES_ANNUAL.XLS";

/* wait for a few seconds to allow Excel to come up */
/* adding sleep statement to avoid a log error saying
  ERROR: Physical file does not exist, excel|OVERALLA!r1c1:r9999c3*/

data _null_;
x=sleep(&Sleepno.);
run;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Write the combined annual spreadsheet file for each DOMAIN/DSN.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
%WRITEXLS(DSN=&DSN1, NUMDOM=0);
%WRITEXLS(DSN=&DSN2, NUMDOM=1);
%WRITEXLS(DSN=&DSN3, NUMDOM=1);
%WRITEXLS(DSN=&DSN4, NUMDOM=1);
%WRITEXLS(DSN=&DSN5, NUMDOM=1);
%WRITEXLS(DSN=&DSN6, NUMDOM=1);
%WRITEXLS(DSN=&DSN7, NUMDOM=1);
%WRITEXLS(DSN=&DSN8, NUMDOM=1);
%WRITEXLS(DSN=&DSN9, NUMDOM=1);
%WRITEXLS(DSN=&DSN10, NUMDOM=1);
%WRITEXLS(DSN=&DSN11, NUMDOM=1);
%WRITEXLS(DSN=&DSN12, NUMDOM=1);
%WRITEXLS(DSN=&DSN13, NUMDOM=2);
%WRITEXLS(DSN=&DSN14, NUMDOM=2);
%WRITEXLS(DSN=&DSN15, NUMDOM=2);

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Quit spreadsheet application.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
```

```
FILENAME CMDS DDE "EXCEL|SYSTEM";
DATA _NULL_;
  FILE CMDS;
  PUT '[SAVE]';
  PUT '[QUIT]';
RUN;
```

*************************** End ***************************;

F.21.B Response_Rate\TABLE02.SAS - Calculate the annual Response Rates

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROGRAM: TABLE02.SAS
* TASK:    DOD HEALTH CARE SURVEY ANALYSIS (50713.BY.T02.013.200)
* PURPOSE: BUILD TABLE 2: RESPONSE RATES BY DOMAIN FOR (HCSDB+HEDIS) COMBINE FILE
* WRITTEN: 11/09/1999 BY KEITH RATHBUN
*
* MODIFIED:
* 1) 12/14/2000, Keith Rathbun - Added printing of weighted (WN) and
*    unweighted (SN) population sizes.  Also, Update for quarterly survey
*    to use BWT instead of BWT99 (generalized variable name for ease of
*    maintenance).
* 2) 02/01/2001, Keith Rathbun - Added the PERIOD parameter.
* 3) 01/30/2002, Esther Friedman - added nested macro so it would run
*    for all 4 quarters trickle files.
* 4) 11/16/2004, Haixia Xu for Q3, 2004 RR
*           - Changed FNSTATUS from 30 to 31, SN3->SN31, WN3->WN31
*           - Use MERGEQ.SD2 as the input data
*           - Produce the RR for servaff and xtnexreg
* 5) 01/18/2005, Keith Rathbun - Added CREATXLS macro.
*
* LAST UPDATED:
*    06/28/2018, Sabrina R.- Updated for 2018 Annual RR
*
* INPUT:   1) MERGEQ.sas7bdat (All quarters)
*
* INCLUDES: 1) TABLE02.IN1
*        2) TABLE02.IN2
*
* NOTES:
*
* 1) This program must be run in BATCH mode.  DO NOT modify the directory
*    references to be hard-wired to support interactive use.
* 2) If you add a new domain combination, you will need to update the
*    EMPTY.XLS file to have a new sheet with the same name as the domain
*    variable(s) combination.
* 3) We need to run programs in order of table02.sas, annual_rr.sas.
* 4) We can run table02_xcatch.sas anytime at this point, since it is
*    independent from other two above.
* 5) In FY2017, we will calculated a combine (HCSDB+HEDIS) RR for all except 'cacsmpl'
*    We will calculate RR for 'cacsmpl' using combine HCSDB and 'GEOCELLH' for HEDIS only
* 6) In FY2018 final file, the HEDIS part of BWT is weighted up to zone4 instead of all
*    four zone. Checked with Eric/Nancy and as sugested we fixed the issse in HEDIS postwt.
*    For detail, see the readme note. So BWT is not accurate in final file for HEDIS part.
* 7) In FY2019: Combining HCSDB Quarters only (NO HEDIS for 2019).
*    Adding DHAFLAG and xtnexrg2(EAST and WEST), Dropping JSFLAG and xtnexreg
* 8) Adding ENBGSMPL2
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
OPTIONS PS=79 LS=132 COMPRESS=YES ERRORS=1 NOXWAIT NOCENTER NOFMTERR;* mprint mlogic symbolgen;
ods _ALL_ Close;
ODS Listing;
```

```
%Let year  = 2020;

LIBNAME inQ1t   "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q1FY&year.t\Data\AFinal"; *Q1 mergeq with
late response;
LIBNAME inQ2   "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q2FY&year.\Data\AFinal";
LIBNAME inQ3   "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q3FY&year.\Data\AFinal";

LIBNAME LIBRARY
"N:\Project\50713_HCS\SASGRID\DATA\HCSDB\&year.\Data\fmtlib\WindowsVersionForDHA";

TITLE1 "Program: TABLE02.SAS (50713.Y1.T02.013.000)";
TITLE2 "Purpose: Compute &year. Response Rates by DOMAIN";

%LET OFILES  = N:\Project\50713_HCS\SASGRID\DATA\HCSDB\&year.\Data\Response_Rate\;
%LET QUARTER = &year. Combined Annual;
%LET DATE   = 07-02-2020;
%LET TASKNUM = 50713.Y1.T02.013.000;

proc format;
  VALUE $ENBGSm
      '01' = "01:Active duty"
      '02' = "02:Active duty fam,Prime,civ PCM"
      '03' = "03:Active duty fam,Prime,mil PCM"
      '04' = "04:Active duty fam,non-enrollee"
      '05' = "05:Retired,<65,civ PCM"
      '06' = "06:Retired,<65,mil PCM"
      '07' = "07:Retired,<65,non-enrollee"
      '08' = "08:Retired,65+,enrolled"
      '10' = "10:Retired,65+,non-enrollee"
      '11' = "11:TRICARE Reserve Select";
  *VALUE TNEX
   . = "Missing Data"
   1 = "North"
   2 = "South"
   3 = "West"
   4 = "Overseas" ;
RUN;


*********************************
READING ALL HCSDB MERGEQ DATA FILES:
***********************************;
%macro create_ebg(qrt=, no=);
DATA File&qrt.;
format _ALL_;
SET in&qrt..MERGEQ;
flag&no.=1;
/*01/31/2007 by H.Xu.
As per Nancy's suggestion, collapse 09 with 08, since 09 has two few beneficiaries*/
if enbgsmpl = '09'  then enbgsmpl='08';
if enbgsmpl2 = '09' then enbgsmpl2='08';
format enbgsmpl enbgsmpl2 $enbgsm.;
RUN;
```

```
proc sort data=File&qrt.;
by mprid;
run;
%mend;

%create_ebg(qrt=Q1t, no=1);
%create_ebg(qrt=Q2,  no=2);
%create_ebg(qrt=Q3,  no=3);

*FY2020: New variable Enbgsmpl2 is in Q1t and Q3 data but not in Q2.
Adding ENBGSMPL2 variable with Q2 data;
*Reading ENBGSMPL2 from smplA1A2;
Proc Sort Data=inQ2.SmplA1A2 out=SmplA1A2(Keep=MPRID ENBGSMP2); By MPRID; Run;
Proc Sort data=FileQ2;                         By MPRID; Run;

Data FILEQ2;
Merge FileQ2(In=A) SMPLA1A2(In=B);
By MPRID;
If B Then InsmplA1A2=1;
If A Then Output;
format enbgsmpl2 $enbgsm.;
Run;

/*
Title1 "Checking File Merge";
Proc Freq Data=FILEQ2;
Tables InSmplA1A2/List Missing;
Run;
*/

*Rename ENBGSMPL2 as 'ENBGSMP2' in Q1t and Q3 data;
Data FileQ1t(Rename=(ENBGSMPL2=ENBGSMP2));
Set FileQ1t;
Run;

Data FileQ3(Rename=(ENBGSMPL2=ENBGSMP2));
Set FileQ3;
Run;

*Collapsing ENBGSMPl2 same as ENBGSMPL;
Data FileQ2;
Set FileQ2;
if ENBGSMP2 = '09' then ENBGSMP2='08';
Run;

*****************************************************************
*Combining ALL HCSDB Quarters for RR Calculation:
*****************************************************************;
DATA Mergerr;
  SET FILEQ1t FILEQ2 FILEQ3;
RUN;

TItle1 "Freq/CrossTab of Selected Variables (All Cases):";
```

```
PROC FREQ DATA=MERGERR;
  TABLES  FNSTATUS
       PATCAT*FNSTATUS
       PATCAT RACEETHN PATCAT*RACEETHN PATCAT*SVCSMPL
                  flag1*flag2*flag3/MISSING LIST;
RUN;

%MACRO CHK(VAR=);
Title1 "Freq/CrossTab of &VAR. (All Cases):";
Proc Freq Data=MERGERR;
Tables &var.*Flag1*Flag2*Flag3/List Missing;
Run;
%MEND CHK;

/*
%CHK(VAR=FNSTATUS);
%CHK(VAR=xoconus);
%CHK(VAR=USA);
%CHK(VAR=sexsmpl);
%CHK(VAR=enbgsmpl);
*CHK(VAR=ENBGSMP2);
%CHK(VAR=patcat);
%CHK(VAR=servaff);
%CHK(VAR=xtnexrg2);
%CHK(VAR=cacsmpl);
*/

Title1 "Checking Frequency of cacsmpl:";
Proc Freq Data=MERGERR;
Tables Flag1*Flag2*Flag3*cacsmpl/List Missing;
Run;

%MACRO PROCESS(INPT=, FORM=);
  **********************************************************
  * Process OVERALL Summary of response rates
  **********************************************************;
  DATA _NULL_;
    SET &INPT END=FINISHED;
    IF _N_ = 1 THEN DO;
      SN   = 0;
      SN1  = 0;
      SN11 = 0;
      SN12 = 0;
      SN2  = 0;
      SN31 = 0;
      SN4  = 0;
      SN41 = 0;
      SN42 = 0;
      WN   = 0;
      WN1  = 0;
      WN11 = 0;
      WN12 = 0;
      WN2  = 0;
```

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```
  WN31  = 0;
  WN4  = 0;
  WN41 = 0;
  WN42 = 0;
END;
*********************************************************
* Accumulate group 1 weighted and unweighted counts.
*****************************************************************;
SN + 1;
WN + BWT;
IF FNSTATUS IN(11,12) THEN DO;
  SN1 + 1;
  WN1 + BWT;
  IF FNSTATUS = 11 THEN DO;
    SN11 + 1;
    WN11 + BWT;
  END;
  ELSE DO;
    SN12 + 1;
    WN12 + BWT;
  END;
END;
*****************************************************
* Accumulate group 2 weighted and unweighted counts.
***********************************************;
ELSE IF FNSTATUS = 20 THEN DO;
  SN2 + 1;
  WN2 + BWT;
END;
*****************************************************
* Accumulate group 3 weighted and unweighted counts.
***********************************************;
ELSE IF FNSTATUS = 31 THEN DO;
  SN31 + 1;
  WN31 + BWT;
END;
*****************************************************
* Accumulate group 4 weighted and unweighted counts.
***********************************************;
ELSE IF FNSTATUS IN(41,42) THEN DO;
  SN4 + 1;
  WN4 + BWT;
  IF FNSTATUS = 42 THEN DO;
    SN42 + 1;
    WN42 + BWT;
  END;
  ELSE DO;
    SN41 + 1;
    WN41 + BWT;
  END;
END;

DROP I;
```

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```
      RETAIN
        SN
        SN1
        SN11
        SN12
        SN2
        SN31
        SN4
        SN41
        SN42
        WN
        WN1
        WN11
        WN12
        WN2
        WN31
        WN4
        WN41
        WN42
        ;

      IF FINISHED THEN GO TO FINISHED;
      RETURN;

    FINISHED:
      FILE "&OFILES.TABLE02&FORM..OUT" RECFM=V LRECL=9999;
      PUT; PUT; PUT;
      PUT @001 "TABLE 2: OVERALL RESPONSE RATES SUMMARY";
      PUT @001 "&DATE., TASK: &TASKNUM.";
      PUT;
      PUT "SUMMARY OF GROUP COUNTS: FORM &FORM";
      PUT;
      PUT @131 "UNWEIGHTED COUNT"
          @181 "WEIGHTED COUNT"
        ;
      PUT @121 'FLR'
          @131 'FCR'
          @141 'FRR'
          @151 'POP'
          @171 'FLR'
          @181 'FCR'
          @191 'FRR'
          @201 'POP'
        ;
      %INCLUDE "TABLE02.IN2";
    RUN;
%MEND PROCESS;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Process Single Domain where domain1 is the variable of interest.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
%MACRO PROCESS1(DOMAIN1=, INPT=, FORM=);
```

```
   PROC SORT DATA=&INPT; BY &DOMAIN1; RUN;

 DATA _NULL_;
   SET &INPT;
   BY &DOMAIN1;
   FILE "&OFILES.&DOMAIN1..OUT" RECFM=V LRECL=9999;
   LENGTH VARNAME1 $8;
   LENGTH VARIABLE $30;
   CALL VNAME(&DOMAIN1,VARNAME1);
   VARIABLE = VARNAME1;
   %INCLUDE "TABLE02.IN1";
   IF LAST.&DOMAIN1 THEN DO;
     PUT @001 &DOMAIN1 @;
     %INCLUDE "TABLE02.IN2";
   END; * DOMAIN;
 RUN;
%MEND PROCESS1;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Process Double Domain where domain1/domain2 are the
* variables of interest.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%MACRO PROCESS2(DOMAIN1=, DOMAIN2=, INPT=, FORM=);

 PROC SORT DATA=&INPT; BY &DOMAIN1 &DOMAIN2; RUN;

 DATA _NULL_;
   SET &INPT;
   BY &DOMAIN1 &DOMAIN2;
   FILE "&OFILES.&DOMAIN1&DOMAIN2..OUT" RECFM=V LRECL=9999;
   LENGTH VARNAME1 $8;
   LENGTH VARNAME2 $8;
   LENGTH VARIABLE $30;
   CALL VNAME(&DOMAIN1,VARNAME1);
   CALL VNAME(&DOMAIN2,VARNAME2);
   VARIABLE = VARNAME1 || " " || VARNAME2;
   %INCLUDE "TABLE02.IN1";
   IF LAST.&DOMAIN2 THEN DO;
     PUT @001 &DOMAIN1 @;
     PUT @041 &DOMAIN2 @;
     %INCLUDE "TABLE02.IN2";
     SN   = 0;
     SN1  = 0;
     SN11 = 0;
     SN12 = 0;
     SN2  = 0;
     SN31 = 0;
     SN4  = 0;
     SN41 = 0;
     SN42 = 0;
     WN   = 0;
     WN1  = 0;
     WN11 = 0;
```

```
       WN12 = 0;
       WN2  = 0;
       WN31 = 0;
       WN4  = 0;
       WN41 = 0;
       WN42 = 0;
     END; * DOMAIN;
   RUN;
%MEND PROCESS2;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Process Triple Domain where domain1-3 are the variables of interest.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%MACRO PROCESS3(DOMAIN1=, DOMAIN2=, DOMAIN3=, INPT=, FORM=);

  PROC SORT DATA=&INPT; BY &DOMAIN1 &DOMAIN2 &DOMAIN3; RUN;

  DATA _NULL_;
    SET &INPT;
    BY &DOMAIN1 &DOMAIN2 &DOMAIN3;
    FILE "&OFILES.&DOMAIN1&DOMAIN2&DOMAIN3..OUT" RECFM=V LRECL=9999;
    LENGTH VARNAME1 $8;
    LENGTH VARNAME2 $8;
    LENGTH VARNAME3 $8;
    LENGTH VARIABLE $30;
    CALL VNAME(&DOMAIN1,VARNAME1);
    CALL VNAME(&DOMAIN2,VARNAME2);
    CALL VNAME(&DOMAIN3,VARNAME3);
    VARIABLE = VARNAME1 || " " || VARNAME2 || " " || VARNAME3;
    %INCLUDE "TABLE02.IN1";
    IF LAST.&DOMAIN3 THEN DO;
      PUT @001 &DOMAIN1 @;
      PUT @041 &DOMAIN2 @;
      PUT @081 &DOMAIN3 @;
      %INCLUDE "TABLE02.IN2";
      SN   = 0;
      SN1  = 0;
      SN11 = 0;
      SN12 = 0;
      SN2  = 0;
      SN31 = 0;
      SN4  = 0;
      SN41 = 0;
      SN42 = 0;
      WN   = 0;
      WN1  = 0;
      WN11 = 0;
      WN12 = 0;
      WN2  = 0;
      WN31 = 0;
      WN4  = 0;
      WN41 = 0;
      WN42 = 0;
```

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```
    END; * DOMAIN;
  RUN;
%MEND PROCESS3;

***Note that the ERROR message of division by zero may be printed out
in the log file due to no complete in some domains***;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROCESS OVERALL RESPONSE RATE TABULATION - FORM A
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%PROCESS(INPT=MERGERR, FORM=A);

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROCESS SINGLE DOMAIN RESPONSE RATE TABULATION - FORM A
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%PROCESS1(DOMAIN1=xoconus, INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=USA,     INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=sexsmpl, INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=ENBGSMP2, INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=enbgsmpl, INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=cacsmpl, INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=patcat,  INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=servaff, INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=svcsmpl, INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=DHAFLAG, INPT=MERGERR, FORM="FORM A");
%PROCESS1(DOMAIN1=xtnexrg2, INPT=MERGERR, FORM="FORM A");

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROCESS DOUBLE DOMAIN RESPONSE RATE TABULATION - FORM A
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;

%PROCESS2(DOMAIN1=patcat,  DOMAIN2=svcsmpl, INPT=MERGERR, FORM="FORM A");
%PROCESS2(DOMAIN1=patcat,  DOMAIN2=sexsmpl, INPT=MERGERR, FORM="FORM A");
%PROCESS2(DOMAIN1=xtnexrg2, DOMAIN2=cacsmpl, INPT=MERGERR, FORM="FORM A");

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROCESS TRIPLE DOMAIN RESPONSE RATE TABULATION - FORM A
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
*%PROCESS3(DOMAIN1=USA, DOMAIN2=patcat, DOMAIN3=has_email, INPT=MERGERR, FORM="FORM A");

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Copy empty template file to constructed variables spreadsheet and
* start the XLS file.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
X "COPY EMPTY.XLS RESPONSE_RATES.XLS";
X "START RESPONSE_RATES.XLS";

/* wait for a few seconds to allow Excel to come up */
/* adding sleep statement to avoid a log error saying
  ERROR: Physical file does not exist, excel|OVERALLA!r1c1:r9999c3*/
data _null_;
x=sleep(10);
run;
```

```
%MACRO CREATXLS(DSN=, NUMDOM=);
  ******************************************************************
  * Read text files with response rates for each DOMAIN .
  ******************************************************************;
  DATA &DSN(KEEP=DOMAIN1 DOMAIN2 DOMAIN3 RR RRW);
    INFILE "&OFILES.&DSN..OUT" LRECL=9999 RECFM=V;
    INPUT LINEIN $100 @; DROP LINEIN; *Skip over header records;
    LENGTH DOMAIN1-DOMAIN3 $40;
    IF _N_ GE 7 THEN DO;
      INPUT
        @001 DOMAIN1 $CHAR40.
        @041 DOMAIN2 $CHAR40.
        @081 DOMAIN3 $CHAR40.
        @121 FLR1  4.3
        @131 FCR1  4.3
        @141 FRR1  4.3
        @147 SN    7.0
        @171 FLR2  4.3
        @181 FCR2  4.3
        @191 FRR2  4.3
        @197 WN    7.0
      ;
      RR  = FRR1*100;
      RRW = FRR2*100;
      OUTPUT;
    END;
  RUN;
  ******************************************************************
  * Add values for each DOMAIN to each sheet.
  ******************************************************************;
  %IF &NUMDOM LE 1 %THEN %DO;
    FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c3";
    DATA _NULL_;
      SET &DSN;
      FILE OUTDATA DLM='09'X NOTAB LRECL=500;
      LENGTH OLINE $50;
      IF _N_ = 1 THEN DO;
        OLINE = "RESPONSE RATES FOR &QUARTER";
        PUT OLINE;
        OLINE = "FOR DOMAIN = &DSN";
        PUT OLINE /;
        H1 = "DOMAIN"; H2 = "RR"; H3 = "RRW";
        PUT H1 : $CHAR50.
          H2 : $CHAR50.
          H3 : $CHAR50.
        ;
      END;
      PUT DOMAIN1: $CHAR40.
        RR   : 4.1
        RRW  : 4.1
      ;
    RUN;
```

```
%END;
%ELSE %IF &NUMDOM = 2 %THEN %DO;
  FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c4";
  DATA _NULL_;
    SET &DSN;
    FILE OUTDATA DLM='09'X NOTAB LRECL=500;
    LENGTH OLINE $50;
    IF _N_ = 1 THEN DO;
      OLINE = "RESPONSE RATES FOR &QUARTER";
      PUT OLINE;
      OLINE = "FOR DOMAIN = &DSN";
      PUT OLINE /;
      H1 = "DOMAIN1"; H2 = "DOMAIN2"; H3 = "RR"; H4 = "RRW";
      PUT H1 : $CHAR50.
        H2 : $CHAR50.
        H3 : $CHAR50.
        H4 : $CHAR50.
        ;
    END;
    PUT DOMAIN1: $CHAR40.
      DOMAIN2: $CHAR40.
      RR    : 4.1
      RRW   : 4.1
      ;
  RUN;
%END;
%ELSE %IF &NUMDOM = 3 %THEN %DO;
  FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c5";
  DATA _NULL_;
    SET &DSN;
    FILE OUTDATA DLM='09'X NOTAB LRECL=500;
    LENGTH OLINE $50;
    IF _N_ = 1 THEN DO;
      OLINE = "RESPONSE RATES FOR &QUARTER";
      PUT OLINE;
      OLINE = "FOR DOMAIN = &DSN";
      PUT OLINE /;
      H1 = "DOMAIN1"; H2 = "DOMAIN2"; H3 = "DOMAIN3"; H4 = "RR"; H5 = "RRW";
      PUT H1 : $CHAR50.
        H2 : $CHAR50.
        H3 : $CHAR50.
        H4 : $CHAR50.
        H5 : $CHAR50.
        ;
    END;
    PUT DOMAIN1 : $CHAR40.
      DOMAIN2 : $CHAR40.
      DOMAIN3 : $CHAR40.
      RR    : 4.1
      RRW   : 4.1
      ;
  RUN;
%END;
```

```
%MEND CREATXLS;

%CREATXLS(DSN=TABLE02A,      NUMDOM=0);
%CREATXLS(DSN=XOCONUS,       NUMDOM=1);
%CREATXLS(DSN=USA,        NUMDOM=1);
%CREATXLS(DSN=SEXSMPL,      NUMDOM=1);
%CREATXLS(DSN=ENBGSMP2,      NUMDOM=1);
%CREATXLS(DSN=enbgsmpl,      NUMDOM=1);
%CREATXLS(DSN=cacsmpl,      NUMDOM=1);
%CREATXLS(DSN=PATCAT,       NUMDOM=1);
%CREATXLS(DSN=SERVAFF,      NUMDOM=1);
%CREATXLS(DSN=DHAFLAG,       NUMDOM=1);
%CREATXLS(DSN=SVCSMPL,       NUMDOM=1);
%CREATXLS(DSN=XTNEXRG2,      NUMDOM=1);
%CREATXLS(DSN=PATCATSVCSMPL,  NUMDOM=2);
%CREATXLS(DSN=PATCATSEXSMPL,  NUMDOM=2);
%CREATXLS(DSN=XTNEXRG2cacsmpl, NUMDOM=2);


***************************************************************************
* Quit spreadsheet application.
***************************************************************************;
FILENAME CMDS DDE "EXCEL|SYSTEM";
DATA _NULL_;
  FILE CMDS;
  PUT '[SAVE]';
  PUT '[QUIT]';
RUN;

*********************** End *********************;
```

F.21.C Response_Rate\TABLE02.IN1 - Include file1 used to calculate annual Response Rates

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*
* PROGRAM: TABLE02.IN1
* TASK:   2002 DOD HEALTH CARE SURVEY ANALYSIS
* PURPOSE: COMMON CODE INCLUDE FILE USED TO BUILD
*        TABLE 2: RESPONSE RATES BY DOMAIN SUMMARY
*        2002 DOD HEALTH CARE SURVEY FILE.
* WRITTEN: 01/08/99 BY KEITH RATHBUN
*
* MODIFIED:
* 1) 5/17/1999, Keith Rathbun - Removed printing of the final location rate
*    (FLR) and final completion rate (FCR).
* 2) 7/07/1999, Keith Rathbun - Added back printing of FLR
* 3) 12/14/2000, Keith Rathbun - Update for quarterly survey to use BWT
*    instead of BWT99 (generalized variable name for ease of maintenance).
* 4) 11/16/2004 by Haixia Xu - Update the coding of FNSTATUS from 30 to 31.
*                   SN3->SN31, WN3->WN31
* 5) 01/24/2005 by Keith Rathbun - Update PUT statements to accomodate up
*    to 3 CHAR*40 domains.
*
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*;
IF _N_ = 1 THEN DO;
  PUT; PUT;
  PUT @001 "TABLE 2: RESPONSE RATES BY DOMAIN SUMMARY";
  PUT @001 "&DATE., TASK: &TASKNUM.";
  PUT;
  PUT "SUMMARY OF GROUP COUNTS: " &FORM;
  PUT "VARIABLE = " VARIABLE;
  PUT;
  PUT @131 "UNWEIGHTED COUNT"
    @181 "WEIGHTED COUNT"
   ;
  PUT @121 'FLR'
    @131 'FCR'
    @141 'FRR'
    @151 'POP'
    @171 'FLR'
    @181 'FCR'
    @191 'FRR'
    @201 'POP'
   ;
END;
IF FIRST.&DOMAIN1 THEN DO;
  SN   = 0;
  SN1  = 0;
  SN11 = 0;
  SN12 = 0;
  SN2  = 0;
```

```
  SN31 = 0;
  SN4  = 0;
  SN41 = 0;
  SN42 = 0;
  WN  = 0;
  WN1 = 0;
  WN11 = 0;
  WN12 = 0;
  WN2 = 0;
  WN31 = 0;
  WN4 = 0;
  WN41 = 0;
  WN42 = 0;
END;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Accumulate group 1 weighted and unweighted counts
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
;
SN + 1;
WN + BWT;
IF FNSTATUS IN(11,12) THEN DO;
  SN1 + 1;
  WN1 + BWT;
  IF FNSTATUS = 11 THEN DO;
    SN11 + 1;
    WN11 + BWT;
  END;
  ELSE DO;
    SN12 + 1;
    WN12 + BWT;
  END;
END;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Accumulate group 2 weighted and unweighted counts
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
;
ELSE IF FNSTATUS = 20 THEN DO;
  SN2 + 1;
  WN2 + BWT;
END;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Accumulate group 3 weighted and unweighted counts
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
;
ELSE IF FNSTATUS = 31 THEN DO;
  SN31 + 1;
  WN31 + BWT;
END;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Accumulate group 4 weighted and unweighted counts
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
;
ELSE IF FNSTATUS IN(41,42) THEN DO;
```

```
  SN4 + 1;
  WN4 + BWT;
  IF FNSTATUS = 42 THEN DO;
    SN42 + 1;
    WN42 + BWT;
  END;
  ELSE DO;
    SN41 + 1;
    WN41 + BWT;
  END;
END;

DROP I;
RETAIN
  SN
  SN1
  SN11
  SN12
  SN2
  SN31
  SN4
  SN41
  SN42
  WN
  WN1
  WN11
  WN12
  WN2
  WN31
  WN4
  WN41
  WN42
  ;
```

F.21.D Response_Rate\TABLE02.IN2 - Include file2 used to calculate annual Response Rates

```
* * * * ** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
*
* PROGRAM: TABLE02.IN2
* TASK:   QUARTERLY DOD HEALTH CARE SURVEY ANALYSIS
* PURPOSE: COMMON CODE INCLUDE FILE USED TO BUILD
*       TABLE 2: RESPONSE RATES BY DOMAIN SUMMARY
*       QUARTERLY DOD HEALTH CARE SURVEY FILE.
* WRITTEN: 01/08/99 BY KEITH RATHBUN
*
* MODIFIED:
* 1) 5/17/1999, Keith Rathbun - Removed printing of the final location rate
*    (FLR) and final completion rate (FCR).
* 2) 7/07/1999, Keith Rathbun - Added back printing of FLR
* 3) 12/14/2000, Keith Rathbun - Added printing of weighted (WN) and
*    unweighted (SN) population sizes.
* 4) 11/17/2004 BY Haixia Xu - Made changes due to the different coding of FNSTATUS:
*                -Rewrite the formula used to calculating FRR1, FRR2
*                -SN3->SN31, WN3->WN31
* 5) 01/24/2005 by Keith Rathbun - Update PUT statements to accomodate up
*    to 3 CHAR*40 domains.
*
* * * * ** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***
*;

 *Final Response Rate;
 FRR1 = SN11/(SN1 + SN2 + SN4*((SN1 + SN2)/(SN1 + SN2 + SN31)) );
 FRR2 = WN11/(WN1 + WN2 + WN4*((WN1 + WN2)/(WN1 + WN2 + WN31)) );

 *Final Location Rate;
 L = ((SN1 + SN2)/(SN1 + SN2 + SN31))*SN41;
 WL = ((WN1 + WN2)/(WN1 + WN2 + WN31))*WN41;
 FLR1 = (SN1 + SN2 + L)/(SN1 + SN2 + SN4*((SN1 + SN2)/(SN1 + SN2 + SN31)));
 FLR2 = (WN1 + WN2 + WL)/(WN1 + WN2 + WN4*((WN1 + WN2)/(WN1 + WN2 + WN31)));

 *Final Completion Rate;
 FCR1 = SN11/(SN1 + SN2 + L);
 FCR2 = WN11/(WN1 + WN2 + WL);
 PUT @121 FLR1  4.3
   @131 FCR1  4.3
   @141 FRR1  4.3
   @147 SN     7.0
   @171 FLR2  4.3
   @181 FCR2  4.3
   @191 FRR2  4.3
   @197 WN   7.0
   ;
```

F.21.E Response_Rate\TABLE02_XCATCH.SAS - Calculate Response Rates by catchment area

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* PROGRAM: TABLE02_xcatch.SAS
* TASK:   DOD HEALTH CARE SURVEY ANALYSIS
* PURPOSE: BUILD TABLE 2: RESPONSE RATES BY DOMAIN SUMMARY
*       Quarterly DOD HEALTH CARE SURVEY FILE.
* WRITTEN: 11/09/1999 BY KEITH RATHBUN
* MODIFIED: H. Xu on 11/21/2008 to produce the annual RR for xcatch
*       S. Ra.on 06/02/2014 to produce the annual RR for xcatch
*       S. Ra.on 07/15/2016 to produce the 2016 annual RR for xcatch
*
* INPUT:   1) MERGEQ.SD2 (All quarters)
*
* INCLUDES: 1) TABLE02.IN1
*       2) TABLE02.IN2
*
* NOTES: This program is modified from 325table02.sas in F:\2004\Programs\Response_Rate
*       to produce the RR only for XCATCH
* NOTE : We need to run programs in order of table02.sas, annual_rr.sas.
*       We can run table02_xcatch.sas anytime at this point, since it is
*       independent from other two above.
* NOTE : Check in N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q3FY&YR.\Programs\Weighting
*       for updated XCATCH.INC file. Also check with Matt to make sure it is upated.
*       Difference between annual and quarterly version is Path.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
OPTIONS PS=79 LS=132 COMPRESS=YES ERRORS=1 NOCENTER NOFMTERR mprint mlogic symbolgen NOXWAIT
NOXSYNC;


%Let YR    = 2020;
%Let SleepNo = 30;

LIBNAME Q1t   "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q1FY&YR.t\Data\AFinal";  * Q1t mergeq with
late response;
LIBNAME Q2    "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q2FY&YR.\Data\AFinal";
LIBNAME Q3    "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q3FY&YR.\Data\AFinal";
LIBNAME LIBRARY "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\&yr.\Data\fmtlib\WindowsVersionForDHA";

TITLE1 "Program: TABLE02_xcatch.SAS (FY=&YR., 50713.BY.T02.013.200):";
TITLE2 "Purpose: Compute response rates by DOMAIN";

%LET OFILES  = N:\Project\50713_HCS\SASGRID\DATA\HCSDB\&YR.\Data\Response_Rate\xcatch\;
%LET QUARTER = &YR. Combined Annual;
%LET DATE    = 07-02-2020;
%LET TASKNUM = 50713.BY.T02.013.200;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Reading HCSDB files:
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ;
%macro create_ebg(qrt=, no=);
DATA File&qrt.;
```

```
format _ALL_;
SET &qrt..MERGEQ;
/*01/31/2007 by H.Xu.
As per Nancy's suggestion, collapse 09 with 08, since 09 has two few beneficiaries*/
if enbgsmpl = '09' then enbgsmpl='08';
RUN;
%mend;

%create_ebg(qrt=Q1t, no=1);
%create_ebg(qrt=Q2,  no=2);
%create_ebg(qrt=Q3,  no=3);

*******************************************************************
* Combining ALL FY2019 HCSDB Quarters for RR Calculation:
*******************************************************************;
DATA COMB&YR.;
  SET FILEQ1t(in=InQ1) FILEQ2(in=InQ2) FILEQ3(in=InQ3);
  If inQ1   then flagQ1=1;
  If inQ2   then flagQ2=1;
  If inQ3   then flagQ3=1;
RUN;

Title1 "Checking HCSDB Quarterly Files Merging:";
PROC FREQ DATA=COMB&YR.;
Tables flagQ1*flagQ2*flagQ3
     FNSTATUS/List missing;
RUN;

PROC SORT DATA=COMB&YR. OUT=TEMP1; BY MPRID; RUN;

***********************************************************************
* Create and attach XCATCH(Catchment Reporting variable) to final dataset.
* Note that dataset tmpxctch with XCATCH is created by this include file.
***********************************************************************;
*%include "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\&YR.\Programs\Weighting\xcatch.inc";
%include  "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\2020\Programs\Response_Rate\xcatch_copy.inc";
*updated location structure for sas;

proc sort data=tmpxctch                               out=temp2; by mprid; run;
proc sort data=temp1(keep=mprid fnstatus bwt xtnexrg2 flagQ1 flagQ2 flagQ3) out=temp3; by mprid;run;

data temp;
merge temp2(in=A) temp3(in=B);
by mprid;
if A and B;
format xcatch cacr.;
run;

Title1 "Checks Crosstab of Selected variables";
Proc Freq Data=temp;
Tables FNSTATUS/List missing nopercent;
Run;
```

```
Title1 "Frequency of Xcatch using final combine (Q1t+Q2+Q3) file";
Proc Freq Data=temp;
Tables Xcatch/List Missing;
Run;
/*
Title1 "Frequency of Xcatch using final combine (Q1t+Q2+Q3) file";
Proc Freq Data=temp;
Tables Xcatch*flagQ1*flagQ2*flagQ3/List Missing;
*where xcatch in (94,610,618,624,625,635,637,639,6992,7200,9105);
Run;
*/
Title1 "Freq of XTNEXRG2";
Proc Freq Data=temp;
Tables XTNEXRG2/List Missing;
Run;

*Dropping flags;
Data temp(Drop=flagQ1 flagQ2 flagQ3);
Set Temp;
run;

* * * * * * * * * * * * * * * * * * * * * * * * * * *
Running RR Macro:
* * * * * * * * * * * * * * * * * * * * * * * * * * *.
                                                     ,
%MACRO PROCESS(INPT=, FORM=);
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
  * Process OVERALL Summary of response rates
  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *.
                                                                                                                        ,
  DATA _NULL_;
    SET &INPT END=FINISHED;
    IF _N_ = 1 THEN DO;
      SN   = 0;
      SN1  = 0;
      SN11 = 0;
      SN12 = 0;
      SN2  = 0;
      SN31 = 0;
      SN4  = 0;
      SN41 = 0;
      SN42 = 0;
      WN   = 0;
      WN1  = 0;
      WN11 = 0;
      WN12 = 0;
      WN2  = 0;
      WN31 = 0;
      WN4  = 0;
      WN41 = 0;
      WN42 = 0;
    END;
    * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
    * Accumulate group 1 weighted and unweighted counts.
    * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
```

```
SN + 1;
WN + BWT;
IF FNSTATUS IN (11,12) THEN DO;
  SN1 + 1;
  WN1 + BWT;
  IF FNSTATUS = 11 THEN DO;
    SN11 + 1;
    WN11 + BWT;
  END;
  ELSE DO;
    SN12 + 1;
    WN12 + BWT;
  END;
END;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Accumulate group 2 weighted and unweighted counts.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
ELSE IF FNSTATUS = 20 THEN DO;
  SN2 + 1;
  WN2 + BWT;
END;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Accumulate group 3 weighted and unweighted counts.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
ELSE IF FNSTATUS = 31 THEN DO;
  SN31 + 1;
  WN31 + BWT;
END;
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Accumulate group 4 weighted and unweighted counts.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
ELSE IF FNSTATUS IN (41,42) THEN DO;
  SN4 + 1;
  WN4 + BWT;
  IF FNSTATUS = 42 THEN DO;
    SN42 + 1;
    WN42 + BWT;
  END;
  ELSE DO;
    SN41 + 1;
    WN41 + BWT;
  END;
END;

DROP I;
RETAIN
  SN
  SN1
  SN11
  SN12
  SN2
  SN31
  SN4
```

```
      SN41
      SN42
      WN
      WN1
      WN11
      WN12
      WN2
      WN31
      WN4
      WN41
      WN42
      ;

    IF FINISHED THEN GO TO FINISHED;
    RETURN;

  FINISHED:
    FILE "&OFILES.TABLE02&FORM..OUT" RECFM=V LRECL=9999;
    PUT; PUT; PUT;
    PUT @001 "TABLE 2: OVERALL RESPONSE RATES SUMMARY";
    PUT @001 "12-05-2012, TASK: 06663.300";
    PUT;
    PUT "SUMMARY OF GROUP COUNTS: FORM &FORM";
    PUT;
    PUT @131 "UNWEIGHTED COUNT"
      @181 "WEIGHTED COUNT"
      ;
    PUT @121 'FLR'
      @131 'FCR'
      @141 'FRR'
      @151 'POP'
      @171 'FLR'
      @181 'FCR'
      @191 'FRR'
      @201 'POP'
      ;
    %INCLUDE "TABLE02.IN2";
  RUN;
%MEND PROCESS;

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
* Process Single Domain where domain1 is the variable of interest.
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *;
%MACRO PROCESS1(DOMAIN1=, INPT=, FORM=);

  PROC SORT DATA=&INPT; BY &DOMAIN1; RUN;

  DATA _NULL_;
    SET &INPT;
    BY &DOMAIN1;
    FILE "&OFILES.&DOMAIN1..OUT" RECFM=V LRECL=9999;
    LENGTH VARNAME1 $8;
    LENGTH VARIABLE $30;
```

```
      CALL VNAME(&DOMAIN1,VARNAME1);
      VARIABLE = VARNAME1;
      %INCLUDE "TABLE02.IN1";
      IF LAST.&DOMAIN1 THEN DO;
        PUT @001 &DOMAIN1 @;
        %INCLUDE "TABLE02.IN2";
      END; * DOMAIN;
    RUN;
%MEND PROCESS1;

***Note that the ERROR message of division by zero may be printed out
in the log file due to no complete in some domains***;

*************************************************************
* PROCESS OVERALL RESPONSE RATE TABULATION - FORM A
************************************************************;
%PROCESS(INPT=temp, FORM=A);

*************************************************************
* PROCESS SINGLE DOMAIN RESPONSE RATE TABULATION - FORM A
************************************************************;
%PROCESS1(DOMAIN1=XCATCH,  INPT=temp, FORM="FORM A");

*****************************************************************************
* Copy empty template file to constructed variables spreadsheet and
* start the XLS file.
****************************************************************************;
X "COPY EMPTY_xcatch.XLS RESPONSE_RATES_xcatch.XLS";
data _null_;
x=sleep(&SleepNo.);
run;
X "START RESPONSE_RATES_xcatch.XLS";

/* wait for a few seconds to allow Excel to come up */
/* adding sleep statement to avoid a log error saying
   ERROR: Physical file does not exist, excel|OVERALLA!r1c1:r9999c3*/
data _null_;
x=sleep(&SleepNo.);
run;

%MACRO CREATXLS(DSN=, NUMDOM=);
  *************************************************************************
  * Read text files with response rates for each DOMAIN.
  ************************************************************************;
  DATA &DSN(KEEP=DOMAIN1 DOMAIN2 DOMAIN3 RR RRW);
    INFILE "&OFILES.&DSN..OUT" LRECL=9999 RECFM=V;
    INPUT LINEIN $100 @; DROP LINEIN; *Skip over header records;
    LENGTH DOMAIN1-DOMAIN3 $40;
    IF _N_ GE 7 THEN DO;
      INPUT
        @001 DOMAIN1 $CHAR40.
        @041 DOMAIN2 $CHAR40.
        @081 DOMAIN3 $CHAR40.
```

```
           @121 FLR1  4.3
           @131 FCR1  4.3
           @141 FRR1  4.3
           @147 SN    7.0
           @171 FLR2  4.3
           @181 FCR2  4.3
           @191 FRR2  4.3
           @197 WN    7.0
        ;
      RR  = FRR1*100;
      RRW = FRR2*100;
      OUTPUT;
    END;
RUN;
*********************************************************************
* Add values for each DOMAIN to each sheet.
*********************************************************************,
%IF &NUMDOM LE 1 %THEN %DO;
  FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c3";
  DATA _NULL_;
    SET &DSN;
    FILE OUTDATA DLM='09'X NOTAB LRECL=500;
    LENGTH OLINE $50;
    IF _N_ = 1 THEN DO;
      OLINE = "RESPONSE RATES FOR &QUARTER";
      PUT OLINE;
      OLINE = "FOR DOMAIN = &DSN";
      PUT OLINE /;
      H1 = "DOMAIN"; H2 = "RR"; H3 = "RRW";
      PUT H1 : $CHAR50.
        H2 : $CHAR50.
        H3 : $CHAR50.
        ;
    END;
    PUT DOMAIN1: $CHAR40.
      RR   : 4.1
      RRW  : 4.1
      ;
  RUN;
%END;
%ELSE %IF &NUMDOM = 2 %THEN %DO;
  FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c4";
  DATA _NULL_;
    SET &DSN;
    FILE OUTDATA DLM='09'X NOTAB LRECL=500;
    LENGTH OLINE $50;
    IF _N_ = 1 THEN DO;
      OLINE = "RESPONSE RATES FOR &QUARTER";
      PUT OLINE;
      OLINE = "FOR DOMAIN = &DSN";
      PUT OLINE /;
      H1 = "DOMAIN1"; H2 = "DOMAIN2"; H3 = "RR"; H4 = "RRW";
      PUT H1 : $CHAR50.
```

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```
                    H2 : $CHAR50.
                    H3 : $CHAR50.
                    H4 : $CHAR50.
                   ;
             END;
             PUT DOMAIN1: $CHAR40.
                 DOMAIN2: $CHAR40.
                 RR    : 4.1
                 RRW   : 4.1
               ;
         RUN;
       %END;
       %ELSE %IF &NUMDOM = 3 %THEN %DO;
         FILENAME OUTDATA DDE "excel|&DSN!r1c1:r9999c5";
         DATA _NULL_;
           SET &DSN;
           FILE OUTDATA DLM='09'X NOTAB LRECL=500;
           LENGTH OLINE $50;
           IF _N_ = 1 THEN DO;
             OLINE = "RESPONSE RATES FOR &QUARTER";
             PUT OLINE;
             OLINE = "FOR DOMAIN = &DSN";
             PUT OLINE /;
             H1 = "DOMAIN1"; H2 = "DOMAIN2"; H3 = "DOMAIN3"; H4 = "RR"; H5 = "RRW";
             PUT H1 : $CHAR50.
                 H2 : $CHAR50.
                 H3 : $CHAR50.
                 H4 : $CHAR50.
                 H5 : $CHAR50.
                ;
           END;
           PUT DOMAIN1 : $CHAR40.
               DOMAIN2 : $CHAR40.
               DOMAIN3 : $CHAR40.
               RR    : 4.1
               RRW    : 4.1
             ;
         RUN;
       %END;
     %MEND CREATXLS;

     %CREATXLS(DSN=TABLE02A, NUMDOM=0);
     %CREATXLS(DSN=XCATCH,  NUMDOM=1);
     *************************************************************************
     * Quit spreadsheet application.
     *************************************************************************.
     FILENAME CMDS DDE "EXCEL|SYSTEM";
     DATA _NULL_;
       FILE CMDS;
       PUT '[SAVE]';
       PUT '[QUIT]';
     RUN;
     *************** End *******************;
```

APPENDIX G

SAS CODE FOR STATISTICAL AND WEB SPECIFICATIONS FOR THE 2020 TRICARE BENEFICIARY REPORTS AND PURCHASED CARE BENEFICIARY REPORTS

G.1.A Q3FY2020\PROGRAMS\ReportCards\CAHPS_AdultQ3FY2020\STEP1Q.SAS - Create and recode variables used in Adult Beneficiary Reports - Run Quarterly.

```
***************************************************************************
*
*  PROJECT:  DoD - Quarterly Adult Report Cards
*  PROGRAM:  STEP1Q.SAS
*  PURPOSE:  Create Dummy and Recode Variables used in Adult Report Card
*            Create a Female dummy variable
*            Create an Education dummy variable
*            Create 15 region dummies combining regions.
*               7 & 8 into region 8. That is, there
*               isn't a region 7 dummy.
*            Create 7 age dummy variables.
*
*        We require the most desired code to be the highest value.
*        Recode the dependent variables into:
*            1 - the least desirable value
*            2 - the 2nd least desirable value
*            3 - the most desirable value
*            . - missing
*
*        Create 7 variables GROUP1 - GROUP7
*            IF (XINS_COV IN (1,2,6) AND H10004>=2) THEN GROUP1 = 1
*            IF (XENR_PCM IN (1,2,6) AND H10004>=2) THEN GROUP2 = 1
*            IF (XENR_PCM = 3,7    AND H10004>=2) THEN GROUP3 = 1
*            IF XINS_COV IN (3)           THEN GROUP4 = 1
*                /*JSO 08/24/2006, Deleted 4,5*/
*            IF XBNFGRP = 1              THEN GROUP5 = 1
*            IF XBNFGRP = 2              THEN GROUP6 = 1
*            IF XBNFGRP IN (3,4)          THEN GROUP7 = 1
*            GROUP8 is output for all beneficiaries
*
*  MODIFIED:52) November 3, 2012 By Mike Rudacille, Updated for handling of Joint Service facilities
*        53) December 27, 2012 By Aimee Valenzuela, Update program for Q1FY2013.Updated Variable names
*            and input dataset.
*        54) March 23, 2013 By Mike Rudacille, Update program for Q2FY2013.
*        55) Sept 23, 2013 By Amanda Kudis, Update program for Q1FY2014.
*        56) Feb 27, 2013 By Amanda Kudis, now use xservaff from database
*        57) December 1, 2014 by Matt Turbyfill, revised for the Macro Program.
*                                    Changed HCSyyq_2 to &DATAFILE.
*                                    Changed H14 and R14 to H&FY. And R&FY.
*                                    Replaced RCTYPE with &PC.ReportCards.
*                                    Changed CONVERT.SAS to
..\..\ReportCards\CAHPS_Adult&FOLDER.&FYYEAR.\CONVERT.SAS.
*        58) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*                                    Changed OUT filepath to "Data".
*                                    Changed IN1 filepath to "&DATAPATH.".
*                                    Changed IN2 filepath to "&FMTPATH.".
*                                    Backslashes changed to forward slashes.
*        59) January 17, 2018 by Matt Turbyfill, revised to change North and South to East-North and East-South.
*        60) February 7, 2019 by Matt Turbyfill, XTNEXREG replaced with XTNEXRG2
```

```
*       East-North and East-South combined into East.
*       Number of XSERVREG changed to macro
*       Joint Service replaced by DHA
*
*  INPUTS:   1) HCSyyq_2 - DoD Quarterly HCS Database
*
*  OUTPUTS:  1) GROUP1-8.sas7bdat - DoD Quarterly GROUP files as defined above
*
*  INCLUDES: 1) CONVERT.SAS - Convert item responses to proportional
*                  values for consistency w/ TOPS
*
*  NOTES:    1) Groups 1-3 modified 10/09/2000
*
*        2) In Q1_2002, S02S01 was renamed and recoded to H00077 (health
*           status variable for 2000).  H02077 was the Hispanic/Latino
*           variable.  In Q2_2002, H02077 is health status, and H02079
*           is the Hispanic/Latino variable.  To make the Quarter 2 data
*           file (HSC022_1.sd2) more consistent with the Quarter 1 file,
*           the health status variable which was H02077 is now H04075,
*           and the Hispanic/Latino variable which was H02079 is now
*           H02077.
*
***************************************************************************;

/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards         ***/
%LET RCTYPE = &PC.ReportCards;

OPTIONS NOCENTER LS=124 PS=74 SOURCE SOURCE2 NOFMTERR NOOVP COMPRESS=YES;
LIBNAME OUT     "Data";
LIBNAME IN1     "&DATAPATH.";
LIBNAME LIBRARY  "&FMTPATH.";

TITLE1   'Program Saved as: STEP1Q.SAS';

%LET WGT = FWRWT;

proc format;
   value servreg 1 = 'East Army'
              2 = 'East Air Force'
              3 = 'East Navy'
              4 = 'East Other'
              5 = 'East DHA'
              6 = 'West Army'
              7 = 'West Air Force'
              8 = 'West Navy'
              9 = 'West Other'
             10 = 'West DHA'
             11 = 'Europe Army'
             12 = 'Europe Air Force'
             13 = 'Europe Navy'
             14 = 'Europe Other'
             15 = 'Europe DHA'
             16 = 'Pacific Army'
```

```
                17 = 'Pacific Air Force'
                18 = 'Pacific Navy'
                19 = 'Pacific Other'
                20 = 'Pacific DHA'
                21 = 'Latin America Army'
                22 = 'Latin America Air Force'
                23 = 'Latin America Navy'
                24 = 'Latin America Other'
                25 = 'Latin America DHA';

     DATA ENTIRE;
       SET IN1.&DATAFILE.(KEEP=
                MPRID
                XCATCH    /*MER 11/03/12*/
                FIELDAGE   /*MJS 01/26/04*/
                XTNEXRG2
                SERVAFF   /*KRR 04/09/04*/
                DBENCAT   /*JSO 04/26/2007, added for reservists logic*/
                USA
                ENBGSMPL
                SREDA
                XSEXA
                XBNFGRP
                STRATUM    /*KRR 04/03/2006, changed from ADJ_CELL*/
                XINS_COV
                XENR_PCM
                XOCONUS    /*JSO 08/24/2006, Overseas Region Indicator*/
                &WGT.
                /* Getting Needed Care */
                H&FY.033
                H&FY.029
                /* Getting Care Quickly */
                H&FY.007
                H&FY.010
                /* How Well Doctors Communicate */
                H&FY.021
                H&FY.022
                H&FY.023
                H&FY.024
                /* Customer Service */
                H&FY.041
                H&FY.042
                /* Claims Processing */
                H&FY.046
                H&FY.047  /***************************/
                H&FY.065  /* Health Status            */
                H&FY.018  /* Health Care Rating       */
                H&FY.048  /* Health Plan Rating       */
                H&FY.027  /* Personal Doctor Rating    */
                H&FY.031  /* Specialist Rating        */
                H&FY.003  /* Health Plan Used          *//*JSO 04/26/2007, added for reservists logic*/
                H&FY.004  /* How Long in Health Plan   */
                     /***************************/
```

```
          );
    FORMAT _ALL_;

      IF SERVAFF='A' THEN XSERVAFF=1;        *Army;
      ELSE IF SERVAFF='F' THEN XSERVAFF=2;    *Air Force;
      ELSE IF SERVAFF='N' THEN XSERVAFF=3;    *Navy;
      ELSE XSERVAFF=4;              *Other;

    IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA; /*Changed 2-7-2019 MBT*/

    IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

    IF XTNEXRG2 = . THEN DELETE;  /* RSG 02/2005 USE CACSMPL TO DELETE MISSING FIELDS*/

    IF XINS_COV NOT IN(1,2,3,6,9,10,13,14) THEN DELETE;  /*JSO 07/30/2007, Added 9*/  /*MER 07/12/11 Added
  10,11*/
                          /*AMK 2/10/14 removed 11, added 13/14*/

    NXNS_COV = XINS_COV;         /*JSO 04/26/2007 added for reservists logic*/
                      /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
    IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
    IF DBENCAT IN('GRD','IGR') AND H&FY.003 = 3 THEN DO;
      NXNS_COV = 3;
      XENR_PCM = .;
    END;
              /* Note:  use tmp_cell in step2q.sas */
    LENGTH TMP_CELL XSERVREG 8;
    TMP_CELL = STRATUM; /*KRR 04/03/2006, changed from ADJ_CELL*/

    IF XTNEXRG2 = 1 THEN DO;
      IF XSERVAFF = 1 THEN XSERVREG = 1;
      ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
      ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
      ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
      ELSE XSERVREG = 5;
    END;

    IF XTNEXRG2 = 2 THEN DO;
      IF XSERVAFF = 1 THEN XSERVREG = 6;
      ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
      ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
      ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
      ELSE XSERVREG = 10;
    END;

    IF XTNEXRG2 = 3 THEN DO; /*MBT 2/7/2019 Regions redefined*/
      IF XOCONUS = 1 THEN DO;
        IF   XSERVAFF = 1 THEN XSERVREG = 11;
        ELSE IF XSERVAFF = 2 THEN XSERVREG = 12;
        ELSE IF XSERVAFF = 3 THEN XSERVREG = 13;
        ELSE IF XSERVAFF = 4 THEN XSERVREG = 14;
        ELSE           XSERVREG = 15;
      END;
```

```
   IF XOCONUS = 2 THEN DO;
     IF    XSERVAFF = 1 THEN XSERVREG = 16;
     ELSE IF XSERVAFF = 2 THEN XSERVREG = 17;
     ELSE IF XSERVAFF = 3 THEN XSERVREG = 18;
     ELSE IF XSERVAFF = 4 THEN XSERVREG = 19;
     ELSE              XSERVREG = 20;
   END;
   IF XOCONUS = 3 THEN DO;
     IF    XSERVAFF = 1 THEN XSERVREG = 21;
     ELSE IF XSERVAFF = 2 THEN XSERVREG = 22;
     ELSE IF XSERVAFF = 3 THEN XSERVREG = 23;
     ELSE IF XSERVAFF = 4 THEN XSERVREG = 24;
     ELSE              XSERVREG = 25;
   END;
 END;

RUN;

**************************************************************************
* Create AGE, FEMALE and GROUP (Beneficiary/Enrollment)
* subsets. Create the region dummies.  Recode region 7 to region 8.
**************************************************************************;
DATA ENTIRE;
 SET ENTIRE;
 LENGTH DEFAULT = 4;
 IF FIELDAGE NE "  " THEN DO;   /*MJS 01/26/04*/
   AGE1824=0;
   AGE2534=0;
   AGE3544=0;
   AGE4554=0;
   AGE5564=0;
   AGE6574=0;
   AGE75UP=0;
   IF    ( '018' <= FIELDAGE <= '024' ) THEN AGE1824=1;  /*MJS 01/26/04*/
   ELSE IF ( '025' <= FIELDAGE <= '034' ) THEN AGE2534=1;
   ELSE IF ( '035' <= FIELDAGE <= '044' ) THEN AGE3544=1;
   ELSE IF ( '045' <= FIELDAGE <= '054' ) THEN AGE4554=1;
   ELSE IF ( '055' <= FIELDAGE <= '064' ) THEN AGE5564=1;
   ELSE IF ( '065' <= FIELDAGE <= '074' ) THEN AGE6574=1;
   ELSE IF (       FIELDAGE  > '074' ) THEN AGE75UP=1;
 END;

**************************************************************************
* Create the FEMALE dummy variable.
**************************************************************************;
IF XSEXA = 2 THEN
  FEMALE = 1;
ELSE
  FEMALE = 0;

**************************************************************************
* Create the beneficiary group/enrollment group subsets.
**************************************************************************;
```

G.7

```
  GROUP1 = 0;
  GROUP2 = 0;
  GROUP3 = 0;
  GROUP4 = 0;
  GROUP5 = 0;
  GROUP6 = 0;
  GROUP7 = 0;
  GROUP8 = 1;    * EVERYONE;

  IF (NXNS_COV IN (1,2,6,13)  AND H&FY.004>=2) THEN GROUP1 = 1;/*AMK 2/19/14 added 13*/
  IF (XENR_PCM IN (1,2,6)  AND H&FY.004>=2) THEN GROUP2 = 1;
  /* JSO 04/05/2007 conditions to run RC type */
  IF "&RCTYPE" = 'ReportCards' AND (XENR_PCM IN (3,7) AND H&FY.004>=2) THEN GROUP3 = 1;
  ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND ((XENR_PCM IN (3,7) AND H&FY.004>=2) OR NXNS_COV IN
(3,9,10,14)) THEN GROUP3 = 1;/*AMK 2/13/14 added 14*/
  IF NXNS_COV IN  (3,9,10,14)    THEN GROUP4 = 1; /*JSO 08/24/2006, Deleted 4,5*//*JSO 07/30/2007, Added
9*/ /*MER 07/12/11 Added 10*/
  IF XBNFGRP = 1 OR DBENCAT IN('IGR','GRD') THEN GROUP5 = 1;
                          /*JSO 07/30/2007, added DBENCAT conditions*/
  IF XBNFGRP = 2 OR DBENCAT IN('IDG','DGR') THEN GROUP6 = 1;
                          /*JSO 07/30/2007, added DBENCAT conditions*/
  IF XBNFGRP IN (3,4)     THEN GROUP7 = 1;

  *********************************************************************
  * Recode variables with Never, Sometimes, Usually and Always:
  *    Recode Never & Sometimes (1 & 2) to 1.
  *    Recode Usually (3) to 2.
  *    Recode Always (4) to 3.
  *********************************************************************;

  IF H&FY.007 = 1     THEN R&FY.007 = 1;
  ELSE IF H&FY.007 = 2 THEN R&FY.007 = 1;
  ELSE IF H&FY.007 = 3 THEN R&FY.007 = 2;
  ELSE IF H&FY.007 = 4 THEN R&FY.007 = 3;
  ELSE IF H&FY.007 < 0 THEN R&FY.007 = .;

  IF H&FY.010 = 1     THEN R&FY.010 = 1;
  ELSE IF H&FY.010 = 2 THEN R&FY.010 = 1;
  ELSE IF H&FY.010 = 3 THEN R&FY.010 = 2;
  ELSE IF H&FY.010 = 4 THEN R&FY.010 = 3;
  ELSE IF H&FY.010 < 0 THEN R&FY.010 = .;

  IF H&FY.021 = 1     THEN R&FY.021 = 1;
  ELSE IF H&FY.021 = 2 THEN R&FY.021 = 1;
  ELSE IF H&FY.021 = 3 THEN R&FY.021 = 2;
  ELSE IF H&FY.021 = 4 THEN R&FY.021 = 3;
  ELSE IF H&FY.021 < 0 THEN R&FY.021 = .;

  IF H&FY.022 = 1     THEN R&FY.022 = 1;
  ELSE IF H&FY.022 = 2 THEN R&FY.022 = 1;
  ELSE IF H&FY.022 = 3 THEN R&FY.022 = 2;
  ELSE IF H&FY.022 = 4 THEN R&FY.022 = 3;
  ELSE IF H&FY.022 < 0 THEN R&FY.022 = .;
```

```
IF H&FY.023 = 1     THEN R&FY.023 = 1;
ELSE IF H&FY.023 = 2 THEN R&FY.023 = 1;
ELSE IF H&FY.023 = 3 THEN R&FY.023 = 2;
ELSE IF H&FY.023 = 4 THEN R&FY.023 = 3;
ELSE IF H&FY.023 < 0 THEN R&FY.023 = .;

IF H&FY.024 = 1     THEN R&FY.024 = 1;
ELSE IF H&FY.024 = 2 THEN R&FY.024 = 1;
ELSE IF H&FY.024 = 3 THEN R&FY.024 = 2;
ELSE IF H&FY.024 = 4 THEN R&FY.024 = 3;
ELSE IF H&FY.024 < 0 THEN R&FY.024 = .;

IF H&FY.029 = 1     THEN R&FY.029 = 1;
ELSE IF H&FY.029 = 2 THEN R&FY.029 = 1;
ELSE IF H&FY.029 = 3 THEN R&FY.029 = 2;
ELSE IF H&FY.029 = 4 THEN R&FY.029 = 3;
ELSE IF H&FY.029 < 0 THEN R&FY.029 = .;

IF H&FY.033 = 1     THEN R&FY.033 = 1;
ELSE IF H&FY.033 = 2 THEN R&FY.033 = 1;
ELSE IF H&FY.033 = 3 THEN R&FY.033 = 2;
ELSE IF H&FY.033 = 4 THEN R&FY.033 = 3;
ELSE IF H&FY.033 < 0 THEN R&FY.033 = .;

IF H&FY.041 = 1     THEN R&FY.041 = 1;
ELSE IF H&FY.041 = 2 THEN R&FY.041 = 1;
ELSE IF H&FY.041 = 3 THEN R&FY.041 = 2;
ELSE IF H&FY.041 = 4 THEN R&FY.041 = 3;
ELSE IF H&FY.041 < 0 THEN R&FY.041 = .;

IF H&FY.042 = 1     THEN R&FY.042 = 1;
ELSE IF H&FY.042 = 2 THEN R&FY.042 = 1;
ELSE IF H&FY.042 = 3 THEN R&FY.042 = 2;
ELSE IF H&FY.042 = 4 THEN R&FY.042 = 3;
ELSE IF H&FY.042 < 0 THEN R&FY.042 = .;

IF H&FY.046 = 1     THEN R&FY.046 = 1;
ELSE IF H&FY.046 = 2 THEN R&FY.046 = 1;
ELSE IF H&FY.046 = 3 THEN R&FY.046 = 2;
ELSE IF H&FY.046 = 4 THEN R&FY.046 = 3;
ELSE IF H&FY.046 < 0 THEN R&FY.046 = .;

IF H&FY.047 = 1     THEN R&FY.047 = 1;
ELSE IF H&FY.047 = 2 THEN R&FY.047 = 1;
ELSE IF H&FY.047 = 3 THEN R&FY.047 = 2;
ELSE IF H&FY.047 = 4 THEN R&FY.047 = 3;
ELSE IF H&FY.047 < 0 THEN R&FY.047 = .;

*********************************************************************
* Recode variables to one missing condition ".".
* This also renames all the "Hyyxxx" to "Ryyxxx".
*********************************************************************;
```

```
  R&FY.027 = H&FY.027;  IF R&FY.027 < 0 THEN R&FY.027 = .;
  R&FY.031 = H&FY.031;  IF R&FY.031 < 0 THEN R&FY.031 = .;
  R&FY.018 = H&FY.018;  IF R&FY.018 < 0 THEN R&FY.018 = .;
  R&FY.048 = H&FY.048;  IF R&FY.048 < 0 THEN R&FY.048 = .;
  R&FY.065 = H&FY.065;  IF R&FY.065 < 0 THEN R&FY.065 = .;


  *************************************************************************
  * Create region and service affiliation dummies.
  *************************************************************************;
  IF XSERVREG NE . THEN DO;  /*MBT 2/7/2019 Changed to macro*/
    ARRAY REGDUMS (&xservregcnt.) REG01-REG&xservregcnt. ;
    DO I = 1 TO &xservregcnt.;
      REGDUMS(I)=0;
      IF XSERVREG= I  THEN REGDUMS(I)=1;
    END;


    ARRAY SRVDUMS (5) SRV01 SRV02 SRV03 SRV04 SRV05; /*MER 11/03/2012 Changed from 4 to 5*/
    DO I = 1 TO 5;   /*Needed for consumer watch ONLY */
      SRVDUMS(I)=0;
    END;

    IF     XSERVAFF = 1 THEN SRV01 = 1;
    ELSE IF  XSERVAFF = 2 THEN SRV02 = 1;
    ELSE IF  XSERVAFF = 3 THEN SRV03 = 1;
    ELSE IF  XSERVAFF = 4 THEN SRV04 = 1;
    ELSE IF  XSERVAFF = 5 THEN SRV05 = 1;

  END;

RUN;


*************************************************************************
* Recode item responses to proportional values using CONVERT.SAS.
*************************************************************************;
%INCLUDE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./CONVERT.sas";

%CONT2(DSN=ENTIRE, NUM=4,  Y=R&FY.018 R&FY.048 R&FY.027 R&FY.031);
%CONT3(DSN=ENTIRE, NUM=12, Y=R&FY.007 R&FY.010 R&FY.029 R&FY.033
                 R&FY.021 R&FY.022 R&FY.023 R&FY.024
                 R&FY.041 R&FY.042 R&FY.046 R&FY.047);

*************************************************************************
* Sort the main file to reorder it by MPRID.
*************************************************************************;
PROC SORT DATA=ENTIRE; BY MPRID; RUN;

*************************************************************************
* Print the contents of ENTIRE dataset.
*************************************************************************;
PROC CONTENTS DATA=ENTIRE;
  TITLE2 'Contents of ENTIRE';
RUN;
```

```
*************************************************************************
* Print some of the recoded records.
*************************************************************************;
PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of AGE and SEX dummies';
  VAR MPRID
    FIELDAGE   /*MJS 01/26/04*/
    XTNEXRG2
    XSERVAFF
    XSERVREG
    USA
    ENBGSMPL
    XSEXA
    STRATUM   /*KRR 04/03/2006 Changed from ADJ_CELL*/
    XINS_COV
    NXNS_COV  /*JSO 04/26/2007, added for reservists logic*/
    DBENCAT   /*JSO 04/26/2007, added for reservists logic*/
    XENR_PCM
    &WGT.
    ;
RUN;

*************************************************************************
* Print some of the recoded records.
*************************************************************************;
PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of AGE and SEX dummies';
  VAR FIELDAGE   /*MJS 01/26/04*/
    AGE1824
    AGE2534
    AGE3544
    AGE4554
    AGE5564
    AGE6574
    AGE75UP

    XSEXA
    FEMALE

    ENBGSMPL
    XINS_COV
    NXNS_COV
    XENR_PCM
    XBNFGRP
    GROUP1
    GROUP2
    GROUP3
    GROUP4
    GROUP5
    GROUP6
    GROUP7
    ;
```

```
RUN;

PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of recoded question variables';
  VAR H&FY.007  R&FY.007
    H&FY.010  R&FY.010
    H&FY.021  R&FY.021
    H&FY.022  R&FY.022
    H&FY.023  R&FY.023
    H&FY.024  R&FY.024
    H&FY.029  R&FY.029
    H&FY.033  R&FY.033
    H&FY.041  R&FY.041
    H&FY.042  R&FY.042
    H&FY.046  R&FY.046
    H&FY.047  R&FY.047
    H&FY.018  R&FY.018
    H&FY.027  R&FY.027
    H&FY.031  R&FY.031
    H&FY.048  R&FY.048
    H&FY.065  R&FY.065
    ;
RUN;

/*MBT 2/7/2019 Changed to macro*/
PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of recoded REGION variables';
  VAR XSERVREG
    REG01-REG&xservregcnt.
;
RUN;

/*MER 11/03/2012 Changed 4 to 5*/
PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of recoded service affiliation variables';
  VAR XSERVREG
    XSERVAFF
    XOCONUS /*JSO 08/24/2006, Changed Overseas Regions*/
    SRV01
    SRV02
    SRV03
    SRV04
    SRV05
    ;
RUN;

**********************************************************************
* Create the 7 subgroups for processing by STEP2.SAS.
**********************************************************************;
DATA OUT.GROUP1
  OUT.GROUP2
  OUT.GROUP3
  OUT.GROUP4
```

```
   OUT.GROUP5
   OUT.GROUP6
   OUT.GROUP7
   OUT.GROUP8;

SET ENTIRE;

DROP
  H&FY.007
  H&FY.010
  H&FY.021
  H&FY.022
  H&FY.023
  H&FY.024
  H&FY.029
  H&FY.033
  H&FY.041
  H&FY.042
  H&FY.046
  H&FY.047
  H&FY.018
  H&FY.027
  H&FY.031
  H&FY.048
  H&FY.065
  ;
IF GROUP1 = 1 THEN OUTPUT OUT.GROUP1;
IF GROUP2 = 1 THEN OUTPUT OUT.GROUP2;
IF GROUP3 = 1 THEN OUTPUT OUT.GROUP3;
IF GROUP4 = 1 THEN OUTPUT OUT.GROUP4;
IF GROUP5 = 1 THEN OUTPUT OUT.GROUP5;
IF GROUP6 = 1 THEN OUTPUT OUT.GROUP6;
IF GROUP7 = 1 THEN OUTPUT OUT.GROUP7;
  OUTPUT OUT.GROUP8;
RUN;
```

G.1.B Q3FY2020\PROGRAMS\ReportCards\CAHPS_AdultQ3FY2020\Convert.SAS - Convert Item Responses To Proportional Values.

```
**************************************************************************
*
* PROGRAM:  CONVERT.SAS
* TASK:     DOD HEALTH CARE SURVEY ANALYSIS (8687-330)
* PURPOSE:  CONVERT ITEM RESPONSES TO PROPORTIONAL VALUES FOR CONSISTENCY
*           WITH THE TOPS SURVEY.
* WRITTEN:  October 2000 BY ERIC SCHONE
*
* MODIFIED: October 2000 BY KEITH RATHBUN, Added PROLOG.  Also, added DSN
*           to argument lists.
*
* INPUTS:  1) User-specified SAS Dataset
*
* OUTPUTS: 1) User-specified SAS Dataset with recoded values
*
* NOTES:
*
* 1) Arguments for the CONT1-CONT3 macros are as follows:
*    a) SAS dataset name (dsn)
*    b) Number of variables to be converted (num)
*    c) List of variables to be converted (y)
* 2) These macros assume that the response items have already been
*    converted/recoded to CAHPS scales.
*
**************************************************************************
* CONT1 - Convert big problem, small problem, not a problem questions to
*         proportional values.
**************************************************************************;
%macro cont1(dsn=, num=, y=);
data &dsn(drop=i);
  set &dsn;
  array vars &y;
  do i = 1 to &num;
    if vars(i) ne . and vars(i) ne 3 then vars(i) = 0;
    if vars(i) = 3 then vars(i) = 1;
  end;
run;
%mend cont1;


**************************************************************************
* CONT2 - Convert rating questions to proportional values.
**************************************************************************;
%macro cont2(dsn=, num=, y=);
data &dsn(drop=i);
  set &dsn;
  array vars &y;
  do i=1 to &num;
    if vars(i) ne . and vars(i) < 8 then vars(i) = 0;
    if vars(i) in (8,9,10) then vars(i) = 1;
```

```
   end;
run;
%mend cont2;


*************************************************************************
* CONT3 - Convert Never, Sometimes, Usually, Always questions to
*      proportional values.
*************************************************************************;
%macro cont3(dsn=, num=, y=);
data &dsn(drop=i);
  set &dsn;
  array vars &y;
  do i=1 to &num;
    if vars(i) ne . and vars(i) >= 2 then vars(i) = 2;
    vars(i) = vars(i) - 1;
  end;
run;
%mend cont3;
```

G.1.C Q3FY2020\PROGRAMS\ReportCards\CAHPS_AdultQ3FY2020\STEP2Q.SAS - Calculate CAHPS Adjusted Scores - Run Quarterly.

```
***************************************************************************
*
* Project:  DoD - Quarterly Adult Report Cards
* Program:  STEP2Q.SAS
* Purpose:  Generate risk-adjusted CAHPS Scores for Adult Report Card.
*
* Requires: Program STEP1Q.SAS must be run prior to running this program.
*
* The adult report card contains a large number of risk-adjusted scores.
* Some scores are calculated from responses to individual survey questions.
* Composite scores are calculated by combining scores from individual
* questions.  The scores then are compared with external civilian
* benchmarks.  The programming tasks involved in building the report
* card are:
*
*     1) Preparing data for analyses
*     2) Estimating risk adjustment models
*     3) Calculating risk-adjusted values and variances
*     4) Calculating benchmarks
*     5) Comparing risk-adjusted values to benchmarks
*        and hypothesis testing
*
*
* Previous Program:  STEP1Q.SAS
*
* Modified:19) November 3, 2012 by Mike Rudacille, updated for handling of
*          Joint Service facilities
*     20) December 27, 2012 by Aimee Valenzuela, updated variable names for Q1FY2013
*     21) December 1, 2014 by Matt Turbyfill, revised for the Macro Program.
*                           Change R14 to R&FY.
*                           Inserted ..\..\ReportCards\CAHPS_Adult&FOLDER.&FYYEAR.\ as the
filepath for all INC files, including
*                           REGRSREG, RISKARRY, RISKMEAN, REGARRAY, RISKVARS,
MEANFILE, RISKARRY, RISKMEAN.  Also for the FILE statements.
*     22) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*                           Changed filepaths to "Data".
*                           Changed LIBRARY filepath to "&FMTPATH.".
*                           Backslashes changed to forward slashes for INC files.
*     23) February 2, 2019 by Matt Turbyfill, Set the XSERVREG count to a macro
*     Changed input lines on the SKELREG dataset
*
***************************************************************************;
OPTIONS NOCENTER LS=132 PS=79 SOURCE NOOVP COMPRESS=YES;
LIBNAME IN1    "Data";
LIBNAME OUT    "Data";
LIBNAME OUT2   "Data/ADULTHATFILES";
LIBNAME LIBRARY "&FMTPATH.";

/* RSG 02/2005 hard coded skelreg so data does not have to be copied from quarter to quarter*/
```

```
/* JSO 08/24/2006, Changed from 16 to 24 Regions */ /* MER 11/03/2012, Changed from 24 to 30 Regions */
/* MBT 2/7/2019 Changed to macro*/
DATA SKELREG (COMPRESS=NO);
  INPUT XSERVREG;
  DATALINES;
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
;
RUN;

*************************************************************************
*************************************************************************
* Set GLOBAL parameters here.
*************************************************************************
*************************************************************************,

*************************************************************************
* Set the number of Dependent variables to process.
* One does not need to start at 1, but the max must be >= min.
*************************************************************************,
%LET MIN_VAR =  1;
%LET MAX_VAR = 16;


*************************************************************************
* Set the number of subgroups to process.
*************************************************************************,
%LET MIN_GRP = 1;
%LET MAX_GRP = 8;


*************************************************************************
```

```
* These are expected to remain the same for a particular dependent
* variable run.
*************************************************************************;
%LET WGT    = FWRWT;
%LET IND_VAR1 = R&FY.065;
%LET IND_VAR2 =  ;  * FEMALE;
%LET IND_VAR3 =  ;  * SREDHIGH;
%LET DEBUGFLG = 0;  * Set to 1 if you want extra printout;

%LET TITL1 = Prime Enrollees;
%LET TITL2 = Enrollees w/military PCM;
%LET TITL3 = Enrollees w/civilian PCM;
%LET TITL4 = Nonenrollees;
%LET TITL5 = Active Duty;
%LET TITL6 = Active Duty Dependents;
%LET TITL7 = Retirees and Dependents;
%LET TITL8 = All Beneficiaries;


*************************************************************************
* GETTING NEEDED CARE.
*************************************************************************;
%LET DEPVAR1  = R&FY.029;
%LET DEPVAR2  = R&FY.033;


*************************************************************************
* GETTING NEEDED CARE QUICKLY.
*************************************************************************;
%LET DEPVAR3  = R&FY.007;
%LET DEPVAR4  = R&FY.010;


*************************************************************************
* HOW WELL DOCTORS COMMUNICATE.
*************************************************************************;
%LET DEPVAR5  = R&FY.021;
%LET DEPVAR6  = R&FY.022;
%LET DEPVAR7  = R&FY.023;
%LET DEPVAR8  = R&FY.024;


*************************************************************************
* CUSTOMER SERVICE.
*************************************************************************;
%LET DEPVAR9  = R&FY.041;
%LET DEPVAR10 = R&FY.042;


*************************************************************************
* CLAIMS PROCESSING.
*************************************************************************;
%LET DEPVAR11 = R&FY.046;
%LET DEPVAR12 = R&FY.047;


*************************************************************************
* RATING ALL HEALTH CARE: 0 - 10.
*************************************************************************;
```

```
%LET DEPVAR13 = R&FY.018;


*************************************************************************
* RATING OF HEALTH PLAN: 0 - 10.
*************************************************************************.
%LET DEPVAR14 = R&FY.048;


*************************************************************************
* RATING OF PERSONAL DR: 0 - 10.
*************************************************************************.
%LET DEPVAR15 = R&FY.027;


*************************************************************************
* SPECIALITY CARE: 0 - 10.
*************************************************************************.
%LET DEPVAR16 = R&FY.031;


%MACRO SCORE;
************************************.
* use this macro for all groups;
* super region variables are to be used    ;
************************************.
%PUT ************************************;
%PUT STARTING MACRO SCORE;
%PUT "GROUP    = " GROUP&IGRP;
%PUT "TITLE    = " &&DEPVAR&IVAR  &&TITL&IGRP;
%PUT "DEP_VAR  = " &&DEPVAR&IVAR;
%PUT "IND_VAR1 = " &IND_VAR1;
%PUT "IND_VAR2 = " &IND_VAR2;
%PUT "IND_VAR3 = " &IND_VAR3;
%PUT "WGT      = " &WGT;
%PUT ************************************;


    *--------------------------------------------------;
    * If the current group is 1 use the skeleton files;
    * else used the previous groups output file;
    * The mrgfile is added to by each subgroup;
    *--------------------------------------------------;
%LET RMRGFILE = OUT.R_&&DEPVAR&IVAR;
%IF "&IGRP" = "1" %THEN %LET RMRGFILE = SKELREG;

* run regression using the region level variables;
* output a BETA file (1 record) and the subgroup;
* file with residuals attached (many records);
PROC REG DATA = GROUP&IGRP OUTEST=BETAS;
    TITLE2 "Regression Model for GROUP&igrp for regions";
    TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    WEIGHT &WGT;
    %INCLUDE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./REGRSREG.INC";
    OUTPUT OUT = OUT2.H&IGRP&&DEPVAR&IVAR(KEEP=MPRID &WGT TMP_CELL
            PRED&IGRP RESID&IGRP XSERVREG &&DEPVAR&IVAR)
        P = PRED&IGRP
        R = RESID&IGRP;
```

```
RUN;

* print of HCSDB file with the residuals and predicted values;
%IF &DEBUGFLG > 0  %THEN %DO;
   PROC PRINT DATA=OUT2.H&IGRP&&DEPVAR&IVAR (OBS=70);
      TITLE2 "OUT2.H&IGRP&&DEPVAR&IVAR:  file with predicted values and the RESID&IGRP";
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
      VAR MPRID XSERVREG &&DEPVAR&IVAR RESID&IGRP PRED&IGRP;
   RUN;

   PROC PRINT DATA=BETAS;
      TITLE2 "BETAS:  file with coefficients";
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;

*----------------------------------------;
*----- get the standard err/variance ----;
*----------------------------------------;
%LET DEP = &&DEPVAR&IVAR;
%R_SUDAAN(OUT2.H&IGRP&&DEPVAR&IVAR);

* calculate prelim adjusted scores for the risk-adjusters;
* merge adjuster means with the adjuster coefficients;
* then sum their products. Finally add in the intercept;
 DATA ADJUST;
   SET MEANFILE;
   IF _N_ = 1 THEN SET BETAS(DROP = _TYPE_);
   %include "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./RISKARRY.INC";
   %include "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./RISKMEAN.INC";
   DO I = 1 TO DIM(COEFFS);
     IF COEFFS(I) = . THEN COEFFS(I) = 0;
     IF MEANS(I) = .  THEN MEANS(I)  = 0;
     ADJUST + ( COEFFS(I) * MEANS(I) );
   END;
   ADJUST = ADJUST + INTERCEPT;
 RUN;

* add the region coefficients to the adjusted value from above;
* output one record per region with the region;
* level adjusted scores;
DATA COEFFREG(KEEP=XSERVREG NEWADJST);
   SET ADJUST;
   %include "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./REGARRAY.INC";
   LENGTH NAME $8;
   DO I=1 TO DIM(REGRHS);
     CALL VNAME(REGRHS(I),NAME);
     XSERVREG=INPUT(SUBSTR(NAME,4,2),2.);
     IF REGRHS(I) = . THEN REGRHS(I) = 0;
     NEWADJST=ADJUST + REGRHS(I);
     OUTPUT;
   END;
```

```
   RUN;

* sum of wgts for each region;
PROC MEANS DATA=GROUP&IGRP NWAY NOPRINT ;
  CLASS XSERVREG;
  VAR   &WGT;
  OUTPUT OUT=REG_WGTS (DROP = _TYPE_ _FREQ_) N=REGCNT&IGRP SUM=REGWGT&IGRP;
RUN;

* merge the COEFFREG file with the region;
* adjusted scores to the region level total weight;
* merge by the region.  Creates a region level;
* file with the total sample weight of the region;
DATA COEFFREG;
    MERGE COEFFREG(IN=IN1)
        REG_WGTS(IN=IN2   KEEP=XSERVREG REGCNT&IGRP REGWGT&IGRP);
    BY XSERVREG;
    IF IN1;
RUN;

%IF &DEBUGFLG > 0  %THEN %DO;
  PROC PRINT DATA=MEANFILE;
     TITLE2 'Print of MEANFILE';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;

  PROC PRINT DATA=ADJUST;
     TITLE2 'Print of ADJUST';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;

  PROC PRINT DATA=COEFFREG;
     TITLE2 'Print of COEFFREG: Region Adjusted Scores';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;

  PROC PRINT DATA=REG_WGTS;
     TITLE2 'Print of REG_WGTS: Region Area Sum of WGTS';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;

  PROC PRINT DATA=COEFFREG;
     TITLE2 'Print of COEFFREG: Regions Adjusted Scores - with sum of wgts and region';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
%END;

* Calculate region level adjusted scores from the;
* region level adjusted scores in COEFFREG;
PROC MEANS DATA=COEFFREG NWAY NOPRINT;
 WEIGHT REGWGT&IGRP;
 CLASS  XSERVREG;
 VAR    NEWADJST;
```

```
   OUTPUT OUT=REGFILE1 (DROP = _TYPE_ _FREQ_) MEAN=ADJ&IGRP;
RUN;

%IF &DEBUGFLG > 0  %THEN %DO;
  PROC PRINT DATA=REGFILE1;
     TITLE2 'Print of REGFILE1: Region Scores';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
%END;

* merge the previous groups region results (if any);
* with the region level std errs and the region;
* level results from catchment results collapsed to region;
DATA OUT.R_&&DEPVAR&IVAR;
   MERGE &RMRGFILE(IN=INS)
       R&IGRP&&DEPVAR&IVAR
       REG_WGTS(KEEP = REGCNT&IGRP REGWGT&IGRP XSERVREG)
       REGFILE1(KEEP = ADJ&IGRP XSERVREG);
   BY XSERVREG;
   DEPENDNT = "&&DEPVAR&IVAR";
   IF INS;
RUN;

* merge the previous groups regional results (if any);
* with the region level std err and the region;
* level results from the current group/dependent var;
DATA OUT.R_&&DEPVAR&IVAR;
   MERGE OUT.R_&&DEPVAR&IVAR(IN=INS)
       R&IGRP&&DEPVAR&IVAR    /*KRR - removed perm dataset ref to OUT2 */
       REG_WGTS
       REGFILE1;
   BY XSERVREG;
   DEPENDNT = "&&DEPVAR&IVAR";
   IF INS;
RUN;

PROC PRINT DATA=OUT.R_&&DEPVAR&IVAR;
   TITLE2 "Print of XSERVREG variables in &&DEPVAR&IVAR";
   TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
RUN;
%MEND SCORE;

%MACRO MAKE_INC;
**************************************;
* creates include files for later Procs;
* Needs to be run each time.  Called   ;
* in the outer (beneficiary loop).     ;
* I chose this method because it was   ;
* clearer(to me at least).             ;
* This macro needs to be run once per  ;
* Dep var per subgroup.                ;
**************************************;
```

```
* Drop records where the dependent var is missing;
* Drop records with missing catchment or region values;
 DATA GROUP&IGRP;
    SET IN1.GROUP&IGRP;
    IF &&DEPVAR&IVAR NOT = .;
 RUN;

 DATA _NULL_;
    SET GROUP&IGRP END = EOF;
    IF &&DEPVAR&IVAR NOT = .;

    ARRAY AGECNT(7) 8 aCNT1 - aCNT7;
    RETAIN AGECNT 0;
    RETAIN CNT 0;
    ARRAY AGENAM(7)  $8 AGENAM1 - AGENAM7;
    ARRAY AGENAMX(7) $8 AGENAMX1 - AGENAMX7;
    RETAIN AGENAM;
    RETAIN AGENAMX;
    ARRAY REGCNT(&xservregcnt.)  8 REGCNT01- REGCNT&xservregcnt.;
                        /*MBT 2-7-2019 Changed to macro*/
    RETAIN CATCNT 0;
    RETAIN REGCNT 0;

    * create a name array for the parent age dummies;
    IF _N_ = 1 THEN DO;
      AGENAM(1) = "AGE1824";
      AGENAM(2) = "AGE2534";
      AGENAM(3) = "AGE3544";
      AGENAM(4) = "AGE4554";
      AGENAM(5) = "AGE5564";
      AGENAM(6) = "AGE6574";
      AGENAM(7) = "AGE75UP";
    END;

    * total record count;
    CNT + 1;

    * count records in each age group;
    * we will use only age groups with more;
    * than 2 obs;
    IF AGE1824  = 1 THEN AGECNT(1) + 1;
    IF AGE2534  = 1 THEN AGECNT(2) + 1;
    IF AGE3544  = 1 THEN AGECNT(3) + 1;
    IF AGE4554  = 1 THEN AGECNT(4) + 1;
    IF AGE5564  = 1 THEN AGECNT(5) + 1;
    IF AGE6574  = 1 THEN AGECNT(6) + 1;
    IF AGE75UP  = 1 THEN AGECNT(7) + 1;

    * count records in each XSERVREG group;
    * we will only use XSERVREGs with more than than 2 obs;
    * I am using the region value as the subscript;
    * to make the code simpler and more readable;
    IF 1<= XSERVREG <=&xservregcnt.  THEN DO; /*MBT 2-7-2019 Changed to macro*/
```

```
      REGCNT(XSERVREG) = REGCNT(XSERVREG) + 1;
    END;

   IF EOF THEN GOTO ENDFILE;
   RETURN;

ENDFILE:
   * create a title common to all procs in the current group;
   TITLE  " &&DEPVAR&IVAR  &&TITL&IGRP";

   * display counts in the log;
   %IF &DEBUGFLG > 0  %THEN %DO;
     PUT ' ';
     PUT 'AT EOF:';
     PUT "TOTAL CNT = "    CNT;
     PUT AGENAM(1) "  " AGECNT(1)=;
     PUT AGENAM(2) "  " AGECNT(2)=;
     PUT AGENAM(3) "  " AGECNT(3)=;
     PUT AGENAM(4) "  " AGECNT(4)=;
     PUT AGENAM(5) "  " AGECNT(5)=;
     PUT AGENAM(6) "  " AGECNT(6)=;
     PUT AGENAM(7) "  " AGECNT(7)=;
     PUT " ";

     DO I = 1 TO &xservregcnt.;  /*MBT 2-7-2019 Changed to macro*/
       IF(REGCNT(I) > 0) THEN DO;
         PUT  'REG' I Z2. REGCNT(I) 6.;
       END;
     END;
     PUT ' ';

    %END;    *** of debug test;

    *-------------------------------------------------------;
    * This include is for the regression using regions;
    * in this case we drop the last XSERVREG;
    FILE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./REGRSREG.INC";
    PUT @6  "MODEL  &&DEPVAR&IVAR = ";
    IF "&IND_VAR1" NE "" THEN PUT @12 "&IND_VAR1"; /* KRR - only output when present */
    IF "&IND_VAR2" NE "" THEN PUT @12 "&IND_VAR2"; /* KRR - only output when present */
    IF "&IND_VAR3" NE "" THEN PUT @12 "&IND_VAR3"; /* KRR - only output when present */

    CNT2 = 0;
    * setup an array of those age groups that have > 1 obs;
    DO I = 1 TO 7;
      IF AGECNT(I) > 1 THEN DO;
        CNT2 + 1;
        AGENAMX(CNT2) = AGENAM(I);
      END;
    END;

    * now drop the last category to create;
    * an omitted category which is required;
```

```
* to solve the regression properly;
DO I = 1 TO CNT2-1;
  PUT @12 AGENAMX(I);
END;

* ditto for the catchment areas with > 0 obs;
* in this case we drop the the first USABLE category;
* this is not consistent with the catchment area code;
* but this is the method that Portia used;
FIRST = 0;      /*MBT 2-7-2019 Changed to macro*/
DO I = 1 TO &xservregcnt.;   * skip the 1st region with 1+ obs;
  IF REGCNT(I) > 0 THEN DO;
    IF FIRST = 1 THEN PUT @12 'REG' I Z2.;
    FIRST = 1;
  END;
END;
PUT @11 ';';

*-------------------------------------------------------;
* now create the complete var statement;
* for the Proc MEANS used to replace the;
* independent variables missing values;
* we assume the age groups will always be used;
* These are also called the RISK FACTORS;
FILE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./RISKVARS.INC";
PUT @10  "VAR";
DO I = 1 TO CNT2;
  PUT @12 AGENAMX(I);
END;

* not all the other dependent variables will be used;
* only write them out if they are not null;
CNT3 = 0;
IF "&IND_VAR1" NE "" THEN DO;
  CNT3 + 1;
  PUT @12 "&IND_VAR1";
END;

IF "&IND_VAR2" NE "" THEN DO;
  CNT3 + 1;
  PUT @12 "&IND_VAR2";
END;

IF "&IND_VAR3" NE "" THEN DO;
  CNT3 + 1;
  PUT @12 "&IND_VAR3";
END;
PUT @11 ';';

*-------------------------------------------------------;
* create an ARRAY statement of the desired risk factors;
* called adjusters in the specs and in the code;
FILE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./RISKARRY.INC";
```

G.25

```
        PUT @10  "ARRAY COEFFS(*) $8";
        DO I = 1 TO CNT2;
          PUT @12 AGENAMX(I);
        END;

        CNT3 = 0;
        IF "&IND_VAR1" NE "" THEN DO;
          CNT3 + 1;
          PUT @12 "&IND_VAR1";
        END;

        IF "&IND_VAR2" NE "" THEN DO;
          CNT3 + 1;
          PUT @12 "&IND_VAR2";
        END;

        IF "&IND_VAR3" NE "" THEN DO;
          CNT3 + 1;
          PUT @12 "&IND_VAR3";
        END;
        PUT @11 ';';

        *-------------------------------------------------------;
        * create an ARRAY of mean names for the output;
        * from a proc MEANS of the Risk Factors in RISKARRY;
        FILE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./RISKMEAN.INC";
        IND_CNT = CNT2 + CNT3;
        PUT @6 "ARRAY MEANS(*) $8";
        DO I = 1 TO IND_CNT;
          PUT @12 "MEAN" I Z2.;
        END;
        PUT @11 ';';

 *  -------------------------------------------------;
 *  create the equivalent of the following statement;
 *  OUTPUT OUT=MEANFILE(DROP = _TYPE_) MEAN=MEAN1-MEAN&MEAN_CNT;
        FILE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./MEANFILE.INC";
        PUT @6 "OUTPUT OUT=MEANFILE(DROP = _TYPE_) MEAN = ";
        DO I = 1 TO IND_CNT;
          PUT @12 "MEAN" I Z2.;
        END;
        PUT @11 ';';

        *----------------------------------------------------;
        * create a super region area array;
        * with at least ONE obs;
        FILE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./REGARRAY.INC";
        PUT @10  "ARRAY REGRHS(*) $8";
        DO I = 1 TO &XSERVREGCNT.;           /*MBT 2-7-2019 Changed to macro*/
          IF REGCNT(I) > 0 THEN DO; *** ems 7/12/00 changed "> 1" to "> 0";
            PUT  @16 'REG' I Z2.;
          END;
        END;
```

G.26

```
    PUT @11 ';';
 RUN;


 * Create the means of the adjuster variables;
 * They will be used to replace missing adjuster variables;
 * calculate weighted means;
 PROC MEANS DATA=GROUP&IGRP;
   WEIGHT &WGT;
   %include "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./RISKVARS.INC";
   %include "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./MEANFILE.INC";
 RUN;

%IF &DEBUGFLG > 0  %THEN %DO;
   PROC PRINT DATA=MEANFILE;
      TITLE2 "Print of MEANFILE for Risk Adjuster variables";
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;

DATA GROUP&IGRP;
   SET GROUP&IGRP;
   IF _N_ = 1 THEN SET MEANFILE;
   %include "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./RISKARRY.INC";
   %include "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./RISKMEAN.INC";
   DO I = 1 TO DIM(COEFFS);
     IF COEFFS(I) = . THEN DO;
       COEFFS(I) = MEANS(I);
     END;
   END;
RUN;
/* PROC MEANS DATA=out.group8;
   WEIGHT &WGT;
   %include "RISKVARS.INC";
   %include "MEANFILE.INC";
 RUN;*/
%MEND MAKE_INC;

%MACRO R_SUDAAN(INFILE);
****************************************************
* Use this macro to create standard err (variances)
* for XSERVREGs.
****************************************************;
%PUT ****************************************;
%PUT STARTING MACRO R_SUDAAN (XSERVREG);
%PUT ****************************************;

DATA &INFILE;
  SET &INFILE;
  IF 1<= XSERVREG <= &xservregcnt.;  /*MBT 2-7-2019 Changed to macro*/
RUN;

* Sort data by TMP_CELL;
PROC SORT DATA=&INFILE;
```

G.27

```
      BY TMP_CELL;
RUN;

%IF &DEBUGFLG > 5  %THEN %DO;
   PROC PRINT DATA=&INFILE(OBS=5);
      TITLE2 'Print of the input file to SUDAAN (XSERVREG)';
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;

* Calculate values for super regions;
PROC DESCRIPT DATA=&INFILE DESIGN=STRWR NOPRINT;
   WEIGHT &WGT;
   SETENV DECWIDTH=4;
   NEST TMP_CELL / missunit;
   VAR RESID&IGRP;
   TABLES XSERVREG;
   SUBGROUP XSERVREG;
   LEVELS &xservregcnt.;   /*MBT 2-7-2019 Changed to macro */
   OUTPUT  SEMEAN
      / REPLACE TABLECELL=DEFAULT
        FILENAME=RS&DEP;
   RUN;

   DATA R&IGRP&&DEPVAR&IVAR;
      SET RS&DEP;
      KEEP XSERVREG SEMEAN;
      IF SEMEAN NE .;
      RENAME SEMEAN = SEMEAN&IGRP;
   RUN;

   PROC PRINT DATA=R&IGRP&&DEPVAR&IVAR;
     TITLE2 "Print XSERVREG DESCRIPT DATA=R&IGRP&&DEPVAR&IVAR";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;

%MEND  R_SUDAAN;

%*********************************;
%*  call the macros;
%*********************************;

%MACRO MAINLOOP(MIN_VAR,MAX_VAR,MIN_GRP,MAX_GRP);
   %* loop over the set of dependent variables;
     %DO IVAR = &MIN_VAR %TO &MAX_VAR;
       %DO IGRP = &MIN_GRP %TO &MAX_GRP;
         %MAKE_INC;
         %SCORE;
       %END;
     %END;

%MEND;
%MAINLOOP(&MIN_VAR,&MAX_VAR,&MIN_GRP,&MAX_GRP);
```

G.1.D Q3FY2020\PROGRAMS\ReportCards\CAHPS_AdultQ3FY2020\ COMPOSIT.SAS - Calculate CAHPS Composite Scores - Run Quarterly.

```
***************************************************************************
* Project:  DoD - Quarterly Adult Report Cards
* Program:  COMPOSIT.SAS
* Purpose:  Generate Quarterly Adult Report Card composite scores
* Requires: Programs STEP1Q.SAS and STEP2Q.SAS must be run prior
*       to this program.
*
* Modified: 1) December 1, 2014 by Matt Turbyfill, revised for the Macro Program.
*                                       Changed FILES filepath to
../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./FILES.INC.
*                                       Change R14 to R&FY.
*                                       Added INFILE Data step removing BYVARs with only one occurrence.
*       2) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*                                       Corrected capitalization and backslashes on LIBNAME and INC
filepaths.
*
***************************************************************************;
OPTIONS NOCENTER LS=132 PS=78 SOURCE SOURCE2 MLOGIC MPRINT NOOVP COMPRESS=YES NOFMTERR;
libname in     "Data";
libname in2    "Data/ADULTHATFILES";
libname out    "Data";
LIBNAME LIBRARY "&FMTPATH.";

%LET WGT = FWRWT;

 %MACRO COMPOSIT (TYPE=,COMPOS=,VAR1=,VAR2=,VAR3=,VAR4=,QCOUNT=);

 DATA _NULL_;
  %IF "&TYPE" = "R" %THEN %DO;
    CALL SYMPUT ('BYVAR','XSERVREG');
  %END; %ELSE
  %IF "&TYPE" = "C" %THEN %DO;
    CALL SYMPUT ('BYVAR','CACSMPL');
  %END;

 ***************************************.
 *  Create a Composite Score         ;
 ***************************************.
 DATA _NULL_;
   FILE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./FILES.INC";
   PUT @6 'SET';
   IF "&VAR1" NE '' THEN PUT @8 "IN.&TYPE._&VAR1";
   IF "&VAR2" NE '' THEN PUT @8 "IN.&TYPE._&VAR2";
   IF "&VAR3" NE '' THEN PUT @8 "IN.&TYPE._&VAR3";
   IF "&VAR4" NE '' THEN PUT @8 "IN.&TYPE._&VAR4";
   PUT @8 ';';
 RUN;

 DATA COMPOS&COMPOS;
```

```
      LENGTH DEPENDNT $ 8;
      %INCLUDE "../../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./FILES.INC";
      DEPENDNT = "&TYPE.COMPOS&COMPOS";
RUN;

PROC SORT DATA=COMPOS&COMPOS;
      BY &BYVAR;
RUN;

PROC PRINT DATA=COMPOS&COMPOS(OBS=60);
      TITLE "Print of COMPOS&COMPOS after sort";
RUN;

DATA COMPOS&COMPOS;
      SET COMPOS&COMPOS;
      BY &BYVAR;
  %IF "&TYPE" = "R" %THEN %DO;
      ARRAY N(*) REGCNT1 - REGCNT8;
      ARRAY W(*) REGWGT1 - REGWGT8;
      ARRAY TN(*) TOTCNT1 - TOTCNT8;
      ARRAY TW(*) TOTWGT1 - TOTWGT8;
  %END; %ELSE
  %IF "&TYPE" = "C" %THEN %DO;
      ARRAY N(*) CATCNT1 - CATCNT8;
      ARRAY W(*) CATWGT1 - CATWGT8;
      ARRAY TN(*) TOTCNT1 - TOTCNT8;
      ARRAY TW(*) TOTWGT1 - TOTWGT8;
  %END;
      ARRAY ADJ(*)    ADJ1 - ADJ8;
      ARRAY TOTADJ(*) TOTADJ1 - TOTADJ8;
      ARRAY AVGADJ(*) AVJADJ1 - AVJADJ8;
      RETAIN TOTADJ TN TW;
      RETAIN AVGADJ;

      IF FIRST.&BYVAR THEN DO;
        DO I = 1 TO DIM(TOTADJ);
          TOTADJ(I) = 0; TN(I)=0; TW(I)=0;
        END;
      END; DROP I;

      PUT ' ';
      PUT ' --- STARTING LOOP1: ' &BYVAR=;
      DO I = 1 TO DIM(TOTADJ);
        PUT I= ADJ(I)=;
        IF ADJ(I) NE . THEN DO;
          TOTADJ(I) = TOTADJ(I) + ADJ(I);
          TN(I)=TN(I)+N(I);
          TW(I)=TW(I)+W(I);
        END;
        PUT I= ADJ(I)= TOTADJ(I)=;
      END;

      PUT ' ';
```

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```
      PUT ' --- STARTING LOOP2: ' &BYVAR=;
      IF LAST.&BYVAR THEN DO;
        DO I = 1 TO DIM(TOTADJ);
          PUT I= ADJ(I)= TOTADJ(I)= AVGADJ(I)=;
          AVGADJ(I) = TOTADJ(I)/&QCOUNT;
          adj(i)=avgadj(i);
          N(I)=TN(I)/&QCOUNT;
          W(I)=TW(I)/&QCOUNT;
        END;
        OUTPUT;
      END;

   RUN;

%do i=1 %to 8;
/* Collect Standard Errors and residuals from variables in composite */
        %if &type=R|(&i=1|&i=2|&i>4) %then %do;
                %if &var1~= %then %do;
                        %let n=r_&var1;
                        %let m=s_&var1;

                        data s_&var1(rename=(semean&i=s_&var1));
                                set in.&type._&var1(keep=semean&i &byvar);

                        proc sort;
                                by &byvar;

                        data r_&var1;
                                set in2.h&i.&var1(rename=(resid&i=r_&var1));

                        proc sort data=r_&var1;
                                by mprid;
                %end;

                %if &var2~= %then %do;
                        %let n=%str(&n r_&var2);
                        %let m=%str(&m s_&var2);

                        data s_&var2(rename=(semean&i=s_&var2));
                                set in.&type._&var2(keep=semean&i &byvar);

                        proc sort;
                                by &byvar;

                        data r_&var2;
                                set in2.h&i.&var2(rename=(resid&i=r_&var2));

                        proc sort data=r_&var2;
                                by mprid;
                %end;

                %if &var3~= %then %do;
                        %let n=%str(&n r_&var3);
```

```sas
            data s_&var3(rename=(semean&i=s_&var3));
                    set in.&type._&var3(keep=semean&i &byvar);

            proc sort;
                    by &byvar;

            data r_&var3;
                    set in2.h&i.&var3(rename=(resid&i=r_&var3));

            proc sort data=r_&var3;
                    by mprid;

            %let m=%str(&m s_&var3);
%end;

%if &var4~= %then %do;
            %let n=%str(&n r_&var4);

            data s_&var4(rename=(semean&i=s_&var4));
                    set in.&type._&var4(keep=semean&i &byvar);

            proc sort;
                    by &byvar;

            data r_&var4;
                    set in2.h&i.&var4(rename=(resid&i=r_&var4));

            %let m=%str(&m s_&var4);

            proc sort data=r_&var4;
                    by mprid;
%end;
            /* Merge residual files and estimate correlations */
data infile;
            merge &n;
            by mprid;

proc sort;
            by &byvar;

data infile;
            set infile;
            by &byvar.;
            if first.&byvar ne 1 or  last.&byvar ne 1;
run;

proc corr  outp=outf noprint;
            by &byvar;
            var &n;
            weight &WGT.;

data outf;
```

```
                set outf;
                by &byvar;
                where _type_='CORR';

        /*  sum standard error of a row variable times correlation times standard error of each column
variable, then sum sums and take square root, divide by number of variables */
        data final;
                merge &m outf;
                by &byvar;

        data final;
                set final; by &byvar;
                array r_val &n;
                array s_val &m;
                sde=0;

                do i=1 to dim(s_val);
                        %do j=1 %to &qcount;
                                if upcase(_name_)=upcase("R_&&var&j") then
                                        sde=sum(sde,r_val(i)*s_&&var&j*s_val(i));
                        %end;
                end;

        data sefin&compos._&i ERROR;
                set final;
                by &byvar;
                if first.&byvar then tv=0;
                tv+sde;
                if last.&byvar then do;
                        if tv >= 0 then sde&i=(tv**.5)/&qcount; /* RSG 06/22/2004 change to only do
the power calculation if the tv value is nonnegative*/
                        else if tv < 0 then do;   /* RSG 06/22/2004 those with negative trend is set
aside to print out*/
                        output error;        /*              and determine whether it is from nonmissing
data of 30 or more*/
                        sde&i=.;
                        end;
                        output sefin&compos._&i;
                end;

        run;
                /* RSG 06/22/2004 - count how many nonmissing values are in the trend data
                  to determine whether the negative trend in above datastep
                  (tv < 0) is something to be concerned about */
        proc means data=infile noprint;
                by &byvar;
                var &n;
                output out=miss (drop=_type_ _freq_) n=;

        data error2;
                merge error(in=a drop=&n) miss(in=b);
                by &byvar;
                if a;
```

```
                        run;

                    proc print data=error2; /* RSG 06/22/2004  print out negative trend data and count of
nonmissing data*/
                            var &byvar tv &n;
                            title "ERROR - NEGAVTIVE TREND FOR &N IN GROUP=&I. AND COMPOSE=&COMPOS.";
                    run;

                    title ' '; /** RSG 06/22/2004 - BLANK OUT TITLE FOR NEXT LOOP **/

                    %if &i=1 %then %do;
                            data sefin&compos;
                                    set sefin&compos._1(keep=&byvar sde&i);
                                    by &byvar;
                                    rename sde&i=semean&i;
                            run;
                    %end;
                    %else %do;
                            data sefin&compos;
                                    merge sefin&compos sefin&compos._&i(keep=&byvar sde&i);
                                    by &byvar;
                                    rename sde&i=semean&i;
                            run;
                    %end;

            %end;
%end;

data out.&type.compos&compos;
merge compos&compos sefin&compos; by &byvar;
run;
PROC PRINT DATA=OUT.&TYPE.COMPOS&COMPOS;
    TITLE1 COMPTITL;
 RUN;
%MEND COMPOSIT;

*-----------------------------------;
*-    set the parameters here    -;
*-----------------------------------;
**********************************.
* Call the macro for each composite ;
**********************************.
%COMPOSIT (type=R,compos=1,var1=R&FY.029,var2=R&FY.033,qcount=2);
%COMPOSIT (type=R,compos=2,var1=R&FY.007,var2=R&FY.010,qcount=2);
%COMPOSIT (type=R,compos=3,var1=R&FY.021,var2=R&FY.022,var3=R&FY.023,var4=R&FY.024,qcount=4);
%COMPOSIT (type=R,compos=4,var1=R&FY.041,var2=R&FY.042,qcount=2);
%COMPOSIT (type=R,compos=5,var1=R&FY.046,var2=R&FY.047,qcount=2);
```

G.2.A Q3FY2020\PROGRAMS\LOADWEB\CAHPS_AdultQ3FY2020\ LOADCAHQ.SAS - Convert CAHPS Scores into WEB layout - Run Quarterly.

```
****************************************************************************
*
* PROGRAM:  LOADCAHQ.SAS
* TASK:     Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE:  Convert the CAHPS Scores Database into the WEB layout
*
* WRITTEN:  11/09/2000 BY KEITH RATHBUN, Adapted from LOADCAHP.SAS.
*
* INPUTS:   1) CAHPS Individual and Composite data sets with adjusted scores
*
* OUTPUT:   1) LOADCAHQ.sas7bdat - Combined CAHPS Scores Database in WEB layout
*
* INCLUDES: 1) LOADCAHQ.INC - Format definitions for CAHPS Individual
*           and composite data sets
*
* NOTES:
*
* 1) The following steps need to be run prior to this program:
*   - STEP1Q.SAS - Recode questions and generate group files
*   - STEP2Q.SAS - Calculate individual adjusted scores for group 1-7
*   - COMPOSIT.SAS - Calculate composite adjusted scores for group 1-8
*
* 2) The output file (LOADCAHQ.sas7bdat) will be run through the
*   MAKEHTMQ.SAS program to generate the WEB pages.
*
* MODIFIED:
*
* 36) 3/5/2012 by Amanda Kudis - Changed libname IN and Year Macro Var for Q2.
* 37) 6/20/2012 by Amanda Kuis - Updated for Q3FY2012.
* 38) 8/23/2012 by Christine Cheu - Updated for Q4FY2012.
* 39) 12/27/2012 by Aimee Valenzuela - Updated for Q1FY2013.
* 40) 03/23/2013 by Mike Rudacille - Updated for Q2FY2013.
* 41) December 1, 2014 by Matt Turbyfill, revised for the Macro Program.
*             Replaced RCTYPE with &PC.ReportCards.
*             Changed IN to "..\..\&RCTYPE\CAHPS_ADULT&FOLDER.&FYYEAR.DATA".
*             Changed LOADCAHQ.INC to ..\..\LoadWeb\LOADCAHQ.INC.
*             Changed YEAR to &CYYEAR.
*             Changed R14 to R&FY.
* 42) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*             Corrected capitalization and backslashes in LIBNAME and INC filepaths.
*
****************************************************************************
* Assign data libraries and options
****************************************************************************;
/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards        ***/
%LET RCTYPE = &PC.ReportCards;

LIBNAME IN   "../../&RCTYPE/CAHPS_Adult&FOLDER.&FYYEAR./Data";
LIBNAME OUT  "DATA";
```

```
LIBNAME LIBRARY   "&fmtpath.";

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

*****************************************************************************
* Load Format definitions for CAHPS Individual and composite data sets.
*****************************************************************************;
%INCLUDE "../../LoadWeb/LOADCAHQ.INC";

*****************************************************************************
*****************************************************************************
*
* Process Macro Input Parameters:
*
* 1) QUESTION = Variable Question Name (DSN).
*    - For individual Questions it is the variable name
*    - For composite Questions it is called xCOMPOSn
*      where n = a predefined composite # and
*          x = R (Region) or C (Catchment)
* 2) TYPE = Type of Score (COMPOSITE or INDIVIDUAL)
* 3) REGCAT = Region/Catchment Area
*
*****************************************************************************
*****************************************************************************;
%MACRO PROCESS(QUESTION=,TYPE=);
*****************************************************************************
* Assign value for BENTYPE composite year
*****************************************************************************;
%LET YEAR = "&CYYEAR."; * Note that this is based on Calendar Year here;

*****************************************************************************
* Assign prefix for weighted/unweighted count variables.
* Unweighted counts is REGCNTn where n=group number.
* Weighted counts is REGWGTn where n=group number.
*****************************************************************************;
%LET PREFIX = REG;

*****************************************************************************
*
* Convert the CAHPS individual Scores Record into WEB layout.
* There are 8 logical records (adjusted scores) per physical record
*
*****************************************************************************;
DATA &QUESTION;
  SET IN.&QUESTION;

  LENGTH MAJGRP  $30;
  LENGTH REGION  $30; **RSG 01/2005 - Changed format to be large enough to include service affiliation;
  LENGTH REGCAT  $30; **MER 11/07/2012 - Changed REGION and REGCAT to be large enough for Joint Services;
  LENGTH BENTYPE $50;
  LENGTH BENEFIT $34;
  LENGTH TIMEPD  $35; **MJS 07/03/03 Added line;
```

```
**********************************************************************
* Assign Region
**********************************************************************,
REGION  = PUT(XSERVREG,SERVREGF.);
**********************************************************************
* Assign benefit and benefit type
**********************************************************************,
IF "&TYPE" = "INDIVIDUAL" THEN DO;
  IF DEPENDNT IN("R&FY.018","R&FY.048","R&FY.027","R&FY.031") THEN
    BENTYPE = "Composite";   ***MJS 07/03/03 Changed from BENTYPE = PUT(&YEAR,$BENTYPF.);
  ELSE
    BENTYPE = PUT(DEPENDNT,$BENTYPF.);
  BENEFIT = PUT(DEPENDNT,$BENEF.);
  TIMEPD = PUT(&YEAR,$BENTYPF.);   ***MJS 07/03/03 Added line;
END;
ELSE IF "&TYPE" = "COMPOSITE" THEN DO;
  BENTYPE = "Composite";   ***MJS 07/03/03 Changed from BENTYPE = PUT(&YEAR,$BENTYPF.);
  BENEFIT = PUT(DEPENDNT,$BENEF.);
  TIMEPD = PUT(&YEAR,$BENTYPF.);   ***MJS 07/03/03 Added line;
END;
ELSE PUT "ERROR - Invalid TYPE = &TYPE";

**********************************************************************
* For now, Initialize Significance test to zero.
**********************************************************************,
SIG = 0;
**********************************************************************
* Assign Region
**********************************************************************,
REGCAT = PUT(XSERVREG,SERVREGF.);

**********************************************************************
* 1 = Prime Enrollees
**********************************************************************,
MAJGRP = PUT(1,MAJGRPF.);
SCORE = ADJ1;
SEMEAN = SEMEAN1;
N_OBS = &PREFIX.CNT1;
N_WGT = &PREFIX.WGT1;
OUTPUT;

**********************************************************************
* 2 = Enrollees with Military PCM
**********************************************************************,
MAJGRP = PUT(2,MAJGRPF.);
SCORE = ADJ2;
SEMEAN = SEMEAN2;
N_OBS = &PREFIX.CNT2;
N_WGT = &PREFIX.WGT2;
OUTPUT;

**********************************************************************
* 3 = Enrollees with Civilian PCM
```

```
**********************************************************************;
MAJGRP = PUT(3,MAJGRPF.);
SCORE = ADJ3;
SEMEAN = SEMEAN3;
N_OBS = &PREFIX.CNT3;
N_WGT = &PREFIX.WGT3;
OUTPUT;


**********************************************************************
* 4 = Non-enrolled Beneficiaries
**********************************************************************;
MAJGRP = PUT(4,MAJGRPF.);
SCORE = ADJ4;
SEMEAN = SEMEAN4;
N_OBS = &PREFIX.CNT4;
N_WGT = &PREFIX.WGT4;
OUTPUT;


**********************************************************************
* 5 = Active Duty
**********************************************************************;
MAJGRP = PUT(5,MAJGRPF.);
SCORE = ADJ5;
SEMEAN = SEMEAN5;
N_OBS = &PREFIX.CNT5;
N_WGT = &PREFIX.WGT5;
OUTPUT;


**********************************************************************
* 6 = Active Duty Dependents
**********************************************************************;
MAJGRP = PUT(6,MAJGRPF.);
SCORE = ADJ6;
SEMEAN = SEMEAN6;
N_OBS = &PREFIX.CNT6;
N_WGT = &PREFIX.WGT6;
OUTPUT;


**********************************************************************
* 7 = Retirees and Dependents
**********************************************************************;
MAJGRP = PUT(7,MAJGRPF.);
SCORE = ADJ7;
SEMEAN = SEMEAN7;
N_OBS = &PREFIX.CNT7;
N_WGT = &PREFIX.WGT7;
OUTPUT;


**********************************************************************
* 8 = All Beneficiaries          ALL Beneficiaries
**********************************************************************;
MAJGRP = PUT(8,MAJGRPF.);
SCORE  = ADJ8;
```

```
    SEMEAN = SEMEAN8;
    N_OBS = &PREFIX.CNT8;
    N_WGT = &PREFIX.WGT8;
    OUTPUT;

KEEP MAJGRP
    REGION
    REGCAT
    BENTYPE
    BENEFIT
    TIMEPD   /*MJS 07/03/03 Added*/
    SCORE
    SEMEAN
    N_OBS
    N_WGT
    SIG
  ;
RUN;

%MEND;

**************************************************************************
* COMPOSITE # 1.
* GETTING NEEDED CARE VARIABLES.
**************************************************************************.
%PROCESS(QUESTION=RCOMPOS1,TYPE=COMPOSITE );
%PROCESS(QUESTION=R_R&FY.029,TYPE=INDIVIDUAL);
%PROCESS(QUESTION=R_R&FY.033,TYPE=INDIVIDUAL);

**************************************************************************
* COMPOSITE # 2.
* GETTING CARE QUICKLY VARIABLES.
**************************************************************************.
%PROCESS(QUESTION=RCOMPOS2,TYPE=COMPOSITE );
%PROCESS(QUESTION=R_R&FY.007,TYPE=INDIVIDUAL);
%PROCESS(QUESTION=R_R&FY.010,TYPE=INDIVIDUAL);

**************************************************************************
* COMPOSITE # 3.
* HOW WELL DOCTORS COMMUNICATE.
**************************************************************************.
%PROCESS(QUESTION=RCOMPOS3,TYPE=COMPOSITE );
%PROCESS(QUESTION=R_R&FY.021,TYPE=INDIVIDUAL);
%PROCESS(QUESTION=R_R&FY.022,TYPE=INDIVIDUAL);
%PROCESS(QUESTION=R_R&FY.023,TYPE=INDIVIDUAL);
%PROCESS(QUESTION=R_R&FY.024,TYPE=INDIVIDUAL);

**************************************************************************
* COMPOSITE # 4.
* CUSTOMER SERVICE.
**************************************************************************.
%PROCESS(QUESTION=RCOMPOS4,TYPE=COMPOSITE );
%PROCESS(QUESTION=R_R&FY.041,TYPE=INDIVIDUAL);
```

```
%PROCESS(QUESTION=R_R&FY.042,TYPE=INDIVIDUAL);


**************************************************************************
* COMPOSITE # 5.
* CLAIMS PROCESSING.
**************************************************************************;
%PROCESS(QUESTION=RCOMPOS5,TYPE=COMPOSITE );
%PROCESS(QUESTION=R_R&FY.046,TYPE=INDIVIDUAL);
%PROCESS(QUESTION=R_R&FY.047,TYPE=INDIVIDUAL);


**************************************************************************
* INDIVIDUAL # 1.
* RATING OF ALL HEALTH CARE: 0 - 10.
**************************************************************************;
%PROCESS(QUESTION=R_R&FY.018,TYPE=INDIVIDUAL);


**************************************************************************
* INDIVIDUAL # 2.
* RATING OF HEALTH PLAN: 0 - 10.
**************************************************************************;
%PROCESS(QUESTION=R_R&FY.048,TYPE=INDIVIDUAL);


**************************************************************************
* INDIVIDUAL # 3.
* RATING OF PERSONAL DOCTOR: 0 - 10.
**************************************************************************;
%PROCESS(QUESTION=R_R&FY.027,TYPE=INDIVIDUAL);


**************************************************************************
* INDIVIDUAL # 4.
* SPECIALTY CARE: 0 - 10.
**************************************************************************;
%PROCESS(QUESTION=R_R&FY.031,TYPE=INDIVIDUAL);


**************************************************************************
**************************************************************************
* STACK up all of the files into one final output dataset.
**************************************************************************
**************************************************************************;
DATA OUT.LOADCAHQ;
  SET R_R&FY.029
    R_R&FY.033
    R_R&FY.007
    R_R&FY.010
    R_R&FY.021
    R_R&FY.022
    R_R&FY.023
    R_R&FY.024
    R_R&FY.041
    R_R&FY.042
    R_R&FY.046
    R_R&FY.047
    R_R&FY.018
```

```
      R_R&FY.048
      R_R&FY.027
      R_R&FY.031
      RCOMPOS1
      RCOMPOS2
      RCOMPOS3
      RCOMPOS4
      RCOMPOS5
   ;
   IF SCORE = . THEN DELETE;
RUN;

TITLE1 "Quarterly DOD Health Survey Scores/Report Cards (6663-410)";
TITLE2 "Program Name: LOADCAHQ.SAS By Keith Rathbun";
TITLE3 "Program Inputs: CAHPS Individual and Composite data sets with adjusted scores";
TITLE4 "Program Outputs: LOADCAHQ.SAS7BDAT - Combined CAHPS Scores Database in WEB layout";

PROC FREQ;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT
      REGION*REGCAT
      /MISSING LIST;
RUN;
```

G.2.B Q3FY2020\PROGRAMS\LOADWEB\LOADCAHQ.INC - Format definitions for converting the Scores Database into the WEB layout - Run Quarterly.

```
***************************************************************************
*
* PROGRAM:  LOADCAHQ.INC
* TASK:     QUARTERLY DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE:  Format definitions for converting the CAHPS Scores Database
*           into the WEB layout.
*
* WRITTEN:  11/09/2000 BY KEITH RATHBUN, Adapted from LOADCAHP.INC.
*
* MODIFIED: 1) 08/13/2001 BY KEITH RATHBUN, Added XSERVAFF format to
*              accommodate the short reports.
*           2) 01/24/2002 BY KEITH RATHBUN, Added BENTYPF = 1998,1999,2000
*              added catchment composites.
*           3) 04/10/2002 BY KEITH RATHBUN, Added parameters for 2002 survey.
*           4) 04/03/2003 BY MIKE SCOTT, Added parameters for 2003 survey.
*           5) 07/08/2003 BY MIKE SCOTT, Added formats GETNCARE, GETCAREQ,
*              CRTSHELP, HOWWELL, CUSTSERV, CLMSPROC, and PREVCARE.
*           6) 03/22/2004 BY KEITH RATHBUN, Added parameters for 2004 survey.
*              Changed R04031 to be "Wait Less than 15 Minutes For Appointment".
*           7) 05/06/2004 BY MIKE SCOTT, Changed R04031 back to 2003 version of
*              the label ("Wait More than 15 Minutes Past Appointment") so that
*              the Q1 2004 version of the question is consistent with past
*              versions.  The label will be changed to the new version ("Waiting
*              in the Doctor's Office") in Makehtmq.sas.
*           8) 02/2006 BY REGINA GRAMSS, Changed date format to fielding dates.
*           9) 03/21/2006 BY KEITH RATHBUN, Added parameters for 2006 survey.
*          10) 08/22/2006 BY JUSTIN OH, Changed SERVREGF format for Overseas.
*          11) 12/15/2006 BY JUSTIN OH, Added parameters for 2007 survey.
*          12) 02/02/2007 BY JUSTIN OH, Added "s" in Healthy Behaviors in VALUE BEN.
*          13) 01/10/2008 BY KEITH RATHBUN, Added parameters for 2008 survey.
*          14) 01/09/2009 BY MIKE RUDACILLE, Added parameters for 2009 survey.
*          14) 01/16/2009 BY MIKE RUDACILLE, Changed CONUS to USA.
*          15) 04/11/2009 by Mike Rudacille - Changed formats to reflect
*              modifications to beneficiary reports necessary for V4
*          16) 12/17/09 by Emma Ernst, Added parameters for 2010 survey.
*          17) 12/02/10 by Mike Rudacille, Added parameters for 2011 survey.
*              Also removed 2000 parameters for space considerations.
*          18) 12/10/11 by Mike Rudacille, Added parameters for 2012 survey.
*              Also removed 2002 parameters for space considerations.
*          19) 11/03/12 by Mike Rudacille, Updated for handling of
*              Joint Service facilities
*          20) 12/27/12 by Aimee Valenzuela, Added parameters for 2013 survey.
*          21) 09/20/13 by Amanda Kudis, Added parameters for 2014 survey.
*          22) 12/12/17 by Matt Turbyfill, Combined North and South into East
*              in REGIONF, SERVREGF and SERVREGO.
*          23) 02/12/19 by Irna May Connor, modified formats to accommodate 2-region
*              updates,
*
*
```

```
* INPUTS:   No direct input
*
* OUTPUT:   No direct output
*
* NOTES:    1) Under the new contract (8860), the survey year was changed
*           to be based on the year the survey is administered (2002)
*           as opposed to the questioning reference frame (2001).  This
*           include file contains variable names for both the 2001
*           survey administration year and the the 2002 administration
*           year surveys.
*
***************************************************************************
;
***************************************************************************
* FORMAT Definitions
**************************************************************************.;
PROC FORMAT;
  VALUE MAJGRPF
    1 = "Prime Enrollees          "
    2 = "Enrollees with Military PCM"
    3 = "Enrollees with Civilian PCM"
    4 = "Non-enrolled Beneficiaries "
    5 = "Active Duty              "
    6 = "Active Duty Dependents    "
    7 = "Retirees and Dependents   "
    8 = "All Beneficiaries        "
  ;
  VALUE XSERVAFF
    1 = "ARMY"
    2 = "AIR FORCE"
    3 = "NAVY"
    4 = "OTHER"
    5 = "DHA"
  ;
  VALUE REGIONF
    0 = "USA MHS "
    1 = "East"
    2 = "West"
    3 = "Overseas"
  ;

/*JSO 08/24/2006, Changed Overseas to Service for Europe,Pacific,Latin*/
  VALUE SERVREGF
    1 = "East Army"
    2 = "East Air Force"
    3 = "East Navy"
    4 = "East Other"
    5 = "East DHA"
    6 = "West Army"
    7 = "West Air Force"
    8 = "West Navy"
    9 = "West Other"
   10 = "West DHA"
```

```
    11 = "Europe Army"
    12 = "Europe Air Force"
    13 = "Europe Navy"
    14 = "Europe Other"
    15 = "Europe DHA"
    16 = "Pacific Army"
    17 = "Pacific Air Force"
    18 = "Pacific Navy"
    19 = "Pacific Other"
    20 = "Pacific DHA"
    21 = "Latin America Army"
    22 = "Latin America Air Force"
    23 = "Latin America Navy"
    24 = "Latin America Other"
    25 = "Latin America DHA"
    26 = "USA ARMY"
    27 = "USA AIR FORCE"
    28 = "USA NAVY"
    29 = "USA OTHER";

/*JSO 08/24/2006, Changed Overseas to Europe,Pacific,Latin*/
  VALUE SERVREGO
    1 = "East Army"
    2 = "East Air Force"
    3 = "East Navy"
    4 = "East Other"
    5 = "East DHA"
    6 = "West Army"
    7 = "West Air Force"
    8 = "West Navy"
    9 = "West Other"
    10 = "West DHA"
    11 = "Overseas Europe"
    12 = "Overseas Pacific"
    13 = "Overseas Latin America";

  VALUE $BENTYPF
   "2010 Q1 " = "January, 2010                    "
   "2010 Q2 " = "April, 2010                  "
   "2010 Q3 " = "July, 2010                  "
   "2010 Q4 " = "October, 2010                    "
   "2011 Q1 " = "January, 2011                   "
   "2011 Q2 " = "April, 2011                "
   "2011 Q3 " = "July, 2011                "
   "2011 Q4 " = "October, 2011                  "
   "2012 Q1 " = "January, 2012                  "
   "2012 Q2 " = "April, 2012               "
   "2012 Q3 " = "July, 2012               "
   "2012 Q4 " = "October, 2012                 "
   "2013 Q1 " = "January, 2013                 "
   "2013 Q2 " = "April, 2013              "
   "2013 Q3 " = "July, 2013              "
   "2013 Q4 " = "October, 2013                  "
```

```
  "2014 Q1 " = "January, 2014                    "
  "2014 Q2 " = "April, 2014                   "
  "2014 Q3 " = "July, 2014                    "
  "2014 Q4 " = "October, 2014                   "
  "2015 Q1 " = "January, 2015                    "
  "2015 Q2 " = "April, 2015                   "
  "2015 Q3 " = "July, 2015                   "
  "2015 Q4 " = "October, 2015                    "
  "2016 Q1 " = "January, 2016                   "
  "2016 Q2 " = "April, 2016                   "
         "2016 Q3 " = "July, 2016                    "
         "2016 Q4 " = "October, 2016                   "
  "2017 Q1 " = "January, 2017                   "
  "2017 Q2 " = "April, 2017                  "
  "2017 Q3 " = "July, 2017                   "
  "2017 Q4 " = "October, 2017                   "
  "2018 Q1 " = "January, 2018                   "
  "2018 Q2 " = "April, 2018                  "
  "2018 Q3 " = "July, 2018                   "
  "2018 Q4 " = "October, 2018                   "
  "2019 Q1 " = "January, 2019                   "
  "2019 Q2 " = "April, 2019                  "
  "2019 Q3 " = "July, 2019                   "
  "2019 Q4 " = "October, 2019                   "
  "2020 Q1 " = "January, 2020                   "
  "2020 Q2 " = "April, 2020                  "
  "2020 Q3 " = "July, 2020                  "
  "2020 Q4 " = "October, 2020                   "


/*********************************************************************************
******************/
  /* Admin. Year Defn.                                        */
  /* 2010    2011    2012    2013    2014    2015    2016    2017    2018    2019    2020  */

/*********************************************************************************
******************/
  "R10029", "R11029", "R12029", "R13029", "R14029", "R15029", "R16029", "R17029", "R18029", "R19029",
"R20029" = "Getting to See a Specialist      "
  "R10033", "R11033", "R12033", "R13033", "R14033", "R15033", "R16033", "R17033", "R18033", "R19033",
"R20033" = "Getting Treatment             "
  "R10007", "R11007", "R12007", "R13007", "R14007", "R15007", "R16007", "R17007", "R18007", "R19007",
"R20007" = "Wait for Urgent Care           "
  "R10010", "R11010", "R12010", "R13010", "R14010", "R15010", "R16010", "R17010", "R18010", "R19010",
"R20010" = "Wait for Routine Visit        "
  "R10021", "R11021", "R12021", "R13021", "R14021", "R15021", "R16021", "R17021", "R18021", "R19021",
"R20021" = "Listens Carefully            "
  "R10022", "R11022", "R12022", "R13022", "R14022", "R15022", "R16022", "R17022", "R18022", "R19022",
"R20022" = "Explains so You Can Understand     "
  "R10023", "R11023", "R12023", "R13023", "R14023", "R15023", "R16023", "R17023", "R18023", "R19023",
"R20023" = "Shows Respect              "
  "R10024", "R11024", "R12024", "R13024", "R14024", "R15024", "R16024", "R17024", "R18024", "R19024",
"R20024" = "Spends Time with You          "
```

```
   "R10040", "R11041", "R12041", "R13041", "R14041", "R15041", "R16041", "R17041", "R18041", "R19041",
"R20041" = "Getting Information        "
   "R10041", "R11042", "R12042", "R13042", "R14042", "R15042", "R16042", "R17042", "R18042", "R19042",
"R20042" = "Courteous Customer Service      "
   "R10045", "R11046", "R12046", "R13046", "R14046", "R15046", "R16046", "R17046", "R18046", "R19046",
"R20046" = "Claims Handled in a Reasonable Time"
   "R10046", "R11047", "R12047", "R13047", "R14047", "R15047", "R16047", "R17047", "R18047", "R19047",
"R20047" = "Claims Handled Correctly       "
   "R10018", "R11018", "R12018", "R13018", "R14018", "R15018", "R16018", "R17018", "R18018", "R19018",
"R20018" = "Health Care             "
   "R10047", "R11048", "R12048", "R13048", "R14048", "R15048", "R16048", "R17048", "R18048", "R19048",
"R20048" = "Health Plan             "
   "R10027", "R11027", "R12027", "R13027", "R14027", "R15027", "R16027", "R17027", "R18027", "R19027",
"R20027" = "Primary Care Manager        "
   "R10031", "R11031", "R12031", "R13031", "R14031", "R15031", "R16031", "R17031", "R18031", "R19031",
"R20031" = "Specialty Care           "
                 "PHYSIC  " = "Physical                "
                 "MENTAL  " = "Mental                "
  ;
  VALUE $BENEF
   "RCOMPOS1","CCOMPOS1","R10029","R10033",
              "R11029","R11033",
              "R12029","R12033",
              "R13029","R13033",
              "R14029","R14033",
              "R15029","R15033",
              "R16029","R16033",
              "R17029","R17033",
              "R18029","R18033",
              "R19029","R19033",
              "R20029","R20033"

  = "Getting Needed Care  "

   "RCOMPOS2","CCOMPOS2","R10007","R10010",
              "R11007","R11010",
              "R12007","R12010",
              "R13007","R13010",
              "R14007","R14010",
              "R15007","R15010",
              "R16007","R16010",
              "R17007","R17010",
              "R18007","R18010",
              "R19007","R19010",
              "R20007","R20010"

  = "Getting Care Quickly "

   "RCOMPOS3","CCOMPOS3","R10021","R10022","R10023","R10024",
              "R11021","R11022","R11023","R11024",
              "R12021","R12022","R12023","R12024",
              "R13021","R13022","R13023","R13024",
              "R14021","R14022","R14023","R14024",
```

```
            "R15021","R15022","R15023","R15024",
            "R16021","R16022","R16023","R16024",
            "R17021","R17022","R17023","R17024",
            "R18021","R18022","R18023","R18024",
            "R19021","R19022","R19023","R19024",
            "R20021","R20022","R20023","R20024"

  = "How Well Doctors Communicate "

  "RCOMPOS4","CCOMPOS4","R10040","R10041",
            "R11041","R11042",
            "R12041","R12042",
            "R13041","R13042",
            "R14041","R14042",
            "R15041","R15042",
            "R16041","R16042",
            "R17041","R17042",
            "R18041","R18042",
            "R19041","R19042",
            "R20041","R20042"

  = "Customer Service        "

  "RCOMPOS5","CCOMPOS5","R10045","R10046",
            "R11046","R11047",
            "R12046","R12047",
            "R13046","R13047",
            "R14046","R14047",
            "R15046","R15047",
            "R16046","R16047",
            "R17046","R17047",
            "R18046","R18047",
            "R19046","R19047",
            "R20046","R20047"

  = "Claims Processing
        "
  "RCOMPOS11","COMPOS11","MENTAL","PHYS"
  = "Health Status            "

/*******************************************************************************
*********************/
  /* Admin. Year Defn.                                        */
  /* 2010    2011    2012    2013    2014    2015    2016    2017    2018    2019    2020    */

/*******************************************************************************
*********************/
  "R10018", "R11018", "R12018", "R13018", "R14018", "R15018", "R16018", "R17018", "R18018", "R19018",
"R20018" = "Health Care              "
  "R10047", "R11048", "R12048", "R13048", "R14048", "R15048", "R16048", "R17048", "R18048", "R19048",
"R20048" = "Health Plan              "
  "R10027", "R11027", "R12027", "R13027", "R14027", "R15027", "R16027", "R17027", "R18027", "R19027",
"R20027" = "Primary Care Manager             "
```

```
    "R10031", "R11031", "R12031", "R13031", "R14031", "R15031", "R16031", "R17031", "R18031", "R19031",
"R20031" = "Specialty Care                "
    ;
VALUE BEN
/*  0 = 'Total'  deleted no longer calculating total 04/2005 RSG ***/
  1 = 'Getting Needed Care'
  2 = 'Getting Care Quickly'
  3 = 'How Well Doctors Communicate'
  4 = 'Customer Service'
  5 = 'Claims Processing'
  6 = 'Health Plan'
  7 = 'Health Care'
  8 = 'Primary Care Manager'
  9 = 'Specialty Care'
 10 = 'Preventive Care'
 11 = 'Healthy Behaviors';

 VALUE MAJOR
  1 = "Prime Enrollees          "
  2 = "Enrollees with Military PCM"
  3 = "Enrollees with Civilian PCM"
  4 = "Non-enrolled Beneficiaries "
  5 = "Active Duty            "
  6 = "Active Duty Dependents    "
  7 = "Retirees and Dependents    "
  8 = "All Beneficiaries        ";

 VALUE GETNCARE
  1 = "Getting to See a Specialist"
  2 = "Getting Treatment"
  3 = "Composite";

 VALUE GETCAREQ
  1 = "Wait for Routine Visit"
  2 = "Wait for Urgent Care"
  3 = "Composite";

 VALUE HOWWELL
  1 = "Listens Carefully"
  2 = "Explains so You Can Understand"
  3 = "Shows Respect"
  4 = "Spends Time with You"
  5 = "Composite";

 VALUE CUSTSERV
  1 = "Getting Information"
  2 = "Courteous Customer Service"
  3 = "Composite";

 VALUE CLMSPROC
  1 = "Claims Handled in a Reasonable Time"
  2 = "Claims Handled Correctly"
  3 = "Composite";
```

```
VALUE PREVCARE
1 = "Mammography"
2 = "Pap Smear"
3 = "Hypertension"
4 = "Prenatal Care"
5 = "Composite";

VALUE SMOKEF
1 = "Non-Smoking Rate"
2 = "Counselled To Quit"
3 = "Percent Not Obese"
4 = "Composite";
RUN;
```

G.3.A Q3FY2020\PROGRAMS\BENCHMARK\BENCHA01.SAS - Extract Adult CAHPS Questions from NCBD - Run Quarterly.

```
*************************************************************************
*
* PROGRAM:  BENCHA01.SAS
* TASK:    Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE: Extract Adult CAHPS Questions
*
* WRITTEN: 06/02/2000 BY KEITH RATHBUN
*
* INPUTS:  1) AC2009DB.sas7bdat - 2009 Adult CAHPS Questions
*
* OUTPUT:  1) BENCHA01.sas7bdat - 2009 Adult CAHPS Questions Renamed to be
*           consistent with the 2009 MPR DOD Survey.
*
* MODIFIED:20) April 4, 2012 by Amanda Kudis, updated for 2011 benchmarks.
*       21) January 10, 2013 by Aimee Valenzuela, updated for 2013, commented out
*           lines 119-124, and removed model from keep statement.
*       22) September 20, 2013 by Amanda Kudis, updated for 20134.
*       23) July 8, 2014 by Hoa Le, Modified to use NCQA data.
*           Changed variable names to match NCQA variable names.
*       24) December 1, 2014 by Matt Turbyfill, revised for Macro Program.
*                                 Change IN library to &BENCHINPUT.
*                                 Change C13_ZAMV to &BENCHFILE.
*                                 Change H14 to H&FY.
*       25) December 27, 2016 by Matt Turbyfill, revised for SAS Grid.
*                             Change Program Input title to &BENCHFILE.
*       26) February 9, 2018 by Matt Turbyfill - Now keeps RESPONSEMODE for new benchmark data
*
* NOTES:
*
* 1) This program will generate the input for BENCHA02.SAS.
*
*************************************************************************
* Assign data libraries and options
*************************************************************************;
LIBNAME IN  "&BENCHINPUT.";
LIBNAME OUT "data";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

DATA OUT.BENCHA01 ;
  SET IN.&BENCHFILE.;
  FORMAT _ALL_;
  H&FY.019 = S15;
  *****************************************
  * Getting Needed Care
  *****************************************;
  H&FY.029  = S25;
  H&FY.033  = S14;
  *****************************************
  * Getting Care Quickly
```

```
*******************************************;
H&FY.007  = S4;
H&FY.010  = S6;
*******************************************
* How Well Doctors Communicate
*******************************************;
H&FY.021  = S18;
H&FY.022  = S17;
H&FY.023  = S19;
H&FY.024  = S20;
*******************************************
* Customer Service
*******************************************;
H&FY.035  = S29;
H&FY.041  = S35;
H&FY.042  = S36;
*******************************************
* Claims Processing
*******************************************;
H&FY.046  = S40;
H&FY.047  = S41;
*******************************************
* Health Care Rating
*******************************************;
H&FY.018  = S13;
*******************************************
* Health Plan Rating
*******************************************;
H&FY.048  = S42;
*******************************************
* Personal Doctor Rating
*******************************************;
H&FY.027  = S23;
*******************************************
* Specialist Rating
*******************************************;
H&FY.031  = S27;
*******************************************
* Health Status
*******************************************;
H&FY.065   = S43;
AGEGROUP = S59;   *NEED TO USE USE THIS DIRECTLY (already grouped);
XSEXA   = S60;
SREDHIGH = S61; /* MER 03/31/11 changed AC55_09 to AC60_10 */

LABEL  H&FY.029   = "S25 - Got appointment with a specialist"
       H&FY.033   = "S14 - Got necessary care"
       H&FY.007   = "S4 - Got urgent care quickly"
       H&FY.010   = "S6 - Got routine care quickly"
       H&FY.021   = "S18 - Doctors/providers listened carefully"
       H&FY.022   = "S17 - Doctors/providers explained things"
       H&FY.023   = "S19 - Doctors/providers showed respect"
       H&FY.024   = "S20 - Doctors/providers spent enough time"
```

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```
    H&FY.041   = "S35 - Customer service provided needed info"
    H&FY.042   = "S36 - Customer services was courteous"
    H&FY.046   = "S40 - Claims handled quickly"
    H&FY.047   = "S41 - Claims handled correctly"
    H&FY.018   = "S13 - Rating of health care"
    H&FY.048   = "S42 - Rating of health plan"
    H&FY.027   = "S23 - Rating of personal doctor or nurse"
    H&FY.031   = "S27 - Rating of specialist seen most often"
    H&FY.065   = "S43 - Rating of overall health"
    AGEGROUP  = "S59 - Imputed adult age"
    XSEXA     = "S60 - Gender"
    SREDHIGH  = "S61 - Highest grade finished"
    ;
 KEEP   H&FY.029
    H&FY.033
    H&FY.007
    H&FY.010
    H&FY.021
    H&FY.022
    H&FY.023
    H&FY.024
    H&FY.041
    H&FY.042
    H&FY.046
    H&FY.047
    H&FY.018
    H&FY.048
    H&FY.027
    H&FY.031
    H&FY.065
    H&FY.035
    AGEGROUP
    XSEXA
    SREDHIGH
    SUB_ID
    DISP
                RESPONSEMODE
    H&FY.019
    ;
RUN;

TITLE1 "Extract Adult CAHPS Questions (DoD)";
TITLE2 "Program Name: BENCHA01.SAS By Keith Rathbun";
TITLE3 "Program Input: &BENCHFILE..sas7bdat";
TITLE4 "Program Output: BENCHA01.sas7bdat";

PROC CONTENTS; RUN;

PROC FREQ;
TABLES _ALL_ /MISSING LIST;
RUN;
```

G.3.B Q3FY2020\PROGRAMS\BENCHMARK\BENCHA02.SAS - Recode Adult CAHPS Questions from NCBD to be consistent with the HCSDB - Run Quarterly.

```
*************************************************************************
*
* PROGRAM:  BENCHA02.SAS
* TASK:    Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE:  Recode Adult CAHPS Questions
*
* WRITTEN:  06/02/2000 BY KEITH RATHBUN
*
* INPUT:   1) BENCHA01.sas7bdat - Adult CAHPS Questions Renamed to be
*          consistent with the MPR DOD Survey.
*
* OUTPUT:  1) BENCHA02.sas7bdat - Recoded Adult CAHPS Questions Renamed
*          to be consistent with the MPR DOD Survey.
*
* MODIFIED:19) January 10, 2013 by Aimee Valenzuela, update for Q1FY2013
*          20) September 20, 2013 by Amanda Kudis, update for Q1FY2014
*          21) July 8, 2014 by Hoa Le, Modified to use NCQA data.
*             Changed variable names to match NCQA variable names.
*             Modified last line of each recode.
*          22) December 1, 2014 by Matt Turbyfill, revised for Macro Program.
*                              Changed H14 to H&FY.
*                              Changed R14 to R&FY.
*          23) December 27, 2016 by Matt Turbyfill, revised for SAS Grid.
*                              Backslashes changed to forward slashes.
* NOTES:
*
* 1) Run this program after BENCHA01.SAS.
* 2) This program will generate the input for BENCHA03.SAS.
*
*************************************************************************
* Assign data libraries and options
*************************************************************************;
LIBNAME IN     "data";
LIBNAME OUT    "../&PC.Benchmark/data";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

DATA OUT.BENCHA02;
  SET IN.BENCHA01;

  *********************************************************************
  * Recode variables with Never, Sometimes, Usually and Always.
  * Recode Never & Sometimes (1 & 2) to 1.
  * Recode Usually (3) to 2.
  * Recode Always (4) to 3.
  *********************************************************************;

  IF H&FY.007 = 1    THEN R&FY.007 = 1;
  ELSE IF H&FY.007 = 2 THEN R&FY.007 = 1;
  ELSE IF H&FY.007 = 3 THEN R&FY.007 = 2;
```

```
ELSE IF H&FY.007 = 4 THEN R&FY.007 = 3;
ELSE R&FY.007 = .;

IF H&FY.010 = 1     THEN R&FY.010 = 1;
ELSE IF H&FY.010 = 2 THEN R&FY.010 = 1;
ELSE IF H&FY.010 = 3 THEN R&FY.010 = 2;
ELSE IF H&FY.010 = 4 THEN R&FY.010 = 3;
ELSE R&FY.010 = .;

IF H&FY.021 = 1     THEN R&FY.021 = 1;
ELSE IF H&FY.021 = 2 THEN R&FY.021 = 1;
ELSE IF H&FY.021 = 3 THEN R&FY.021 = 2;
ELSE IF H&FY.021 = 4 THEN R&FY.021 = 3;
ELSE R&FY.021 = .;

IF H&FY.022 = 1     THEN R&FY.022 = 1;
ELSE IF H&FY.022 = 2 THEN R&FY.022 = 1;
ELSE IF H&FY.022 = 3 THEN R&FY.022 = 2;
ELSE IF H&FY.022 = 4 THEN R&FY.022 = 3;
ELSE R&FY.022 = .;

IF H&FY.023 = 1     THEN R&FY.023 = 1;
ELSE IF H&FY.023 = 2 THEN R&FY.023 = 1;
ELSE IF H&FY.023 = 3 THEN R&FY.023 = 2;
ELSE IF H&FY.023 = 4 THEN R&FY.023 = 3;
ELSE R&FY.023 = .;

IF H&FY.024 = 1     THEN R&FY.024 = 1;
ELSE IF H&FY.024 = 2 THEN R&FY.024 = 1;
ELSE IF H&FY.024 = 3 THEN R&FY.024 = 2;
ELSE IF H&FY.024 = 4 THEN R&FY.024 = 3;
ELSE R&FY.024 = .;

IF H&FY.029 = 1     THEN R&FY.029 = 1;
ELSE IF H&FY.029 = 2 THEN R&FY.029 = 1;
ELSE IF H&FY.029 = 3 THEN R&FY.029 = 2;
ELSE IF H&FY.029 = 4 THEN R&FY.029 = 3;
ELSE R&FY.029 = .;

IF H&FY.033 = 1     THEN R&FY.033 = 1;
ELSE IF H&FY.033 = 2 THEN R&FY.033 = 1;
ELSE IF H&FY.033 = 3 THEN R&FY.033 = 2;
ELSE IF H&FY.033 = 4 THEN R&FY.033 = 3;
ELSE R&FY.033 = .;

IF H&FY.035 = 1     THEN R&FY.035 = 1;
ELSE IF H&FY.035 = 2 THEN R&FY.035 = 1;
ELSE IF H&FY.035 = 3 THEN R&FY.035 = 2;
ELSE IF H&FY.035 = 4 THEN R&FY.035 = 3;
ELSE R&FY.035 = .;

IF H&FY.041 = 1     THEN R&FY.041 = 1;
ELSE IF H&FY.041 = 2 THEN R&FY.041 = 1;
```

```
ELSE IF H&FY.041 = 3 THEN R&FY.041 = 2;
ELSE IF H&FY.041 = 4 THEN R&FY.041 = 3;
ELSE R&FY.041 = .;

IF H&FY.042 = 1     THEN R&FY.042 = 1;
ELSE IF H&FY.042 = 2 THEN R&FY.042 = 1;
ELSE IF H&FY.042 = 3 THEN R&FY.042 = 2;
ELSE IF H&FY.042 = 4 THEN R&FY.042 = 3;
ELSE R&FY.042 = .;

IF H&FY.046 = 1     THEN R&FY.046 = 1;
ELSE IF H&FY.046 = 2 THEN R&FY.046 = 1;
ELSE IF H&FY.046 = 3 THEN R&FY.046 = 2;
ELSE IF H&FY.046 = 4 THEN R&FY.046 = 3;
ELSE R&FY.046 = .;

IF H&FY.047 = 1     THEN R&FY.047 = 1;
ELSE IF H&FY.047 = 2 THEN R&FY.047 = 1;
ELSE IF H&FY.047 = 3 THEN R&FY.047 = 2;
ELSE IF H&FY.047 = 4 THEN R&FY.047 = 3;
ELSE R&FY.047 = .;

IF H&FY.065 = 1       THEN R&FY.065 = 5;
ELSE IF H&FY.065 = 2    THEN R&FY.065 = 4;
ELSE IF H&FY.065 = 3    THEN R&FY.065 = 3;
ELSE IF H&FY.065 = 4    THEN R&FY.065 = 2;
ELSE IF H&FY.065 = 5    THEN R&FY.065 = 1;
ELSE R&FY.065 = .;

************************************************************************
* Recode variables to one missing condition ".".
* This also makes all the "H000xx" to "R000xx".
************************************************************************;
R&FY.027 = H&FY.027;  IF R&FY.027 < 0|R&FY.027>10 THEN R&FY.027 = .;
R&FY.031 = H&FY.031;  IF R&FY.031 < 0|R&FY.031>10 THEN R&FY.031 = .;
R&FY.018 = H&FY.018;  IF R&FY.018 < 0|R&FY.018>10 THEN R&FY.018 = .;
R&FY.048 = H&FY.048;  IF R&FY.048 < 0|R&FY.048>10 THEN R&FY.048 = .;

LABEL R&FY.007   = "S4 - Got urgent care quickly"
     R&FY.010   = "S6 - Got routine care quickly"
     R&FY.021   = "S18 - Doctors/providers listened carefully"
     R&FY.022   = "S17 - Doctors/providers explained things"
     R&FY.023   = "S19 - Doctors/providers showed respect"
     R&FY.024   = "S20 - Doctors/providers spent enough time"
     R&FY.029   = "S25 - Got appointment with a specialist"
     R&FY.033   = "S14 - Got necessary care"
     R&FY.041   = "S35 - Customer service provided needed info"
     R&FY.042   = "S36 - Customer services was courteous"
     R&FY.046   = "S40 - Claims handled quickly"
     R&FY.047   = "S41 - Claims handled correctly"
     R&FY.018   = "S13 - Rating of health care"
     R&FY.027   = "S23 - Rating of personal doctor or nurse"
     R&FY.031   = "S27 - Rating of specialist seen most often"
```

```
        R&FY.048   = "S42 - Rating of health plan"
        R&FY.065   = "S43 - Rating of overall health"

        SUB_ID  = "Submission ID";
     ;

RUN;

TITLE1 "Recode Adult CAHPS Questions (6244-410)";
TITLE2 "Program Name: BENCHA02.SAS By Keith Rathbun";
TITLE3 "Program Input: BENCHA01.SAS7BDAT";
TITLE4 "Program Output: BENCHA02.SAS7BDAT";

PROC CONTENTS; RUN;

PROC FREQ;
TABLES  AGEGROUP
     XSEXA
     SREDHIGH
     R&FY.007 * H&FY.007
     R&FY.010 * H&FY.010
     R&FY.021 * H&FY.021
     R&FY.022 * H&FY.022
     R&FY.023 * H&FY.023
     R&FY.024 * H&FY.024
     R&FY.029 * H&FY.029
     R&FY.033 * H&FY.033
     R&FY.041 * H&FY.041
     R&FY.042 * H&FY.042
     R&FY.046 * H&FY.046
     R&FY.047 * H&FY.047
     R&FY.018 * H&FY.018
     R&FY.027 * H&FY.027
     R&FY.031 * H&FY.031
     R&FY.048 * H&FY.048
     R&FY.065 * H&FY.065
  /MISSING LIST;
RUN;
```

G.3.C Q3FY2020\PROGRAMS\BENCHMARK\BENCHA03.SAS - Calculate CAHPS Benchmark data for HCSDB - Run Quarterly.

```
****************************************************************************
*
* PROGRAM:  BENCHA03.SAS
* TASK:    Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE:  Adjust Adult CAHPS Benchmarks
*
* WRITTEN:  June 2000 BY ERIC SCHONE
*
* INPUTS:   1) BENCHA02.sas7bdat - Adult CAHPS Questions Renamed to be
*          consistent with the MPR HCSDB Survey.
*          2) GROUP8.sas7bdat - CAHPS Group8 (all beneficiaries) Dataset
*
* OUTPUTS:  1) Benchmark Composite Scores Data Sets
*
* MODIFIED:39) March 5, 2012 by Amanda Kudis - Changed libname in2 and include Convert.sas for Q2FY2012.
*       40) June 20, 2012 by Amanda Kudis - Updated for Q3FY2012.
*       41) August 23, 2012 by Christine Cheu - Updated for Q4FY2012.
*       42) December 27,2012 by Aimee Valenzuela - Changed libname in in2 for Q1FY2013
*          and changed variable names.
*       43) March 23, 2013 by Mike Rudacille - Changed libname in2 and include Convert.sas for Q2FY2013.
*       44) September 20, 2013 by Amanda Kudis - Updated for Q1FY2014.
*       45) July 8, 2014 by Hoa Le, Modified to use NCQA data.
*       46) December 1, 2014 by Matt Turbyfill, revised for the Macro Program.
*          Replaced RCTYPE with &PC.ReportCards
*          Changed IN2 to "..\&RCTYPE\CAHPS_Adult&FOLDER.&FYYEAR.\Data".
*          Replaced MERGE statement in &Q._&L., OUT&COMPNO._&I., and OUT.COMP&COMPNO._&I DATA
steps with SET statements.
*          Added MERGE=1 to R_&X.
*          Added BY MERGE to TEMP step.
*          Changed R14 to R&FY.
*          Changed CONVERT.SAS to ..\..\ReportCards\CAHPS_Adult&FOLDER.&FYYEAR.\CONVERT.SAS
*       47) August 24, 2016 by Matt Turbyfill, Now pulls benchmark data form the folder specified in the macro
program.
*       48) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*          Corrected capitalization and backslashes on LIBNAME and INC filepaths.
*          Changed LIBRARY to &FMTPATH.
*       49) February 1, 2018 By Keith Rathbun - Definitions and data type for Disposition status (DISP)
*          changed between the 2015 and 2017 NCQA benchmark files. Updated coded condition for keeping
*          Complete and Eligible records to be DISP = 0 and ResponseMode = 1 (Mail) or 3 (Internet).
*
* NOTES:
*
* 1) Run this program after BENCHA01.SAS and BENCHA02.SAS.
* 2) This program will generate the input for BENCHA04.SAS.
*
****************************************************************************
* Assign data libraries and options
****************************************************************************;
```

```
/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards          ***/
%LET RCTYPE = &PC.ReportCards;

libname in    "&BENCHDATA."; /*Use BENCHA02.sas7bdat from Q3fy2014*/
libname in2   "../&RCTYPE/CAHPS_Adult&FOLDER.&FYYEAR./Data";
libname out    "data";
LIBNAME LIBRARY "&FMTPATH.";

%let wgt=FWRWT;

OPTIONS MLOGIC MPRINT NOCENTER MERGENOBY=WARN LS=132 PS=79;

%macro comb(f,t,q,l);

proc summary data=&f;
 var &t;
 where &q~=.;
 weight &wgt;
 output out=temp mean=&t;
run;

data temp;
 set temp;
 array old &t;
 call symput('z',left(dim(old)));
run;

data temp(drop=_type_ &t);
 set temp;
 array old &t;
 array new var1-var&z;
  do i=1 to &z;
   new(i)=old(i);
  end;
run;

data &q._&l;
 set temp;
 set c_&q;
 array coeffs &t;
 array means var1-var&z;
  DO I = 1 TO DIM(COEFFS);
   IF COEFFS(I) = . THEN COEFFS(I) = 0;
   IF MEANS(I) = . THEN MEANS(I) = 0;
   ADJUST + ( COEFFS(I) * MEANS(I) );
  END;
 merge=1;
 ADJUST = ADJUST + intercept;
 &q._&l=adjust;

run;

%mend comb;
```

G.58

```
%macro adjust(x,y);

proc summary data=setup;
where &x>.;
 class SUB_ID;

 output out=count;
run;

data count count2(rename=(_freq_=denom));
 set count;
 if _type_=0 then output count2;
 else output count;
run;

data count(keep=pweight SUB_ID);
 if _n_=1 then set count2;
 set count;
 pweight=denom/_freq_;
run;

data temp;
 merge count  setup; by SUB_ID;

run;
proc summary data=temp;
where &x>.;
weight pweight;
var &y;
output out=temp2 mean=&y;
data temp2;
 set temp2;
 array old &y;
 call symput('z',left(dim(old)));
run;
data temp2(keep=var1-var&z);
 set temp2;
 array old &y;
 array new var1-var&z;
  do i=1 to &z;
   new(i)=old(i);
  end;
run;
data temp;
set temp;
if _n_=1 then set temp2;
 array old &y;
 array new var1-var&z;
  do i=1 to &z;
  if old(i)=. then
   old(i)=new(i);
  end;
```

```
run;
proc reg data=temp outest=c_&x noprint;
 model &x=&y;
 weight pweight;
 output out=r_&x r=r_&x;
run;

data r_&x;
        set r_&x;
        merge=1;
run;

proc sort data=r_&x; by SUB_ID;
run;

PROC DESCRIPT DATA=r_&x DESIGN=STRWR NOPRINT;
 WEIGHT pweight;
 SETENV DECWIDTH=4;
 NEST SUB_ID / missunit;
 VAR R_&x;
 OUTPUT  SEMEAN / TABLECELL=DEFAULT
 FILENAME=s_&x;
RUN;

data s_&x(rename=(semean=s_&x));
 set s_&x(keep=semean);
 %do i=1 %to 8;
  %if &i=8 %then %do;

   data group8;
    set in2.group5 in2.group6 in2.group7;
    run;
   %comb(group8,&y,&x,8);
  %end;
  %else %do;
   %comb(in2.group&i,&y,&x,&i);
  %end;
 %end;

%mend adjust;

/* adjust all the variables */

%macro comp(compno,a,b,c,d);
 %if &a~= %then %do;
  %let n=r_&a;
  %let m=s_&a;
  %do i=1 %to 8;
   %let p&i=&a._&i;
  %end;
  %let grpnum=1;
   proc sort data=r_&a;
    by mpid;
```

```
   run;
 %end;
 %if &b~= %then %do;
  %let n=%str(&n r_&b);
  %let m=%str(&m s_&b);
  %do i=1 %to 8;
   %let p&i=%str(&&p&i &b._&i);
  %end;
  %let grpnum=2;
   proc sort data=r_&b;
    by mpid;
    run;
 %end;
 %if &c~= %then %do;
  proc sort data=r_&c;
   by mpid;
   run;
  %let grpnum=3;
  %let n=%str(&n r_&c);
  %do i=1 %to 8;
   %let p&i=%str(&&p&i &c._&i);
  %end;
  %let m=%str(&m s_&c); %end;

  %if &d~= %then %do;
   proc sort data=r_&d;
    by mpid;
    run;
   %let grpnum=4;
   %let n=%str(&n r_&d);
    %do i=1 %to 8;
     %let p&i=%str(&&p&i &d._&i);
    %end;

    %let m=%str(&m s_&d);
  %end;

 data infile;
  merge &n;
  by mpid;
 run;

 proc corr outp=outf noprint;
  var &n;
  weight pweight;
 run;

 data final;
  if _n_=1 then do;
  %if &a~= %then %do;
   set s_&a;
  %end;
  %if &b~= %then %do;
```

```
  set s_&b;
 %end;
 %if &c~= %then %do;
  set s_&c;
 %end;
 %if &d~= %then %do;
  set s_&d;
 %end;
 end;
 set  outf;
 call symput('s'||compress(_n_),substr(_name_,3));
 where _type_='CORR';
run;

data final;
 set final;
 array r_val &n;
 array s_val &m;
 sde=0;
 do i=1 to dim(s_val);
  %do i=1 %to &grpnum;
   if _name_="r_&&s&i" then
   sde=sde+r_val(i)*s_&&s&i*s_val(i);
  %end;
 end;
run;

data sefin&compno;
 set final end=last;
 tv+sde;
 if last then do;
 sde=(tv**.5)/&grpnum;
 output;
end;

%do i=1 %to 8;
 data temp(keep=&&p&i);
  merge &&p&i;
  by merge;
 run;

data output;
 set &&p&i;
 totadj+adjust;
run;

data output(keep=totadj);
 set output end=last;
 if last then do;
  totadj=totadj/&grpnum;
  output;
 end;
run;
```

G.62

```
data out&compno._&i;
 set output;
 set temp;
run;

data out.comp&compno._&i;
  set out&compno._&i;
  set sefin&compno;
run;

%end;

%mend comp;

/* create composites */
proc sort data=in.bencha02 out=setup;
  by SUB_ID;
run;

data setup;
  set setup;
  by SUB_ID;
  * KRR modified condition for disposition status Complete and Eligible on 2/1/2018 ;
  * was DISP in ('M10','I10') previously for 2015 NCQA data ;
  if disp = 0 and ResponseMode in (1,3);
run;

data setup;
 set setup; by SUB_ID;
 mpid=_n_;
 if agegroup ne . then do;
 age1824=0; age2534=0; age3544=0; age4554=0; age5564=0; age6574=0;

    if agegroup=1 then age1824=1;
 else if agegroup=2 then age2534=1;
 else if agegroup=3 then age3544=1;
 else if agegroup=4 then age4554=1;
 else if agegroup=5 then age5564=1;
 else if agegroup=6 then age6574=1;
 end;
 if agegroup<6;
run;
%INCLUDE "../ReportCards/CAHPS_Adult&FOLDER.&FYYEAR./CONVERT.sas";

%CONT2(DSN=SETUP, NUM=4,  Y=R&FY.018 R&FY.048 R&FY.027 R&FY.031);
%CONT3(DSN=SETUP, NUM=12, Y=R&FY.007 R&FY.010 R&FY.029 R&FY.033
                R&FY.021 R&FY.022 R&FY.023 R&FY.024
                R&FY.041 R&FY.042 R&FY.046 R&FY.047);
/* GETTING NEEDED CARE */
%adjust(R&FY.029,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.033,age1824 age2534 age3544 age4554  R&FY.065);
%comp(1,R&FY.029,R&FY.033);
```

```
/* GETTING NEEDED CARE QUICKLY */
%adjust(R&FY.007,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.010,age1824 age2534 age3544 age4554  R&FY.065);
%comp(2,R&FY.007,R&FY.010);

/* HOW WELL DOCTORS COMMUNICATE */
%adjust(R&FY.021,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.022,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.023,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.024,age1824 age2534 age3544 age4554  R&FY.065);
%comp(3,R&FY.021,R&FY.022,R&FY.023,R&FY.024);

/* CUSTOMER SERVICE */
%adjust(R&FY.041,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.042,age1824 age2534 age3544 age4554  R&FY.065);
%comp(4,R&FY.041,R&FY.042);

/* CLAIMS PROCESSING */
%adjust(R&FY.046,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.047,age1824 age2534 age3544 age4554  R&FY.065);
%comp(5,R&FY.046,R&FY.047);

/* RATING ALL HEALTH CARE: 0 - 10 */
%adjust(R&FY.018,age1824 age2534 age3544 age4554  R&FY.065);
%comp(6,R&FY.018);

/* RATING OF HEALTH PLAN: 0 - 10 */
%adjust(R&FY.048,age1824 age2534 age3544 age4554  R&FY.065);
%comp(7,R&FY.048);

/* RATING OF PERSONAL DR: 0 - 10 */
%adjust(R&FY.027,age1824 age2534 age3544 age4554  R&FY.065);
%comp(8,R&FY.027);

/* SPECIALTY CARE */
%adjust(R&FY.031,age1824 age2534 age3544 age4554  R&FY.065);
%comp(9,R&FY.031);
```

G.3.D.1 Q3FY2020\PROGRAMS\BENCHMARK\QPREDTEST\ SAS2STATA_Grps.sas - Converts the groups datasets from SAS to STATA - Run Quarterly.

```
**************************************************************************
*
* PROGRAM: SAS2STATA_Grps.SAS
* TASK:    Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6401-904)
* PURPOSE: Convert the CAHPS BENCHA02 and GROUP1-8 Files to STATA format
*
* WRITTEN: 01/11/2008 BY KEITH RATHBUN
*
* INPUTS:  1) BENCHA02.sas7bdat - CAHPS Benchmark Scores Database
*        GROUPi.sas7bdat - Group Files created by STEP1.SAS
*               (where i = 1 -8 = group number)
*
* OUTPUTS: 1) BENCHA02.dta - CAHPS Benchmark Scores Database - STATA format
*        GROUPi.dta - Group Files created by STEP1.SAS - STATA format
*               (where i = 1 -8 = group number)
*
* MODIFIED: 1) December 1, 2014 by Matt Turbyfill, revised for the Macro Program.
*                        Changed QUARTER to &FOLDER.&FYYEAR.
*                        Changed INBENCH to "&BENCHDATA."
*                        Changed INGROUP to ../../&PC.ReportCards/cahps_adult&QUARTER./data.
*      2) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*                        Corrected capitalization and backslashes on LIBNAME and EXPORT filepaths.
*
* NOTES:
*
**************************************************************************
* Assign data libraries and options
**************************************************************************;
%LET QUARTER = &FOLDER.&FYYEAR.;
LIBNAME INBENCH "&BENCHDATA."; /*Use BENCHA02.sas7bdat from Q1fy2014*/
LIBNAME INGROUP "../../&PC.ReportCards/CAHPS_Adult&QUARTER./Data";


**************************************************************************
* Convert CAHPS BENCHA02 to STATA format.
**************************************************************************;
PROC EXPORT
  DATA = INBENCH.BENCHA02
  OUTFILE = "../../&PC.Benchmark/&QA.predtest/BENCHA02.DTA"
  DBMS = DTA
  REPLACE;
RUN;


**************************************************************************
* Convert SAS Group files to STATA format.
**************************************************************************;
%MACRO CONVERT2STATA;
  %DO I = 1 %TO 8;
    PROC EXPORT
```

```
        DATA = INGROUP.GROUP&I
        OUTFILE = "GROUP&I..DTA"
        DBMS = DTA
        REPLACE;
      RUN;
   %END;
%MEND CONVERT2STATA;

%CONVERT2STATA;
```

G.3.D.2 Q3FY2020\PROGRAMS\BENCHMARK\QPREDTEST\vartest.do - Calculates Predicted Errors - Run Quarterly.

```
/*
 Program: vartest.do
 Author:  Eric Schone
 Modified: 1) 11/15/2006 Justin Oh, Added global variable "path"
       for assigning folder directory.
     2) 06/22/2009 Keith Rathbun, Changed fwrwt_v4 back to fwrwt
       and updated path for q3fy2009.
     3) 12/02/2010 Mike Rudacille, updated vars for 2011
     4) 12/10/2011 Mike Rudacille, updated vars for 2012
     5) 12/28/2012 Aimee Valenzuela,updated vars for 2013
     6) 09/20/2013 Amanda Kudis,updated vars for 2014
     7) 02/28/2014 Amanda Kudis, changes for compatibility with stata13
     8) 02/26/2016 Matt Turbyfill, updated vars for 2016
     9) 01/09/2017 Irna May Connor, updated vars for 2017
     10) 02/09/2018 Matt Turbyfill, update limitation for new benchmark data
     11) 03/04/2020 Matt Turbyfill, Capitalize certain variables due to naming in new benchmark data.
  WARNING - MUST EDIT THE GLOBAL PATH FOR EACH REPORTING PERIOD
*/

global path "N:\Project\50713_HCS\SASGRID\DATA\HCSDB\Q3FY2020\Programs\Benchmark"

program define initial
version 7.0

local i=1
while `i'<9{

gen str8 var=" "
gen se=.
save "$path\Qpredtest\projerr`i'",replace
clear
 local i=`i'+1
}
end
program define stdlist1
version 7.0
local varlist required existing
parse "`*'"
while "`1'"~=""{

use "$path\Qpredtest\bencha02",clear
keep if DISP==0 & (ResponseMode==1|ResponseMode==3)

 gen AGEUND18=0 if AGEGROUP~=.
gen AGE1824=0 if AGEGROUP~=.
gen AGE2534=0 if AGEGROUP~=.
gen AGE3544=0 if AGEGROUP~=.
gen AGE4554=0 if AGEGROUP~=.
 gen AGE5564=0 if AGEGROUP~=.
```

```
gen AGE6574=0 if AGEGROUP~=.

replace AGEUND18 = 1     if AGEGROUP==0
replace AGE1824  = 1 if AGEGROUP==1
replace AGE2534  = 1 if AGEGROUP==2
replace AGE3544  = 1 if AGEGROUP==3
replace AGE4554  = 1 if AGEGROUP==4
replace AGE5564  = 1 if AGEGROUP==5
replace AGE6574  = 1 if AGEGROUP==6
keep if AGEGROUP<6
replace `1'=10  if 8<=`1' & `1'<=10
replace `1'=0 if `1'~=. & `1'<8
replace `1'=`1'/10
egen coun=count(`1'), by(SUB_ID)
gen wt=1/coun
svyset strata SUB_ID
svyset pweight coun

egen ct=count(`1'*AGE1824*R20065), by(SUB_ID)
keep if ct>1
drop ct

svyreg `1' AGE1824 AGE2534 AGE3544 AGE4554 AGE5564 R20065

local i=1
while `i'<9{
use "$path\Qpredtest\group`i'",clear
collapse (mean) AGE1824 AGE2534 AGE3544 AGE4554 AGE5564 R20065 [aw=FWRWT]
predict se, stdp
keep se
gen str8 var="`1'"
append using "$path\Qpredtest\projerr`i'"
save "$path\Qpredtest\projerr`i'",replace
local i=`i'+1
}
macro shift
}
end
program define stdlist2
version 7.0
local varlist required existing
parse "`*'"

while "`1'"~=""{

use "$path\Qpredtest\bencha02",clear
keep if DISP==0 & (ResponseMode==1|ResponseMode==3)

 gen AGEUND18=0 if AGEGROUP~=.
gen AGE1824=0 if AGEGROUP~=.
gen AGE2534=0 if AGEGROUP~=.
gen AGE3544=0 if AGEGROUP~=.
gen AGE4554=0 if AGEGROUP~=.
```

```
 gen AGE5564=0 if AGEGROUP~=.
gen AGE6574=0 if AGEGROUP~=.

replace AGEUND18 = 1     if AGEGROUP==0
replace AGE1824  = 1 if AGEGROUP==1
replace AGE2534  = 1 if AGEGROUP==2
replace AGE3544  = 1 if AGEGROUP==3
replace AGE4554  = 1 if AGEGROUP==4
replace AGE5564  = 1 if AGEGROUP==5
replace AGE6574  = 1 if AGEGROUP==6
keep if AGEGROUP<6
replace `1'=0 if `1'~=. & `1'<3
replace `1'=1 if `1'>=2
egen coun=count(`1'), by(SUB_ID)
gen wt=1/coun
svyset strata SUB_ID
svyset pweight coun

egen ct=count(`1'*AGE1824*R20065), by(SUB_ID)
keep if ct>1
drop ct

svyreg `1' AGE1824 AGE2534 AGE3544 AGE4554 AGE5564 R20065
local i=1
while `i'<9{
use "$path\Qpredtest\group`i'",clear
collapse (mean) AGE1824 AGE2534 AGE3544 AGE4554 AGE5564 R20065 [aw=FWRWT]
predict se, stdp
keep se
gen str8 var="`1'"
append using "$path\Qpredtest\projerr`i'"
save "$path\Qpredtest\projerr`i'",replace
export delimited "$path\Qpredtest\projerr`i'",replace

local i=`i'+1

}
macro shift
}
end

set more 1

set mem 100m

log using "$path\Qpredtest\varlog",replace
initial

use "$path\Qpredtest\bencha02",clear
stdlist1 R20018 R20048 R20027 R20031
use "$path\Qpredtest\bencha02",clear
stdlist2 R20029 R20033 R20041 R20042 R20007 R20010 R20021 R20022 R20023 R20024 R20046 R20047
log close
```

G.3.D.3 Q3FY2020\PROGRAMS\BENCHMARK\QPREDTEST\ CSV2SAS_Proj.sas - Converts the Predicted Errors from STATA to SAS - Run Quarterly.

```
**************************************************************************
*
* PROGRAM:  CSV2SAS_Proj.SAS
* TASK:     Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6401-904)
* PURPOSE:  Convert the PROJERR1-8 Files to SAS format
*
* WRITTEN:  02/19/2014 BY AMANDA KUDIS
*
* INPUTS:   1) PROJERRi.CSV - PROJERR Files created by VARTEST.DO
*              (where i = 1 -8 = group number)
*
* OUTPUTS:  1) PROJERRi.sas7bdat - PROJERR Files created by VARTEST.DO - SAS format
*              (where i = 1 -8 = group number)
*
* MODIFIED:
*
* NOTES:
*
**************************************************************************
* Assign data libraries and options
**************************************************************************;
LIBNAME OUT ".";


**************************************************************************
* Convert the PROJERR1-8 Files to SAS format
**************************************************************************;
%MACRO CONVERT2SAS;
  %DO I = 1 %TO 8;
    PROC IMPORT
      DATAFILE="projerr&i..csv"
      OUT=OUT.projerr&i
      DBMS=CSV
      REPLACE;
    RUN;
  %END;
%MEND CONVERT2SAS;

%CONVERT2SAS;
```

- Compiles Predicted Composite Errors - Run Quarterly.

```
/**************************************************************
/*
/*  Project:  HCSDB Adult Report Cards
/*  Program:  PREDCOMP.SAS
/*  Purpose:  Adult Report Card
/*  Requires programs STEP1Q and STEP2Q.SAS
/*
/* Modified: 1) December 1, 2014 by Matt Turbyfill, revised for the Macro Program.
*                                          Changed R14 to R&FY.
/*
/*
/**************************************************************/
OPTIONS NOCENTER LS=132 PS=78 SOURCE SOURCE2 MLOGIC MPRINT NOOVP COMPRESS=NO;
libname in  ".";

%MACRO COMPOSIT (TYPE=,COMPOS=,VAR1=,VAR2=,VAR3=,VAR4=,VAR5=,QCOUNT=);
%do i=1 %to 8;
 data temp&i(keep=x se);
    set in.projerr&i end=last;
    variance=se**2;
    %do j=1 %to &qcount;
     if upcase(var)="&&var&j" then t_var+variance;
    %end;
    if last then do;
     se=t_var**.5/&qcount;
     x=&i;
      output;
    end;
 %end;
 data in.comp&compos;
  set temp1 temp2 temp3 temp4 temp5 temp6 temp7 temp8;
 run;


%MEND COMPOSIT;

*-----------------------------------;
*-     set the parameters here     -;
*-----------------------------------;
***********************************;
*  call the macro for each composite;
***********************************;
%COMPOSIT (type=R,compos=1,var1=R&FY.029,var2=R&FY.033,qcount=2);
%COMPOSIT (type=R,compos=2,var1=R&FY.007,var2=R&FY.010,qcount=2);
%COMPOSIT (type=R,compos=3,var1=R&FY.021,var2=R&FY.022,var3=R&FY.023,var4=R&FY.024,qcount=4);
%COMPOSIT (type=R,compos=4,var1=R&FY.041,var2=R&FY.042,qcount=2);
%COMPOSIT (type=R,compos=5,var1=R&FY.046,var2=R&FY.047,qcount=2);
```

G.3.E Q3FY2020\PROGRAMS\BENCHMARK\BENCHA04.SAS - Convert the Benchmark Scores Database into the WEB layout - Run Quarterly.

```
*************************************************************************
*
* PROGRAM:  BENCHA04.SAS
* TASK:    Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6401-904)
* PURPOSE:  Convert the Benchmark Scores Database into the WEB layout
*
* WRITTEN:  06/01/2000 BY KEITH RATHBUN
*
* INPUTS:   1) Benchmark data sets with adjusted scores
*          (COMPn_i.sas7bdat where n = composite number and i = group number)
*
* OUTPUT:   1) BENCHA04.sas7bdat - Combined Benchmark Scores Database in WEB layout
*
* INCLUDES: 1) LOADCAHQ.INC - Format definitions for CAHPS Individual
*           and composite data sets
*
* MODIFIED:38) 03/23/2013 by Mike Rudacille - Updated for Q2 FY 2013.
*       39) 09/20/2014 by Amanda Kudis - Updated for Q1 FY 2014.;
/*      40) December 1, 2014 by Matt Turbyfill, revised for the Macro Program.
                                Change YEAR to &CYYEAR.
                                Add X = .; statement to initialize X.
                                Change R14 to R&FY.
*/
*       48) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*                                Corrected capitalization and backslashes on LIBNAME and INC
filepaths.
*           Changed LIBRARY to &FMTPATH.
* NOTES:
*
* 1) The following steps need to be run prior to this program:
*    - BENCHA01.SAS - Extract Benchmark variables
*    - BENCHA02.SAS - Recode Benchmark variables
*    - BENCHA03.SAS - Construct Scores and SEMEAN datasets
*
* 2) The output file (BENCHA04.SAS7BDAT) will be run through the
*    MAKEHTML.SAS program to generate the WEB pages.
*
*************************************************************************
* Assign data libraries and options
*************************************************************************;
LIBNAME IN  "data";
LIBNAME IN2 "Qpredtest";
LIBNAME OUT "data";
LIBNAME LIBRARY  "&fmtpath.";

OPTIONS PS=79 LS=132 COMPRESS=NO NOCENTER;

*************************************************************************
* Load Format definitions for CAHPS Individual and composite data sets.
```

```
*****************************************************************************;
%INCLUDE "../LoadWeb/LOADCAHQ.INC";


*****************************************************************************
*****************************************************************************
*
* Process Macro Input Parameters:
*
* 1) CNUM = Composite or rating variable number (1-10)
* 2) GNUM = Group number (1-8)
* 3) NVAR = Number of variables in the composite
* 4) VARS = List of individual variables for composite
* 5) SE   = List of individual standard error variables
*****************************************************************************;
%MACRO PROCESS(CNUM=, GNUM=, NVAR=, VARS=, SE=);
*****************************************************************************
* Assign value for BENTYPE composite year
*****************************************************************************;
%LET YEAR = "&CYYEAR."; * Note that this is based on Calendar Year here;


*****************************************************************************
* Convert benchmark scores datasets into WEB layout.
*****************************************************************************;
%IF &CNUM<6 %THEN %DO;

  DATA INP;
   SET IN2.COMP&CNUM;
    WHERE X=&GNUM;

  DATA INP;
   SET INP  IN2.PROJERR&GNUM;
   RENAME SE=SESX;
RUN;
%END;
%ELSE %DO;

  DATA INP;
   SET IN2.PROJERR&GNUM;
   RENAME SE=SESX;

        X = .;
RUN;
%END;

  DATA COMP&CNUM._&Gnum;
    SET INP;
   IF _N_=1 THEN
   SET IN.COMP&CNUM._&GNUM;
    LENGTH MAJGRP  $30;
    LENGTH REGION  $25;
    LENGTH REGCAT  $26;
    LENGTH BENTYPE $50;
    LENGTH BENEFIT $34;
```

```
LENGTH TIMEPD  $35;   ***MJS 07/03/03 Added line;

***********************************************************************
* For now, assign SIG = 0
***********************************************************************.
                                                                      ,
SIG = 0;


***********************************************************************
* Assign major group
***********************************************************************.
                                                                      ,
MAJGRP  = PUT(&Gnum,MAJGRPF.);


***********************************************************************
* Assign Region and Regcat
***********************************************************************.
                                                                      ,
REGION  = "Benchmark";
REGCAT  = "Benchmark";


***********************************************************************
* Assign benefit and benefit type
***********************************************************************.
                                                                      ,
IF    &CNUM = 1  THEN BENEFIT = "Getting Needed Care";
ELSE IF &CNUM = 2  THEN BENEFIT = "Getting Care Quickly";
ELSE IF &CNUM = 3  THEN BENEFIT = "How Well Doctors Communicate";
ELSE IF &CNUM = 4  THEN BENEFIT = "Customer Service";
ELSE IF &CNUM = 5  THEN BENEFIT = "Claims Processing";
ELSE IF &CNUM = 6  THEN BENEFIT = "Health Care";
ELSE IF &CNUM = 7  THEN BENEFIT = "Health Plan";
ELSE IF &CNUM = 8  THEN BENEFIT = "Primary Care Manager";
ELSE IF &CNUM = 9  THEN BENEFIT = "Specialty Care";

BENTYPE = "Composite";   ***MJS 07/03/03 Changed from BENTYPE = PUT(&YEAR,$BENTYPF.);
TIMEPD = PUT(&YEAR,$BENTYPF.);   ***MJS 07/03/03 Added;
 IF &CNUM<6 THEN DO;
   IF X=&GNUM THEN DO;
***********************************************************************
* Assign composite score and SEMEAN
***********************************************************************.
                                                                      ,
   SCORE = TOTADJ;
   SEMEAN = SQRT(SDE**2+SESX**2);


***********************************************************************
* Output composite score record for each REGION
***********************************************************************.
                                                                      ,
   OUTPUT;
  END;
 END;
***********************************************************************
* Now, output the individual score records
***********************************************************************.
                                                                      ,
IF &NVAR GT 1|&CNUM>5 THEN DO;
  ARRAY ITEMS &VARS;
  ARRAY SE   &SE;
```

G.74

```
     LENGTH NAME $8;
     DO I = 1 TO DIM(ITEMS); DROP I;
       CALL VNAME(ITEMS(I),NAME);
                          /*z = DIM(ITEMS);
                          z1=vname(items(1));*/
       NAME = SUBSTR(NAME,1,6);
       SCORE  = ITEMS(I);
       SEMEAN = SQRT(SE(I)**2+SESX**2);
       IF &NVAR GT 1 THEN
       BENTYPE = PUT(NAME,$BENTYPF.);
       TIMEPD = PUT(&YEAR,$BENTYPF.);   ***MJS 07/03/03 Added;
     IF COMPRESS(UPCASE(NAME))=COMPRESS(UPCASE(VAR)) THEN OUTPUT;
       END;
     END;

   KEEP MAJGRP
       REGION
       REGCAT
       BENTYPE
       BENEFIT
       TIMEPD   /*MJS 07/03/03 Added*/
       SEMEAN
       SCORE
       SIG
     ;
   RUN;

%MEND;

*************************************************************************
*************************************************************************
* Process each of the 8 Groups.
*************************************************************************
*************************************************************************;
%MACRO DOIT;
%DO I = 1 %TO 8;
  *******************************************************************
  * COMPOSITE # 1.
  * GETTING NEEDED CARE VARIABLES.
  *******************************************************************;
 %PROCESS(CNUM=1, GNUM=&I, NVAR=2, VARS=R&FY.029_&I R&FY.033_&I,
     SE=S_R&FY.029 S_R&FY.033);

  *******************************************************************
  * COMPOSITE # 2.
  * GETTING CARE QUICKLY VARIABLES.
  *******************************************************************;
 %PROCESS(CNUM=2, GNUM=&I, NVAR=2, VARS=R&FY.007_&I R&FY.010_&I,
     SE=S_R&FY.007 S_R&FY.010);

  *******************************************************************
  * COMPOSITE # 3.
  * HOW WELL DOCTORS COMMUNICATE.
```

```
 ************************************************************************;
 %PROCESS(CNUM=3, GNUM=&I, NVAR=4, VARS=R&FY.021_&I R&FY.022_&I R&FY.023_&I R&FY.024_&I,
    SE=S_R&FY.021 S_R&FY.022 S_R&FY.023 S_R&FY.024);

 ************************************************************************
 * COMPOSITE # 4.
 * CUSTOMER SERVICE.
 ************************************************************************;
 %PROCESS(CNUM=4, GNUM=&I, NVAR=2, VARS=R&FY.041_&I R&FY.042_&I,
    SE=S_R&FY.041 S_R&FY.042);

 ************************************************************************
 * COMPOSITE # 5.
 * CLAIMS PROCESSING.
 ************************************************************************;
 %PROCESS(CNUM=5, GNUM=&I, NVAR=2, VARS=R&FY.046_&I R&FY.047_&I,
    SE=S_R&FY.046 S_R&FY.047);

 ************************************************************************
 * INDIVIDUAL # 1.
 * RATING OF ALL HEALTH CARE: 0 - 10.
 ************************************************************************;
 %PROCESS(CNUM=6, GNUM=&I, NVAR=1, VARS=R&FY.018_&I, SE=S_R&FY.018);

 ************************************************************************
 * INDIVIDUAL # 2.
 * RATING OF HEALTH PLAN: 0 - 10.
 ************************************************************************;
 %PROCESS(CNUM=7, GNUM=&I, NVAR=1, VARS=R&FY.048_&I, SE=S_R&FY.048);

 ************************************************************************
 * INDIVIDUAL # 3.
 * RATING OF PERSONAL DOCTOR: 0 - 10.
 ************************************************************************;
 %PROCESS(CNUM=8, GNUM=&I, NVAR=1, VARS=R&FY.027_&I, SE=S_R&FY.027);

 ************************************************************************
 * INDIVIDUAL # 4.
 * SPECIALTY CARE: 0 - 10.
 ************************************************************************;
 %PROCESS(CNUM=9, GNUM=&I, NVAR=1, VARS=R&FY.031_&I, SE=S_R&FY.031);
%END;
%MEND DOIT;
%DOIT;

 ************************************************************************
 ************************************************************************
 * STACK up all of the files into one final output dataset.
 ************************************************************************
 ************************************************************************;
DATA OUT.BENCHA04;
 SET COMP1_1 COMP1_2 COMP1_3 COMP1_4 COMP1_5 COMP1_6 COMP1_7 COMP1_8
    COMP2_1 COMP2_2 COMP2_3 COMP2_4 COMP2_5 COMP2_6 COMP2_7 COMP2_8
```

```
      COMP3_1  COMP3_2  COMP3_3  COMP3_4  COMP3_5  COMP3_6  COMP3_7  COMP3_8
      COMP4_1  COMP4_2  COMP4_3  COMP4_4  COMP4_5  COMP4_6  COMP4_7  COMP4_8
      COMP5_1  COMP5_2  COMP5_3  COMP5_4  COMP5_5  COMP5_6  COMP5_7  COMP5_8
      COMP6_1  COMP6_2  COMP6_3  COMP6_4  COMP6_5  COMP6_6  COMP6_7  COMP6_8
      COMP7_1  COMP7_2  COMP7_3  COMP7_4  COMP7_5  COMP7_6  COMP7_7  COMP7_8
      COMP8_1  COMP8_2  COMP8_3  COMP8_4  COMP8_5  COMP8_6  COMP8_7  COMP8_8
      COMP9_1  COMP9_2  COMP9_3  COMP9_4  COMP9_5  COMP9_6  COMP9_7  COMP9_8
   ;
   IF SCORE = . THEN DELETE;
RUN;

TITLE1 "Quarterly DOD Health Survey Scores/Report Cards (6663-410)";
TITLE2 "Program Name: BENCHA04.SAS By Keith Rathbun";
TITLE3 "Program Inputs: Benchmark Individual and Composite data sets with adjusted scores";
TITLE4 "Program Outputs: BENCHA04.SAS7BDAT - Combined Benchmark Scores Database in WEB layout";

PROC CONTENTS; RUN;

PROC FREQ;
TABLES TIMEPD BENEFIT BENTYPE MAJGRP REGION REGCAT
    REGION*REGCAT
    /MISSING LIST;
RUN;
```

G.4.A Q3FY2020\PROGRAMS\REPORTCARDS\MPR_ADULTQ3FY2020\ PRVCOMPQ.SAS - Calculate Preventive Care Composite Scores - Run Quarterly.

```
*****************************************************************
* Project:  DoD Reporting and Analysis 6077-410
* Program:  PRVCOMPQ.SAS
* Author:   Chris Rankin
* Date:     12/22/2000
* Modified: 4/19/2001 By Keith Rathbun: Restrict population to
*         xins_cov in(1,2,3,6).  Use POSTSTR instead of
*         adj_cell.
* Modified: 03/05/2012 By Amanda Kudis Updated %LET INDATA and YRDATA HCS122_2.
*         06/20/2012 By Amanda Kudis Updated for Q3FY2012.
*         08/23/2012 By Christine Cheu Updated for Q4FY2012.
*         11/03/2012 By Mike Rudacille Updated for handling of
*             Joint Service facilities
*         12/28/2012 By Aimee Valenzuela Updated for Q1FY2013
*         03/23/2013 By Mike Rudacille Updated %LET INDATA and YRDATA HCS132_2.
*         05/17/2013 By Mike Rudacille Modified coded to address SUDAAN V11 handling
*             of PROC DESCRIPT without LEVELS. Now invoking PROC DESCRIPT
*             for TABLEVAR=USA (i.e. CONUS cases) similarly to the other cases,
*             except using LEVELS 1.
*         9/23/2013 By Amanda Kuids Updated for Q1FY2014
*         2/27/2014 By Amanda Kudis changed xservaff to use version in database
*         12/1/2014 By Matt Turbyfill, revised for the Macro Program.
                                        Changed INNORM to "&NORMDATA."
                                        Replaced RCTYPE with &PC.ReportCards
                                        Changed NORMDAT to &NORMFILE.
                                        Changed INDATA and YRDATA to &DATAFILE.
                                        Changed first LIBRARY to "&NORMFMTLIB."
                                        Changed H11 to H&NY.
                                        Changed H14 to H&FY.
                                        Removed line referencing JOINTSRV in the
NORMDATA step.
                                        Added %DO loop declaring all values of SEMV&I.
equal to 0.*
*         12/27/2016 by Matt Turbyfill, revised for the SAS Grid.
*                                       Corrected capitalization and backslashes on LIBNAME and INC
filepaths.
*             Changed LIBRARY to &FMTPATH.
*         12/12/2017 by Matt Turbyfill, North and South changed to East- in REGIONF
*         02/17/2019 by Matt Turbyfill, XTNEXREG replaced by XTNEXRG2
                Joint service replaced by DHA
                JOINTSRV replaced bvy DHASRV
                East-North and East-South replaced by East
                USA definition changed accordingly with XTNEXRG2
*         05/14/2020 by Irna May Connor, The baseline and target for this objective was revised
*                 in 2019 due to a change in the methodology used to track this measure. In
                 keeping with the original target setting method (10% improvement), the
                 target was revised from 77.9% to 84.8%.
*
* Purpose:  Calculate MPR Preventive Care Composites
```

```
* Input:    HCSyyq_2.sas7bdat
* Output:   RFINAL.sas7bdat
*           CFINAL.sas7bdat
*           MFINAL.sas7bdat
*           SFINAL.sas7bdat
*
* Include
*  Files:   LOADCAHPQ.INC
*  Notes:   Next program is Loadmprq.sas
*
*          ***CHECK PARAMETER ASSIGNMENTS***
****************************************************************;

OPTIONS NOCENTER LS=124 PS=74 SOURCE SOURCE2 MLOGIC MPRINT
    NOFMTERR COMPRESS=YES;

/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards        ***/
%LET RCTYPE = &PC.ReportCards;

LIBNAME IN        "&datapath.";
LIBNAME INNORM    "&NORMDATA.";
LIBNAME OUT       ".";
LIBNAME LIBRARY   "&fmtpath.";

%LET WGT=FWRWT;
%LET NORMWGT = CFWT;
%LET NORMDAT = &NORMFILE.;

%LET DEBUG=Y;    /** Set to Y for Debug print of datasets **/
%LET INDATA=&DATAFILE.;

%LET YRDATA=&DATAFILE.;

/***** The following parameters are used in the Variance ****/
/***** calcuation macro for region and catchment area    ****/

%LET GRPNUM=8;    /** number of groups        **/
%LET COMPNUM=6;   /** number of variables     **/  /* RSG - 04/2005 changed from 8 to 7 (eliminate
cholesterol)*/
                              /* MER - 12/21/11 changed from 7 to 6 (eliminate 15 min access var)*/
%LET REGNUM=18;   /** number of regions       **/  /* RSG - 01/2005 CHANGED TO FIT THE 16 CATEGORIES OF
XSERVREG */
                              /* JSO 08/24/2006 (16 TO 15) Changed Overseas Regions*/
                              /* MER 11/03/2012 (15 TO 18) Joint Service */
%LET CATCHNUM=9999; /** number of catchment areas **/

%LET CMPNUM1=4;   /** number of variables in first composite  **/   /*RSG 04/2005 Changed CMPNUM1 from
5 to 4*/
%LET CMPNUM2=2;   /** number of variables in second composite **/   /*MJS 04/30/03 Changed CMPNUM2
from 4 to 3*/
                              /*MER 12/27/11 Changed CMPNUM2 from 3 to 2*/

%LET COMPCNT=2;   /** number of composites             **/
```

```
**** set up benchmarks for preventive services ;
**** note -- these are the hp 2000 goals      ;
**** MER 3/31/11 - updated to hp 2020 goals    ;

%LET GOALVAR1= .85;   /** HP Goal for prenatal care        **/
%LET GOALVAR2= .81;   /** HP Goal for Mammography          **/
%LET GOALVAR3= .93;   /** HP Goal for Papsmear           **/
%LET GOALVAR4= .95;   /** HP Goal for Blood Pressure check **/
%LET GOALVAR5= .90;   /** access goals              **/ /*04/2005 - RSG: DELETED CHOLESTEROLE GOAL*/
%LET GOALVAR6= .90;

%INCLUDE "../../LoadWeb/LOADCAHQ.INC";

/**** note -- output all data to a single dataset for macro */
/**** call                                  */
/**** MACROS are no longer called for catchment areas       */

/* 08/24/2006 JSO Moved from the top of program for using Quarter vs. Annual Formats */
LIBNAME LIBRARY "&NORMFMTLIB.";

DATA NORMDATA(KEEP=XTNEXRG2 XSERVREG &WGT PRVVAR1-PRVVAR&COMPNUM. NUMV1-
NUMV&COMPNUM.
        DENV1-DENV&COMPNUM XSERVAFF FIELDAGE);
        /* 11/15/2006 JSO Added FIELDAGE in the keep statement */

 SET INNORM.&NORMDAT(KEEP=MPRID XINS_COV HP_BP HP_MAMOG HP_PAP HP_PRNTL XTNEXREG
            XENR_PCM XBNFGRP ENBGSMPL &NORMWGT DBENCAT
            H&NY.010 H&NY.007 H&NY.003 SERVAFF XREGION FIELDAGE XCATCH);
        /* 08/24/2006 JSO Added XREGION in the keep statement to get XOCONUS */
        /* 11/15/2006 JSO Added FIELDAGE in the keep statement */
        /* 05/10/2007 JSO Added H05006, DBENCAT in the keep statement */
        /* 12/21/2011 MER For switch to 2011 norm data mapped the following vars: */
        /* H05006 -> H&NY.003                          */
        /* H05007 -> H&NY.004 (subsequently taken out due to not being necessary */
        /* H05019 -> H&NY.007                          */
        /* H05022 -> H&NY.010                          */
        /* H05030 and ADJ_CELL were dropped                 */

*************************************************************************
* For quarterly reports, catchment level reporting is not done
* so the value of cellp is set to 1.
* For annual reporting purposes, cellp will need to be assigned
* to geocell
*************************************************************************;

/***Revised for 2 regions***/
IF XTNEXREG>1 THEN XTNEXRG2=XTNEXREG-1;
else XTNEXRG2=XTNEXREG;

/*RSG 02/2005 Added codes to define XTNEXRG2 & XSERVAFF*/

   IF SERVAFF = 'A' THEN XSERVAFF = 1;      *Army;
```

```
    ELSE IF SERVAFF = 'F' THEN XSERVAFF = 2;   *Air Force;
    ELSE IF SERVAFF = 'N' THEN XSERVAFF = 3;   *Navy;
    ELSE XSERVAFF = 4;                *Other/unknown;

/*Joint services added for 2016 norm data*/
/*IF PUT(XCATCH, JOINTSRV.)='1' THEN XSERVAFF=5;*Joint Service;*/
  IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA;

  IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

  IF XTNEXRG2 = . THEN DELETE;

  IF XINS_COV NOT IN(1,2,3,6,9,10,11) THEN DELETE;  /*JSO 07/30/2007, Added 9*/ /*MER 07/12/11 added 10,
11*/


  NXNS_COV = XINS_COV;          /*JSO 04/26/2007 added for reservists logic*/
                       /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
  IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
  IF DBENCAT IN('GRD','IGR') AND H&NY.003 = 3 THEN DO;
    NXNS_COV = 3;
    XENR_PCM = .;
  END;

  PRVVAR1=HP_PRNTL;     /** prenatal care  **/
  PRVVAR2=HP_MAMOG;      /** mammography   **/
  PRVVAR3=HP_PAP;       /** papsmear      **/
  PRVVAR4=HP_BP;       /** blood pressure **/
  PRVVAR5=H&NY.010;       /** access var 1  **/
  PRVVAR6=H&NY.007;       /** access var 2  **/

/**** set up numerator and denominator for proportions ****/

  ARRAY PRVVAR(*) PRVVAR1-PRVVAR&COMPNUM;
  ARRAY  NUMER(*) NUMV1-NUMV&COMPNUM;
  ARRAY  DENOM(*) DENV1-DENV&COMPNUM;

  DO I = 1 TO &COMPNUM;
    IF I LE  &CMPNUM1 THEN DO;
      IF PRVVAR(I) = 1 THEN NUMER(I) = 1;
      ELSE NUMER(I)=0;
      IF PRVVAR(I) IN (1, 2) THEN DENOM(I)=1;
    END;
    ELSE IF I GT &CMPNUM1 THEN DO;
      IF PRVVAR(I) IN (1, 2) THEN NUMER(I)=1;
      ELSE NUMER(I)=0;
      IF PRVVAR(I) > 0 THEN DENOM(I)=1;
    END;
  END;
  DROP I;
  DENV4=1;

  /* 08/22/2006, JSO Create XOCONUS for 2005 data */
```

```
   IF    XREGION=13 THEN XOCONUS=1;
   ELSE IF XREGION=14 THEN XOCONUS=2;
   ELSE IF XREGION=15 THEN XOCONUS=3;

 /*RSG 02/2005 Added codes to define XSERVREG CACSMPL*/

   IF XTNEXRG2 = 1 THEN DO;
     IF XSERVAFF = 1 THEN XSERVREG = 1;
     ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
     ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
     ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
     ELSE XSERVREG = 5;
   END;

   IF XTNEXRG2 = 2 THEN DO;
     IF XSERVAFF = 1 THEN XSERVREG = 6;
     ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
     ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
     ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
     ELSE XSERVREG = 10;
   END;

   IF XTNEXRG2 = 3 THEN DO;
     IF XOCONUS = 1 THEN XSERVREG = 11;
     ELSE IF XOCONUS = 2 THEN XSERVREG = 12;
     ELSE IF XOCONUS = 3 THEN XSERVREG = 13;
   END;

   IF XTNEXRG2 = 4 THEN DO; /*JSO 08/22/2006, Changed Overseas Regions*/
     IF    XOCONUS = 1 THEN XSERVREG = 16;
     ELSE IF XOCONUS = 2 THEN XSERVREG = 17;
     ELSE IF XOCONUS = 3 THEN XSERVREG = 18;
   END;

   RENAME &NORMWGT = &WGT;
run;

/* 08/22/2006 JSO Moved from the top of program for using Quarter vs. Annual Formats */
LIBNAME LIBRARY  "&fmtpath.";

DATA &YRDATA(KEEP=BGROUP MHS USA XSERVAFF CACSMPL &WGT TMP_CELL
           PRVVAR1-PRVVAR&COMPNUM. NUMV1-NUMV&COMPNUM.
           DENV1-DENV&COMPNUM XTNEXRG2 XSERVREG FIELDAGE);
           /* 11/15/2006 JSO Added FIELDAGE in the keep statement */

 SET IN.&INDATA(KEEP=XINS_COV HP_BP XTNEXRG2 HP_MAMOG HP_PAP HP_PRNTL  /*RSG 04/2005 DELETE
HP_CHOL*/
           XREGION SERVAFF XENR_PCM XBNFGRP ENBGSMPL &WGT CACSMPL XCATCH
           STRATUM H&FY.010 H&FY.007 H&FY.004 H&FY.003 D_HEALTH FIELDAGE DBENCAT);
           /* 11/15/2006 JSO Added FIELDAGE in the keep statement */
           /* 05/10/2007 JSO Added H07006, DBENCAT in the keep statement */


************************************************************************
```

```
* For quarterly reports, catchment level reporting is not done
* so the value of cellp is set to 1.
* For annual reporting purposes, cellp will need to be assigned
* to geocell
*************************************************************************;
 IF SERVAFF = 'A' THEN XSERVAFF = 1;       *Army;
 ELSE IF SERVAFF = 'F' THEN XSERVAFF = 2;   *Air Force;
 ELSE IF SERVAFF = 'N' THEN XSERVAFF = 3;   *Navy;
 ELSE XSERVAFF = 4;                  *Other/unknown;

 /*IF PUT(XCATCH, JOINTSRV.)='1' THEN XSERVAFF=5; *Joint Service;*/
 IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA;

 CELLP = 1;
 LENGTH TMP_CELL 8;
 TMP_CELL = STRATUM;   /* Make STRATUM a numeric variable */

 IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

 IF XTNEXRG2 = . THEN DELETE;

 IF XINS_COV NOT IN(1,2,3,6,9,10,13,14) THEN DELETE;  /*JSO 07/30/2007, Added 9*/ /*MER 07/12/11 Added
10,11 */ /*AMK 2/13/14 removed 11 added 13/14*/

 NXNS_COV = XINS_COV;   /*JSO 05/14/2007 added for reservists logic*/
              /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
 IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
 IF DBENCAT IN('GRD','IGR') AND H&FY.003 = 3 THEN DO;
   NXNS_COV = 3;
   XENR_PCM = .;
 END;

 PRVVAR1=HP_PRNTL;      /** prenatal care  **/
 PRVVAR2=HP_MAMOG;      /** mammography   **/
 PRVVAR3=HP_PAP;       /** papsmear     **/
 PRVVAR4=HP_BP;        /** blood pressure **/
 /*RSG 04/2005 - delete cholesterol, renumber PRVVAR below*/
 PRVVAR5=H&FY.010;       /** access var 1  **/
 PRVVAR6=H&FY.007;       /** access var 2  **/

/**** set up numerator and denominator for proportions ****/

 ARRAY PRVVAR(*) PRVVAR1-PRVVAR&COMPNUM;
 ARRAY  NUMER(*) NUMV1-NUMV&COMPNUM;
 ARRAY  DENOM(*) DENV1-DENV&COMPNUM;

 DO I = 1 TO &COMPNUM;
   IF I LE  &CMPNUM1 THEN DO;
     IF PRVVAR(I) = 1 THEN NUMER(I) = 1;
     ELSE NUMER(I)=0;
     IF PRVVAR(I) IN (1, 2) THEN DENOM(I)=1;
   END;
   ELSE IF I GT &CMPNUM1 THEN DO;
```

G.83

```
      IF PRVVAR(I) IN (1, 2) THEN NUMER(I)=1;
      ELSE NUMER(I)=0;
      IF PRVVAR(I) > 0 THEN DENOM(I)=1;
    END;
  END;
  DROP I;
  DENV4=1;

  MHS= 1;  /* set up dummy for MHS-- include all observations */

/* 08/22/2006, JSO Create XOCONUS for 2005 data */
  IF    XREGION=13 THEN XOCONUS=1;
 ELSE IF XREGION=14 THEN XOCONUS=2;
 ELSE IF XREGION=15 THEN XOCONUS=3;

 IF XTNEXRG2 = 1 THEN DO;
   IF XSERVAFF = 1 THEN XSERVREG = 1;
   ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
   ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
   ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
   ELSE XSERVREG = 5;
 END;

 IF XTNEXRG2 = 2 THEN DO;
   IF XSERVAFF = 1 THEN XSERVREG = 6;
   ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
   ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
   ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
   ELSE XSERVREG = 10;
 END;

 IF XTNEXRG2 = 3 THEN DO;
   IF XOCONUS = 1 THEN XSERVREG = 11;
   ELSE IF XOCONUS = 2 THEN XSERVREG = 12;
   ELSE IF XOCONUS = 3 THEN XSERVREG = 13;
 END;

***********************************************************************
* Assign indicator of CONUS based on XTNEXRG2.  CONUS stands for
* Contential United States it but includes both Alaska and Hawaii.
* 1/16/09 Changed CONUS to USA.
***********************************************************************;
 IF XTNEXRG2 IN (1,2) THEN USA=1;                 /*RSG 01/2005 OVERALL CONUS*/

 ELSE IF XTNEXRG2 = 3 THEN USA=2;

* Prime enrollees    *;

 IF (NXNS_COV IN (1,2,6,13) AND H&FY.004>=2) THEN DO; /*AMK 2/19/14 added 13*/
   BGROUP=1;
   OUTPUT;
 END;
```

```
* Enrollees with military PCMs *; /*JSO 04/05/2007, added conditions for RC type*/
IF "&RCTYPE" = 'ReportCards' AND
   (XENR_PCM IN (1,2,6) AND H&FY.004>=2) THEN DO;
   BGROUP=2;
   OUTPUT;
  END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
   (XENR_PCM IN (1,2) AND H&FY.004>=2) THEN DO;
   BGROUP=2;
   OUTPUT;
  END;

* Enrollees with civilian PCMs *; /*JSO 04/05/2007, added conditions for RC type*/
IF "&RCTYPE" = 'ReportCards' AND
   (XENR_PCM IN (3,7) AND H&FY.004>=2) THEN DO;
   BGROUP=3;
   OUTPUT;
  END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
   ((XENR_PCM IN (3) AND H&FY.004>=2) OR NXNS_COV IN (3,9,10,14)) THEN DO;  /*JSO 07/30/2007, Added 9*/
   BGROUP=3;                                /*MER 07/12/11 Added 10*/ /*AMK 2/13/14 added  14*/
   OUTPUT;
  END;

* Nonenrollees *;

 IF NXNS_COV IN (3,9,10, 14) THEN DO; /*JSO 08/24/2006, Deleted 4,5*/
   BGROUP=4;          /*JSO 07/30/2007, Added 9*/  /*MER 07/12/11 Added 10*/ /*AMK 2/13/14 added
14*/
   OUTPUT;
  END;

* Active duty     *;

 IF XBNFGRP = 1 OR DBENCAT IN('IGR','GRD') THEN DO;
   BGROUP=5;      /*JSO 07/30/2007, added DBENCAT conditions*/
   OUTPUT;
  END;

* Active duty dependents  *;

 IF XBNFGRP = 2 OR DBENCAT IN('IDG','DGR') THEN DO;
   BGROUP=6;      /*JSO 07/30/2007, added DBENCAT conditions*/
   OUTPUT;
  END;

* Retirees  *;

 IF XBNFGRP IN (3,4) THEN DO;
   BGROUP=7;
   OUTPUT;
  END;
```

```
* All beneficiaries *;

 BGROUP=8;
 OUTPUT;
RUN;

DATA HCSDB;
SET &YRDATA;
RUN;

*******************************************************
*** First, calculate standard errors and create    ***
*** a file for each analytical unit              ***
*******************************************************;

PROC SORT DATA=HCSDB; BY TMP_CELL;
RUN;

*******************************************************
***** Sudaan macro to calculate standard errors  *****
***** there are three output datasets created    *****
***** (XTNEXRG2, XSERVREG, MHS, XSERVAFF)       *****
***** Note:  7/10/2000 use CONUS for MHS      *****
***** Note:  there are 8 variables and 8 groups *****
***** Note:  1/16/09 Changed CONUS to USA       *****
*******************************************************;

%MACRO A_SUDAAN(TABLEVAR);

*** set the number of levels in the proc descript ***;
*** for region or catchment               ***;

 %IF %UPCASE(&TABLEVAR)=XTNEXRG2 %THEN %DO;
   %LET ENDNUM=4;
   %LET PREF=S;      /** dataset prefix for service affiliation data   **/
 %END;
 %IF %UPCASE(&TABLEVAR)=XSERVREG %THEN %DO;
   %LET ENDNUM=&REGNUM;
   %LET PREF=R;      /** dataset prefix for region data    **/
 %END;
 %ELSE %IF %UPCASE(&TABLEVAR)=USA %THEN %DO;
   %LET ENDNUM=1;
   %LET PREF=C;      /** dataset prefix for CONUS data **/
 %END;
 %ELSE %IF %UPCASE(&TABLEVAR)=XSERVAFF %THEN %DO;
   %LET ENDNUM=5;    /** MER 11/03/2012 Change from 4 to 5 for Joint Service **/
   %LET PREF=M;
 %END;

 %DO I=1 %TO &GRPNUM;    /** 8 groups   **/

   %DO J=1 %TO &COMPNUM;  /** 6 variables **/
```

```
      DATA INDATA&I.&J(KEEP=&WGT MHS USA XSERVAFF XTNEXRG2 XSERVREG CACSMPL
                  XSERVAFF NUMV&J DENV&J TMP_CELL);
       SET HCSDB;
       WHERE XSERVREG > 0 AND BGROUP=&I AND DENV&J > 0;
       %IF %UPCASE(&TABLEVAR)=XSERVAFF %THEN %DO;
          IF XSERVAFF > 5 OR XSERVAFF = . THEN DELETE;  /*MER 11/03/2012 Changed from 4 to 5 for Joint
Service */
       %END;
       %IF %UPCASE(&TABLEVAR)=USA %THEN %DO;
          IF USA NE 1 THEN DELETE;
       %END;
       %IF %UPCASE(&TABLEVAR)=XTNEXRG2 %THEN %DO;
          IF XTNEXRG2 NOTIN (1,2,3,4) THEN DELETE;
       %END;
      RUN;

*** Calculate values for regions, catchment areas ****;

      PROC DESCRIPT DATA=INDATA&I.&J DESIGN=STRWR NOPRINT;
         WEIGHT &WGT;
         SETENV DECWIDTH=4;
         NEST TMP_CELL / MISSUNIT;
         VAR NUMV&J;
         TABLES &TABLEVAR;
         SUBGROUP &TABLEVAR;
         LEVELS &ENDNUM;
         OUTPUT SEMEAN/ TABLECELL=DEFAULT
         FILENAME=&PREF.GRP&I.V&J;
      RUN;

***** first, put all variables into one dataset for each group *****;

      DATA &PREF.GRP&I.V&J;
        SET &PREF.GRP&I.V&J;
        IF SEMEAN NE .;
        MHS=1;
      RUN;

      %IF &J=1 %THEN %DO;
        DATA &PREF.SEGRP&I;
          SET &PREF.GRP&I.V&J(KEEP=&TABLEVAR SEMEAN);
          GROUP=&I;
          IF SEMEAN NE .;
          RENAME SEMEAN = SERRV&J;
        RUN;
      %END;
      %ELSE %DO;
        DATA &PREF.SEGRP&I;
          MERGE &PREF.SEGRP&I &PREF.GRP&I.V&J(KEEP=&TABLEVAR SEMEAN);
          BY &TABLEVAR;
          GROUP=&I;
          RENAME SEMEAN = SERRV&J;
        RUN;
```

```
      %END;
    %END;

***** Put all data into one dataset  *****
***** Note:  changed output dataset  *****
***** to include group          *****;

    %IF &I=1 %THEN %DO;

      DATA &PREF.SERR;
        SET &PREF.SEGRP&I;
        KEEP GROUP &TABLEVAR SERRV1-SERRV&COMPNUM;
      RUN;
    %END;
    %ELSE %DO;

      DATA &PREF.SERR;
        SET &PREF.SERR
        &PREF.SEGRP&I;
      RUN;
    %END;

******** DEBUG PRINT   *******;

    %IF &DEBUG=Y %THEN %DO;
      %IF &I=&GRPNUM AND &PREF=R %THEN %DO;
        PROC PRINT DATA=&PREF.SERR;
          VAR &TABLEVAR GROUP SERRV1-SERRV&COMPNUM;
        RUN;
      %END;
    %END;

  %END;

%MEND A_SUDAAN;

%A_SUDAAN (USA);
%A_SUDAAN (XSERVAFF);
%A_SUDAAN (XSERVREG);
%A_SUDAAN (XTNEXRG2);

*******************************************************
*** Next, calculate correlation coefficients       ***
*** and create a file for each analytical unit      ***
*******************************************************;

%MACRO GETCORR(BYVAR);

 %IF %UPCASE(&BYVAR)=XTNEXRG2 %THEN %LET PREF=S;
 %ELSE %IF %UPCASE(&BYVAR)=XSERVREG %THEN %LET PREF=R;
 %ELSE %IF %UPCASE(&BYVAR)=USA %THEN %LET PREF=C;
 %ELSE %IF %UPCASE(&BYVAR)=XSERVAFF %THEN %LET PREF=M;
```

```
PROC SORT DATA=HCSDB; BY &BYVAR;
RUN;

%DO I = 1 %TO &GRPNUM;

  PROC CORR NOPRINT DATA=HCSDB OUTP=&PREF.CORRC&I;
    %IF %UPCASE(&BYVAR)=XSERVAFF %THEN %DO;
      WHERE BGROUP=&I AND 1 <= XSERVAFF <= 5;    /** MER 11/03/2012 Changed 4 to 5 for Joint Service **/
    %END;
    %IF %UPCASE(&BYVAR)=USA %THEN %DO;
      WHERE BGROUP=&I AND USA = 1;
    %END;
    %ELSE %DO;
      WHERE BGROUP=&I;
    %END;
    BY &BYVAR;
    VAR PRVVAR1-PRVVAR&COMPNUM;
    WITH PRVVAR1-PRVVAR&COMPNUM;
    WEIGHT &WGT;
  RUN;

  DATA &PREF.CORRC&I;
   SET &PREF.CORRC&I;
   WHERE _TYPE_="CORR";
   GROUP=&I;
   ARRAY OLD PRVVAR1-PRVVAR&COMPNUM;
   ARRAY NEW CORV1-CORV&COMPNUM;
   DO J = 1 TO &COMPNUM;
     NEW(J)=OLD(J);
   END;
   DROP J PRVVAR1-PRVVAR&COMPNUM;
  RUN;

  %IF &I=1 %THEN %DO;

    DATA &PREF.CORRC;
     SET &PREF.CORRC&I;
    RUN;

  %END;
  %ELSE %DO;

    DATA &PREF.CORRC;
     SET &PREF.CORRC
     &PREF.CORRC&I;
    RUN;

  %END;
  %IF &DEBUG=Y %THEN %DO;
    %IF &I=&COMPNUM AND &PREF=R %THEN %DO;
      PROC PRINT DATA=&PREF.CORRC;
        WHERE GROUP=1;
      RUN;
```

```
      %END;
    %END;
  %END;

*** Flatten dataset(for each region, condense matrix to one row) ***;

 %DO K=1 %TO &COMPNUM;

   DATA &PREF.CORR&K;
    SET &PREF.CORRC;
    WHERE _NAME_ = "PRVVAR&K";
    ARRAY CORR   (&COMPNUM) CORV1-CORV&COMPNUM;
    ARRAY CORR&K (&COMPNUM) CORV&K.1-CORV&K.&COMPNUM;
    DO L=1 TO &COMPNUM;
      CORR&K(L)=CORR(L);
    END;
    KEEP GROUP &BYVAR CORV&K.1-CORV&K.&COMPNUM;
   RUN;
   %IF &K=1 %THEN %DO;
     DATA &PREF.CORR;
      SET &PREF.CORR&K;
     RUN;
   %END;
   %ELSE %DO;
     DATA &PREF.CORR;
      MERGE &PREF.CORR(IN=IN_1) &PREF.CORR&K(IN=IN_2);
      BY GROUP &BYVAR;
     RUN;
   %END;
   %IF &DEBUG=Y %THEN %DO;
     %IF &PREF=R %THEN %DO;
       PROC PRINT DATA=&PREF.CORR;
        WHERE GROUP=1;
       RUN;
     %END;
   %END;
 %END;

%MEND GETCORR;

%GETCORR(USA);
%GETCORR(XSERVAFF);
%GETCORR(XSERVREG);
%GETCORR(XTNEXRG2);

*******************************************************
***  Macro to derive composites for each      *******
***  beneficiary group, level            *******
***  output one dataset for each group       *******
*******************************************************;

%MACRO GETPROP(BYVAR);
```

```
%LET START = %EVAL(&CMPNUM1+1);

%IF %UPCASE(&BYVAR)=XSERVREG %THEN %LET PREF=R;
%ELSE %IF %UPCASE(&BYVAR)=USA %THEN %LET PREF=C;
%ELSE %IF %UPCASE(&BYVAR)=XSERVAFF %THEN %LET PREF=M;
%ELSE %IF %UPCASE(&BYVAR)=XTNEXRG2 %THEN %LET PREF=S;

PROC MEANS NWAY NOPRINT DATA=HCSDB;
  CLASS BGROUP &BYVAR;
  VAR NUMV1-NUMV&COMPNUM
    DENV1-DENV&COMPNUM;
  WEIGHT &WGT;
  OUTPUT OUT= &PREF.CMPSUM(DROP = _TYPE_)
  SUM = ;
RUN;
PROC MEANS NWAY NOPRINT DATA=normdata;
*  CLASS &BYVAR;
  VAR
    DENV1-DENV&COMPNUM;
  WEIGHT &wgt.;
  OUTPUT OUT= &PREF.norms(DROP = _TYPE_)
  SUM =  nrmv1-nrmv&compnum;
RUN;

PROC MEANS NWAY NOPRINT DATA=HCSDB;
  CLASS BGROUP &BYVAR;
  VAR DENV1-DENV&COMPNUM;
  OUTPUT OUT=&PREF.DGFR(DROP=_TYPE_ _FREQ_)
  SUM= NOBSV1-NOBSV&COMPNUM;
RUN;

data &pref.cmpsum;

if _n_=1 then set &pref.norms;
set &pref.cmpsum;
proc sort data=&pref.cmpsum; by bgroup &byvar;
 DATA &PREF.CMPSUM;
   MERGE &PREF.CMPSUM(RENAME=(_FREQ_=N_OBS))
       &PREF.DGFR;
   BY BGROUP &BYVAR;
   %IF &PREF=M %THEN %DO;  /** added 7/10/2000 **/
     WHERE 1 <= XSERVAFF <= 5;  /** MER 11/03/2012 Changed 4 to 5 for Joint Service **/
   %END;
   %ELSE %IF &PREF=C %THEN %DO;
     WHERE USA = 1;
   %END;

  **** set up group variable  **;

  RENAME BGROUP=GROUP;;

  **** set up proportions, and composites **;
```

G.91

```
  ARRAY PROPORT PROPV1-PROPV&COMPNUM;
  ARRAY NUMER   NUMV1-NUMV&COMPNUM;
  ARRAY DENOM   DENV1-DENV&COMPNUM;
  array norm    nrmv1-nrmv&compnum;

  DO J=1 TO DIM(PROPORT);
    PROPORT(J) = NUMER(J)/DENOM(J);
  END;
  DROP J;

  **** composites **;

** added goalvars to datastep, 5/30/2000           ;
** taken out of temporary array for variance calculations;
** and used, kept as variables                ;

 GOALVAR1=&GOALVAR1;
 GOALVAR2=&GOALVAR2;
 GOALVAR3=&GOALVAR3;
 GOALVAR4=&GOALVAR4;
 GOALVAR5=&GOALVAR5;
 GOALVAR6=&GOALVAR6;
/*RSG 04/2005 - delete goal8 since chol eliminated*/

** the weight for preventive service is defined as the      ;
** proportion of the denominator for that service to the    ;                          ;
** composite denominator                    ;
** healthy people 2000 goals -- used as benchmarks       ;

 ARRAY   SVCWGT(&COMPNUM) WGTV1-WGTV&COMPNUM;
 ARRAY   BMARK(&COMPNUM) GOALVAR1-GOALVAR&COMPNUM;
 ARRAY WGTBMARK(&COMPNUM) WTDV1-WTDV&COMPNUM;
 array comp(&compnum) cmpv1-cmpv&compnum;
cpden1=sum(of nrmv1-nrmv&cmpnum1);
cpden2=sum(of nrmv&start-nrmv&compnum);
 DO K = 1 TO &COMPNUM;
    IF K < &START THEN SVCWGT(K)= norm(K)/CPDEN1;
    ELSE SVCWGT(K) = norm(K)/CPDEN2;
    WGTBMARK(K) = SVCWGT(K)*BMARK(K);
    comp(k)=svcwgt(k)*proport(k);
 END;
 DROP K;
 CPBMK1=SUM(OF WTDV1-WTDV&CMPNUM1);
 CPBMK2=SUM(OF WTDV&START-WTDV&COMPNUM);
 comp1=sum(of cmpv1-cmpv&cmpnum1);
comp2=sum(of cmpv&start-cmpv&compnum);
 DROP WGTV1-WGTV&COMPNUM WTDV1-WTDV&COMPNUM
    NUMV1-NUMV&COMPNUM;
 RUN;

 %IF &DEBUG=Y AND &PREF=R %THEN %DO;
    PROC PRINT DATA=&PREF.CMPSUM;  /* print out final dataset */
    RUN;                 /* for region to check    */
```

```
 %END;

%MEND GETPROP;

%GETPROP(USA);
%GETPROP(XSERVAFF);
%GETprop(XSERVREG);
%GETPROP(XTNEXRG2);

*******************************************************
** since MHS benchmarks will be displayed         ****
** set up adjustment factor to apply to           ****
** each analytical unit's composite benchmarks    ****
*******************************************************;


*******************************************************
***  Macro to merge 3 datasets for each       *******
***  called by analytical unit                *******
***  output final dataset for                 *******
***  XSERVAFF, XSERVREG, XTNEXRG2, MHS (USA)   *******
*******************************************************;

PROC FORMAT;  /*RSG 02/2005 - hardcoded in prog to have caps vs format in loadcahq.inc*/
  VALUE REGIONF
    0 = "USA MHS "
    1 = "EAST"
    2 = "WEST"
    3 = "OVERSEAS"
   ;
%MACRO GETSIG(BYVAR);

 %LET START = %EVAL(&CMPNUM1+1);
 %LET NEXT  = %EVAL(&CMPNUM1+2);

 %IF &BYVAR=XSERVREG %THEN %LET PREF=R;
 %ELSE %IF &BYVAR=USA %THEN %LET PREF=C;
 %ELSE %IF &BYVAR=XSERVAFF %THEN %LET PREF=M;
 %ELSE %IF &BYVAR=XTNEXRG2 %THEN %LET PREF=S;

 DATA OUT.&PREF.FINAL(KEEP= MAJGRP REGION REGCAT GOALVAR1-GOALVAR&COMPNUM
        SIGV1-SIGV&COMPNUM SCORV1-SCORV&COMPNUM
        CPSIG1-CPSIG&COMPCNT CP1SE CP2SE
        CSCOR1-CSCOR&COMPCNT CPBMK1-CPBMK&COMPCNT
        SERRV1-SERRV&COMPNUM CP1SE CP2SE
        COMP1 COMP2 PROPV1-PROPV&COMPNUM
        DFSCR1-DFSCR&COMPNUM DF_CP1 DF_CP2
        NOBSV1-NOBSV&COMPNUM CPOBS1-CPOBS&COMPCNT
        DENV1-DENV&COMPNUM CPDEN1-CPDEN&COMPCNT);

   FORMAT MAJGRP $30. REGION $30. REGCAT $30.; /* MER 11/11/12 - Updated REGION/REGCAT for Joint
Service facilities */
     MERGE &PREF.CMPSUM(IN=IN_PROP) &PREF.CORR
     &PREF.SERR;
```

G.93

```
     BY GROUP &BYVAR;
     IF IN_PROP;
%DO Z=1 %TO &COMPCNT;

     CSCOR&Z=COMP&Z.*100;

 %END;
 **  MAJGRP -- text field for group   **;
  IF    GROUP=1 THEN MAJGRP="Prime Enrollees          ";
  ELSE IF GROUP=2 THEN MAJGRP="Enrollees with Military PCM";
  ELSE IF GROUP=3 THEN MAJGRP="Enrollees with Civilian PCM";
  ELSE IF GROUP=4 THEN MAJGRP="Non-enrolled Beneficiaries ";
  ELSE IF GROUP=5 THEN MAJGRP="Active Duty            ";
  ELSE IF GROUP=6 THEN MAJGRP="Active Duty Dependents    ";
  ELSE IF GROUP=7 THEN MAJGRP="Retirees and Dependents    ";
  ELSE IF GROUP=8 THEN MAJGRP="All Beneficiaries          ";

 **** REGION AND REGCAT SETUP        **;
  %IF &PREF=S %THEN %DO;
     REGCAT=PUT(XTNEXRG2,REGIONF.);
     REGION=PUT(XTNEXRG2,REGIONF.);
  %END;
  %else %IF &PREF=C %THEN %DO;
     REGION="USA MHS";
     REGCAT="USA MHS";
  %END;
  %ELSE %IF &PREF=R %THEN %DO;
     REGION=PUT(XSERVREG, SERVREGO.);
     REGCAT=PUT(XSERVREG, SERVREGO.);
  %END;
  %ELSE %IF &PREF=M %THEN %DO;                 /** RSG 1/2005 Add codes for service grouping **/
     REGION=PUT(XSERVAFF,XSERVAFF.);
     REGCAT=PUT(XSERVAFF,XSERVAFF.);
  %END;

  **** setup t statistics, degreees of freedom    **;
  ARRAY   TSTAT{&COMPNUM} T_V1-T_V&COMPNUM;
  ARRAY   BMARK{&COMPNUM} GOALVAR1-GOALVAR&COMPNUM;
  ARRAY  STNDERR{&COMPNUM} SERRV1-SERRV&COMPNUM;
  ARRAY  SERRSQR{&COMPNUM} SESQV1-SESQV&COMPNUM;
  ARRAY    DEGF{&COMPNUM} DFSCR1-DFSCR&COMPNUM;
  ARRAY    DENOM{&COMPNUM} DENV1-DENV&COMPNUM;
  ARRAY  PROPORT{&COMPNUM} PROPV1-PROPV&COMPNUM;
  ARRAY    SCORE{&COMPNUM} SCORV1-SCORV&COMPNUM;
  ARRAY   PVALUE{&COMPNUM} PVALV1-PVALV&COMPNUM;
  ARRAY     SIG{&COMPNUM} SIGV1-SIGV&COMPNUM;
  ARRAY    NOBS{&COMPNUM} NOBSV1-NOBSV&COMPNUM;
  array    norm{&compnum} nrmv1-nrmv&compnum;

  ** get the item variance, t-statistics, df, p-values **;
  ** and whether significant                   **;
  DO I=1 TO &COMPNUM;
     SERRSQR{I}=STNDERR{I}**2;  /* Item variance */
```

```
    SCORE{I}=PROPORT{I}*100;   /* Score (prop. * 100) */
    IF STNDERR{I} > 0 THEN TSTAT{I}=(PROPORT{I}-BMARK{I})/STNDERR{I};
    ELSE TSTAT{I}=.;
    DEGF{I}=NOBS{I}-1;
    PVALUE{I}=(1-PROBT(ABS(TSTAT{I}),DEGF{I}))*2;
    IF PVALUE{I} GE .05 THEN SIG{I}=0;
    ELSE IF PVALUE{I} < .05 THEN DO;
       IF PROPORT{I} > BMARK{I} THEN SIG{I}=1;
       IF PROPORT{I} < BMARK{I} THEN SIG{I}=-1;
    END;
  END;
  DROP I;

%DO I=1 %TO &COMPNUM.&COMPNUM.;
                 SEMV&I. = 0;
%END;

 ** multiply each item pair std. errors and correlation coefficients **;
 ** preventive care composite                         **;
ARRAY SEwC1{&CMPNUM1} SEwV1-SEwV&CMPNUM1;

 ARRAY SERRC1{&CMPNUM1} SERRV1-SERRV&CMPNUM1;
 %DO J = 1 %TO &CMPNUM1;
   ARRAY  SMEAN&J{&CMPNUM1} SEMV&J.1-SEMV&J.&CMPNUM1;
   ARRAY CORVAR&J{&CMPNUM1} CORV&J.1-CORV&J.&CMPNUM1;
   DO K=1 TO &CMPNUM1;
     SMEAN&J{K}=SERRV&J*SERRC1{K}*CORVAR&J{K}*norm{K}*nrmV&J;
   END;
   SEMV&J.&J=0;
    sewv&j= (nrmV&j**2)*SESQV&j;/** don't count in final standard error calculation **/
 %END;
 DROP K;
 ** multiply each item pair std. errors and correlation coefficients **;
 ** access to care composite                       **;

 ARRAY SERRC2{&CMPNUM2} SERRV&START-SERRV&COMPNUM;
 %DO L = &START %TO &COMPNUM;
   ARRAY  SMEAN&L{&CMPNUM2} SEMV&L.&START-SEMV&L.&COMPNUM;
   ARRAY CORVAR&L{&CMPNUM2} CORV&L.&START-CORV&L.&COMPNUM;
   DO M=1 TO &CMPNUM2;
     SMEAN&L{M}=SERRV&L*SERRC2{M}*CORVAR&L{M};
   END;
   SEMV&L.&L=0;  /** don't coun't in final standard error calculation **/
 %END;
 DROP M;
 ** calculate composite t-statistic, pvalue, and whether significant **;
 ** for composites                                  **;

      %DO P=1 %TO &COMPCNT;
    %IF &P=1 %THEN %DO;
    ** composite standard error comprised of two parts **;
      CP&P.SE1=SUM(OF SEwV1-SEwV&CMPNUM1);
      CP&P.SE2=SUM(OF SEMV11-SEMV&CMPNUM1.&CMPNUM1.);
```

```
            cpobs&p=sum(of nobsv1-nobsv&cmpnum1);
        %END;
        %ELSE %DO;
            CP&P.SE1=SUM(OF SESQV&START-SESQV&COMPNUM);
            CP&P.SE2=SUM(OF SEMV&START.&START.-SEMV&COMPNUM.&COMPNUM.);
            cpobs&p=sum(of nobsv&start-nobsv&compnum);
        %END;
    ** add the two parts of the composite standard error  **;
    ** calculate the composite t statistics and p-values  **;
    ** determine whether differences are sigificant       **;

        CP&P.SE=SQRT(CP&P.SE2+CP&P.SE1)/CPden&P;
        IF CP&P.SE > 0 THEN CP_T&P.=(COMP&P.-CPBMK&P.)/CP&P.SE;
        ELSE CP_T&P.= .;
        DF_CP&P.=CPOBS&P. - 1;
        CP_P&P.=(1-PROBT(ABS(CP_T&P.),DF_CP&P.))*2;
        IF CP_P&P GE .05 THEN CPSIG&P=0;
        ELSE IF CP_P&P < .05 THEN DO;
            IF COMP&P. > CPBMK&P THEN CPSIG&P= 1;
            ELSE IF COMP&P. < CPBMK&P THEN CPSIG&P=-1;
        END;
    %END;

    OUTPUT OUT.&PREF.FINAL;
 RUN;

%MEND GETSIG;

%GETSIG(USA);
%GETSIG(XTNEXRG2);
%GETSIG(XSERVREG);
%GETSIG(XSERVAFF);
```

G.4.B Q3FY2020\PROGRAMS\REPORTCARDS\MPR_ADULTQ3FY2020\ SMOKING_BMI.sas - Calculates Healthy Behavior Composite Scores - Run Quarterly.

```
*************************************************************************
*
* Project:  DoD Reporting and Analysis 6077-410
* Program:  SMOKING_BMI.SAS
* Purpose:  Calculate Smoking Rate and Smoking Cessation
*        for each region-service affiliation and
*        conus-service affiliation groups.
*
* Date:    1/31/2005
* Author:   Regina Gramss
*
* Modified: 38) 11/03/2012 By Mike Rudacille Updated for handling of Joint Service facilities
*        39) 12/28/2012 By Aimee Valenzuela Updated for Q1FY2013
*        40) 03/23/2013 By Mike Rudacille, Updated %LET DSN HCS132_2 and CURRENT January, 2013.
*        41) 09/20/2014 By Amanda Kudis, Updated for Q1FY2014.
*        42) 02/27/2014 By Amanda Kudis, Use XSERVAFF from database
*        43) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                               Replaced RCTYPE with &PC.ReportCards
                               Changed BENCH to "&BENCHINPUT."
                               Changed INNORM to "&NORMDATA."
                               Changed DSN to &DATAFILE.
                               Changed DSN_NORM to &NORMFILE.
                               Changed CURRENT to &PERIOD4.
                               Changed C13_ZAMV to &BENCHFILE.
                               Changed first LIBRARY to "&NORMFMTLIB."
                               Removed line referencing JOINTSRV in the NORMDATA step.
                               Changed H11 to H&NY.
                               Added NSUM = ROUND(NSUM,1)
*        44) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*                              Corrected capitalization and backslashes on LIBNAME and INC
filepaths.
*           Changed LIBRARY to &FMTPATH.
*        45) December 12, 2017 by Matt Turbyfill,  North and South changed to East-.
*        46) February 9, 2018 by Matt Turbyfill, Changed limitation for new benchmark data
*        46) August 5, 2019 by Matt Turbyfill, XTNEXREG replaced by XTNEXRG2
*        Joint Service replaced by DHA
*        JOINTSRV replaced by DHASRV
*        East-North and East-South replaced by East
*        TOTCON definition changed to match XTNEXRG2
*
*  Inputs:  1) HCS11A_2.sas7bdat - Annual 2011 Survey data
*        2) HCS141_2.sas7bdat - Q1 fy 2014 Survey data
*        3) AC2011DB.sas7bdat - 2011 CAHPS Benchmark Data
*
*  Output:  1) SMOKE.sas7bdat
*
*
*************************************************************************;
```

```
OPTIONS COMPRESS=YES NOCENTER LS=124 PS=74 SOURCE SOURCE2 NOFMTERR;

/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards          ***/
%LET RCTYPE = &PC.ReportCards;

LIBNAME BENCH     "&BENCHINPUT.";
LIBNAME INDAT     "&datapath.";
LIBNAME INNORM    "&NORMDATA.";
LIBNAME OUT       ".";

%LET DSN=&DATAFILE.;
%LET DSN_NORM=&NORMFILE.;           /*JSO 08/24/2006, Changed Regions, 16 to 15*/ /* MER 11/03/12 15
to 18 */
%LET REGNUM = 18;              /*RSG 01/2005 Number of Regions (with serv affiliation)*/
%LET CONNUM = 4;              /*RSG 01/2005 Number of Conus level (with serv affiliation)*/
%LET SRVNUM = 5;             /*MER 11/03/2012 Number of service affiliations, including Joint Service */
%LET CURRENT = &PERIOD4.;
%LET WGT = FWRWT;
%LET NORMWGT = CFWT;
%LET CATCHNUM=9999;            /*RSG 02/2005 number of catchment areas **/

DATA BENCHA01;
  SET BENCH.&BENCHFILE.;
  if disp =0 and responsemode in (1 3) ;  /*20180208 - MBT - Limitation for complete eligibles receiving mail or
internet survey changed for new benchmark data*/
  if S46 in (1,2) & S47>=1 & S47<=4;  /*02/2006 RSG - REMOVED REQUIREMENT FOR ADDITIONAL VISIT (ACC22
FIELD)*/
  cessbnch=0;
  if S47>1 then cessbnch=1;

proc summary nway; class sub_id;
var cessbnch;
output out=tbench mean=;
proc print;
proc summary;
var cessbnch;
output out=tbench mean=;
proc print;
data _null_;
set tbench;
call symput('CNSLGOAL',cessbnch);
run;

%LET NSMKGOAL = 0.88;

%LET BMIGOAL  = 0.69;

%INCLUDE "../../LoadWeb/LOADCAHQ.INC";

PROC FORMAT;
VALUE AGEF
LOW - 34 = 1
 35 - 49 = 2
```

```
  50 - 64 = 3
  65 - HIGH = 4;

/* 08/22/2006 JSO Moved from the top of program for using Quarter vs. Annual Formats */
LIBNAME LIBRARY "&NORMFMTLIB.";

DATA NORMDATA (KEEP=TMP_CELL AGE_GRP XTNEXRG2 XSERVREG XSERVAFF
             SM_RATE SM_CESS SM_RTDN SM_CSDN  BMI_DN BMI
             TOTCON GROUP XSEXA &WGT. age_n MPCSMPL NXNS_COV);
             /* 05/10/2007 JSO Added NXNS_COV in the keep statement */
SET  INNORM.&DSN_NORM.(DROP=&WGT.); /* 4/4/2006, KRR added drop so CFWT can renamed/used */

LENGTH AGE_N AGE_GRP TMP_CELL 8.;

/***Revised for 2 regions***/
IF XTNEXRG2>1 THEN XTNEXRG2=XTNEXRG2-1;
else XTNEXRG2=XTNEXREG;

IF    XREGION=13 THEN XOCONUS=1; /* 08/24/2006, JSO Create XOCONUS for 2005 data */
ELSE IF XREGION=14 THEN XOCONUS=2;
ELSE IF XREGION=15 THEN XOCONUS=3;

TMP_CELL=STRATUM;

AGE_N = FIELDAGE;

AGE_GRP = PUT(AGE_N, AGEF.);
IF AGE_GRP < 4;

  IF SERVAFF = 'A' THEN XSERVAFF = 1;      *Army;
  ELSE IF SERVAFF = 'F' THEN XSERVAFF = 2;   *Air Force;
  ELSE IF SERVAFF = 'N' THEN XSERVAFF = 3;   *Navy;
  ELSE XSERVAFF = 4;                 *Other/unknown;

/*Joint services added for 2016 norm data*/
/*  IF PUT(XCATCH, JOINTSRV.)='1' THEN XSERVAFF=5; *Joint Service;*/
  IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA;

IF XTNEXRG2 = 1 THEN DO;
  IF XSERVAFF = 1 THEN XSERVREG = 1;
  ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
  ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
  ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
  ELSE XSERVREG = 5;
END;

IF XTNEXRG2 = 2 THEN DO;
  IF XSERVAFF = 1 THEN XSERVREG = 6;
  ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
  ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
  ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
  ELSE XSERVREG = 10;
END;
```

```
IF XTNEXRG2 = 3 THEN DO; /*JSO 08/22/2006, Changed Overseas Regions*/
   IF    XOCONUS = 1 THEN XSERVREG = 11;
   ELSE IF XOCONUS = 2 THEN XSERVREG = 12;
   ELSE IF XOCONUS = 3 THEN XSERVREG = 13;
END;

IF HP_SMKH3 IN (1,2) THEN DO;
   SM_RATE = 0;
   IF HP_SMKH3 = 2 THEN SM_RATE=1;
   SM_RTDN=1;
END;

/* MER 3/31/11 Start using HP_CESH3 instead of re-creating work already done in convarq */
IF HP_CESH3 IN (1,2) THEN DO;
   SM_CESS = 0;
   IF HP_CESH3 = 1 THEN SM_CESS=1;
   SM_CSDN=1;
END;

IF xbmicat > 0  THEN DO;
    BMI = 0;
    BMI_DN=1;
   IF xbmicat <=3 THEN BMI=1;
END;

IF XTNEXRG2 IN (1,2) THEN TOTCON=1;

ELSE IF XTNEXRG2 = 3 THEN TOTCON=2;

IF MPCSMPL = 3 THEN MPCSMPL = 2;  /* RSG 02/2006 GROUP WARRANT OFFICER WITH OFFICER */

RENAME &NORMWGT = &WGT;

IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

IF XTNEXRG2 = .    THEN DELETE;

IF XINS_COV NOT IN(1,2,3,6,9,10,11) THEN DELETE;  /*JSO 07/30/2007, Added 9*/ /*MER 07/12/11 Added
10,11*/

NXNS_COV = XINS_COV;          /*JSO 04/26/2007 added for reservists logic*/
                     /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
IF DBENCAT IN('GRD','IGR') AND H&NY.003 = 3 THEN DO;
   NXNS_COV = 3;
   XENR_PCM = .;
END;

* prime enrollees;
IF NXNS_COV IN (1,2,6) AND H&NY.004>=2 THEN DO;
   GROUP=1;
   OUTPUT;
```

```
END;

* enrollees with military pcms; /*JSO 04/05/2007, added conditions for RC type*/
IF "&RCTYPE" = 'ReportCards' AND
  XENR_PCM IN (1,2,6) AND H&NY.004>=2 THEN DO;
  GROUP=2;
  OUTPUT;
END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
  XENR_PCM IN (1,2) AND H&NY.004>=2 THEN DO;
  GROUP=2;
  OUTPUT;
END;

* enrollees with civilian pcms; /*JSO 04/05/2007, added conditions for RC type*/
IF "&RCTYPE" = 'ReportCards' AND
  XENR_PCM = 3 AND H&NY.004>=2 THEN DO;
  GROUP=3;
  OUTPUT;
END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
  ((XENR_PCM = 3 AND H&NY.004>=2) OR NXNS_COV IN (3,9,10)) THEN DO; /*JSO 07/30/2007, Added 9*/
  GROUP=3;                                /*MER 07/12/11, Added 10*/
  OUTPUT;
END;

* nonenrollees;
IF NXNS_COV IN (3,9,10) THEN DO; /*JSO 08/24/2006, Deleted 4,5*/
  GROUP=4;            /*JSO 07/30/2007, Added 9*/ /*MER 07/12/11, Added 10*/
  OUTPUT;
END;

* active duty;
IF XBNFGRP = 1 OR DBENCAT IN('IGR','GRD') THEN DO;
  GROUP=5;     /*JSO 07/30/2007, added DBENCAT conditions*/
  OUTPUT;
END;

* active duty dependents;
IF XBNFGRP = 2 OR DBENCAT IN('IDG','DGR')THEN DO;
  GROUP=6;     /*JSO 07/30/2007, added DBENCAT conditions*/
  OUTPUT;
END;

* retirees;
IF XBNFGRP IN (3,4) THEN DO;
  GROUP=7;
  OUTPUT;
END;

* all beneficiaries;
GROUP=8;
OUTPUT;
```

```
RUN;

/* 08/22/2006 JSO Moved from the top of program for using Quarter vs. Annual Formats */
LIBNAME LIBRARY "&FMTPATH.";

DATA SMOKE (KEEP=TMP_CELL AGE_GRP XTNEXRG2 XSERVREG XSERVAFF TOTCON GROUP
         SM_RATE SM_CESS SM_RTDN SM_CSDN XSEXA &WGT BMI_DN BMI
         MPCSMPL NXNS_COV);/* 05/10/2007 JSO Added NXNS_COV in the keep statement */
SET INDAT.&DSN.;
LENGTH AGE_N AGE_GRP TMP_CELL 8.;

/* MER 4/20/09 - Restrict dataset to just non-zero V4 weights */
IF &WGT <= 0 THEN DELETE;

TMP_CELL=STRATUM;

AGE_N = FIELDAGE;

AGE_GRP = PUT(AGE_N, AGEF.);

IF AGE_GRP < 4;
IF SERVAFF='A' THEN XSERVAFF=1;          *Army;
  ELSE IF SERVAFF='F' THEN XSERVAFF=2;    *Air Force;
  ELSE IF SERVAFF='N' THEN XSERVAFF=3;    *Navy;
  ELSE XSERVAFF=4;

/*IF PUT(XCATCH, JOINTSRV.)='1' THEN XSERVAFF=5; *Joint Service;*/
IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA;

IF XTNEXRG2 = 1 THEN DO;
  IF XSERVAFF = 1 THEN XSERVREG = 1;
  ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
  ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
  ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
  ELSE XSERVREG = 5;
END;

IF XTNEXRG2 = 2 THEN DO;
  IF XSERVAFF = 1 THEN XSERVREG = 6;
  ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
  ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
  ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
  ELSE XSERVREG = 10;
END;

IF XTNEXRG2 = 3 THEN DO;
  IF XOCONUS = 1 THEN XSERVREG = 11;
  ELSE IF XOCONUS = 2 THEN XSERVREG = 12;
  ELSE IF XOCONUS = 3 THEN XSERVREG = 13;
END;

IF XTNEXRG2 IN (1,2) THEN TOTCON=1;
```

```
ELSE IF XTNEXRG2=3 THEN TOTCON=2;

IF MPCSMPL = 3 THEN MPCSMPL = 2;  /* RSG 02/2006 GROUP WARRANT OFFICER WITH OFFICER */

IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

IF XTNEXRG2 = . THEN DELETE;

IF XINS_COV NOT IN(1,2,3,6,9,10,13,14) THEN DELETE;  /*JSO 07/30/2007, Added 9*/ /*MER 07/12/11, Added
10*/
                             /*AMK 2/10/14 removed 11, added 13/14*/

NXNS_COV = XINS_COV;           /*JSO 04/26/2007 added for reservists logic*/
                   /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
IF DBENCAT IN('GRD','IGR') AND H&FY.003 = 3 THEN DO;
  NXNS_COV = 3;
  XENR_PCM = .;
END;

IF HP_SMKH3 IN (1,2) THEN DO;
  SM_RATE = 0;
  IF HP_SMKH3 = 2 THEN SM_RATE=1;
  SM_RTDN=1;
END;

/* MER 3/31/11 Start using HP_CESH3 instead of re-creating work already done in convarq */
IF HP_CESH3 IN (1,2) THEN DO;
  SM_CESS = 0;
  IF HP_CESH3 = 1 THEN SM_CESS=1;
  SM_CSDN=1;
END;

IF xbmicat > 0  THEN DO;
   BMI = 0;
   BMI_DN=1;
  IF xbmicat <=3 THEN BMI=1;
END;

* prime enrollees;
IF NXNS_COV IN (1,2,6,13) AND H&FY.004>=2 THEN DO; /*AMK 2/19/14 added 13*/
  GROUP=1;
  OUTPUT;
END;

* enrollees with military pcms; /*JSO 04/05/2007, added conditions for RC type*/
IF "&RCTYPE" = 'ReportCards' AND
  XENR_PCM IN (1,2,6) AND H&FY.004>=2 THEN DO;
  GROUP=2;
  OUTPUT;
END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
```

```
    XENR_PCM IN (1,2) AND H&FY.004>=2 THEN DO;
    GROUP=2;
    OUTPUT;
END;

* enrollees with civilian pcms; /*JSO 04/05/2007, added conditions for RC type*/
IF "&RCTYPE" = 'ReportCards' AND
   XENR_PCM = 3 AND H&FY.004>=2 THEN DO;
    GROUP=3;
    OUTPUT;
END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
   ((XENR_PCM = 3 AND H&FY.004>=2) OR NXNS_COV IN (3,9,10,14)) THEN DO; /*JSO 07/30/2007, Added 9*/
    GROUP=3;                                  /*MER 07/12/11, Added 10*//*AMK 2/13/14 added 14*/
    OUTPUT;
END;

* nonenrollees;
IF NXNS_COV IN (3,9,10,14) THEN DO; /*JSO 08/24/2006, Deleted 4,5*/
    GROUP=4;          /*JSO 07/30/2007, Added 9*/  /*MER 07/12/11, Added 10*//*AMK 2/13/14 added 14*/
    OUTPUT;
END;

* active duty;
IF XBNFGRP = 1 OR DBENCAT IN('IGR','GRD') THEN DO;
    GROUP=5;      /*JSO 07/30/2007, added DBENCAT conditions*/
    OUTPUT;
END;

* active duty dependents;
IF XBNFGRP = 2 OR DBENCAT IN('IDG','DGR') THEN DO;
    GROUP=6;      /*JSO 07/30/2007, added DBENCAT conditions*/
    OUTPUT;
END;

* retirees;
IF XBNFGRP IN (3,4) THEN DO;
    GROUP=7;
    OUTPUT;
END;

* all beneficiaries;
GROUP=8;
OUTPUT;

RUN;

PROC SORT DATA=SMOKE;
BY TMP_CELL;
PROC SORT DATA=NORMDATA;
BY TMP_CELL;
RUN;
```

```
%MACRO A_SUDAAN(TABLEVAR,SMOKE,SMOKEVAR,DEN);

%IF %UPCASE(&TABLEVAR)=XSERVREG %THEN %DO;
   %LET ENDNUM=&REGNUM;
   %LET PREF=R;
%END;
%ELSE %IF %UPCASE(&TABLEVAR)=XSERVAFF %THEN %DO;
   %LET ENDNUM=&SRVNUM;
   %LET PREF=M;
%END;
%ELSE %IF %UPCASE(&TABLEVAR)=XTNEXRG2 %THEN %DO;
   %LET ENDNUM=&CONNUM;
   %LET PREF=S;
%END;

%ELSE %IF %UPCASE(&TABLEVAR)=TOTCON %THEN %LET PREF=C;

%DO I = 1 %TO 8;

   DATA INDAT&I.(KEEP=&WGT XSERVAFF XSERVREG AGE_GRP XSEXA MPCSMPL
               &SMOKEVAR. &DEN. TMP_CELL XTNEXRG2);
   SET SMOKE;
   WHERE XSERVREG > 0 AND GROUP=&I. AND &DEN. >= 0;
     %IF %UPCASE(&TABLEVAR) = XSERVAFF %THEN %DO;
        IF XSERVAFF > 5 OR XSERVAFF = . THEN DELETE; /* MER 11/3/12 - Changed 4 to 5 */
     %END;
     %IF %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
        IF TOTCON NE 1 THEN DELETE;
     %END;
     %IF %UPCASE(&TABLEVAR) = XTNEXRG2 %THEN %DO;
        IF XTNEXRG2 NOTIN (1,2,3,4) THEN DELETE;
     %END;
   RUN;

    DATA NORMDAT&I.(KEEP=&WGT XSERVAFF XSERVREG AGE_GRP XSEXA &SMOKEVAR. &DEN.
               TMP_CELL XTNEXRG2 MPCSMPL);
      SET NORMDATA;
        WHERE XSERVREG > 0 AND GROUP=&I.;


        %IF %UPCASE(&TABLEVAR) = XSERVAFF %THEN %DO;
          IF XSERVAFF > 5 OR XSERVAFF = . THEN DELETE; /* MER 11/3/12 - Changed 4 to 5 */
        %END;
       %IF %UPCASE(&TABLEVAR) = XTNEXRG2 %THEN %DO;
         IF XTNEXRG2 NOTIN (1,2,3,4) THEN DELETE;
       %END;

      RUN;

    %IF %UPCASE(&SMOKE) NE CS AND %UPCASE(&TABLEVAR) NE TOTCON %THEN %DO;
         PROC DESCRIPT DATA=INDAT&I. DESIGN=STRWR NOPRINT;
         WEIGHT &WGT;
         SETENV DECWIDTH=4;
```

```
            NEST TMP_CELL / missunit;
            VAR &SMOKEVAR;
            TABLES AGE_GRP*XSEXA*MPCSMPL*&TABLEVAR.;
            SUBGROUP AGE_GRP XSEXA MPCSMPL &TABLEVAR.;
            LEVELS 8 2 2 &ENDNUM.;
            OUTPUT  SEMEAN MEAN wsum nsum
                / TABLECELL=DEFAULT REPLACE
                    FILENAME=&PREF.GRP&I.&SMOKE.;
            RUN;
    %END;
    %ELSE %IF %UPCASE(&SMOKE) NE CS AND %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
            PROC DESCRIPT DATA=INDAT&I. DESIGN=STRWR NOPRINT;
            WEIGHT &WGT;
            SETENV DECWIDTH=4;
            NEST TMP_CELL / missunit;
            VAR &SMOKEVAR;
            TABLES AGE_GRP*XSEXA*MPCSMPL;
            SUBGROUP AGE_GRP XSEXA MPCSMPL;
            LEVELS 3 2 2;
            OUTPUT  SEMEAN MEAN wsum nsum
                / TABLECELL=DEFAULT REPLACE
                    FILENAME=&PREF.GRP&I.&SMOKE.;
            RUN;
    %END;

%IF %UPCASE(&SMOKE) NE CS %THEN %DO;

    DATA &PREF.SER_&I.&SMOKE.;
    SET &PREF.GRP&I.&SMOKE.;
    GROUP=&I.;
    IF SEMEAN NE .;
    %IF %UPCASE(&TABLEVAR) NE TOTCON %THEN %DO;
        KEEP &TABLEVAR. GROUP AGE_GRP XSEXA MPCSMPL SEMEAN MEAN wsum nsum;
    %END;
    %IF %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
        TOTCON=1;
        KEEP TOTCON GROUP AGE_GRP XSEXA MPCSMPL SEMEAN MEAN wsum nsum;
    %END;
    RUN;

    /* CREATE WEIGHTS FROM 2005 DATA*/
    proc summary data=normdat&i. nway;
        var &WGT;
        where &den>0;
        class age_grp xsexa MPCSMPL;
        output out=norm_&i. sum=normwt;

        proc sort data=&pref.ser_&i.&smoke.;
        by age_grp xsexa mpcsmpl;

        data &pref.ser_&i.&smoke.;
        merge &pref.ser_&i.&smoke.(in=gin) norm_&i.;
        by age_grp xsexa mpcsmpl;
```

```
        if gin;
        wsum=wsum/normwt;
        nsum=nsum/normwt;
        sesq=normwt*semean**2;
        run;

        proc summary data=&pref.ser_&i.&smoke. nway;
        var mean semean sesq wsum nsum;
        class &tablevar.;
        weight normwt;
        output out=&pref.sert&i.&smoke. mean(mean sesq)= sum(wsum nsum)= sumwgt(semean)=;
        run;

    data &pref.sert&i.&smoke;
      set &pref.sert&i.&smoke;
      group=&i.;
          semean=sqrt(sesq/semean);
                                    NSUM = ROUND(NSUM,1);
      drop _type_ _freq_;
    run;

    %IF &I. = 1 %THEN %DO;

      DATA &PREF._&SMOKE.;
      SET &PREF.SERT&I.&SMOKE.;
        RUN;
    %END;
    %ELSE %DO;

      DATA &PREF._&SMOKE.;
          SET &PREF._&SMOKE. &PREF.SERT&I.&SMOKE.;
      RUN;

      PROC SORT DATA=&PREF._&SMOKE.;
      BY GROUP;
      RUN;

    %END;

%END;
  %IF %UPCASE(&SMOKE) = CS AND %UPCASE(&TABLEVAR) NE TOTCON %THEN %DO;
        PROC DESCRIPT DATA=INDAT&I. DESIGN=STRWR NOPRINT;
        WEIGHT &WGT;
        SETENV DECWIDTH=4;
        NEST TMP_CELL / missunit;
        VAR &SMOKEVAR;
        TABLES AGE_GRP*XSEXA*&TABLEVAR.;
        SUBGROUP AGE_GRP XSEXA &TABLEVAR.;
        LEVELS 3 2 &ENDNUM.;
        OUTPUT  SEMEAN MEAN wsum nsum
            / TABLECELL=DEFAULT REPLACE
              FILENAME=&PREF.GRP&I.&SMOKE.;
        RUN;
```

```
        %END;
        %ELSE %IF %UPCASE(&SMOKE) = CS AND %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
                PROC DESCRIPT DATA=INDAT&I. DESIGN=STRWR NOPRINT;
                WEIGHT &WGT;
                SETENV DECWIDTH=4;
                NEST TMP_CELL / missunit;
                VAR &SMOKEVAR;
                TABLES AGE_GRP*XSEXA;
                SUBGROUP AGE_GRP XSEXA;
                LEVELS 3 2 ;
                OUTPUT  SEMEAN MEAN wsum nsum
                    / TABLECELL=DEFAULT REPLACE
                       FILENAME=&PREF.GRP&I.&SMOKE.;
                RUN;
        %END;

%IF %UPCASE(&SMOKE) = CS %THEN %DO;

        DATA &PREF.SER_&I.&SMOKE.;
        SET &PREF.GRP&I.&SMOKE.;
        GROUP=&I.;
        IF SEMEAN NE .;
        %IF %UPCASE(&TABLEVAR) NE TOTCON %THEN %DO;
          KEEP &TABLEVAR. GROUP AGE_GRP XSEXA SEMEAN MEAN wsum nsum;
        %END;
        %IF %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
          TOTCON=1;
          KEEP TOTCON GROUP AGE_GRP XSEXA SEMEAN MEAN wsum nsum;
        %END;
        RUN;

        /* CREATE WEIGHTS FROM 2005 DATA*/
        proc summary data=normdat&i. nway;
            var &WGT;
            where &den>0;
            class age_grp xsexa;
            output out=norm_&i. sum=normwt;

            proc sort data=&pref.ser_&i.&smoke.;
            by age_grp xsexa;

            data &pref.ser_&i.&smoke.;
            merge &pref.ser_&i.&smoke.(in=gin) norm_&i.;
            by age_grp xsexa;
            if gin;
            wsum=wsum/normwt;
            nsum=nsum/normwt;
            sesq=normwt*semean**2;
            run;

            proc summary data=&pref.ser_&i.&smoke. nway;
            var mean semean sesq wsum nsum;
            class &tablevar.;
```

```
        weight normwt;
        output out=&pref.sert&i.&smoke. mean(mean sesq)= sum(wsum nsum)= sumwgt(semean)=;
        run;

    data &pref.sert&i.&smoke;
      set &pref.sert&i.&smoke;
      group=&i.;
          semean=sqrt(sesq/semean);
      drop _type_ _freq_;
    run;

    %IF &I. = 1 %THEN %DO;

    DATA &PREF._CESS;
    SET &PREF.SERT&I.&SMOKE.;
    RUN;
    %END;
    %ELSE %DO;

    DATA &PREF._CESS;
        SET &PREF._CESS &PREF.SERT&I.&SMOKE.;
      RUN;

    PROC SORT DATA=&PREF._CESS;
    BY GROUP;
    RUN;

    %END;

  %END;
%END;

%MEND;

%A_SUDAAN(XSERVAFF,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(XSERVAFF,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(XSERVAFF,BM,BMI,BMI_DN);
%A_SUDAAN(XSERVREG,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(XSERVREG,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(XSERVREG,BM,BMI,BMI_DN);
%A_SUDAAN(XTNEXRG2,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(XTNEXRG2,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(XTNEXRG2,BM,BMI,BMI_DN);
%A_SUDAAN(TOTCON,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(TOTCON,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(TOTCON,BM,BMI,BMI_DN);

%MACRO ADDIT(PREF, TYPE);

DATA &PREF._&TYPE;
SET &PREF._&TYPE;
LENGTH BENEFIT $34. BENTYPE $50.;
```

```
    BENEFIT="Healthy Behaviors";
      %IF &TYPE=RT %THEN %DO;
        BENTYPE="Non-Smoking Rate";
      %END;
      %IF &TYPE=CESS %THEN %DO;
        BENTYPE="Counselled To Quit";
      %END;
      %IF &TYPE = BM %THEN %DO;
        BENTYPE = "Percent Not Obese";
      %END;
    RUN;

    %MEND;

    %ADDIT(C,RT);
    %ADDIT(C,CESS);
    %ADDIT(C,BM);
    %ADDIT(M,RT);
    %ADDIT(M,CESS);
    %ADDIT(M,BM);
    %ADDIT(R,RT);
    %ADDIT(R,CESS);
    %ADDIT(R,BM);
    %ADDIT(S,RT);
    %ADDIT(S,CESS);
    %ADDIT(S,BM);

    %MACRO MAKEDATA(PREF, TABLEVAR);
      DATA &PREF._SMOKE;
       SET &PREF._RT
         &PREF._CESS
         &PREF._BM
    ;

      LENGTH MAJGRP $30. REGION REGCAT $30.; /* MER 11/11/12 - Updated REGION/REGCAT for Joint Service
    facilities */

      IF     GROUP=1 THEN MAJGRP="Prime Enrollees          ";
      ELSE IF GROUP=2 THEN MAJGRP="Enrollees with Military PCM";
      ELSE IF GROUP=3 THEN MAJGRP="Enrollees with Civilian PCM";
      ELSE IF GROUP=4 THEN MAJGRP="Non-enrolled Beneficiaries ";
      ELSE IF GROUP=5 THEN MAJGRP="Active Duty             ";
      ELSE IF GROUP=6 THEN MAJGRP="Active Duty Dependents    ";
      ELSE IF GROUP=7 THEN MAJGRP="Retirees and Dependents   ";
      ELSE IF GROUP=8 THEN MAJGRP="All Beneficiaries        ";

      %IF &TABLEVAR = XSERVAFF %THEN %DO;
        IF XSERVAFF = 1 THEN REGION = 'ARMY';
        IF XSERVAFF = 2 THEN REGION = 'AIR FORCE';
        IF XSERVAFF = 3 THEN REGION = 'NAVY';
        IF XSERVAFF = 4 THEN REGION = 'OTHER';
          IF XSERVAFF = 5 THEN REGION = 'DHA'; /* MBT 1/29/19 - Joint Service replaced by DHA */
```

```
    %END;

   %IF &TABLEVAR = XSERVREG %THEN %DO;
      REGION = PUT(XSERVREG,SERVREGO.); /*JSO 08/24/2006, Create new format for Overseas*/
   %END;

   %IF &TABLEVAR = XTNEXRG2 %THEN %DO;
      IF XTNEXRG2=1 THEN REGION="EAST"; /*2-region modification*/
      ELSE IF XTNEXRG2=2 THEN REGION="WEST";
      ELSE IF XTNEXRG2=3 THEN REGION="OVERSEAS";
   %END;

   %IF &TABLEVAR = TOTCON %THEN %DO;
      REGION = "USA MHS";
   %END;

      REGCAT=REGION;
      DROP GROUP &TABLEVAR;

   IF &TABLEVAR NE 0;

   RUN;

%MEND MAKEDATA;

%MAKEDATA(M,XSERVAFF);
%MAKEDATA(C,TOTCON);
%MAKEDATA(R,XSERVREG);
%MAKEDATA(S,XTNEXRG2);

DATA SMOKE;
SET M_SMOKE R_SMOKE S_SMOKE C_SMOKE;
SESQ = SEMEAN**2;
RENAME MEAN=SCORE wsum=n_wgt nsum=n_obs;
RUN;

/* CALCULATE COMPOSITE SCORE - AVERAGE RATE AND CESSATION*/

PROC SORT DATA=SMOKE;
BY MAJGRP REGION REGCAT;
RUN;

PROC SUMMARY DATA=SMOKE SUM;
BY MAJGRP REGION REGCAT;
VAR SCORE SESQ N_WGT N_OBS;
OUTPUT SUM= OUT=PRECOMP;
RUN;

DATA COMP(RENAME=(S_MEAN=SCORE S_SE=SEMEAN));
SET PRECOMP;
IF _FREQ_ = 3 THEN DO;
  S_MEAN=SCORE/3;
  S_SE=SQRT(SESQ)/3;
```

```
    N_OBS=round(N_OBS/3);
END;
ELSE DO;
  S_MEAN=.;
  S_SE=.;
END;
BENTYPE="Composite";
BENEFIT="Healthy Behaviors";
DROP _TYPE_ _FREQ_ SCORE SESQ;
RUN;

PROC SORT DATA=SMOKE;
BY MAJGRP BENTYPE;
RUN;

DATA BENCH;
SET SMOKE;
BY MAJGRP BENTYPE;
IF LAST.BENTYPE AND BENTYPE="Counselled To Quit" THEN DO;
  SCORE=&CNSLGOAL;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  DROP N_WGT N_OBS;
  OUTPUT;
END;
ELSE IF LAST.BENTYPE AND BENTYPE="Non-Smoking Rate" THEN DO;
  SCORE=&NSMKGOAL;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  DROP N_WGT N_OBS;
  OUTPUT;
END;
ELSE IF LAST.BENTYPE AND BENTYPE="Percent Not Obese" THEN DO;
  SCORE=&BMIGOAL;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  DROP N_WGT N_OBS;
  OUTPUT;
  SCORE=(SUM(&NSMKGOAL, &CNSLGOAL, &BMIGOAL))/3;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  BENTYPE="Composite";
  DROP N_WGT;
  OUTPUT;
END;
RUN;

PROC SORT DATA=SMOKE;
BY REGION BENTYPE;
```

```
RUN;

DATA BENCH2;
SET SMOKE;
BY REGION BENTYPE;
IF LAST.BENTYPE AND BENTYPE="Counselled To Quit" THEN DO;
  SCORE=&CNSLGOAL;
  SEMEAN=.;
  MAJGRP="Benchmark";
  DROP N_WGT N_OBS;
  OUTPUT;
END;
IF LAST.BENTYPE AND BENTYPE="Non-Smoking Rate" THEN DO;
  SCORE=&NSMKGOAL;
  SEMEAN=.;
  MAJGRP="Benchmark";
  DROP N_WGT;
  OUTPUT;
END;
IF LAST.BENTYPE AND BENTYPE="Percent Not Obese" THEN DO;
  SCORE=&BMIGOAL;
  SEMEAN=.;
  MAJGRP="Benchmark";
  DROP N_WGT;
  OUTPUT;
  SCORE=(SUM(&CNSLGOAL, &NSMKGOAL, &BMIGOAL))/3;
  SEMEAN=.;
  MAJGRP="Benchmark";
  BENTYPE="Composite";
  DROP N_WGT N_OBS;
  OUTPUT;
END;
RUN;

DATA SIG1;
SET SMOKE COMP;
IF BENTYPE='Non-Smoking Rate' THEN DO;
  IF SEMEAN > 0 THEN TSTAT=(SCORE-&NSMKGOAL)/SEMEAN;
  ELSE TSTAT=.;
  IF N_OBS > 1 THEN PVAL=(1-PROBT(ABS(TSTAT),(N_OBS-1)))*2;
  ELSE PVAL=.;

  IF PVAL GE 0.05 THEN SIG=0;
  ELSE IF PVAL < 0.05 THEN DO;
    IF SCORE > &NSMKGOAL THEN SIG = 1;
    ELSE IF SCORE < &NSMKGOAL THEN SIG = -1;
  END;
END;
IF BENTYPE='Counselled To Quit' THEN DO;
  IF SEMEAN > 0 THEN TSTAT=(SCORE-&CNSLGOAL)/SEMEAN;
  ELSE TSTAT=.;
  IF N_OBS > 1 THEN PVAL=(1-PROBT(ABS(TSTAT),(N_OBS-1)))*2;
  ELSE PVAL=.;
```

```
  IF PVAL GE 0.05 THEN SIG=0;
  ELSE IF PVAL < 0.05 THEN DO;
    IF SCORE > &CNSLGOAL THEN SIG = 1;
    ELSE IF SCORE < &CNSLGOAL THEN SIG = -1;
  END;
END;
IF BENTYPE='Percent Not Obese' THEN DO;
  IF SEMEAN > 0 THEN TSTAT=(SCORE-&BMIGOAL)/SEMEAN;
  ELSE TSTAT=.;
  IF N_OBS > 1 THEN PVAL=(1-PROBT(ABS(TSTAT),(N_OBS-1)))*2;
  ELSE PVAL=.;
  IF PVAL GE 0.05 THEN SIG=0;
  ELSE IF PVAL < 0.05 THEN DO;
    IF SCORE > &BMIGOAL THEN SIG = 1;
    ELSE IF SCORE < &BMIGOAL THEN SIG = -1;
  END;
END;
IF BENTYPE='Composite' THEN DO;
  IF SEMEAN > 0 THEN TSTAT=(SCORE-((SUM(&NSMKGOAL, &CNSLGOAL, &BMIGOAL))/3))/SEMEAN;
  ELSE TSTAT=.;
  IF N_OBS > 1 THEN PVAL=(1-PROBT(ABS(TSTAT),(N_OBS-1)))*2;
  ELSE PVAL=.;
  IF PVAL GE 0.05 THEN SIG=0;
  ELSE IF PVAL < 0.05 THEN DO;
    IF SCORE > ((SUM(&NSMKGOAL, &CNSLGOAL, &BMIGOAL))/3) THEN SIG = 1;
    ELSE IF SCORE <((SUM(&NSMKGOAL, &CNSLGOAL, &BMIGOAL))/3) THEN SIG = -1;
  END;
END;

DROP TSTAT PVAL;
RUN;

DATA SMOKE_ALL;
SET SIG1 BENCH BENCH2;
TIMEPD="&CURRENT.";
RUN;

PROC SORT DATA=SMOKE_ALL OUT=OUT.SMOKE;
BY MAJGRP REGION REGCAT BENTYPE;
RUN;
```

G.4.C Q3FY2020\PROGRAMS\REPORTCARDS\MPR_ADULTQ3FY2020\ LOADMPRQ.SAS - Convert the MPR Scores Database into the WEB layout - Run Quarterly.

```
**************************************************************************
*
* Project:  DoD Reporting and Analysis 6077-410
* Program:  LOADMPRQ.SAS
* Purpose:  Calculate MPR Preventive Care Composites
* Date:    4/07/2000
* Author:   Chris Rankin
*
* Modified: 40) 11/03/2012 By Mike Rudacille, Updated for handling of
*              Joint Service facilities
*         41) 12/28/2012 By Aimee Valenzuea, Updated for Q1FY2013
*         42) 03/23/2013 By Mike Rudacille, Updated %LET PERIOD January, 2013.
*         43) 09/23/2013 By Amanda Kudis, Updated Q1FY2014.
*         44) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
*                                  Changed PERIOD to &PERIOD4
*         45) 12/12/2017 By Matt Turbyfill  North and South changed to East-
*         46) 02/17/2019 By Matt Turbyfill  SERVREGO regions changed to 13 due to East change
*
* Input:   1) RFINAL.sas7bdat
*          2) CFINAL.sas7bdat
*          3) MFINAL.sas7bdat
*          4) SFINAL.sas7bdat
*          5) SMOKE.sas7bdat
*
* Output:  loadmprq.sas7bdat
*
* Note:    ***CHECK COMPNUM AND CMPNUM1 ASSIGNMENTS AND UPPER LIMIT OF DO LOOPS***
*
**************************************************************************;

OPTIONS COMPRESS=YES NOCENTER LS=124 PS=74 SOURCE SOURCE2;

LIBNAME INLIB   ".";
LIBNAME OUT     ".";
LIBNAME LIBRARY "&FMTPATH.";

%LET CMPNUM1=4; /*** number of questions in first composite ***/ /*RSG 04/2005 Changed 5 to 4*/

%LET PERIOD = &PERIOD4.;
%INCLUDE "../../LoadWeb/LOADCAHQ.INC";

*************************************************************;
*** Note -- take out access to care questions and composite ***;
*************************************************************;

data mfinal(keep=cpbmk1 compress=no);
 set inlib.mfinal(keep=majgrp cpbmk1) INLIB.CFINAL (KEEP=MAJGRP CPBMK1);
 where majgrp="All Beneficiaries";   /*RSG 02/2005 Include CONUS MHS data*/
```

```
run;

data mfinal;
  if _n_=1 then set mfinal;
  set inlib.mfinal(drop=cpbmk1) INLIB.CFINAL(DROP=CPBMK1) ;
run;

proc sort data=mfinal;      /*RSG 01/2005 - Added code to select only 1 record per majgrp */
by majgrp;                /*using xservreg, there are now 4 conus areas which caused duplicate benchmark calcs */
data mfinal;
set mfinal;
by majgrp;
if first.majgrp;
run;

************************;
***** Benchmarks      **;
************************;

DATA BENCHMKS(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD SCORE SIG);
    FORMAT  MAJGRP  $30. REGION  $30. REGCAT $30.   /** RSG 01/2005 Increase region format to
accommodate service affiliation **/
        BENEFIT $34. BENTYPE $50. TIMEPD $35.;   ***MJS 06/23/03 Added TIMEPD; /* MER 11/08/12 Increase
region/regcat formats */
 SET MFINAL;

 ARRAY BENCHMK{*} GOALVAR1-GOALVAR&CMPNUM1 CPBMK1;
 DO I = 1 TO 5;  ***RSG 04/2005 Changed 6 to 5;
   SCORE   = BENCHMK{I}*100;
   SIG     = .;
   REGION  = "Benchmark";
   REGCAT  = "Benchmark";
   BENEFIT = "Preventive Care";
   IF     I = 1 THEN BENTYPE = "Prenatal Care";
   ELSE IF I = 2 THEN BENTYPE = "Mammography";
   ELSE IF I = 3 THEN BENTYPE = "Pap Smear";
   ELSE IF I = 4 THEN BENTYPE = "Hypertension";
   /*RSG 04/2005 DELETED CHOLESTEROL*/
   ELSE IF I = 5 THEN BENTYPE = "Composite";   ***MJS 06/23/03 Changed &PERIOD to Composite;
   TIMEPD = "&PERIOD";   ***MJS 06/23/03 Added line;
   OUTPUT;

 END;
 DROP I;
RUN;

DATA BENCHMKS;
 SET BENCHMKS;
 OUTPUT;
 IF MAJGRP = "All Beneficiaries" THEN DO;
   DO REG = 1 TO 13; DROP REG; /*2/17/19 Regions changed to 13*/
       MAJGRP = "Benchmark";
       REGION = PUT(REG,SERVREGO.);
```

```
          REGCAT = PUT(REG,SERVREGO.);
                    OUTPUT;
       END;
    DO SERV = 1 TO 5; DROP SERV; /* MER 11/03/2012 Changed 4 to 5 for Joint Service facilities */
       MAJGRP = "Benchmark";
       REGION = PUT(SERV,XSERVAFF.);
       REGCAT = PUT(SERV,XSERVAFF.);
       OUTPUT;
    END;

    MAJGRP = "Benchmark";
    REGION = 'USA MHS';
    REGCAT = 'USA MHS';
    OUTPUT;
/***Revised for 2-region coding***/
    MAJGRP = "Benchmark";
    REGION = 'EAST';
    REGCAT = 'EAST';
    OUTPUT;
/*    MAJGRP = "Benchmark";
    REGION = 'EAST-SOUTH';
    REGCAT = 'EAST-SOUTH';
    OUTPUT;*/
    MAJGRP = "Benchmark";
    REGION = 'WEST';
    REGCAT = 'WEST';
    OUTPUT;
    MAJGRP = "Benchmark";
    REGION = 'OVERSEAS';
    REGCAT = 'OVERSEAS';
    OUTPUT;
  END;
RUN;

PROC FREQ DATA=BENCHMKS;
  TABLES MAJGRP/MISSING LIST;
RUN;

**********************;
***** Scores      **;
**********************;

DATA SCORES(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD SCORE SEMEAN SIG N_OBS N_WGT);
    FORMAT MAJGRP  $30. REGION  $30. REGCAT $30.   /** RSG 01/2005 Increase region format to accommodate
service affiliation **/
        BENEFIT $34. BENTYPE $50. TIMEPD $35.;   ***MJS 06/23/03 Added TIMEPD; /* MER 11/08/12 Increase
region/regcat formats */
  SET INLIB.MFINAL INLIB.CFINAL
    INLIB.RFINAL INLIB.SFINAL;

  ARRAY SEMEANS{*} SERRV1-SERRV&CMPNUM1.  CP1SE ;
  ARRAY  SCORES{*} SCORV1-SCORV&CMPNUM1.  CSCOR1;
  ARRAY  SIGNIF{*} SIGV1-SIGV&CMPNUM1.    CPSIG1;
```

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```
ARRAY  NOBS {*} NOBSV1-NOBSV&CMPNUM1.  CPOBS1;
ARRAY  NWGT {*} DENV1-DENV&CMPNUM1    CPDEN1;

DO I = 1 TO 5;  ***RSG 04/2005 Changed 6 to 5;
   SCORE   = SCORES{I};
   SEMEAN  = SEMEANS{I};
   SIG    = SIGNIF{I};
   N_OBS   = NOBS{I};
   N_WGT   = NWGT{I};
   BENEFIT = "Preventive Care";
   IF    I = 1 THEN BENTYPE = "Prenatal Care";
   ELSE IF I = 2 THEN BENTYPE = "Mammography";
   ELSE IF I = 3 THEN BENTYPE = "Pap Smear";
   ELSE IF I = 4 THEN BENTYPE = "Hypertension";
   /*RSG 04/2005 DELETED CHOLESTEROL*/
   ELSE IF I = 5 THEN BENTYPE = "Composite";   ***MJS 06/23/03 Changed &PERIOD to Composite;
   TIMEPD = "&PERIOD";   ***MJS 06/23/03 Added line;
   OUTPUT;
  END;
RUN;

DATA LOADMPRQ (KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD SCORE SEMEAN SIG
          N_OBS N_WGT);
SET BENCHMKS SCORES INLIB.SMOKE;
RUN;

PROC SORT DATA=LOADMPRQ OUT=OUT.LOADMPRQ;
BY MAJGRP REGION;
RUN;
```

G.5.A Q3FY2020\PROGRAMS\LOADWEB\FAKEQ.SAS - Generate the WEB layout/template file - Run Quarterly.

```
*************************************************************************
* PROJECT:  DOD Quarterly Survey, Consumer Reports (6077-410)
* PROGRAM:  FAKEQ.SAS
* PURPOSE:  Generate Fake Data for Report Cards
* AUTHOR:   Mark A. Brinkley
*
* MODIFIED:48) 11/03/2012 By Mike Rudacille - Updated for handling of
*         Joint Service facilities
*      49) 12/28/2012 By Aimee Valenzuela - Changed %LET PERIOD1 - PERIOD4
*         Changed input data HCS124_2 to HCS131_2 for Q1FY2013 reports
*      50) 03/23/2013 By Mike Rudacille - Changed %LET PERIOD1 - PERIOD4
*         Changed input data HCS131_2 to HCS132_2 for Q2FY2013 reports
*      51) 09/23/2013 By Amanda Kudis - Updated for Q1 2014
*      52) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
*                                   Changed PERIOD1-4 to &PERIOD1-4
*                                   Changed HCSyyq_2 to &DATAFILE.
*                                   Removed line referencing CATREP in the TEMP2 step.
*                                   Set CAFMT to "BLANK".
*                                   Changed LOADCAHQ to ..\LoadWeb\LOADCAHQ.INC
*      48) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*                                   Corrected capitalization and backslashes on LIBNAME and INC
filepaths.
*         Changed LIBRARY to &FMTPATH.
*         Changed IN to &DATAPATH.
*      49) December 12, 2017 by Matt Turbyfill, North and South changed to East-.
*      50) February 17, 2019 by Matt Turbyfill, East-North and East-South replaced by East
*         Joint Service replaced by DHA
*         JOINTSRV replaced by DHASRV
*         XTNEXREG replaced by XTNEXRG2
*         XSERVREG renumbered
*      51) August 5, 2019 by Matt Turbyfill, Renumbered TEMP_R to place DHA
*         before Other in reports.
*
* INCLUDES: 1) LOADCAHQ.INC - Format definitions for CAHPS Individual
*         and composite data sets
*
*************************************************************************;
%LET NUMQTR = 5;   ***MJS 06/18/03 Changed 4 to 5;

%LET PERIOD1 = &PERIOD1;
%LET PERIOD2 = &PERIOD2;
%LET PERIOD3 = &PERIOD3;
%LET PERIOD4 = &PERIOD4;

%LET PERIOD5 = Trend;   ***MJS 06/18/03 Added line;

%INCLUDE "../LoadWeb/LOADCAHQ.INC";   ***MJS 07/07/03 Added;

LIBNAME OUT     ".";
```

```
LIBNAME IN      "&DATAPATH.";
LIBNAME LIBRARY "&FMTPATH.";

OPTIONS COMPRESS=YES NOFMTERR;

***************************************************************************
* CREATE TEMPORARY DATASET FOR RECODING CACSMPL TO BE COLLAPSED FOR
* REPORT CARD PURPOSES
* FOR QUARTERLY REPORTS CATCHMENT LEVEL REPORTING IS NOT DONE
* AND THEREFORE THE VALUE OF CELLP IS SET TO 1
* FOR ANNUAL REPORTING PURPOSES
* CELLP WILL NEED TO BE ASSIGNED TO GEOCELL (KEEP GEOCELL ON INPUT)
***************************************************************************;

DATA TEMP;
 SET IN.&DATAFILE.;
 CELLP=1;
 *********************************************************************
 * CODE FOR XSERVREG FROM XTNEXRG2
 *********************************************************************;
 IF SERVAFF='A' THEN XSERVAFF=1;        *Army;
   ELSE IF SERVAFF='F' THEN XSERVAFF=2;    *Air Force;
   ELSE IF SERVAFF='N' THEN XSERVAFF=3;     *Navy;
   ELSE XSERVAFF=4;

 /*IF PUT(XCATCH, JOINTSRV.)='1' THEN XSERVAFF=5; *Joint Service;*/
  IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA;

  IF XTNEXRG2 = 1 THEN DO;
    IF XSERVAFF = 1 THEN XSERVREG = 1;
    ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
    ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
    ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
    ELSE XSERVREG = 5;
  END;

  IF XTNEXRG2 = 2 THEN DO;
    IF XSERVAFF = 1 THEN XSERVREG = 6;
    ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
    ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
    ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
    ELSE XSERVREG = 10;
  END;

  IF XTNEXRG2 = . THEN DELETE;

RUN;

proc freq;
table xservreg*cacsmpl/ noprint out=temp;
run;

data temp2;
```

```
length cafmt $30;
set temp end=last;
by xservreg;
  caf=0;
where cacsmpl ne 9999;
 if first.xservreg then do; /* took out condition for xregion= 8 since useing xservreg now */
   cafmt=put(xservreg,servregf.);
   output;
 end;
 cafmt = "BLANK";
 caf=1;
 if count>60 & cafmt ne 'INV' then output;
 if last then do;
  xservreg=0;
  caf=0;
  cafmt='Benchmark';
 output;
      /** RSG 01/2005 Add in codes for service affiliation categories **/

  caf=1;

  xservreg=11;
  cafmt='Overseas Europe';
  output;
 xservreg=12;
  cafmt='Overseas Pacific';
  output;
 xservreg=13;
  cafmt='Overseas Latin America';
  output;
xservreg=14;
 cafmt = 'ARMY';
   output;
  xservreg=15;
  cafmt = 'AIR FORCE';
  output;
  xservreg=16;
  cafmt = 'NAVY';
  output;
  xservreg=17;
  cafmt = 'OTHER';
     output;
     xservreg=18;
     cafmt = 'DHA';
     output;
  xservreg=19;
  cafmt = 'EAST';
  output;
  /*
  xservreg=25;
  cafmt = 'EAST-SOUTH';
  output;
  xservreg=26;
```

```
*/
xservreg=20;
cafmt = 'WEST';
output;
xservreg=21;
cafmt = 'OVERSEAS';
output;
xservreg=22;
cafmt = 'USA MHS';
output;
xservreg=23;
cafmt = 'Europe Army';
output;
xservreg=24;
cafmt = 'Europe Air Force';
output;
xservreg=25;
cafmt = 'Europe Navy';
   output;
xservreg=26;
cafmt = 'Europe Other';
output;
   xservreg=27;
   cafmt = 'Europe DHA';
   output;
xservreg=28;
cafmt = 'Pacific Army';
output;
xservreg=29;
cafmt = 'Pacific Air Force';
output;
xservreg=30;
cafmt = 'Pacific Navy';
output;
xservreg=31;
cafmt = 'Pacific Other';
output;
   xservreg=32;
   cafmt = 'Pacific DHA';
   output;
xservreg=33;
cafmt = 'Latin America Army';
output;
xservreg=34;
cafmt = 'Latin America Air Force';
output;
xservreg=35;
cafmt = 'Latin America Navy';
output;
xservreg=36;
cafmt = 'Latin America Other';
output;
   xservreg=37;
```

```
     cafmt = 'Latin America DHA';
     output;
  end;
run;

/*RSG 04/2005 order region groups the way it should appear in reports*/
data temp3 (rename=(temp_r=xservreg));
  set temp2;
if    xservreg=0  then temp_r=1;
else if xservreg=22 then temp_r=2;
else if xservreg=14 then temp_r=3;
else if xservreg=16 then temp_r=4;
else if xservreg=15 then temp_r=5;
else if xservreg=18 then temp_r=6;
else if xservreg=17 then temp_r=7;
else if xservreg=19 then temp_r=8;
else if xservreg=1  then temp_r=9;
else if xservreg=3  then temp_r=10;
else if xservreg=2  then temp_r=11;
else if xservreg=5  then temp_r=12;
else if xservreg=4  then temp_r=13;

else if xservreg=6  then temp_r=15;
else if xservreg=8  then temp_r=16;
else if xservreg=7  then temp_r=17;
else if xservreg=10 then temp_r=18;
else if xservreg=9  then temp_r=19;
else if xservreg=20 then temp_r=20;
else if xservreg=21 then temp_r=26;
else if xservreg=11 then temp_r=27;
else if xservreg=12 then temp_r=28;
else if xservreg=13 then temp_r=29;
else if xservreg=23 then temp_r=30;
else if xservreg=25 then temp_r=31;
else if xservreg=24 then temp_r=32;
else if xservreg=27 then temp_r=33;
else if xservreg=26 then temp_r=34;
else if xservreg=28 then temp_r=35;
else if xservreg=30 then temp_r=36;
else if xservreg=29 then temp_r=37;
else if xservreg=32 then temp_r=38;
else if xservreg=31 then temp_r=39;
else if xservreg=33 then temp_r=40;
else if xservreg=35 then temp_r=41;
else if xservreg=34 then temp_r=42;
else if xservreg=37 then temp_r=43;
else if xservreg=36 then temp_r=44;
drop xservreg;
run;

proc sort;
by xservreg caf cafmt;
run;
```

```
data temp4;
set temp3 end=last;

start=_n_;
label=cafmt;
type='N';
fmtname='ROWMAT';
if last then call symput('x',_n_);

run;

proc format cntlin=temp4;

proc print data=temp4;
run;

%MACRO FAKE;
DATA FAKE;

 KEEP MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD I K;   ***MJS 06/18/03 Added TIMEPD;

 LENGTH MAJGRP  $ 30
     REGION  $ 30   /*RSG 01/2005 lengthen format to fit service affiliation*/
     REGCAT  $ 30   /*MER 11/08/2012 length format for region/regcat for Joint Service facilities */
     BENTYPE $ 50
     TIMEPD  $ 35;   ***MJS 06/18/03 Added TIMEPD;


 DO I=1 TO 8;        ** 8 Major groups **;

   MAJGRP=PUT(I,MAJOR.);

   DO J=1 TO &x;      ** Region/catchment **;

   REGCAT=PUT(J,ROWMAT.);
   RETAIN REGION;

   **RSG 01/2005 Change code to fit XSERVREG values**;
   IF SUBSTR(REGCAT,1,8) IN ('Benchmar','Overseas','OVERSEAS') OR
     SUBSTR(REGCAT,1,5) IN ('Pacif','Europ','Latin','East ','West ','EAST ','WEST') OR
       REGCAT IN ('ARMY','AIR FORCE','NAVY','OTHER','DHA','USA MHS') THEN REGION=REGCAT;

   DO K=1 TO 11;     ** 11 Benefits **;  /*** 04-11-09 MER ***/

     BENEFIT=PUT(K,BEN.);

     IF K=1 THEN DO;
       DO L=1 TO 3;            ***MJS 06/18/03 Added L loop and BENTYPE PUT;
         BENTYPE=PUT(L,GETNCARE.);   ***that replaced BENTYPE hard assignment;
         %DO Q = 1 %TO &NUMQTR;   ***MJS 06/18/03 Moved loop inside L loop and changed BENTYPE to
TIMEPD;
             TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
```

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```
      %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
    END;
  END;
  ELSE IF K=2 THEN DO;
    DO L=1 TO 3;           ***MJS 06/18/03 Added L loop and BENTYPE PUT;
      BENTYPE=PUT(L,GETCAREQ.);   ***that replaced BENTYPE hard assignment;
      %DO Q = 1 %TO &NUMQTR;   ***MJS 06/18/03 Moved loop inside L loop and changed BENTYPE to
TIMEPD;
        TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
      %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
    END;
  END;
  ELSE IF K=3 THEN DO;
    DO L=1 TO 5;           ***MJS 06/18/03 Added L loop and BENTYPE PUT;
      BENTYPE=PUT(L,HOWWELL.);   ***that replaced BENTYPE hard assignment;
      %DO Q = 1 %TO &NUMQTR;   ***MJS 06/18/03 Moved loop inside L loop and changed BENTYPE to
TIMEPD;
        TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
      %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
    END;
  END;
  ELSE IF K=4 THEN DO;
    DO L=1 TO 3;           ***MJS 06/18/03 Added L loop and BENTYPE PUT;
      BENTYPE=PUT(L,CUSTSERV.);   ***that replaced BENTYPE hard assignment;
      %DO Q = 1 %TO &NUMQTR;   ***MJS 06/18/03 Moved loop inside L loop and changed BENTYPE to
TIMEPD;
        TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
      %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
    END;
  END;
  ELSE IF K=5 THEN DO;
    DO L=1 TO 3;           ***MJS 06/18/03 Added L loop and BENTYPE PUT;
      BENTYPE=PUT(L,CLMSPROC.);   ***that replaced BENTYPE hard assignment;
      %DO Q = 1 %TO &NUMQTR;   ***MJS 06/18/03 Moved loop inside L loop and changed BENTYPE to
TIMEPD;
        TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
      %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
    END;
  END;
  ELSE IF K=6 THEN DO;
    %DO Q = 1 %TO &NUMQTR;
      BENTYPE = "Composite";   ***MJS 07/07/03 Added;
      TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/   ***MJS 07/07/03 Changed BENTYPE
to TIMEPD;
    %END;            ***MJS 07/07/03 Deleted BENTYPE="Trend" OUTPUT after this line;
  END;
  ELSE IF K=7 THEN DO;
    %DO Q = 1 %TO &NUMQTR;
      BENTYPE = "Composite";   ***MJS 07/07/03 Added;
      TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/   ***MJS 07/07/03 Changed BENTYPE
to TIMEPD;
    %END;            ***MJS 07/07/03 Deleted BENTYPE="Trend" OUTPUT after this line;
  END;
```

```
     ELSE IF K=8 THEN DO;
        %DO Q = 1 %TO &NUMQTR;
           BENTYPE = "Composite";   ***MJS 07/07/03 Added;
           TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/   ***MJS 07/07/03 Changed BENTYPE
to TIMEPD;
        %END;               ***MJS 07/07/03 Deleted BENTYPE="Trend" OUTPUT after this line;
     END;
     ELSE IF K=9 THEN DO;
        %DO Q = 1 %TO &NUMQTR;
           BENTYPE = "Composite";   ***MJS 07/07/03 Added;
           TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/   ***MJS 07/07/03 Changed BENTYPE
to TIMEPD;
        %END;               ***MJS 07/07/03 Deleted BENTYPE="Trend" OUTPUT after this line;
     END;
     ELSE IF K=10 THEN DO;
        DO L=1 TO 5;            ***MJS 06/18/03 Added L loop and BENTYPE PUT;
           BENTYPE=PUT(L,PREVCARE.);   ***that replaced BENTYPE hard assignment;
           %DO Q = 1 %TO &NUMQTR;   ***MJS 06/18/03 Moved loop inside L loop and changed BENTYPE to
TIMEPD;
              TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
           %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
        END;
     END;
       ELSE IF K=11 THEN DO;        ***RSG 02/2005 Added for smoking scores.;
          DO M=1 TO 4;
            BENTYPE=PUT(M,SMOKEF.);
            %DO Q = 1 %TO &NUMQTR;
               TIMEPD = "&&PERIOD&Q"; OUTPUT;
            %END;
          END;
       END;
     END;
   END;
 END;
RUN;
%MEND FAKE;
%FAKE;

/*** 12-13 MAB ***/
/*** Since quarterly files won't have catchment level data then delete ***/
DATA FAKE;
 SET FAKE;
 IF REGION=REGCAT;
RUN;

/*** 12-13 MAB ***/
/*** Need to create single benchmarks for ALL major groups ***/
DATA EXTRA;
 SET FAKE;
 IF MAJGRP="Prime Enrollees" AND REGION=REGCAT AND REGION^="Benchmark";
 MAJGRP="Benchmark";
RUN;
/*** Combine extra data with fake ***/
```

```
DATA FAKE;
  SET EXTRA FAKE;
RUN;

/*** Need to clean up data ***/
DATA OUT.FAKEQ;
  SET FAKE;

 /*** Need to set oddball records to missing ***/
 IF REGION="Benchmark" THEN SIG=.;
 if region=''|compress(regcat)='.' then delete;

 /*** Don't populate catchment areas for 4 major groups ***/
 *IF I IN(3,4,6,7) AND REGION^=REGCAT THEN DELETE;        /*** 12-13 MAB ***/

 DROP I K;

RUN;

PROC FREQ;
  TABLES MAJGRP REGION REGCAT BENTYPE BENEFIT TIMEPD SIG;   ***MJS 07/21/03 Added TIMEPD;
RUN;
```

G.5.B Q3FY2020\PROGRAMS\LOADWEB\MERGFINQ.SAS - Merge the final CAHPS and MPR Scores Databases into the WEB layout - Run Quarterly.

```
*****************************************************************************
*
* PROGRAM:  MERGFINQ.SAS
* TASK:     Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6077-410)
* PURPOSE:  Merge the final CAHPS and MPR Scores Databases
*           into the WEB layout preserving the order of the FAKEQ.SD2.
*
* WRITTEN:  11/09/2000 BY KEITH RATHBUN, Adapted from MERGFINL.SAS.
*
* INPUTS:   1) MPR and CAHPS Individual and Composite data sets with adjusted
*           scores, and benchmark data for quarterly DoD HCS.
*           - LOADMPRQ.sas7bdat - MPR Scores Database
*           - LOADCAHQ.sas7bdat - CAHPS Scores Database
*           - BENCHA04.sas7bdat - CAHPS Benchmark Database
*           - FAKEQ.sas7bdat    - WEB Layout in Column order
*
* OUTPUT:   1) MERGFINQ.sas7bdat - Combined Scores Database in WEB layout
*
* INCLUDES: 1) LOADCAHQ.INC - Format definitions for CAHPS Individual
*           and composite data sets
*
* MODIFIED:42) 11/03/2012 by Mike Rudacille - Updated for handling of
*           Joint Service facilities
*       43) 12/28/2012 by Aimee Valenzuela - Changed libname in2 and in3 for Q1FY2013.
*       44) 03/23/2013 by Mike Rudacille - Changed libname in2 and in3 for Q2FY2013.
*       45) 09/23/2013 by Amanda Kudis - Changed libname in2 and in3 for Q1FY2014.
*       46) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                              Replaced RCTYPE with &PC.ReportCards
                              Replaced BCHTYPE with &PC.Benchmark
                              Changed IN2 to "CAHPS_ADULT&FOLDER.\Data"
                              Changed IN3 to "..\&RCTYPE\MPR_Adult&FOLDER.&FYYEAR."
                              Changed LOADCAHQ to ..\LoadWeb\LOADCAHQ.INC
*       47) December 27, 2016 by Matt Turbyfill, revised for the SAS Grid.
*                                   Corrected capitalization and backslashes on LIBNAME and INC
filepaths.
*           Changed LIBRARY to &FMTPATH.
*       48) December 12, 2017 by Matt Turbyfill, North and South changed to East-.
*       49) February 17, 2019 by Matt Turbyfill, Changed number of XSERVREG to macro
*           East-North and East-South replaced by East
*
* NOTES:
*
* 1) The following steps need to be run prior to this program:
*  - STEP1Q.SAS     - Recode questions and generate CAHPS group files
*  - STEP2Q.SAS     - Calculate CAHPS individual adjusted scores for groups 1-7
*  - COMPOSIT.SAS   - Calculate composite adjusted scores for group 1-8
*  - PRVCOMPQ.SAS   - Calculate MPR individual and composite scores
*  - BENCHA01-04.SAS - Convert Benchmark Scores into WEB layout
*  - LOADCAHQ.SAS   - Convert Quarterly CAHPS Scores Database into WEB layout
```

```
*  - LOADMPRQ.SAS   - Convert Quarterly MPR Scores Database into WEB layout
*
* 2) The output file (MERGFINQ.SD2) will be run through the
*    MAKEHTMQ.SAS program to generate the WEB pages.
*
***********************************************************************
* Assign data libraries and options
***********************************************************************;
/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards        ***/
%LET RCTYPE = &PC.ReportCards;
/*** SELECT PROGRAM - Benchmark OR PurchasedBenchmark            ***/
%LET BCHTYPE = &PC.Benchmark;

LIBNAME IN1  ".";
LIBNAME IN2  "CAHPS_ADULT&FOLDER.&FYYEAR./DATA";
LIBNAME IN3  "../&RCTYPE/MPR_Adult&FOLDER.&FYYEAR.";
LIBNAME IN4  "../&BCHTYPE/data";
LIBNAME OUT  ".";
LIBNAME LIBRARY   "&FMTPATH.";

OPTIONS PS=79 LS=232 COMPRESS=YES NOCENTER;   ***MJS 07/23/03 Changed LS from 132;

%INCLUDE "../LoadWeb/LOADCAHQ.INC";

***********************************************************************
* Construct ORDERing variable from WEB layout
***********************************************************************;
DATA ORDER;
  SET IN1.FAKEQ;
  ORDER = _N_;
  LENGTH KEY $200;
  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
      UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
      UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));   ***MJS 07/09/03 Added TIMEPD;
  KEEP KEY ORDER;
RUN;

PROC SORT DATA=ORDER; BY KEY; RUN;

***********************************************************************
* Merge the Scores Databases
***********************************************************************;
DATA MERGFINQ;
  SET IN2.LOADCAHQ(IN=INCAHPQ)
    IN3.LOADMPRQ(IN=INMPRQ )
    IN4.BENCHA04(IN=INBENQ );
  SVCAHPQ = INCAHPQ;
  SVMPRQ  = INMPRQ;
  SVBENQ  = INBENQ;
  LENGTH KEY $200;
  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
      UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
      UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));   ***MJS 07/09/03 Added TIMEPD;
```

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```
KEYLEN=LENGTH(KEY);
KEYTEST=LENGTH(BENEFIT)+LENGTH(BENTYPE)+LENGTH(MAJGRP)+LENGTH(REGION)+LENGTH(TIMEPD);
OUTPUT;
IF INBENQ THEN DO;
  IF MAJGRP = "All Beneficiaries" THEN DO;
    DO REG = 1 TO &XSERVREGCNT.; DROP REG;  /*MBT 1/29/19 Change to macro*/
        MAJGRP = "Benchmark";
        REGION = PUT(REG,SERVREGF.);
        REGCAT = PUT(REG,SERVREGF.);
        KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
            UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
            UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));   ***MJS 07/09/03 Added TIMEPD;
        OUTPUT;
    END;
    DO SERV = 1 TO 5; DROP SERV;  /*RSG 02/2005 Add in serv affiliation*/ /*MER 11/03/12 4 to 5*/
        MAJGRP = "Benchmark";
        REGION = PUT(SERV,XSERVAFF.);
        REGCAT = PUT(SERV,XSERVAFF.);
        KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
            UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
            UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
        OUTPUT;
    END;

  MAJGRP = "Benchmark";
  REGION = 'EAST';
  REGCAT = 'EAST';
    KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
        UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
        UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
    OUTPUT;
/*   MAJGRP = "Benchmark";
  REGION = 'EAST-SOUTH';
  REGCAT = 'EAST-SOUTH';
    KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
        UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
        UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
    OUTPUT;*/
  MAJGRP = "Benchmark";
  REGION = 'Overseas Europe';
  REGCAT = 'Overseas Europe';
    KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
        UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
        UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
    OUTPUT;

  MAJGRP = "Benchmark";
  REGION = 'Overseas Pacific';
  REGCAT = 'Overseas Pacific';
    KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
        UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
        UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
    OUTPUT;
```

```
    MAJGRP = "Benchmark";
    REGION = 'Overseas Latin America';
    REGCAT = 'Overseas Latin America';
       KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
           UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
           UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
       OUTPUT;

    MAJGRP = "Benchmark";
    REGION = 'WEST';
    REGCAT = 'WEST';
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
           UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
           UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
       OUTPUT;

    MAJGRP = "Benchmark";
    REGION = 'OVERSEAS';
    REGCAT = 'OVERSEAS';
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
           UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
           UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
       OUTPUT;

    MAJGRP = "Benchmark";
    REGION = 'USA MHS';
    REGCAT = 'USA MHS';
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
           UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
           UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
       OUTPUT;
     END;
  END;
  IF SCORE = . THEN DELETE;
RUN;

PROC SORT DATA=MERGFINQ; BY KEY; RUN;

*************************************************************************
* Append ORDERing variable to the merged Scores database file
*************************************************************************;
DATA MERGFINQ MISSING;
  MERGE MERGFINQ(IN=IN1) ORDER(IN=IN2);
  BY KEY;

  LENGTH FLAG $30;
  IF IN1 AND IN2 THEN FLAG = "IN SCORES DB AND LAYOUT";
  ELSE IF    IN1 THEN FLAG = "IN SCORES DB ONLY";
  ELSE IF    IN2 THEN FLAG = "IN LAYOUT ONLY";

  LENGTH SOURCE $30;
  IF SVCAHPQ = 1 THEN SOURCE = "CAHPS     ";
```

```
  IF SVMPRQ  = 1 THEN SOURCE = "MPR      ";
  IF SVBENQ  = 1 THEN SOURCE = "BENCHMARK ";

  IF IN1 AND NOT IN2 THEN OUTPUT MISSING; *Missing from layout;
  IF IN1 THEN OUTPUT MERGFINQ;
RUN;


*************************************************************************
* Reorder file according to WEB layout
*************************************************************************;
PROC SORT DATA=MERGFINQ OUT=OUT.MERGFINQ; BY ORDER; RUN;

DATA FAKEQ;
  SET IN1.FAKEQ;
  ORDER = _N_;
RUN;

DATA LAYONLY;
  MERGE FAKEQ(IN=IN1) OUT.MERGFINQ(IN=IN2 KEEP=ORDER);
  BY ORDER;
  IF IN1 AND NOT IN2;
RUN;

TITLE1 "Quarterly DOD Health Survey Scores/Report Cards (6663-410)";
TITLE2 "Program Name: MERGFINQ.SAS By Keith Rathbun";
TITLE3 "Program Inputs: MPR and CAHPS Combined Scores data sets and WEB Layout";
TITLE4 "Program Outputs: MERGFINQ.sas7bdat - Merged Final Scores Database for input to MAKEHTML.SAS";

TITLE5 "MERGFINQ.sas7bdat Data source counts";
PROC FREQ DATA=OUT.MERGFINQ;
TABLES SOURCE FLAG SVCAHPQ SVMPRQ SVBENQ
          SVCAHPQ*SVMPRQ*SVBENQ
    /MISSING LIST;
RUN;

TITLE5 "MERGFINQ.sas7bdat Data attribute counts";
PROC FREQ DATA=OUT.MERGFINQ;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT TIMEPD   /*MJS 07/23/03 Added TIMEPD*/
    REGION*REGCAT
    /MISSING LIST;
RUN;

TITLE5 "LAYONLY Data attribute counts";
PROC FREQ DATA=LAYONLY;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT TIMEPD   /*MJS 07/23/03 Added TIMEPD*/
    REGION*REGCAT
    /MISSING LIST;
RUN;

TITLE5 "No matching record found in LAYOUT file (FAKEQ.sas7bdat)";
PROC PRINT DATA=MISSING;
VAR MAJGRP REGION REGCAT BENTYPE BENEFIT TIMEPD;   ***MJS 07/23/03 Added TIMEPD;
RUN;
```

G.6   Q3FY2020\PROGRAMS\LOADWEB\CONUS_Q.SAS - Generate CAHPS CONUS scores and perform significance tests - Run Quarterly.

```
*************************************************************************
*
*  PROGRAM:  CONUS_Q.SAS
*  TASK:    Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6077-410)
*  PURPOSE:  Generate CAHPS CONUS scores and perform significance tests.
*
*  WRITTEN:  11/13/2000 BY KEITH RATHBUN, Adapted from CONUS_A.SAS.
*        Merged SIGNIF_A.SAS funtionality.
*
*  MODIFIED:47) 11/03/2012 By Mike Rudacille - Updated for handling of
*        Joint Service facilities
*        48) 12/28/2012 By Aimee Valenzuela - Changed %LET PERIOD1 - PERIOD4
*        Changed %LET LSTCONUS for Q1FY2013
*        49) 03/23/2013 By Mike Rudacille - Changed %LET PERIOD1 - PERIOD4
*        Changed %LET LSTCONUS for Q2FY2013
*        50) 09/23/2013 By Amanda Kudis - Changed %LET PERIOD1 - PERIOD4
*        Changed %LET LSTCONUS for fake version of Q4FY2013, and removed period 3 (Q4FY2013)
*        from being used to in trend calculations.
*        51) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                                    Changed LSTCONUS to &LSTCONUS
                                    Changed PERIOD1-4 to &PERIOD1-4
                                    Changed EMPTY_PERIOD to &EMPTY_PERIOD
                                    In IN2.CONUS_Q step, rename BENEFIT to BENEFIT2, set BENEFIT to
the first 28 characters of BENEFIT2, and drop BENEFIT2.
                                    Set KEY to format $200. in IN2.CONUS_Q and FAKEq steps.
                                    Dropped KEY on the last two PROC PRINT steps.
*        52) December 12, 2017 by Matt Turbyfill, North and South changed to East-.
*        52) February 17, 2019 by Matt Turbyfill, Joint Service replaced by DHA
*        East-North and East-South replaced by East
*        REGCON renumbered
*        53) August 5, 2019, Pulled the 2019Q1 historical data from the Q1 run
*        instead of Q2.  This is because of the Purchased Care history issue.
*        Changed Standard/Extra Users to Select Enrollees.
*
*  INPUTS:  1) MERGFINQ.sas7bdat - Scores Database in WEB Layout
*        2) FAKEQ.sas7bdat - Scores Database WEB Layout
*        3) CONUS_Q.sas7bdat - Previous Quarters Combined CAHPS/MPR Scores Database in WEB layout
*
*  OUTPUT:  1) TOTAL_Q.sas7bdat - Combined CAHPS/MPR Scores Database in WEB layout
*        2) LT30Q.sas7bdat - Records with <= 30 observations
*        3) CONUS_Q.sas7bdat - Current Quarters Combined CAHPS/MPR Scores Database in WEB layout
*
*
*   NOTES:
*
* 1) The following steps need to be run prior to this program:
*    - STEP1Q.SAS  - Recode questions and generate group files
*    - STEP2Q.SAS  - Calculate individual adjusted scores for group 1-7
*    - COMPOSIT.SAS - Calculate composite adjusted scores for group 1-8
```

```
*   - LOADCAHPQ.SAS - Combine all questionnaire (CAHPS) scores together
*   - PRVCOMPQ.SAS - Calculate preventative measure scores for group1-8
*   - SMOKING_BMI.SAS    - Calculate healthy behaviors scores for group1-8
*   - LOADMPRQ.SAS   - Combined preventative and healthy behaviors scores
*   - MERGFINQ.SAS - Merge the final CAHPS and MPR Scores Databases
*
***************************************************************************
* Assign data libraries and options
***************************************************************************;

LIBNAME IN1  ".";
LIBNAME OUT  ".";

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER MPRINT MLOGIC;

***************************************************************************;
* Define GLOBAL parameters for last CONUSQ.sas7bdat, rolling quarters, and
* input dataset name.
*
* IMPORTANT: Update these GLOBALS each quarter prior to rerunning program.
***************************************************************************;

%LET LSTCONUS = &LSTCONUS;

%LET PERIOD1 = &PERIOD1;
%LET PERIOD2 = &PERIOD2;
%LET PERIOD3 = &PERIOD3;
%LET PERIOD4 = &PERIOD4;

%LET DSN    = MERGFINQ;

%LET EMPTY_PERIOD  = &EMPTY_PERIOD.; *AMK 9/23/13 to handle quarter with no data, should be 0 if data
avilable for all 4 quarters;

***************************************************************************;
* Set up empty template file for data merge purposes and set first time flag
***************************************************************************;
DATA INIT;
  SET IN1.&DSN;
  DELETE;
RUN;
%LET FLAG = 0;
***************************************************************************
*
* Process Macro Input Parameters:
*
* 1) BENTYPE = Benefit Type
* 2) MAJGRP = Major Group
* 3) TYPE = INDIVIDUAL or COMPOSITE
* 4) BENEFIT = COMPOSITE Benefit Type
*
***************************************************************************;
%MACRO PROCESS(BENTYPE=,MAJGRP=,TYPE=,BENEFIT=);
```

```
DATA TEMP;
  SET IN1.&DSN END=FINISHED;

  /*MBT 2-7-2019 Joint Service replaced with DHA*/
  %IF "&TYPE" = "INDIVIDUAL" %THEN %DO;
    WHERE BENTYPE = "&BENTYPE" AND "&MAJGRP" = MAJGRP AND REGION = REGCAT AND
        SUBSTR(REGION,1,5) NE "Bench" AND SUBSTR(REGION,1,3) NE "USA" AND
        SUBSTR(REGCAT,1,5) NE "Bench" AND SUBSTR(REGCAT,1,3) NE "USA" AND
        REGION NOT IN ("ARMY","AIR FORCE","NAVY","OTHER","DHA");
  %END;
  %ELSE %IF "&TYPE" = "COMPOSITE" %THEN %DO;
    WHERE BENTYPE = &BENTYPE AND "&MAJGRP" = MAJGRP AND REGION = REGCAT AND
        BENEFIT = "&BENEFIT" AND
        SUBSTR(REGION,1,5) NE "Bench" AND SUBSTR(REGION,1,3) NE "USA" AND
        SUBSTR(REGCAT,1,5) NE "Bench" AND SUBSTR(REGCAT,1,3) NE "USA" AND
        REGION NOT IN ("ARMY","AIR FORCE","NAVY","OTHER","DHA");
  %END;
  %ELSE %DO;
    PUT "ERROR - Invalid Type = &TYPE";
  %END;

  /*MBT 2-7-2019 East region created and Joint Service replaced with DHA*/
  IF SUBSTR(REGION,1,4) IN ('East') THEN DO;
    REGCON=1;
    TOTCON=1;
    IF     SUBSTR(REGION,6,4)='Army'      THEN SERVICE=1;
    ELSE IF SUBSTR(REGION,6,9)='Air Force'  THEN SERVICE=2;
    ELSE IF SUBSTR(REGION,6,4)='Navy'       THEN SERVICE=3;
    ELSE IF SUBSTR(REGION,6,3)='DHA'        THEN SERVICE=5;
    ELSE                        SERVICE=4;
  END;
  ELSE IF SUBSTR(REGION,1,4)='West' THEN DO;
    REGCON=2;
    TOTCON=1;
    IF     SUBSTR(REGION,6,4)='Army'      THEN SERVICE=1;
    ELSE IF SUBSTR(REGION,6,9)='Air Force'  THEN SERVICE=2;
    ELSE IF SUBSTR(REGION,6,4)='Navy'       THEN SERVICE=3;
    ELSE IF SUBSTR(REGION,6,3)='DHA'        THEN SERVICE=5;
    ELSE                        SERVICE=4;
  END;
  ELSE IF SUBSTR(REGION,1,6)='Europe' THEN DO;
    REGCON=3;
    TOTCON=2;
    IF     SUBSTR(REGION,8,4)='Army'      THEN SERVICE=1;
    ELSE IF SUBSTR(REGION,8,9)='Air Force'  THEN SERVICE=2;
    ELSE IF SUBSTR(REGION,8,4)='Navy'       THEN SERVICE=3;
    ELSE IF SUBSTR(REGION,8,3)='DHA'        THEN SERVICE=5;
    ELSE                        SERVICE=4;
  END;
  ELSE IF SUBSTR(REGION,1,7)='Pacific' THEN DO;
    REGCON=4;
    TOTCON=2;
    IF     SUBSTR(REGION,9,4)='Army'      THEN SERVICE=1;
```

```
        ELSE IF SUBSTR(REGION,9,9)='Air Force'  THEN SERVICE=2;
        ELSE IF SUBSTR(REGION,9,4)='Navy'      THEN SERVICE=3;
        ELSE IF SUBSTR(REGION,9,3)='DHA'       THEN SERVICE=5;
        ELSE                        SERVICE=4;
     END;
     ELSE IF SUBSTR(REGION,1,13)='Latin America' THEN DO;
        REGCON=5;
        TOTCON=2;
        IF    SUBSTR(REGION,15,4)='Army'     THEN SERVICE=1;
        ELSE IF SUBSTR(REGION,15,9)='Air Force' THEN SERVICE=2;
        ELSE IF SUBSTR(REGION,15,4)='Navy'     THEN SERVICE=3;
        ELSE IF SUBSTR(REGION,15,3)='DHA'      THEN SERVICE=5;
        ELSE                        SERVICE=4;
     END;

RUN;

*************************************************************************;
* RSG 01/2005 Calc. total Service Affiliation Scores      *;
*************************************************************************;
PROC SORT DATA=TEMP;
BY SERVICE;

DATA TEMP2;
  SET TEMP;
  BY SERVICE;
    length key $200;
  IF FIRST.SERVICE THEN DO;
    SUMSCOR1 = 0;   RETAIN SUMSCOR1;
    SUMWGT1 = 0;    RETAIN SUMWGT1;
    SUMSE2 = 0;     RETAIN SUMSE2;
    SUMWGT2 = 0;    RETAIN SUMWGT2;
    N_OBS1 = 0;     RETAIN N_OBS1;
  END;

  IF SCORE  NE . AND N_WGT NE . THEN SUMSCOR1 = SUMSCOR1 + (SCORE*N_WGT);
  IF N_WGT  NE . THEN SUMWGT1  = SUMWGT1  + N_WGT;
  IF SEMEAN NE . AND N_WGT NE . THEN SUMSE2 = SUMSE2 + (SEMEAN*N_WGT)**2;
  IF N_OBS  NE . THEN N_OBS1 + N_OBS;

KEEP MAJGRP REGION REGCAT BENTYPE BENEFIT TIMEPD SIG SCORE SEMEAN N_OBS N_WGT
   FLAG SOURCE SUMSCOR1 SUMWGT1 SUMSE2 KEY;   ***MJS 07/08/03 Added TIMEPD;

  IF LAST.SERVICE THEN DO;

    IF SUMWGT1 NOTIN (.,0) THEN DO;
      SCORE  = SUMSCOR1/SUMWGT1;
      SEMEAN  = SQRT(SUMSE2)/SUMWGT1;
    END;
    ELSE DO;
      SCORE  = .;
      SEMEAN  = .;
    END;
```

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```
      N_OBS  = N_OBS1;
      N_WGT  = SUMWGT1;
      SOURCE = "USA";
      FLAG   = "USA";

    /*MBT 2-7-2019 Joint Service replaced by DHA*/
    IF SERVICE=1 THEN REGION = "ARMY";
    IF SERVICE=2 THEN REGION = "AIR FORCE";
    IF SERVICE=3 THEN REGION = "NAVY";
    IF SERVICE=4 THEN REGION = "OTHER";
    IF SERVICE=5 THEN REGION = "DHA";
    REGCAT  = REGION;
    KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
        UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
        UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));  ***MJS 07/08/03 Added TIMEPD;
    OUTPUT;
  END;
RUN;

***********************************************************************.
* RSG 01/2005 Calc. Total Region scores                    *;
***********************************************************************.
PROC SORT DATA=TEMP;
BY REGCON;
DATA TEMP3;
  SET TEMP;
  BY REGCON;
    length key $200;
  IF FIRST.REGCON THEN DO;
    SUMSCOR1 = 0;   RETAIN SUMSCOR1;
    SUMWGT1 = 0;    RETAIN SUMWGT1;
    SUMSE2 = 0;     RETAIN SUMSE2;
    SUMWGT2 = 0;    RETAIN SUMWGT2;
    N_OBS1 = 0;     RETAIN N_OBS1;
  END;

  IF SCORE  NE . AND N_WGT NE . THEN SUMSCOR1 = SUMSCOR1 + (SCORE*N_WGT);
  IF N_WGT  NE . THEN SUMWGT1  = SUMWGT1  + N_WGT;
  IF SEMEAN NE . AND N_WGT NE . THEN SUMSE2 = SUMSE2 + (SEMEAN*N_WGT)**2;
  IF N_OBS  NE . THEN N_OBS1 + N_OBS;

KEEP MAJGRP REGION REGCAT BENTYPE BENEFIT TIMEPD SIG SCORE SEMEAN N_OBS N_WGT
   FLAG SOURCE SUMSCOR1 SUMWGT1 SUMSE2 KEY;  ***MJS 07/08/03 Added TIMEPD;

  IF LAST.REGCON THEN DO;

    IF SUMWGT1 NOTIN (.,0) THEN DO;
      SCORE = SUMSCOR1/SUMWGT1;
      SEMEAN  = SQRT(SUMSE2)/SUMWGT1;
    END;
    ELSE DO;
      SCORE  = .;
```

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```
      SEMEAN  = .;
    END;
    N_OBS   = N_OBS1;
    N_WGT   = SUMWGT1;
    SOURCE  = "REGION";
    FLAG    = "REGION";

/*MBT 2-7-2019 East region created*/
    IF REGCON=1 THEN REGION = "EAST";
    IF REGCON=2 THEN REGION = "WEST";
    IF REGCON=3 THEN REGION = "Overseas Europe";
    IF REGCON=4 THEN REGION = "Overseas Pacific";
    IF REGCON=5 THEN REGION = "Overseas Latin America";

    REGCAT  = REGION;
    KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
       UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
       UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));   ***MJS 07/08/03 Added TIMEPD;
    OUTPUT;
  END;
RUN;

*********************************************************************;
* RSG 01/2005 Calc. Total CONUS Scores                    *;
* MER 01/2009 Changed CONUS to USA                        *;
*********************************************************************;
PROC SORT DATA=TEMP;
BY TOTCON;
DATA TEMP4;
  SET TEMP END=FINISHED;
  BY TOTCON;
    length key $200;
  IF FIRST.TOTCON THEN DO;
    SUMSCOR1 = 0;   RETAIN SUMSCOR1;
    SUMWGT1 = 0;    RETAIN SUMWGT1;
    SUMSE2 = 0;     RETAIN SUMSE2;
    SUMWGT2 = 0;    RETAIN SUMWGT2;
    N_OBS1 = 0;     RETAIN N_OBS1;
  END;

    IF SCORE  NE . AND N_WGT NE . THEN SUMSCOR1 = SUMSCOR1 + (SCORE*N_WGT);
    IF N_WGT  NE . THEN SUMWGT1  = SUMWGT1 + N_WGT;
    IF SEMEAN NE . AND N_WGT NE . THEN SUMSE2 = SUMSE2 + (SEMEAN*N_WGT)**2;
    IF N_OBS  NE . THEN N_OBS1 + N_OBS;

  IF LAST.TOTCON THEN DO;

    IF SUMWGT1 NOTIN (.,0) THEN DO;
     SCORE  = SUMSCOR1/SUMWGT1;
     SEMEAN  = SQRT(SUMSE2)/SUMWGT1;
    END;
    ELSE DO;
     SCORE  = .;
```

```
      SEMEAN  = .;
     END;
    N_OBS  = N_OBS1;
    N_WGT  = SUMWGT1;
    SOURCE = "USA";
    FLAG   = "USA";
  IF TOTCON=1 THEN REGION = "USA MHS";
  IF TOTCON=2 THEN REGION = "OVERSEAS";
    REGCAT  = REGION;
    KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
        UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
        UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));   ***MJS 07/08/03 Added TIMEPD;
    OUTPUT;
END;
KEEP MAJGRP REGION REGCAT BENTYPE BENEFIT TIMEPD SIG SCORE SEMEAN N_OBS N_WGT
   FLAG SOURCE SUMSCOR1 SUMWGT1 SUMSE2 KEY;   ***MJS 07/08/03 Added TIMEPD;

RUN;

%IF &FLAG = 0 %THEN %DO;
  DATA FINAL;
    SET INIT TEMP2 TEMP3 TEMP4;
  RUN;
%END;
%ELSE %DO;
  DATA FINAL;
    SET FINAL TEMP2 TEMP3 TEMP4;
  RUN;
%END;
%LET FLAG = 1;

%MEND;

*************************************************************************
* Create CONUS for Active Duty - Individual
*************************************************************************;
%PROCESS(BENTYPE=Claims Handled Correctly         ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous Customer Service       ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You Can Understand    ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Information             ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting to See a Specialist      ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Treatment              ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully             ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect               ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You           ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit         ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care           ,MAJGRP=Active Duty, TYPE=INDIVIDUAL);

*************************************************************************
* Create CONUS for Active Duty Dependents - Individual
*************************************************************************;
%PROCESS(BENTYPE=Claims Handled Correctly         ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
```

```
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time,MAJGRP=Active Duty Dependents,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous Customer Service        ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You Can Understand    ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Information               ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting to See a Specialist       ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Treatment                 ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                 ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                     ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You              ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit            ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care              ,MAJGRP=Active Duty Dependents, TYPE=INDIVIDUAL);


*************************************************************************
* Create CONUS for Enrollees with Civilian PCM - Individual
*************************************************************************;
%PROCESS(BENTYPE=Claims Handled Correctly          ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time,MAJGRP=Enrollees with Civilian PCM,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous Customer Service        ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You Can Understand    ,MAJGRP=Enrollees with Civilian PCM,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Information               ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting to See a Specialist       ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Treatment                 ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                 ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                     ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You              ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit            ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care              ,MAJGRP=Enrollees with Civilian PCM, TYPE=INDIVIDUAL);


*************************************************************************
* Create CONUS for Enrollees with Military PCM - Individual
*************************************************************************;
%PROCESS(BENTYPE=Claims Handled Correctly          ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time,MAJGRP=Enrollees with Military PCM,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous Customer Service        ,MAJGRP=Enrollees with Military PCM,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You Can Understand    ,MAJGRP=Enrollees with Military PCM,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Information               ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting to See a Specialist       ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Treatment                 ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                 ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                     ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You              ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit            ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care              ,MAJGRP=Enrollees with Military PCM, TYPE=INDIVIDUAL);


*************************************************************************
* Create CONUS for Non-enrolled Beneficiaries - Individual
*************************************************************************;
```

```
%PROCESS(BENTYPE=Claims Handled Correctly        ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time,MAJGRP=Non-enrolled Beneficiaries,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous Customer Service       ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You Can Understand    ,MAJGRP=Non-enrolled Beneficiaries,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Information             ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting to See a Specialist      ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Treatment              ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully             ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect               ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You           ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit         ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care          ,MAJGRP=Non-enrolled Beneficiaries, TYPE=INDIVIDUAL);


***************************************************************************
* Create CONUS for Prime Enrollees - Individual
***************************************************************************;
%PROCESS(BENTYPE=Claims Handled Correctly        ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous Customer Service       ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You Can Understand    ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Information             ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting to See a Specialist      ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Treatment              ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully             ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect               ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You           ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit         ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care          ,MAJGRP=Prime Enrollees, TYPE=INDIVIDUAL);


***************************************************************************
* Create CONUS for Retirees and Dependents - Individual
***************************************************************************;
%PROCESS(BENTYPE=Claims Handled Correctly        ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time,MAJGRP=Retirees and Dependents,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous Customer Service       ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You Can Understand    ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Information             ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting to See a Specialist      ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Treatment              ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully             ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect               ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You           ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit         ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care          ,MAJGRP=Retirees and Dependents, TYPE=INDIVIDUAL);


***************************************************************************
* Create CONUS for All Beneficiaries - Individual
***************************************************************************;
%PROCESS(BENTYPE=Claims Handled Correctly        ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
```

```
%PROCESS(BENTYPE=Courteous Customer Service      ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You Can Understand    ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Information           ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting to See a Specialist      ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Getting Treatment           ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully          ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect             ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You          ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit         ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care          ,MAJGRP=All Beneficiaries, TYPE=INDIVIDUAL);

***************************************************************************
* Process Quarterly CONUS Composites
***************************************************************************
***************************************************************************
* Create CONUS for Claims Processing - Quarterly
***************************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty          , TYPE=COMPOSITE,BENEFIT=Claims
Processing);  ***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=Claims
Processing);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=Claims
Processing);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=Claims
Processing);
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=Claims
Processing);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees         , TYPE=COMPOSITE,BENEFIT=Claims
Processing);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents    , TYPE=COMPOSITE,BENEFIT=Claims
Processing);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries        , TYPE=COMPOSITE,BENEFIT=Claims
Processing);

***************************************************************************
* Create CONUS for Customer Service - Quarterly
***************************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty          , TYPE=COMPOSITE,BENEFIT=Customer
Service);  ***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=Customer
Service);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=Customer
Service);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=Customer
Service);
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=Customer
Service);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees         , TYPE=COMPOSITE,BENEFIT=Customer
Service);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents    , TYPE=COMPOSITE,BENEFIT=Customer
Service);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries        , TYPE=COMPOSITE,BENEFIT=Customer
Service);
```

```
*************************************************************************
* Create CONUS for Getting Care Quickly - Quarterly
*************************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty            , TYPE=COMPOSITE,BENEFIT=Getting Care
Quickly);   ***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=Getting
Care Quickly);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=Getting
Care Quickly);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=Getting
Care Quickly);
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=Getting
Care Quickly);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees         , TYPE=COMPOSITE,BENEFIT=Getting Care
Quickly);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents    , TYPE=COMPOSITE,BENEFIT=Getting
Care Quickly);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries         , TYPE=COMPOSITE,BENEFIT=Getting Care
Quickly);


*************************************************************************
* Create CONUS for Getting Needed Care - Quarterly
*************************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty            , TYPE=COMPOSITE,BENEFIT=Getting Needed
Care);   ***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=Getting
Needed Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=Getting
Needed Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=Getting
Needed Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=Getting
Needed Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees         , TYPE=COMPOSITE,BENEFIT=Getting Needed
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents    , TYPE=COMPOSITE,BENEFIT=Getting
Needed Care);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries         , TYPE=COMPOSITE,BENEFIT=Getting Needed
Care);


*************************************************************************
* Create CONUS for Health Care - Quarterly
*************************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty            , TYPE=COMPOSITE,BENEFIT=Health Care);
***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=Health
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=Health
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=Health
Care);
```

```
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=Health
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees          , TYPE=COMPOSITE,BENEFIT=Health Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents   , TYPE=COMPOSITE,BENEFIT=Health
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries        , TYPE=COMPOSITE,BENEFIT=Health Care);


*************************************************************************
* Create CONUS for Health Plan - Quarterly
*************************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty           , TYPE=COMPOSITE,BENEFIT=Health Plan);
***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=Health
Plan);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=Health
Plan);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=Health
Plan);
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=Health
Plan);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees          , TYPE=COMPOSITE,BENEFIT=Health Plan);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents   , TYPE=COMPOSITE,BENEFIT=Health
Plan);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries        , TYPE=COMPOSITE,BENEFIT=Health Plan);


*************************************************************************
* Create CONUS for How Well Doctors Communicate - Quarterly
*************************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty           , TYPE=COMPOSITE,BENEFIT=How Well Doctors
Communicate);   ***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=How Well
Doctors Communicate);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=How Well
Doctors Communicate);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=How Well
Doctors Communicate);
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=How Well
Doctors Communicate);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees          , TYPE=COMPOSITE,BENEFIT=How Well
Doctors Communicate);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents   , TYPE=COMPOSITE,BENEFIT=How Well
Doctors Communicate);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries        , TYPE=COMPOSITE,BENEFIT=How Well
Doctors Communicate);


*************************************************************************
* Create CONUS for Primary Care Manager - Quarterly
*************************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty           , TYPE=COMPOSITE,BENEFIT=Primary Care
Manager);   ***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=Primary
Care Manager);
```

```
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=Primary
Care Manager);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=Primary
Care Manager);
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=Primary
Care Manager);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees         , TYPE=COMPOSITE,BENEFIT=Primary Care
Manager);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents   , TYPE=COMPOSITE,BENEFIT=Primary
Care Manager);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries        , TYPE=COMPOSITE,BENEFIT=Primary Care
Manager);


***********************************************************************
* Create CONUS for Specialty Care - Quarterly
***********************************************************************;
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty          , TYPE=COMPOSITE,BENEFIT=Specialty Care);
***MJS 07/08/03 Changed BENTYPE="&PERIOD4" to BENTYPE="Composite";
%PROCESS(BENTYPE="Composite", MAJGRP=Active Duty Dependents    , TYPE=COMPOSITE,BENEFIT=Specialty
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Civilian PCM, TYPE=COMPOSITE,BENEFIT=Specialty
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Enrollees with Military PCM, TYPE=COMPOSITE,BENEFIT=Specialty
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Non-enrolled Beneficiaries , TYPE=COMPOSITE,BENEFIT=Specialty
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Prime Enrollees         , TYPE=COMPOSITE,BENEFIT=Specialty Care);
%PROCESS(BENTYPE="Composite", MAJGRP=Retirees and Dependents   , TYPE=COMPOSITE,BENEFIT=Specialty
Care);
%PROCESS(BENTYPE="Composite", MAJGRP=All Beneficiaries        , TYPE=COMPOSITE,BENEFIT=Specialty Care);


***********************************************************************
* Extract ORDER and KEY from the WEB Layout file.  TEMPQ will be used
* as place holders for missing records.  FAKEQ will be used for adding
* new records.
***********************************************************************;
DATA FAKEQ;
  SET IN1.FAKEQ;
   length key $200;
  SIG = .;
  SCORE = .;
  ORDER = _N_;
  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
     UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
     UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));   ***MJS 07/08/03 Added TIMEPD;

RUN;
PROC SORT DATA=FAKEQ OUT=TEMPQ;     BY KEY; RUN;
PROC SORT DATA=FAKEQ(KEEP=ORDER KEY); BY KEY; RUN;


***********************************************************************
* Append BENCHMARK records to CAHPS records and perform significance tests
***********************************************************************;
```

```
DATA BENCHMRK(KEEP=MAJGRP BENEFIT BENTYPE SEMEAN SCORE);
  SET IN1.&DSN;
  WHERE SUBSTR(REGION,1,5) = "Bench" AND SVMPRQ = 0;
RUN;
Data abnchmrk(keep=benefit bentype ascore);
set benchmrk;
where upcase(majgrp)='ALL BENEFICIARIES';
rename score=ascore;
run;
proc sort; by benefit bentype;
proc sort data=benchmrk; by benefit bentype;
data benchmrk;
merge benchmrk abnchmrk; by benefit bentype;run;
PROC SORT DATA=BENCHMRK; BY MAJGRP BENEFIT BENTYPE; RUN;

PROC SORT DATA=FINAL; BY KEY; RUN;

DATA CONUS_Q;
  MERGE FINAL(IN=IN1) FAKEQ(IN=IN2);
  BY KEY;
  IF IN1;
RUN;
PROC SORT DATA=CONUS_Q; BY MAJGRP BENEFIT BENTYPE; RUN;

**************************************************************************
* Perform significance tests for CONUS scores
**************************************************************************;
DATA SIGTEST1;
  MERGE CONUS_Q(IN=SIN) BENCHMRK(RENAME=(SCORE=BSCORE SEMEAN=BSEMEAN));
  BY MAJGRP BENEFIT BENTYPE;
  length key $200;
  TEMP = (SCORE-BSCORE)/SQRT(BSEMEAN**2+SEMEAN**2);
  IF N_OBS > 1 THEN TEST = 2*(1-PROBT(ABS(TEMP),N_OBS-1)); /** RSG 06/22/2004 - PUT CONDITION TO AVOID
DF=0 WHICH CAUSES ERROR FOR PROBT FUNCTION **/
  ELSE TEST = .; /** RSG 06/22/2004 - ADDED FOR CASES WITH N_OBS = 1 OR LESS SINCE PROBT CAN'T BE
PERFORMED AND WOULD RESULT IN TEST = MISSING ANYWAY **/
  SIG = 0;
  IF TEST < 0.05 AND TEST NE . THEN SIG = 1; /** RSG 06/22/2004 - ADDED CONDITION "TEST NE ." IN CASE
MISSING IS CONSIDERED LESS THAN 0.05 **/
  IF SCORE < BSCORE THEN SIG = -SIG;

  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
      UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
      UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));   ***MJS 07/08/03 Added TIMEPD;
  SOURCE = "USA_Q";
  FLAG  = "USA_Q";
  IF SIN;
  score=score+ascore-bscore;
RUN;
PROC SORT DATA=SIGTEST1; BY KEY; RUN;

**************************************************************************
* Extract CAHPS scores to perform significance tests
```

```
*************************************************************************;
DATA CAHPS MPR bench;
  SET IN1.&DSN;
  *************************************************************************
  * Significance tests have already been performed for MPR scores,
  * so remove from file.
  *************************************************************************;
  IF SVMPRQ = 1 THEN OUTPUT MPR;
  IF SVMPRQ = 0 THEN do;
   if majgrp ne 'Benchmark' then OUTPUT CAHPS;
   else output bench; end;
RUN;

PROC SORT DATA=CAHPS;
  BY MAJGRP BENEFIT BENTYPE;
RUN;

*************************************************************************
* Perform significance tests for CAHPS scores
*************************************************************************;
DATA SIGTEST2;
  MERGE CAHPS(IN=SIN) BENCHMRK(RENAME=(SCORE=BSCORE SEMEAN=BSEMEAN));
  BY MAJGRP BENEFIT BENTYPE;
  TEMP = (SCORE-BSCORE)/SQRT(BSEMEAN**2+SEMEAN**2);
  IF N_OBS > 1 THEN TEST = 2*(1-PROBT(ABS(TEMP),N_OBS-1));  /** RSG 06/22/2004 PUT N_OBS > 1 CONDITION
TO AVOID ERRORS BECAUSE PROBT CAN NOT HANDLE DF=0 **/
  ELSE TEST = .;
  SIG = 0;
  IF N_OBS >= 30 AND TEST < 0.05 THEN SIG = 1;
  IF SCORE < BSCORE THEN SIG = -SIG;
  IF SIN;
  score=score+ascore-bscore;
  RUN;
proc sort data=bench; by majgrp benefit bentype;
data sigtest2;
set sigtest2 bench; by majgrp benefit bentype;
PROC SORT DATA=SIGTEST2; BY KEY; RUN;

*************************************************************************
* When NOT 1st quarter: Get records from previous quarters
*************************************************************************;
%MACRO LASTQTR;
  *************************************************************************
  * Input composite records from previous quarters.
  *************************************************************************;


  LIBNAME IN2 "&LSTCONUS";
  DATA LASTQTR (drop=key2 BENEFIT2); /*RSG 10/2005 - KEY2 WAS CREATED AT END OF PROG TO HELP
                 SET TREND TO MISSING FOR SCORES MISSING IN ANY QUARTERS
                 THIS SHOULD BE DROPPED AND RESET AT THE END OF PROG*/
   SET IN2.CONUS_Q (RENAME = (BENEFIT = BENEFIT2) DROP=KEY);
```

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```
  FORMAT BENEFIT $28.;/*The longest entry in BENEFIT is "How Well Doctors Communicate", which is 28
characters long.*/
  FORMAT KEY $200.;
  BENEFIT = BENEFIT2;

/*** Change BENEFIT "Heathly Behavior" to Healthy "Behaviors" JSO 02/16/2007 ***/
    IF BENEFIT = 'Healthy Behavior' THEN BENEFIT = 'Healthy Behaviors';

/*** Change SOURCE and FLAG from "CONUS_Q" to "USA_Q" MER 01/29/2009 ***/
/*** Change REGION and REGCAT from "CONUS MHS to USA MHS" MER 01/29/2009 ***/
    IF SOURCE = 'CONUS_Q' THEN SOURCE = 'USA_Q';
    IF FLAG = 'CONUS_Q' THEN FLAG = 'USA_Q';
    IF REGION = 'CONUS MHS' THEN REGION = 'USA MHS';
    IF REGCAT = 'CONUS MHS' THEN REGCAT = 'USA MHS';

    IF timepd IN ("&PERIOD1","&PERIOD2","&PERIOD3") AND
     (REGION = REGCAT) AND
      BENEFIT IN ("Getting Needed Care",
             "Getting Care Quickly",
             "How Well Doctors Communicate",
             "Customer Service",
             "Claims Processing",
             "Health Care",
             "Health Plan",
             "Primary Care Manager",
             "Specialty Care",
             "Preventive Care",
             "Healthy Behaviors") & TIMEPD NE "Trend";

   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
        UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
        UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));

  RUN;
%MEND LASTQTR;
%LASTQTR;

PROC SORT DATA=LASTQTR(DROP=ORDER); BY KEY; RUN;

DATA LASTQTR;
  MERGE TEMPQ(IN=IN1) LASTQTR(IN=IN2);
  BY KEY;
  IF IN1 AND IN2;
RUN;

PROC SORT DATA=MPR; BY KEY; RUN;

*************************************************************************
* Combine previously created records with the new file
*************************************************************************;
DATA COMBINE OUT.LT30Q;
  SET SIGTEST1 SIGTEST2 LASTQTR MPR;
  BY KEY;
```

```
  if timepd="&period1" then period=1;   ***MJS 07/08/03 Changed from bentype="&period1";
  if timepd="&period2" then period=2;   ***MJS 07/08/03 Changed from bentype="&period2";
  if timepd="&period3" then period=3;   ***MJS 07/08/03 Changed from bentype="&period3";
  if timepd="&period4" then period=4;   ***MJS 07/08/03 Changed from bentype="&period4";
  *******************************************************************
  * Remove N_OBS < 30 OR N_WGT < 200
  *******************************************************************;
  IF (N_OBS < 30 OR N_WGT < 200) AND (MAJGRP NE "Benchmark") AND
    (REGION NE "Benchmark")
    THEN OUTPUT OUT.LT30Q;
  ELSE OUTPUT COMBINE;
RUN;

data trend;
set combine;
where period notin (.,&EMPTY_PERIOD.) ; *AMK 9/23/13 ADDED EMPTY PERIOD;
if period<4|benefit="Preventive Care" then score=score/100;

proc sort data=trend;
by majgrp region regcat benefit bentype period;
run;

data avg(keep=majgrp region regcat benefit t_obs a_period a_score twgt bentype) ;
set trend;   by majgrp region regcat benefit bentype period;
if majgrp="Benchmark"|region="Benchmark" then n_wgt=1;
if first.majgrp|first.region|first.regcat|first.benefit|first.bentype then do;
t_obs=0;
t_score=0;
twgt=0;
t_period=0;
end;
t_obs+n_obs;
t_Score+n_wgt*score;
twgt+n_wgt;
t_period+period*n_wgt;
 if last.majgrp|last.region|last.regcat|last.benefit|last.bentype then do;
   if twgt notin (.,0) then do;
     a_score=t_score/twgt;
     a_period=t_period/twgt;
   end;
   else do;
     a_score=.;
     a_period=.;
   end;
   output;
 end;
RUN;

data trend2(drop=score) btrend(keep=majgrp benefit bentype trend serr);
merge trend avg;  by majgrp region regcat benefit bentype;
if majgrp="Benchmark"|region="Benchmark" then n_wgt=1;
if first.majgrp|first.region|first.regcat|first.benefit|first.bentype then do;
t_score=0;
```

```
t_se=0;
t_period=0;
end;
t_se+((n_wgt**2)*(semean**2));
t_score+n_wgt*(score-a_score)*(period-a_period);
t_period+n_wgt*(period-a_period)**2;
if last.majgrp|last.region|last.regcat|last.benefit|last.bentype then do;
if t_period ne 0 then do;   /* RSG 06/22/2004 Added to avoid division by zero*/
  trend=t_score/t_period;
  serr=sqrt(t_se/(t_period*twgt));
end;
else do;
  trend=.;
  serr=.;
end;
if region="Benchmark"|majgrp="Benchmark" then output btrend;
output trend2;
end;
proc sort data=trend2; by majgrp benefit bentype;RUN;
proc sort data=btrend; by majgrp benefit bentype;
data trend3(rename=(trend=score));
merge trend2 btrend(rename=(trend=btrend serr=bserr));
by majgrp benefit bentype;
  length key $200;
if ^(region="Benchmark"|majgrp="Benchmark") then do;
ttrend=trend-btrend;
serr=sqrt((serr**2)+(bserr**2));
sig=0;
if serr > 0 and t_obs notin (.,0) then test= 2*(1-probt(abs(ttrend/serr),t_obs));  /* RSG 06/22/2004 Added to avoid
division by zero*/
else test = .;
if test<.05 & test ne . then sig=1;
if sig=1 & ttrend<0 then sig=-1;
end;
timepd="Trend";
  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
      UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
      UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));   ***MJS 07/08/03 Added TIMEPD;
run;

proc sort data=trend3(drop=t_obs twgt a_score a_period t_score t_se t_period serr
 bserr btrend ttrend order); by key;
 data trend4 ;
 merge trend3(in=din) fakeq(in=cin); by key;
 if din;
 RUN;

data combine2;
set combine trend4;RUN;

proc sort; by key;
data combine3 dupe;
set combine2; by key;
```

```
if ^(first.key & last.key) then output dupe;
output combine3;
proc print data=dupe;run;

/* RSG 06/2005 - set trend to missing for component/composite
   scores with missing scores in any of the quarter*/
/*AMK 9/23/13 - keep trends if missing data for an entire quarter*/
data misses (keep=key2) all;
set combine3;
length key2 $200.;
KEY2 = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
       UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
       UPCASE(TRIM(REGION));
if score = . and period ne &EMPTY_PERIOD. then output misses; *AMK 9/23/13 ADDED EMPTY PERIOD;
output all;
run;
proc sort data=misses;
by key2;
proc sort data=all;
by key2;
run;

data combine4;
merge all (in=a) misses (in=b);
by key2;
if a and b then do;
  if timepd = "Trend" then score = .;
end;
run;

*************************************************************************
* Create place holders for missing records
*************************************************************************;
DATA FAKEONLY;
  MERGE COMBINE4(IN=IN1) TEMPQ(IN=IN2);
  BY KEY;
  SOURCE = "FAKE ONLY";
  FLAG  = "FAKE ONLY";
  IF IN2 AND NOT IN1;

RUN;

*************************************************************************
* Combine all of the missing records with the existing records to generate
* the complete WEB layout file.
*************************************************************************;
DATA CONUS_Q;
  SET FAKEONLY COMBINE4;
  BY KEY;
  ********************************************************************
  * Convert CAHPS Composites and Individual to 1-100 scale
  ********************************************************************;
  IF timepd="Trend" OR (timepd="&PERIOD4" & benefit ne "Preventive Care")
```

```
           then
            SCORE = SCORE*100;

                IF TIMEPD = "&&PERIOD&EMPTY_PERIOD" THEN DO;
                        SCORE = .S;
                        N_OBS = 30;
                        N_WGT = 200;
                END;
RUN;

PROC SORT DATA=CONUS_Q; BY ORDER; RUN;

DATA FAKEQ;
   length key $200;
  SET IN1.FAKEQ;
  SIG = .;
  SCORE = .;
  ORDER = _N_;
  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
     UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
     UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));   ***MJS 07/31/03 Added TIMEPD;

RUN;
PROC SORT DATA=FAKEQ OUT=TEMPQ;     BY KEY; RUN;
PROC SORT DATA=FAKEQ(KEEP=ORDER KEY); BY KEY; RUN;

PROC SORT DATA=CONUS_Q out=OUT.CONUS_Q;
BY KEY;
RUN;

DATA FAKEONLY;
  MERGE OUT.CONUS_Q(IN=IN1) TEMPQ(IN=IN2);
  BY KEY;
  SOURCE = "FAKE ONLY";
  FLAG  = "FAKE ONLY";
  IF IN2 AND NOT IN1;
RUN;

DATA TOTAL_Q;
  SET FAKEONLY OUT.CONUS_Q;
  BY KEY;
  IF MAJGRP="All Beneficiaries" then MAJGRP="All Users";
  IF MAJGRP="Non-enrolled Beneficiaries" then MAJGRP="Select Enrollees";
  IF BENEFIT="Primary Care Manager" THEN BENEFIT="Personal Doctor";  /*MJS 02/05/2003*/
  /* 11/14/2005 RSG - ADDED IN THESE CODE TO CAPITALIZE ALL WORDS IN TITLE */
  /*IF BENTYPE = "Problems Getting Referral to Specialist     "
    THEN BENTYPE = "Problems Getting Referral To Specialist  ";
  IF BENTYPE = "Delays in Care while Awaiting Approval       "
    THEN BENTYPE = "Delays In Care While Awaiting Approval   ";
  IF BENTYPE = "Advice over Telephone                "
    THEN BENTYPE = "Advice Over Telephone              ";
  IF BENTYPE = "Wait for Routine Visit               "
    THEN BENTYPE = "Wait For Routine Visit            ";
```

```
   IF BENTYPE = "Wait for Urgent Care                "
      THEN BENTYPE = "Wait For Urgent Care             ";
   IF BENTYPE = "Wait More than 15 Minutes Past Appointment    "
      THEN BENTYPE = "Wait More Than 15 Minutes Past Appointment";
   IF BENTYPE = "Explains so You can Understand           "
      THEN BENTYPE = "Explains So You Can Understand        ";
   IF BENTYPE = "Spends Time with You                "
      THEN BENTYPE = "Spends Time With You              ";
   IF BENTYPE = "Courteous and Respectful             "
      THEN BENTYPE = "Courteous And Respectful           ";
   IF BENTYPE = "Problem Getting Help from Customer Service    "
      THEN BENTYPE = "Problem Getting Help From Customer Service";
   IF BENTYPE = "Problem with Paperwork              "
      THEN BENTYPE = "Problem With Paperwork            ";
   IF BENTYPE = "Claims Handled in a Reasonable Time      "
      THEN BENTYPE = "Claims Handled In A Reasonable Time     ";*/
   IF substr(region,1,5) in ('Latin','Europ','Pacif')|Region='Overseas Latin America'
    then delete;
   IF REGION IN ("East DHA","West DHA","Europe DHA",
          "Pacific DHA","Latin America DHA") THEN DELETE; /*MBT 2-7-2019 East region created and Joint
Service replaced by DHA*/

RUN;

PROC SORT DATA=TOTAL_Q OUT=OUT.TOTAL_Q; BY ORDER; RUN;

TITLE1 "Quarterly DOD Health Survey Scores/Report Cards (6401-904)";
TITLE2 "Program Name: CONUS_Q.SAS By Keith Rathbun";
TITLE3 "Program Inputs: MERGFINQ.sas7bdat - Scores Database in WEB Layout";
TITLE4 "Program Outputs: TOTAL_Q.sas7bdat - USA Scores Database in WEB layout";

PROC FREQ;
TABLES SIG FLAG SOURCE BENEFIT BENTYPE MAJGRP REGION REGCAT TIMEPD   /*MJS 07/08/03 Added
TIMEPD*/
    REGION*REGCAT
   /MISSING LIST;
RUN;

*AMK - check empty dataset and trend;
PROC PRINT DATA=TOTAL_Q (DROP = KEY OBS=30);
WHERE TIMEPD="Trend";
RUN;
PROC PRINT DATA=TOTAL_Q (DROP = KEY OBS=30);
WHERE TIMEPD="&PERIOD3.";
RUN;
```

G.7 Q3FY2020\PROGRAMS\LOADWEB\CreateTotal_qp4.sas - Combines the regular totalq and purchase totalq into one dataset - Run Quarterly.

```
/*****************************************************************************/
/*** Project: 6244 DOD                                      ***/
/*** Program: CreateTotal_qp&PERIOD.sas                     ***/
/*** Purpose: Add from Purchase Care's Totalq data, Enrollees with Civilian PCM   ***/
/***      to the Adult Beneficiary's Totalq data.  New data will be use to    ***/
/***      populate the Purchase Care's section of the html reports.      ***/
/*** Author : Justin Oh 08/06/2008                          ***/
/*** Input  : ..currentPeriod\PurchasedLoadweb\total_q              ***/
/***        ..currentPeriod\Loadweb\total_q                  ***/
/*** Output : .\total_q                              ***/
/*** Modify : 12/27/2016 by Matt Turbyfill - Corrected backslash for SAS Grid    ***/
/***                                        ***/
/*** B-4-Run: Change the %LET statements at the top of the program.          ***/
/*****************************************************************************/
OPTIONS COMPRESS=YES;

/*** Reference quarter's period                      ***/
%LET PERIOD = 4;

/*** Adult Beneficiary and Purchase Care total_q.sas7bdat locations      ***/
LIBNAME TOTQ_P '../PurchasedLoadWeb';
LIBNAME TOTQ_A '.';
LIBNAME TOTQ_X '.';

/*** Keep only Enrollees with Civilian PCM, used for the Purchased Care group    ***/
DATA total_pc;
  SET TOTQ_P.total_q;
  IF MAJGRP = 'Enrollees with Civilian PCM';
  IF MAJGRP = 'Enrollees with Civilian PCM' THEN MAJGRP = 'Purchased Care Users';
RUN;
/*** Add Purchase Care's renamed MAJGRP to create a final total_q file      ***/
DATA TOTQ_X.total_qp&PERIOD;
  SET TOTQ_A.total_q total_pc;
RUN;

/******************************* END OF PROGRAM *******************************/
```

G.154

G.8.A ReportCards\CAHPS_Adult2020\STEP1Q.SAS - Create and recode variables used in Adult Beneficiary Reports - Annual.

```
***************************************************************************
*
*  PROJECT:  DoD - Quarterly Adult Report Cards
*  PROGRAM:  STEP1Q.SAS
*  PURPOSE:  Create Dummy and Recode Variables used in Adult Report Card
*            Create a Female dummy variable
*            Create an Education dummy variable
*            Create 15 region dummies combining regions.
*                7 & 8 into region 8. That is, there
*                isn't a region 7 dummy.
*            Create 7 age dummy variables.
*
*        We require the most desired code to be the highest value.
*        Recode the dependent variables into:
*            1 - the least desirable value
*            2 - the 2nd least desirable value
*            3 - the most desirable value
*            . - missing
*
*        Create 7 variables GROUP1 - GROUP7
*            IF (XINS_COV IN (1,2,6) AND H09004>=2) THEN GROUP1 = 1
*            IF (XENR_PCM IN (1,2,6) AND H09004>=2) THEN GROUP2 = 1
*            IF (XENR_PCM = 3,7    AND H09004>=2) THEN GROUP3 = 1
*            IF XINS_COV IN (3)             THEN GROUP4 = 1
*                /*JSO 08/24/2006, Deleted 4,5*/
*            IF XBNFGRP = 1            THEN GROUP5 = 1
*            IF XBNFGRP = 2            THEN GROUP6 = 1
*            IF XBNFGRP IN (3,4)           THEN GROUP7 = 1
*            GROUP8 is output for all beneficiaries
*
*  MODIFIED:45) November 11, 2012 By Mike Rudacille, Updated for handling of Joint Service facilities
*        46) December 1, 2014 By Matt Turbyfill, revised for the Macro Program.
*                                Replaced RCTYPE with &PC.ReportCards
*                                Changed HCSyyq_2 to &DATAFILE.
*                                Changed H14 and R14 to H&FY. And R&FY.
*                                Changed numerous INCLUDE and FILE references to
..\..\ReportCards\CAHPS_Adult&FYYEAR.
*
*  INPUTS:   1) HCSyyq_1 - DoD Quarterly HCS Database
*
*  OUTPUTS:  1) GROUP1-8.sas7bdat - DoD Quarterly GROUP files as defined above
*
*  INCLUDES: 1) CONVERT.SAS - Convert item responses to proportional
*                 values for consistency w/ TOPS
*
*  NOTES:    1) Groups 1-3 modified 10/09/2000
*
*        2) In Q1_2002, S02S01 was renamed and recoded to H00077 (health
*           status variable for 2000).  H02077 was the Hispanic/Latino
```

```
*         variable.  In Q2_2002, H02077 is health status, and H02079
*         is the Hispanic/Latino variable.  To make the Quarter 2 data
*         file (HSC022_1.sd2) more consistent with the Quarter 1 file,
*         the health status variable which was H02077 is now H04075,
*         and the Hispanic/Latino variable which was H02079 is now
*         H02077.
*
************************************************************************;

/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards          ***/
%LET RCTYPE = &PC.ReportCards;

OPTIONS NOCENTER LS=124 PS=74 SOURCE SOURCE2 NOFMTERR NOOVP COMPRESS=YES;
LIBNAME OUT "Data";
LIBNAME IN1  "../../../Data";
LIBNAME LIBRARY  "../../../Data/fmtlib";

%LET WGT= CFWT;

TITLE1   'Program Saved as: STEP1Q.SAS';

proc format;
   value servreg 1 = 'East Army'
            2 = 'East Air Force'
            3 = 'East Navy'
            4 = 'East Other'
            5 = 'East DHA'
            6 = 'West Army'
            7 = 'West Air Force'
            8 = 'West Navy'
            9 = 'West Other'
           10 = 'West DHA'
           11 = 'Europe Army'
           12 = 'Europe Air Force'
           13 = 'Europe Navy'
           14 = 'Europe Other'
           15 = 'Europe DHA'
           16 = 'Pacific Army'
           17 = 'Pacific Air Force'
           18 = 'Pacific Navy'
           19 = 'Pacific Other'
           20 = 'Pacific DHA'
           21 = 'Latin America Army'
           22 = 'Latin America Air Force'
           23 = 'Latin America Navy'
           24 = 'Latin America Other'
           25 = 'Latin America DHA';

DATA ENTIRE;
  SET IN1.&DATAFILE.(KEEP=
         MPRID
         FIELDAGE   /*MJS 01/26/04*/
         XTNEXRG2
```

```
        SERVAFF    /*KRR 04/09/04*/
        DBENCAT    /*JSO 04/26/2007, added for reservists logic*/
        USA
        ENBGSMPL
        SREDA
        XSEXA
                XCATCH
        XBNFGRP
        STRATUM    /*KRR 04/03/2006, changed from ADJ_CELL*/
        XINS_COV
        XENR_PCM
        XOCONUS    /*JSO 08/24/2006, Overseas Region Indicator*/
        &WGT
        QUARTER
        /* Getting Needed Care */
        H&FY.033
        H&FY.029
        /* Getting Care Quickly */
        H&FY.007
        H&FY.010
        /* How Well Doctors Communicate */
        H&FY.021
        H&FY.022
        H&FY.023
        H&FY.024
        /* Customer Service */
        H&FY.041
        H&FY.042
        /* Claims Processing */
        H&FY.046
        H&FY.047  /***************************/
        H&FY.065  /* Health Status          */
        H&FY.018  /* Health Care Rating       */
        H&FY.048  /* Health Plan Rating      */
        H&FY.027  /* Personal Doctor Rating   */
        H&FY.031  /* Specialist Rating       */
        H&FY.003  /* Health Plan Used        *//*JSO 04/26/2007, added for reservists logic*/
        H&FY.004  /* How Long in Health Plan  */
              /***************************/
        );
FORMAT _ALL_;

IF SERVAFF='A' THEN XSERVAFF=1;          *Army;
  ELSE IF SERVAFF='F' THEN XSERVAFF=2;    *Air Force;
  ELSE IF SERVAFF='N' THEN XSERVAFF=3;    *Navy;
  ELSE XSERVAFF=4;                *Other;

IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA;

IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

IF XTNEXRG2 = . THEN DELETE;  /* RSG 02/2005 USE CACSMPL TO DELETE MISSING FIELDS*/
```

```
  IF XINS_COV NOT IN(1,2,3,6,9,10,13,14) THEN DELETE;  /*JSO 07/30/2007, Added 9*/ /*MER 10/07/11 Added
10 and 11 */
                              /*AMK 6/17/14 removed 11, added 13/14*/

  NXNS_COV = XINS_COV;          /*JSO 04/26/2007 added for reservists logic*/
                       /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
  IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
  IF DBENCAT IN('GRD','IGR') AND H&FY.003 = 3 THEN DO;
    NXNS_COV = 3;
    XENR_PCM = .;
  END;
              /* Note:  use tmp_cell in step2q.sas */
  LENGTH TMP_CELL XSERVREG 8;
  TMP_CELL = STRATUM; /*KRR 04/03/2006, changed from ADJ_CELL*/

  IF XTNEXRG2 = 1 THEN DO;
    IF XSERVAFF = 1 THEN XSERVREG = 1;
    ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
    ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
    ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
    ELSE XSERVREG = 5;
  END;

  IF XTNEXRG2 = 2 THEN DO;
    IF XSERVAFF = 1 THEN XSERVREG = 6;
    ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
    ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
    ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
    ELSE XSERVREG = 10;
  END;

  IF XTNEXRG2 = 3 THEN DO; /*JSO 08/24/2006, Changed Overseas Regions*/
    IF XOCONUS = 1 THEN DO;
      IF    XSERVAFF = 1 THEN XSERVREG = 11;
      ELSE IF XSERVAFF = 2 THEN XSERVREG = 12;
      ELSE IF XSERVAFF = 3 THEN XSERVREG = 13;
      ELSE IF XSERVAFF = 4 THEN XSERVREG = 14;
      ELSE            XSERVREG = 15;
    END;
    IF XOCONUS = 2 THEN DO;
      IF    XSERVAFF = 1 THEN XSERVREG = 16;
      ELSE IF XSERVAFF = 2 THEN XSERVREG = 17;
      ELSE IF XSERVAFF = 3 THEN XSERVREG = 18;
      ELSE IF XSERVAFF = 4 THEN XSERVREG = 19;
      ELSE            XSERVREG = 20;
    END;
    IF XOCONUS = 3 THEN DO;
      IF    XSERVAFF = 1 THEN XSERVREG = 21;
      ELSE IF XSERVAFF = 2 THEN XSERVREG = 22;
      ELSE IF XSERVAFF = 3 THEN XSERVREG = 23;
      ELSE IF XSERVAFF = 4 THEN XSERVREG = 24;
      ELSE            XSERVREG = 25;
    END;
```

```
   END;

   IF XSERVREG = . THEN DELETE;  /* MER 11/10/10 - Deletes records with imputed TNEXREG = 'O' */
                     /* and missing XOCONUS.  (Only applies to CACSMPL = 9904)    */

   /* MER 7/27/12 - New logic for handling out of catchment OCONUS */
   IF XCATCH = 9904 THEN DO;
     IF XSERVREG <=5 THEN XCATCH=9901;
     ELSE IF XSERVREG <=10 THEN XCATCH=9903;
     ELSE IF XSERVREG <=15 THEN XCATCH=9905;
     ELSE IF XSERVREG <=20 THEN XCATCH=9906;
     ELSE IF XSERVREG <=25 THEN XCATCH=9907;
   END;

RENAME XCATCH=CACSMPL;
   WRWT=&WGT;

RUN;

title;
data out.entire;
set entire;
run;

*------------------------------------------------;
* create variable names for catchment area dummies ;
*------------------------------------------------;

*  create a file of catchment areas (UNIQUE) using the sort to drop;
*  all duplicate catchment areas leaving one record per;
*  unique catctment area code;
PROC SORT DATA=ENTIRE OUT=UNIQUE(KEEP=CACSMPL) NODUPKEY;
   BY CACSMPL;
RUN;

*  create a file (FILEA) with catchment areas codes and a catchment;
*  name consisting of "CAT" concatenated with a 4 digit number;
*  created by ting of "CAT" concatenated with a 4 digit number;
DATA FILEA (RENAME=(CACSMPL=START SERIAL=LABEL));
   SET UNIQUE;
   SERIAL+1;
   LENGTH FMTNAME $7 DUMNAME $7;
   FMTNAME='CACLOOK';
   DUMNAME= 'CAT' || PUT(CACSMPL, Z4.);
RUN;

PROC PRINT DATA=FILEA;
    TITLE2 '1 record per catchment area (use this file to create a format)';
RUN;

* create a format statement to be used to create CATINDX;
PROC FORMAT CNTLIN=FILEA;  RUN;
```

```
* create an include file for a complete set of catchment areas.
* Write out to a file (CDUMFILE.INC) of the catchment dummy variables;
DATA _NULL_;
  SET FILEA END=EOF;
  FILE "../../ReportCards/CAHPS_Adult&fyyear./CDUMFILE.INC";
  IF _N_ = 1 THEN DO;
    PUT @10  "ARRAY CATDUMS(*) 4";
  END;
  PUT   @15   DUMNAME $7.;

  IF EOF  THEN  PUT @10 ";";
RUN;


**************************************************************************
* Create AGE, FEMALE and GROUP (Beneficiary/Enrollment)
* subsets. Create the region dummies.  Recode region 7 to region 8.
**************************************************************************;
DATA ENTIRE;
  SET ENTIRE;
  LENGTH DEFAULT = 4;
  IF FIELDAGE NE "  " THEN DO;   /*MJS 01/26/04*/
    AGE1824=0;
    AGE2534=0;
    AGE3544=0;
    AGE4554=0;
    AGE5564=0;
    AGE6574=0;
    AGE75UP=0;
    IF    ( '018' <= FIELDAGE <= '024' ) THEN AGE1824=1;  /*MJS 01/26/04*/
    ELSE IF ( '025' <= FIELDAGE <= '034' ) THEN AGE2534=1;
    ELSE IF ( '035' <= FIELDAGE <= '044' ) THEN AGE3544=1;
    ELSE IF ( '045' <= FIELDAGE <= '054' ) THEN AGE4554=1;
    ELSE IF ( '055' <= FIELDAGE <= '064' ) THEN AGE5564=1;
    ELSE IF ( '065' <= FIELDAGE <= '074' ) THEN AGE6574=1;
    ELSE IF (        FIELDAGE  > '074' ) THEN AGE75UP=1;
  END;

  **********************************************************************
  * Create the FEMALE dummy variable.
  **********************************************************************;
  IF XSEXA = 2 THEN
    FEMALE = 1;
  ELSE
    FEMALE = 0;


  **********************************************************************
  * Create the beneficiary group/enrollment group subsets.
  **********************************************************************;
  GROUP1 = 0;
  GROUP2 = 0;
  GROUP3 = 0;
  GROUP4 = 0;
  GROUP5 = 0;
```

```
  GROUP6 = 0;
  GROUP7 = 0;
  GROUP8 = 1;    * EVERYONE;

  IF (NXNS_COV IN (1,2,6,13)  AND H&FY.004>=2) THEN GROUP1 = 1;/*AMK 6/17/14 added 13*/
  IF (XENR_PCM IN (1,2,6)  AND H&FY.004>=2) THEN GROUP2 = 1;   /* JSO 04/05/2007 conditions to run RC type
*/
  IF "&RCTYPE" = 'ReportCards' AND (XENR_PCM IN (3,7) AND H&FY.004>=2) THEN GROUP3 = 1;
  ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND ((XENR_PCM IN (3,7) AND H&FY.004>=2) OR NXNS_COV IN
(3,9,10,14)) THEN GROUP3 = 1;/*AMK 6/17/14 added 14*/
  IF NXNS_COV IN  (3,9,10,14)    THEN GROUP4 = 1; /*JSO 08/24/2006, Deleted 4,5*//*JSO 07/30/2007, Added
9*/ /* MER 10/07/11 Added 10 */
  IF XBNFGRP = 1 OR DBENCAT IN('IGR','GRD') THEN GROUP5 = 1;
                        /*JSO 07/30/2007, added DBENCAT conditions*/
  IF XBNFGRP = 2 OR DBENCAT IN('IDG','DGR') THEN GROUP6 = 1;
                        /*JSO 07/30/2007, added DBENCAT conditions*/
  IF XBNFGRP IN (3,4)     THEN GROUP7 = 1;

  ********************************************************************
  * Recode variables with Never, Sometimes, Usually and Always:
  *   Recode Never & Sometimes (1 & 2) to 1.
  *   Recode Usually (3) to 2.
  *   Recode Always (4) to 3.
  ********************************************************************;

  IF H&FY.007 = 1     THEN R&FY.007 = 1;
  ELSE IF H&FY.007 = 2 THEN R&FY.007 = 1;
  ELSE IF H&FY.007 = 3 THEN R&FY.007 = 2;
  ELSE IF H&FY.007 = 4 THEN R&FY.007 = 3;
  ELSE IF H&FY.007 < 0 THEN R&FY.007 = .;

  IF H&FY.010 = 1     THEN R&FY.010 = 1;
  ELSE IF H&FY.010 = 2 THEN R&FY.010 = 1;
  ELSE IF H&FY.010 = 3 THEN R&FY.010 = 2;
  ELSE IF H&FY.010 = 4 THEN R&FY.010 = 3;
  ELSE IF H&FY.010 < 0 THEN R&FY.010 = .;

  IF H&FY.021 = 1     THEN R&FY.021 = 1;
  ELSE IF H&FY.021 = 2 THEN R&FY.021 = 1;
  ELSE IF H&FY.021 = 3 THEN R&FY.021 = 2;
  ELSE IF H&FY.021 = 4 THEN R&FY.021 = 3;
  ELSE IF H&FY.021 < 0 THEN R&FY.021 = .;

  IF H&FY.022 = 1     THEN R&FY.022 = 1;
  ELSE IF H&FY.022 = 2 THEN R&FY.022 = 1;
  ELSE IF H&FY.022 = 3 THEN R&FY.022 = 2;
  ELSE IF H&FY.022 = 4 THEN R&FY.022 = 3;
  ELSE IF H&FY.022 < 0 THEN R&FY.022 = .;

  IF H&FY.023 = 1     THEN R&FY.023 = 1;
  ELSE IF H&FY.023 = 2 THEN R&FY.023 = 1;
  ELSE IF H&FY.023 = 3 THEN R&FY.023 = 2;
  ELSE IF H&FY.023 = 4 THEN R&FY.023 = 3;
```

```
ELSE IF H&FY.023 < 0 THEN R&FY.023 = .;

IF H&FY.024 = 1     THEN R&FY.024 = 1;
ELSE IF H&FY.024 = 2 THEN R&FY.024 = 1;
ELSE IF H&FY.024 = 3 THEN R&FY.024 = 2;
ELSE IF H&FY.024 = 4 THEN R&FY.024 = 3;
ELSE IF H&FY.024 < 0 THEN R&FY.024 = .;

IF H&FY.029 = 1     THEN R&FY.029 = 1;
ELSE IF H&FY.029 = 2 THEN R&FY.029 = 1;
ELSE IF H&FY.029 = 3 THEN R&FY.029 = 2;
ELSE IF H&FY.029 = 4 THEN R&FY.029 = 3;
ELSE IF H&FY.029 < 0 THEN R&FY.029 = .;

IF H&FY.033 = 1     THEN R&FY.033 = 1;
ELSE IF H&FY.033 = 2 THEN R&FY.033 = 1;
ELSE IF H&FY.033 = 3 THEN R&FY.033 = 2;
ELSE IF H&FY.033 = 4 THEN R&FY.033 = 3;
ELSE IF H&FY.033 < 0 THEN R&FY.033 = .;

IF H&FY.041 = 1     THEN R&FY.041 = 1;
ELSE IF H&FY.041 = 2 THEN R&FY.041 = 1;
ELSE IF H&FY.041 = 3 THEN R&FY.041 = 2;
ELSE IF H&FY.041 = 4 THEN R&FY.041 = 3;
ELSE IF H&FY.041 < 0 THEN R&FY.041 = .;

IF H&FY.042 = 1     THEN R&FY.042 = 1;
ELSE IF H&FY.042 = 2 THEN R&FY.042 = 1;
ELSE IF H&FY.042 = 3 THEN R&FY.042 = 2;
ELSE IF H&FY.042 = 4 THEN R&FY.042 = 3;
ELSE IF H&FY.042 < 0 THEN R&FY.042 = .;

IF H&FY.046 = 1     THEN R&FY.046 = 1;
ELSE IF H&FY.046 = 2 THEN R&FY.046 = 1;
ELSE IF H&FY.046 = 3 THEN R&FY.046 = 2;
ELSE IF H&FY.046 = 4 THEN R&FY.046 = 3;
ELSE IF H&FY.046 < 0 THEN R&FY.046 = .;

IF H&FY.047 = 1     THEN R&FY.047 = 1;
ELSE IF H&FY.047 = 2 THEN R&FY.047 = 1;
ELSE IF H&FY.047 = 3 THEN R&FY.047 = 2;
ELSE IF H&FY.047 = 4 THEN R&FY.047 = 3;
ELSE IF H&FY.047 < 0 THEN R&FY.047 = .;

************************************************************************
* Recode variables to one missing condition ".".
* This also renames all the "H0xxxx" to "R0xxxx".
************************************************************************;
R&FY.027 = H&FY.027;  IF R&FY.027 < 0 THEN R&FY.027 = .;
R&FY.031 = H&FY.031;  IF R&FY.031 < 0 THEN R&FY.031 = .;
R&FY.018 = H&FY.018;  IF R&FY.018 < 0 THEN R&FY.018 = .;
R&FY.048 = H&FY.048;  IF R&FY.048 < 0 THEN R&FY.048 = .;
R&FY.065 = H&FY.065;  IF R&FY.065 < 0 THEN R&FY.065 = .;
```

```
************************************************************************
* Create region and service affiliation dummies.
************************************************************************;
IF XSERVREG NE . THEN DO;  /*MBT 2/7/2019 Changed to macro*/
  ARRAY REGDUMS (&xservregcnt.) REG01-REG&xservregcnt.  ;
  DO I = 1 TO &xservregcnt.;
    REGDUMS(I)=0;
    IF XSERVREG= I  THEN REGDUMS(I)=1;
  END;

  ARRAY SRVDUMS (5) SRV01 SRV02 SRV03 SRV04 SRV05; /*MER 11/11/2012 Changed from 4 to 5*/
  DO I = 1 TO 5;   /*Needed for consumer watch ONLY */
    SRVDUMS(I)=0;
  END;
  IF     XSERVAFF = 1 THEN SRV01 = 1;
  ELSE IF  XSERVAFF = 2 THEN SRV02 = 1;
  ELSE IF  XSERVAFF = 3 THEN SRV03 = 1;
  ELSE IF  XSERVAFF = 4 THEN SRV04 = 1;
  ELSE IF  XSERVAFF = 5 THEN SRV05 = 1;

 END;
 *------------------------;
 * Create catchment dummies;
 *------------------------;
 %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./CDUMFILE.INC";   * this is array statement;
 CATINDX = INPUT(PUT(CACSMPL, CACLOOK.), 3.);
 DO I = 1 TO DIM(CATDUMS);
  CATDUMS(I) = 0;
 END;
 CATDUMS(CATINDX)=1;

RUN;

************************************************************************
* Recode item responses to proportional values using CONVERT.SAS.
************************************************************************;
%INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./CONVERT.SAS";

%CONT2(DSN=ENTIRE, NUM=4,  Y=R&FY.018 R&FY.048 R&FY.027 R&FY.031);
%CONT3(DSN=ENTIRE, NUM=12, Y=R&FY.007 R&FY.010 R&FY.029 R&FY.033
                R&FY.021 R&FY.022 R&FY.023 R&FY.024
                R&FY.041 R&FY.042 R&FY.046 R&FY.047);

************************************************************************
* Sort the main file to reorder it by MPRID.
************************************************************************;
PROC SORT DATA=ENTIRE; BY MPRID; RUN;

************************************************************************
* Print the contents of ENTIRE dataset.
************************************************************************;
PROC CONTENTS DATA=ENTIRE;
```

```
   TITLE2 'Contents of ENTIRE';
RUN;

**************************************************************************
* Print some of the recoded records.
**************************************************************************;
PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of AGE and SEX dummies';
  VAR MPRID
    FIELDAGE   /*MJS 01/26/04*/
    XTNEXRG2
    XSERVAFF
    XSERVREG
    USA
    ENBGSMPL
    XSEXA
    STRATUM   /*KRR 04/03/2006 Changed from ADJ_CELL*/
    XINS_COV
    NXNS_COV  /*JSO 04/26/2007, added for reservists logic*/
    DBENCAT   /*JSO 04/26/2007, added for reservists logic*/
    XENR_PCM
    &WGT.
    ;
RUN;

**************************************************************************
* Print some of the recoded records.
**************************************************************************;
PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of AGE and SEX dummies';
  VAR FIELDAGE   /*MJS 01/26/04*/
    AGE1824
    AGE2534
    AGE3544
    AGE4554
    AGE5564
    AGE6574
    AGE75UP

    XSEXA
    FEMALE

    ENBGSMPL
    XINS_COV
    NXNS_COV
    XENR_PCM
    XBNFGRP
    GROUP1
    GROUP2
    GROUP3
    GROUP4
    GROUP5
    GROUP6
```

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```
      GROUP7
    ;
RUN;

PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of recoded question variables';
  VAR H&FY.007  R&FY.007
    H&FY.010  R&FY.010
    H&FY.021  R&FY.021
    H&FY.022  R&FY.022
    H&FY.023  R&FY.023
    H&FY.024  R&FY.024
    H&FY.029  R&FY.029
    H&FY.033  R&FY.033
    H&FY.041  R&FY.041
    H&FY.042  R&FY.042
    H&FY.046  R&FY.046
    H&FY.047  R&FY.047
    H&FY.018  R&FY.018
    H&FY.027  R&FY.027
    H&FY.031  R&FY.031
    H&FY.048  R&FY.048
    H&FY.065  R&FY.065
    ;
RUN;

/*JSO 08/24/2006, Changed 16 to 24*/
/*MER 11/11/2012, Changed 24 to 30*/
PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of recoded REGION variables';
  VAR XSERVREG
    REG01-REG&xservregcnt.
;
RUN;

/*MER 11/03/2012 Changed 4 to 5*/
PROC PRINT DATA=ENTIRE(OBS=60);
  TITLE2 'Print of recoded service affiliation variables';
  VAR XSERVREG
    XSERVAFF
    XOCONUS /*JSO 08/24/2006, Changed Overseas Regions*/
    SRV01
    SRV02
    SRV03
    SRV04
    SRV05
    ;
RUN;
proc freq data=entire;
table xservreg*cacsmpl/noprint out=temp;
proc sort; by cacsmpl count;
data out.xservind(keep=cacsmpl xservind);
set temp; by cacsmpl;
```

```
if last.cacsmpl;
if xservreg in (11,12,13,14,15) then xservreg=11;
else if xservreg in (16,17,18,19,20) then xservreg=12;
else if xservreg in (21,22,23,24,25) then xservreg=13;

rename xservreg=xservind;
proc sort data=entire;
by cacsmpl;
data entire;
merge entire out.xservind; by cacsmpl;

**************************************************************************
* Create the 7 subgroups for processing by STEP2.SAS.
**************************************************************************;
DATA OUT.GROUP1
   OUT.GROUP2
   OUT.GROUP3
   OUT.GROUP4
   OUT.GROUP5
   OUT.GROUP6
   OUT.GROUP7
   OUT.GROUP8;

   SET ENTIRE;

   DROP
     H&FY.007
     H&FY.010
     H&FY.021
     H&FY.022
     H&FY.023
     H&FY.024
     H&FY.029
     H&FY.033
     H&FY.041
     H&FY.042
     H&FY.046
     H&FY.047
     H&FY.018
     H&FY.027
     H&FY.031
     H&FY.048
     H&FY.065
      ;
   IF GROUP1 = 1 THEN OUTPUT OUT.GROUP1;
   IF GROUP2 = 1 THEN OUTPUT OUT.GROUP2;
   IF GROUP3 = 1 THEN OUTPUT OUT.GROUP3;
   IF GROUP4 = 1 THEN OUTPUT OUT.GROUP4;
   IF GROUP5 = 1 THEN OUTPUT OUT.GROUP5;
   IF GROUP6 = 1 THEN OUTPUT OUT.GROUP6;
   IF GROUP7 = 1 THEN OUTPUT OUT.GROUP7;
    OUTPUT OUT.GROUP8;
RUN;
```

G.8.B ReportCards\CAHPS_Adult2020\Convert.SAS - Convert Item Responses to Proportional Values.

```
*************************************************************************
*
* PROGRAM:  CONVERT.SAS
* TASK:     DOD HEALTH CARE SURVEY ANALYSIS (8687-330)
* PURPOSE:  CONVERT ITEM RESPONSES TO PROPORTIONAL VALUES FOR CONSISTENCY
*       WITH THE TOPS SURVEY.
* WRITTEN:  October 2000 BY ERIC SCHONE
*
* MODIFIED: October 2000 BY KEITH RATHBUN, Added PROLOG.  Also, added DSN
*       to argument lists.
*
* INPUTS:  1) User-specified SAS Dataset
*
* OUTPUTS: 1) User-specified SAS Dataset with recoded values
*
* NOTES:
*
* 1) Arguments for the CONT1-CONT3 macros are as follows:
*    a) SAS dataset name (dsn)
*    b) Number of variables to be converted (num)
*    c) List of variables to be converted (y)
* 2) These macros assume that the response items have already been
*    converted/recoded to CAHPS scales.
*
*************************************************************************
* CONT1 - Convert big problem, small problem, not a problem questions to
*       proportional values.
*************************************************************************;
%macro cont1(dsn=, num=, y=);
data &dsn(drop=i);
  set &dsn;
  array vars &y;
  do i = 1 to &num;
    if vars(i) ne . and vars(i) ne 3 then vars(i) = 0;
    if vars(i) = 3 then vars(i) = 1;
  end;
run;
%mend cont1;


*************************************************************************
* CONT2 - Convert rating questions to proportional values.
*************************************************************************;
%macro cont2(dsn=, num=, y=);
data &dsn(drop=i);
  set &dsn;
  array vars &y;
  do i=1 to &num;
    if vars(i) ne . and vars(i) < 8 then vars(i) = 0;
    if vars(i) in (8,9,10) then vars(i) = 1;
```

```
   end;
run;
%mend cont2;


************************************************************************
* CONT3 - Convert Never, Sometimes, Usually, Always questions to
*         proportional values.
************************************************************************;
%macro cont3(dsn=, num=, y=);
data &dsn(drop=i);
  set &dsn;
  array vars &y;
  do i=1 to &num;
    if vars(i) ne . and vars(i) >= 2 then vars(i) = 2;
    vars(i) = vars(i) - 1;
  end;
run;
%mend cont3;
```

G.8.C ReportCards\CAHPS_Adult2020\STEP2.SAS - Calculate CAHPS Adjusted Scores - Annual.

```
/***************************************************************************************
/*  Project:  DoD - 2004 Adult Report Cards
/*  Program:  STEP2Q.SAS
/*  Purpose:  Draft Adult Report Card
/*  Requires program STEP1.SAS to have been run
/*  Programming specifications for adult report card
/*  The adult report card contains a large number of
/*  risk-adjusted scores.  Some scores are
/*  calculated from responses to individual survey questions.
/*  Composite scores are calculated by
/*  combining scores from individual questions.
/*  The scores then are compared with external civilian
/*  benchmarks.  The programming tasks involved in building
/*  the report card are:
/*     1)  preparing data for analyses
/*     2)  estimating risk adjustment models
/*     3)  calculating risk-adjusted values and variances
/*     4)  calculating benchmarks
/*     5)  comparing risk-adjusted values to benchmarks
/*        and hypothesis testing
/*
/*  Modified:13) November 11, 2012 by Mike Rudacille, updated for handling of
/*          Joint Service facilities
/*       14) December 1, 2014 By Matt Turbyfill, revised for the Macro Program.
                                   Changed R14 to R&FY.
                                   Inserted ..\..\ReportCards\CAHPS_Adult&FOLDER.&FYYEAR.\ as the
filepath for all INC files,
                                           including REGRSREG, RISKARRY, RISKMEAN, REGARRAY,
RISKVARS, MEANFILE, RISKARRY, RISKMEAN.  Also for the three FILE statements./*

/*  SUBGROUPS
/*  _____
/*   Seven subgroups        Definitions              Reg or Catch   Macro
/*  _____
/*  1. Prime enrollees      XINS_COV IN(1,2,6) AND H08007>=4  Catchment     SCORE1
/*  2. Enrollees w/mil PCM    XENR_PCM IN(1,2,6) AND H08007>=4 Catchment     SCORE1
/*  3. Enrollees w/civ PCM    XENR_PCM = 3     AND H08007>=4  Region        SCORE2
/*  4. Nonenrollees        XINS_COV IN(3)              Region       SCORE2
/*  5. Active duty         XBNFGRP=1             Catchment     SCORE1
/*  6. Active duty dependents   XBNFGRP=2              Region       SCORE2
/*  7. Retirees and dependents  XBNFGRP IN (3,4)          Region       SCORE2
/*
/*  PREV PGM:  STEP1.SAS
/*  NEXT PGM:  COMPOSIT.SAS
/***************************************************************************************/
OPTIONS NOCENTER LS=132 PS=78 SOURCE NOOVP STIMER COMPRESS=YES;
LIBNAME  IN1  "Data";
LIBNAME  OUT  "Data";
LIBNAME  OUT2 "Data/AdultHatFiles";
```

```
*------------------------------------;
*-    set the parameters here    -;
*------------------------------------;
* set the number of Dependent variables to process;
* One does not need to start at 1, but the max must be >= min;
%LET MIN_VAR =  1;
%LET MAX_VAR =  16;

* set the number of subgroups to process;
%LET MIN_GRP = 1;
%LET MAX_GRP = 8;

*************************************************************************
* These are expected to remain the same for a particular dependent
* variable run.
*************************************************************************;
%LET WGT    = CFWT;
%LET IND_VAR1 = R&FY.065;
%LET IND_VAR2 =  ;  * FEMALE;
%LET IND_VAR3 =  ;  * SREDHIGH;
%LET DEBUGFLG = 0;  * Set to 1 if you want extra printout;

%LET TITL1 = Prime Enrollees;
%LET TITL2 = Enrollees w/military PCM;
%LET TITL3 = Enrollees w/civilian PCM;
%LET TITL4 = Nonenrollees;
%LET TITL5 = Active Duty;
%LET TITL6 = Active Duty Dependents;
%LET TITL7 = Retirees and Dependents;
%LET TITL8 = All Beneficiaries;

*************************************************************************
* GETTING NEEDED CARE.
*************************************************************************;
/*10/6/09 ERE not using 2008 version of question 11 and 29 anymore*/
%LET DEPVAR1 = R&FY.029;
%LET DEPVAR2 = R&FY.033;

*************************************************************************
* GETTING NEEDED CARE QUICKLY.
*************************************************************************;
/*10/6/09 ERE not using 2008 version of question 17 and 30 anymore*/
%LET DEPVAR3 = R&FY.010;
%LET DEPVAR4 = R&FY.007;

*************************************************************************
* HOW WELL DOCTORS COMMUNICATE.
*************************************************************************;
%LET DEPVAR5= R&FY.021;
%LET DEPVAR6= R&FY.022;
%LET DEPVAR7= R&FY.023;
%LET DEPVAR8= R&FY.024;
```

```
*************************************************************************
* COURTEOUS AND HELPFUL OFFICE STAFF.
*************************************************************************,
/*10/6/09 ERE this section is not in the 2009 v4 questionaire*/


*************************************************************************
* CUSTOMER SERVICE.
*************************************************************************,
%LET DEPVAR9 = R&FY.041;
%LET DEPVAR10 = R&FY.042;


*************************************************************************
* CLAIMS PROCESSING.
*************************************************************************,
%LET DEPVAR11 = R&FY.046;
%LET DEPVAR12 = R&FY.047;


*************************************************************************
* RATING ALL HEALTH CARE: 0 - 10.
*************************************************************************,
%LET DEPVAR13 = R&FY.018;


*************************************************************************
* RATING OF HEALTH PLAN: 0 - 10.
*************************************************************************,
%LET DEPVAR14 = R&FY.048;


*************************************************************************
* RATING OF PERSONAL DR: 0 - 10.
*************************************************************************,
%LET DEPVAR15 = R&FY.027;


*************************************************************************
* SPECIALITY CARE: 0 - 10.
*************************************************************************,
%LET DEPVAR16 = R&FY.031;

proc freq data=in1.group8;   /*MJS 01/23/04 Changed data set*/
  tables cacsmpl /missing list out=skelcat(keep=cacsmpl);
run;
data skelcat;
  set skelcat;
  if cacsmpl = " " then delete;
run;

/*RSG 02/2005 - put in hard code for skelreg vs. doing freq on data
         since xservreg is not in data and must be coded*/

/* MER 11/11/2012, Changed from 24 to 30 Regions */
DATA SKELREG;
  INPUT XSERVREG;
  DATALINES;
```

```
          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
;
RUN;

%MACRO SCORE1;
*******************************************;
*    use this macro for groups 1, 2 & 5    *;
*    catchment variables are to be used    *;
*******************************************;
%PUT *************************************;
%PUT STARTING MACRO SCORE1;
%PUT "GROUP    = " GROUP&IGRP;
%PUT "TITLE    = " &&DEPVAR&IVAR  &&TITL&IGRP;
%PUT "DEP_VAR  = " &&DEPVAR&IVAR;
%PUT "IND_VAR1 = " &IND_VAR1;
%PUT "IND_VAR2 = " &IND_VAR2;
%PUT "IND_VAR3 = " &IND_VAR3;
%PUT "WGT      = " &WGT;
%PUT *************************************;

*------------------------------------------------;
* If the current group is 1 use the skeleton files;
* else used the previous groups output file;
* The mrgfile is added to by each subgroup;
*------------------------------------------------;
%LET CMRGFILE = OUT.C_&&DEPVAR&IVAR;
%IF "&IGRP" = "1" %THEN %LET CMRGFILE = SKELCAT;

* run regression using the catchment level variables;
```

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```
* output a BETA file (1 record) and the subgroup;
* file with residuals attached (many records);
PROC REG DATA = GROUP&IGRP OUTEST=BETAS;
   TITLE2 "Regression Model on catchment areas";
   TITLE3 "Beneficiary group&igrp: &&TITL&IGRP";
   WEIGHT &WGT;
   %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./REGRSCAT.INC";
   OUTPUT OUT = OUT2.H&IGRP&&DEPVAR&IVAR(KEEP=MPRID &WGT TMP_CELL
              PRED&IGRP RESID&IGRP CACSMPL XSERVREG &&DEPVAR&IVAR)
        P = PRED&IGRP
        R = RESID&IGRP;
RUN;

* print of HCSDB file with the residuals and predicted values;
%IF &DEBUGFLG > 0  %THEN %DO;
  PROC PRINT DATA=OUT2.H&IGRP&&DEPVAR&IVAR (OBS=70);
     TITLE2 "OUT2.H&IGRP&&DEPVAR&IVAR:  file with PRED&IGRP and RESID&IGRP";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
     VAR MPRID XSERVREG CACSMPL &&DEPVAR&IVAR RESID&IGRP PRED&IGRP;
  RUN;

  PROC PRINT DATA=BETAS;
     TITLE2 "BETAS:  file with coefficients";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
%END;

*--------------------------------;
*-- get the standard err/variance;
*--------------------------------;
%LET DEP = &&DEPVAR&IVAR;
%C_SUDAAN(OUT2.H&IGRP&&DEPVAR&IVAR);

* calculate prelim adjusted scores for the risk-adjusters;
* merge adjuster means with the adjuster coefficients;
* then sum their products. Finally add in the intercept;
DATA ADJUST;
   SET MEANFILE;   * CREATED IN THE MACRO  MAKE_DAT;
   IF _N_ = 1 THEN SET BETAS(DROP = _TYPE_);
   %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./RISKARRY.INC";
   %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./RISKMEAN.INC";
   DO I = 1 TO DIM(COEFFS);
    IF COEFFS(I) = . THEN COEFFS(I) = 0;
    IF MEANS(I) = . THEN MEANS(I) = 0;
    ADJUST + ( COEFFS(I) * MEANS(I) );
   END;
   ADJUST = ADJUST + INTERCEPT;
 RUN;

%IF &DEBUGFLG > 0  %THEN %DO;
  PROC PRINT DATA=ADJUST;
     TITLE2 'Print of ADJUST';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
```

```
    RUN;
%END;

* add the catchment coefficients to the adjusted value from above;
* output one record per catchment area with the catchment;
* level adjusted scores;
DATA COEFFCAC(KEEP=CATAREA NEWADJST);
  SET ADJUST;
  %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./CATARRAY.INC";
  LENGTH NAME $8;
  DO I=1 TO DIM(CATRHS);
    CALL VNAME(CATRHS(I),NAME);
    CATAREA=INPUT(SUBSTR(NAME,4,4),4.);
    IF CATRHS(I) = . THEN CATRHS(I) = 0;
    NEWADJST=ADJUST + CATRHS(I);
    OUTPUT;
  END;
RUN;

%IF &DEBUGFLG > 0  %THEN %DO;
  PROC PRINT DATA=COEFFCAC;
      TITLE2 'COEFFCAC: Catchment Area Adjusted Scores';
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
%END;

 * sum of wgts per catchment areas;
 * attach the region id to the output file so;
 * so we can create wgts for each region later;
 PROC MEANS DATA=GROUP&IGRP NWAY NOPRINT ;
  ID   XSERVind ;  * important ;
  CLASS CACSMPL ;
  VAR   &WGT;
  OUTPUT OUT=CAT_WGTS(RENAME=(CACSMPL=CATAREA)) N=CATCNT SUM=CATWGT;
 RUN;

* merge the Coeffcac file with the catchment;
* adjusted scores to the catchment level weight;
* merge by the catchment area. creates a;
* catchment level file with catchment weights;
 DATA COEFFCAC;
  MERGE COEFFCAC(IN=IN1)
      CAT_WGTS(IN=IN2 KEEP=CATAREA XSERVind CATWGT CATCNT);
  BY CATAREA;
  IF IN1;
 RUN;

%IF &DEBUGFLG > 0  %THEN %DO;
  PROC PRINT DATA=CAT_WGTS(OBS=70);
      TITLE2 'CAT_WGTS: Catchment Area Sum of WGTS';
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
```

```
    PROC PRINT DATA=COEFFCAC(OBS=70);
       TITLE2 'Catchment Area Adjusted Scores - with sum of wgts and region';
       TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;

%END;

* merge the previous groups catchment results (if any);
* with the catchment level std err and the catchment;
* level results from the current groups and dependent var;
%PUT "&CMRGFILE: " &CMRGFILE;
DATA OUT.C_&&DEPVAR&IVAR(RENAME=(NEWADJST=ADJ&IGRP));
    MERGE &CMRGFILE(IN=INS)
        C&IGRP&&DEPVAR&IVAR
        COEFFCAC(RENAME=(CATAREA=CACSMPL CATWGT=CATWGT&IGRP CATCNT=CATCNT&IGRP));
    BY CACSMPL;
    DEPENDNT = "&&DEPVAR&IVAR";
    IF INS;
RUN;

PROC PRINT DATA=OUT.C_&&DEPVAR&IVAR;
    TITLE2 "Print of Catchment variables in C_&&DEPVAR&IVAR";
    TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
RUN;

%MEND SCORE1;

%MACRO SCORE2;
 **************************************.
 * use this macro for groups 3, 4, 6, 7;
 * region variables are to be used    ;
 **************************************.
 %PUT **************************************.
 %PUT STARTING MACRO SCORE2;
 %PUT "GROUP   = " GROUP&IGRP;
 %PUT "TITLE   = " &&DEPVAR&IVAR  &&TITL&IGRP;
 %PUT "DEP_VAR  = " &&DEPVAR&IVAR;
 %PUT "IND_VAR1 = " &IND_VAR1;
 %PUT "IND_VAR2 = " &IND_VAR2;
 %PUT "IND_VAR3 = " &IND_VAR3;
 %PUT "WGT     = " &WGT;
 %PUT **************************************.

 %LET RMRGFILE = OUT.R_&&DEPVAR&IVAR;
 %IF "&IGRP" = "1" %THEN %LET RMRGFILE = SKELREG;

 * run regression using the region level variables;
 * output a BETA file (1 record) and the subgroup;
 * file with residuals attached (many records);
 PROC REG DATA = GROUP&IGRP OUTEST=BETAS;
     TITLE2 "Regression Model for GROUP&igrp for regions";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
     WEIGHT &WGT;
```

```
     %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./REGRSREG.INC";
     OUTPUT OUT = OUT2.H&IGRP&&DEPVAR&IVAR(KEEP=MPRID &WGT TMP_CELL
               PRED&IGRP RESID&IGRP CACSMPL XSERVREG &&DEPVAR&IVAR)
         P = PRED&IGRP
         R = RESID&IGRP;

RUN;


* print of HCSDB file with the residuals and predicted values;
%IF &DEBUGFLG > 0  %THEN %DO;
   PROC PRINT DATA=OUT2.H&IGRP&&DEPVAR&IVAR (OBS=70);
      TITLE2 "OUT2.H&IGRP&&DEPVAR&IVAR:  file with predicted values and the RESID&IGRP";
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
      VAR MPRID XSERVREG CACSMPL &&DEPVAR&IVAR RESID&IGRP PRED&IGRP;
   RUN;

   PROC PRINT DATA=BETAS;
      TITLE2 "BETAS:  file with coefficients";
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;


*----------------------------------------;
*----- get the standard err/variance ----;
*----------------------------------------;
%LET DEP = &&DEPVAR&IVAR;
%R_SUDAAN(OUT2.H&IGRP&&DEPVAR&IVAR);

* calculate prelim adjusted scores for the risk-adjusters;
* merge adjuster means with the adjuster coefficients;
* then sum their products. Finally add in the intercept;
 DATA ADJUST;
   SET MEANFILE;
   IF _N_ = 1 THEN SET BETAS(DROP = _TYPE_);
   %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./RISKARRY.INC";
   %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./RISKMEAN.INC";
   DO I = 1 TO DIM(COEFFS);
     IF COEFFS(I) = . THEN COEFFS(I) = 0;
     IF MEANS(I) = .  THEN MEANS(I)  = 0;
     ADJUST + ( COEFFS(I) * MEANS(I) );
   END;
   ADJUST = ADJUST + INTERCEPT;
 RUN;

* add the region coefficients to the adjusted value from above;
* output one record per region with the region;
* level adjusted scores;
 DATA COEFFREG(KEEP=XSERVREG NEWADJST);
   SET ADJUST;
   %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./REGARRAY.INC";
   LENGTH NAME $8;
   DO I=1 TO DIM(REGRHS);
     CALL VNAME(REGRHS(I),NAME);
```

G.176

```
      XSERVREG=INPUT(SUBSTR(NAME,4,2),2.);
      IF REGRHS(I) = . THEN REGRHS(I) = 0;
      NEWADJST=ADJUST + REGRHS(I);
      OUTPUT;
   END;
RUN;


* sum of wgts for each region;
PROC MEANS DATA=GROUP&IGRP NWAY NOPRINT ;
 CLASS XSERVREG;
 VAR   &WGT;
 OUTPUT OUT=REG_WGTS (DROP = _TYPE_ _FREQ_ ) N=REGCNT SUM=REGWGT;
RUN;


* merge the COEFFREG file with the region;
* adjusted scores to the region level total weight;
* merge by the region.  Creates a region level;
* file with the total sample weight of the region;
DATA COEFFREG;
    MERGE COEFFREG(IN=IN1)
        REG_WGTS(IN=IN2   KEEP=XSERVREG REGCNT REGWGT);
    BY XSERVREG;
    IF IN1;
RUN;


%IF &DEBUGFLG > 0  %THEN %DO;
   PROC PRINT DATA=MEANFILE;
      TITLE2 'Print of MEANFILE';
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;

   PROC PRINT DATA=ADJUST;
      TITLE2 'Print of ADJUST';
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;

   PROC PRINT DATA=COEFFREG;
      TITLE2 'Print of COEFFREG: Region Adjusted Scores';
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;

   PROC PRINT DATA=REG_WGTS;
      TITLE2 'Print of REG_WGTS: Region Area Sum of WGTS';
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;

   PROC PRINT DATA=COEFFREG;
      TITLE2 'Print of COEFFREG: Regions Adjusted Scores - with sum of wgts and region';
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;


* Calculate region level adjusted scores from the;
```

```
* region level adjusted scores in COEFFREG;
/*PROC MEANS DATA=COEFFREG NWAY NOPRINT;
 WEIGHT REGWGT;
 CLASS  XSERVREG;
 VAR    NEWADJST;
 OUTPUT OUT=REGFILE1 (DROP = _TYPE_ _FREQ_) MEAN=ADJ&IGRP;
RUN;
*/

%IF &DEBUGFLG > 0  %THEN %DO;
  PROC PRINT DATA=REGFILE1;
     TITLE2 'Print of REGFILE1: Region Scores';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
%END;

* merge the previous groups regional results (if any);
* with the region level std err and the region;
* level results from the current group/dependent var;
%PUT "&RMRGFILE: " &RMRGFILE;
DATA OUT.R_&&DEPVAR&IVAR;
  MERGE &RMRGFILE(IN=INS)
     R&IGRP&&DEPVAR&IVAR   /*KRR - removed perm dataset ref to OUT2 */
     coeffreg(rename=(newadjst=adj&igrp));
  BY XSERVREG;
  RENAME REGCNT = REGCNT&IGRP;
  RENAME REGWGT = REGWGT&IGRP;
  DEPENDNT = "&&DEPVAR&IVAR";
  IF INS;
RUN;

PROC PRINT DATA=OUT.R_&&DEPVAR&IVAR;
   TITLE2 "Print of REGION variables in &&DEPVAR&IVAR";
   TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
RUN;

 %MEND SCORE2;

 *
;
 %MACRO MAKE_INC;
 ************************************;
 * creates include files for later Procs;
 * Needs to be run each time.  Called   ;
 * in the outer (beneficiary loop).    ;
 * I chose this method because it was   ;
 * clearer(to me at least).          ;
 * This macro needs to be run once per  ;
 * Dep var per subgroup.            ;
 ************************************;

* Drop records where the dependent var is missing;
* Drop records with missing catchment or region values;
```

```
  DATA GROUP&IGRP;
    SET IN1.GROUP&IGRP;
    IF &&DEPVAR&IVAR NOT = .;

  RUN;

 DATA _NULL_;
    SET GROUP&IGRP END = EOF;
    IF &&DEPVAR&IVAR NOT = .;

    ARRAY AGECNT(7) 8 aCNT1 - aCNT7;
    RETAIN AGECNT 0;
    RETAIN CNT 0;
    ARRAY AGENAM(7)  $8 AGENAM1 - AGENAM7;
    ARRAY AGENAMX(7) $8 AGENAMX1 - AGENAMX7;
    RETAIN AGENAM;
    RETAIN AGENAMX;
    ARRAY CATCNT(9998) 8 CCNT0001 - CCNT9998;
    ARRAY REGCNT(&xservregcnt.)  8 REGCNT01 - REGCNT&xservregcnt.; *KRR 10/24/2006 - Changed from 16 to
24; *MER 11/11/2012, Changed from 24 to 30;
    RETAIN CATCNT 0;
    RETAIN REGCNT 0;

    * create a name array for the age dummies;
    IF _N_ = 1 THEN DO;
      AGENAM(1) = "AGE1824";
      AGENAM(2) = "AGE2534";
      AGENAM(3) = "AGE3544";
      AGENAM(4) = "AGE4554";
      AGENAM(5) = "AGE5564";
      AGENAM(6) = "AGE6574";
      AGENAM(7) = "AGE75UP";
    END;

    * total record count;
    CNT + 1;

    * count records in each age group;
    * we will use only age groups with more;
    * than 2 obs;
    IF AGE1824 = 1 THEN AGECNT(1) + 1;
    IF AGE2534 = 1 THEN AGECNT(2) + 1;
    IF AGE3544 = 1 THEN AGECNT(3) + 1;
    IF AGE4554 = 1 THEN AGECNT(4) + 1;
    IF AGE5564 = 1 THEN AGECNT(5) + 1;
    IF AGE6574 = 1 THEN AGECNT(6) + 1;
    IF AGE75UP = 1 THEN AGECNT(7) + 1;

    * count records in each catchment group;
    * we will only use catchment areas ;
    * with more than than 2 obs;
    * I am using the catchment area as the subscript;
```

```
        * to make the code simpler and more readable;
        IF CACSMPL >= 1 AND CACSMPL <= 9998 THEN DO;
          CATCNT(CACSMPL) = CATCNT(CACSMPL) + 1;
        END;

        * count records in each REGION group;
        * we will only use REGIONS ;
        * with more than than 2 obs;
        * I am using the region value as the subscript;
        * to make the code simpler and more readable;
        IF XSERVREG >= 1 AND XSERVREG <=&xservregcnt.  THEN DO; *KRR 10/24/2006 - Changed from 16 to 24;
*MER 11/11/12 24 to 30;
          REGCNT(XSERVREG) = REGCNT(XSERVREG) + 1;
        END;

        IF EOF THEN GOTO ENDFILE;
        RETURN;

ENDFILE:
        * create a title common to all procs in the current group;
        TITLE " &&DEPVAR&IVAR  &&TITL&IGRP";

        * display counts in the log;
        %IF &DEBUGFLG > 0  %THEN %DO;
          PUT ' ';
          PUT 'AT EOF:';
          PUT "TOTAL CNT = "    CNT;
          PUT AGENAM(1) "  " AGECNT(1)=;
          PUT AGENAM(2) "  " AGECNT(2)=;
          PUT AGENAM(3) "  " AGECNT(3)=;
          PUT AGENAM(4) "  " AGECNT(4)=;
          PUT AGENAM(5) "  " AGECNT(5)=;
          PUT AGENAM(6) "  " AGECNT(6)=;
          PUT AGENAM(7) "  " AGECNT(7)=;
          PUT " ";

          DO I = 1 TO &xservregcnt.; *KRR 10/24/2006 - Changed from 16 to 24; *MER 11/11/12 24 to 30;
            IF(REGCNT(I) > 0) THEN DO;
              PUT  'REG' I Z2. REGCNT(I) 6.;
            END;
          END;
          PUT ' ';

          DO I = 1 TO 9998;
            IF(CATCNT(I) > 0) THEN DO;
              PUT  'CAT' I Z4. CATCNT(I) 6.;
            END;
          END;
          PUT ' ';
        %END;   *** of debug test;

        *--------------------------------------------------------;
        * create an include file for the regression model;
```

G.180

```
* it is inconvient, but SAS requires that the;
* include file start after a complete statement;
* i.e. after a semicolon;
* This include is for the regression using catchment areas;
FILE "../../ReportCards/CAHPS_Adult&fyyear./REGRSCAT.INC";
PUT @6  "MODEL &&DEPVAR&IVAR = ";
IF "&IND_VAR1" NE "" THEN PUT @12 "&IND_VAR1"; /* KRR - only output when present */
IF "&IND_VAR2" NE "" THEN PUT @12 "&IND_VAR2"; /* KRR - only output when present */
IF "&IND_VAR3" NE "" THEN PUT @12 "&IND_VAR3"; /* KRR - only output when present */

CNT2 = 0;
* setup an array of those age groups that have > 1 obs;
DO I = 1 TO 7;
  IF AGECNT(I) > 1 THEN DO;
    CNT2 +1;
    AGENAMX(CNT2) = AGENAM(I);
  END;
END;
* drop the last category to create;
* an omitted category which is required;
* to solve the regression properly;
DO I = 1 TO CNT2-1;
  PUT @12 AGENAMX(I);
END;

* ditto for the catchment areas with > 0 obs;
* in this case we drop the last non-zero cnt;
* this is not consistent with Portias code which;
* unintentionally omitted several catchment area codes;
LAST_REC = 0;
DO I = 1 TO 9998;
  IF CATCNT(I) > 0 THEN LAST_REC = I;
END;

* skip the last cacsmpl with > 1 obs;
DO I = 1 TO LAST_REC-1;
  IF CATCNT(I) > 0 THEN DO;
    PUT @12 'CAT' I Z4.;
  END;
END;
PUT @11 ';';

*-------------------------------------------------------;
* This include is for the regression using regions;
* in this case we drop the last REGION;
FILE "../../ReportCards/CAHPS_Adult&fyyear./REGRSREG.INC";
PUT @6  "MODEL  &&DEPVAR&IVAR = ";
IF "&IND_VAR1" NE "" THEN PUT @12 "&IND_VAR1"; /* KRR - only output when present */
IF "&IND_VAR2" NE "" THEN PUT @12 "&IND_VAR2"; /* KRR - only output when present */
IF "&IND_VAR3" NE "" THEN PUT @12 "&IND_VAR3"; /* KRR - only output when present */

CNT2 = 0;
* setup an array of those age groups that have > 1 obs;
```

```
DO I = 1 TO 7;
  IF AGECNT(I) > 1 THEN DO;
    CNT2 +1;
    AGENAMX(CNT2) = AGENAM(I);
  END;
END;

* now drop the last category to create;
* an omitted category which is required;
* to solve the regression properly;
DO I = 1 TO CNT2-1;
  PUT @12 AGENAMX(I);
END;

* ditto for the catchment areas with > 0 obs;
* in this case we drop the the first USABLE category;
* this is not consistent with the catchment area code;
* but this is the method that Portia used;
FIRST = 0;      *KRR 10/24/2006 - Changed from 16 to 24; *MER 11/11/12 - 24 to 30;
DO I = 1 TO &xservregcnt.;   * skip the 1st region with 1+ obs;
  IF REGCNT(I) > 0 THEN DO;
    IF FIRST = 1 THEN PUT @12 'REG' I Z2.;
    FIRST = 1;
  END;
END;
PUT @11 ';';

*------------------------------------------------------;
* now create the complete var statement;
* for the Proc MEANS used to replace the;
* independent variables missing values;
* we assume the age groups will always be used;
* These are also called the RISK FACTORS;
FILE "../../ReportCards/CAHPS_Adult&fyyear./RISKVARS.INC";
PUT @10  "VAR";
DO I = 1 TO CNT2;
  PUT @12 AGENAMX(I);
END;

* not all the other dependent variables will be used;
* only write them out if they are not null;
CNT3 = 0;
IF "&IND_VAR1" NE "" THEN DO;
  CNT3 + 1;
  PUT @12 "&IND_VAR1";
END;

IF "&IND_VAR2" NE "" THEN DO;
  CNT3 + 1;
  PUT @12 "&IND_VAR2";
END;

IF "&IND_VAR3" NE "" THEN DO;
```

G.182

```
    CNT3 + 1;
      PUT @12 "&IND_VAR3";
    END;
    PUT @11 ';';

      *-------------------------------------------------------;
      * create an ARRAY statement of the desired risk factors;
      * called adjusters in the specs and in the code;
      FILE "../../ReportCards/CAHPS_Adult&fyyear./RISKARRY.INC";
      PUT @10  "ARRAY COEFFS(*) $8";
      DO I = 1 TO CNT2;
        PUT @12 AGENAMX(I);
      END;

      CNT3 = 0;
      IF "&IND_VAR1" NE "" THEN DO;
        CNT3 + 1;
        PUT @12 "&IND_VAR1";
      END;

      IF "&IND_VAR2" NE "" THEN DO;
        CNT3 + 1;
        PUT @12 "&IND_VAR2";
      END;

      IF "&IND_VAR3" NE "" THEN DO;
        CNT3 + 1;
        PUT @12 "&IND_VAR3";
      END;
      PUT @11 ';';

      *-------------------------------------------------------;
      * create an ARRAY of mean names for the output;
      * from a proc MEANS of the Risk Factors in RISKARRY;
      FILE "../../ReportCards/CAHPS_Adult&fyyear./RISKMEAN.INC";
      IND_CNT = CNT2 + CNT3;
      PUT @6 "ARRAY MEANS(*) $8";
      DO I = 1 TO IND_CNT;
        PUT @12 "MEAN" I Z2.;
      END;
      PUT @11 ';';

  *   -------------------------------------------------;
  *   create the equivalent of the following statement;
  *   OUTPUT OUT=MEANFILE(DROP = _TYPE_) MEAN=MEAN1-MEAN&MEAN_CNT;
      FILE "../../ReportCards/CAHPS_Adult&fyyear./MEANFILE.INC";
      PUT @6 "OUTPUT OUT=MEANFILE(DROP = _TYPE_) MEAN = ";
      DO I = 1 TO IND_CNT;
        PUT @12 "MEAN" I Z2.;
      END;
      PUT @11 ';';

      *-------------------------------------------------------;
```

G.183

```
   * create a catchment area array for all catchment areas;
   * with 1+ obs.
   * the missing value = 9999 was dropped in STEP1;  ** rlc 4/29/00;
   FILE "../../ReportCards/CAHPS_Adult&fyyear./CATARRAY.INC";
   PUT @10  "ARRAY CATRHS(*) $8";
   DO I = 1 TO 9998;          *** rlc 4/29/00 changed "9999" to "9998";
     IF CATCNT(I) > 0 THEN DO; *** ems 7/12/00 changed "> 1" to "> 0";
       PUT  @16 'CAT' I Z4.;
     END;
   END;
   PUT @11 ';';

     *-----------------------------------------------------;
   * create a region area array;
   * with at least ONE obs;
   FILE "../../ReportCards/CAHPS_Adult&fyyear./REGARRAY.INC";
   PUT @10  "ARRAY REGRHS(*) $8";
   DO I = 1 TO &xservregcnt.; *KRR 10/24/2006 - Changed from 16 to 24; *MER 11/11/12 24 to 30;
     IF REGCNT(I) > 0 THEN DO; *** ems 7/12/00 changed "> 1" to "> 0";
       PUT  @16 'REG' I Z2.;
     END;
   END;
   PUT @11 ';';
file print;
RUN;

* Create the means of the adjuster variables;
* They will be used to replace missing adjuster variables;
* calculate weighted means;
PROC MEANS DATA=group&igrp;

 WEIGHT &WGT;
 %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./RISKVARS.INC";
 %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./MEANFILE.INC";
 RUN;

DATA GROUP&IGRP;
  SET GROUP&IGRP;
  IF _N_ = 1 THEN SET MEANFILE;
  %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./RISKARRY.INC";
  %INCLUDE "../../ReportCards/CAHPS_Adult&fyyear./RISKMEAN.INC";
  DO I = 1 TO DIM(COEFFS);
    IF COEFFS(I) = . THEN DO;
      COEFFS(I) = MEANS(I);
    END;
  END;
RUN;

%IF &DEBUGFLG > 0  %THEN %DO;
  PROC PRINT DATA=MEANFILE;
    TITLE2 "Print of MEANFILE for Risk Adjuster variables";
    TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
```

```
  %END;

 %MEND MAKE_INC;

 *
;
 %MACRO R_SUDAAN(INFILE);
 *****************************************************;
 * use this macro to create standard err (variances);
 * FOR: REGIONS                          ;
 *****************************************************;
 %PUT ***************************************;
 %PUT STARTING MACRO R_SUDAAN (REGIONS);
 %PUT ***************************************;

DATA &INFILE;
  SET &INFILE;
  IF XSERVREG > 0;
RUN;

* Sort data by TMP_CELL;
PROC SORT DATA=&INFILE;
  BY TMP_CELL;
RUN;

%IF &DEBUGFLG > 5  %THEN %DO;
  PROC PRINT DATA=&INFILE(OBS=5);
     TITLE2 'Print of the input file to SUDAAN (REGION)';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
%END;

* Calculate values for regions;
PROC DESCRIPT DATA=&INFILE DESIGN=STRWR NOPRINT;
  WEIGHT &WGT;
  SETENV DECWIDTH=4;
  NEST TMP_CELL / missunit;
  VAR RESID&IGRP;
  TABLES XSERVREG;
  SUBGROUP XSERVREG;
  LEVELS &xservregcnt.; *KRR 10/24/2006 - Changed from 16 to 24; *MER 11/11/12 24 to 30;
  OUTPUT  SEMEAN
     / TABLECELL=DEFAULT REPLACE
       FILENAME=RS&DEP;
  RUN;

  DATA R&IGRP&&DEPVAR&IVAR;
     SET RS&DEP;
     KEEP XSERVREG SEMEAN;
     IF SEMEAN NE .;
     RENAME SEMEAN = SEMEAN&IGRP;
  RUN;
```

```
  PROC PRINT DATA=R&IGRP&&DEPVAR&IVAR;
    TITLE2 "Print REGION DESCRIPT DATA=R&IGRP&&DEPVAR&IVAR";
    TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;

%MEND  R_SUDAAN;

%MACRO C_SUDAAN(INFILE);
*****************************************************;
* use this macro to create standard err (variances);
* FOR: CATCHMENT AREAS                    ;
*****************************************************;
%PUT ****************************************;
%PUT STARTING MACRO C_SUDAAN (CATCHMENT);
%PUT ****************************************;

DATA &INFILE;
  SET &INFILE;
  IF CACSMPL > 0;
RUN;

* Sort data by TMP_CELL;
PROC SORT DATA=&INFILE;
  BY TMP_CELL;
RUN;

%IF &DEBUGFLG > 5  %THEN %DO;
  PROC PRINT DATA=&INFILE(OBS=5);
     TITLE2 'Print of the input file to SUDAAN for CATCHMENT';
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
  RUN;
%END;

* Calculate values for regions;
PROC DESCRIPT DATA=&INFILE DESIGN=STRWR NOPRINT;
  WEIGHT &WGT;
  SETENV DECWIDTH=4;
  NEST TMP_CELL / missunit;
  VAR RESID&IGRP;
  TABLES CACSMPL;
  SUBGROUP CACSMPL;
  LEVELS 9998;
  OUTPUT  SEMEAN
     / TABLECELL=DEFAULT REPLACE
       FILENAME=CS&DEP;
  RUN;

  DATA C&IGRP&&DEPVAR&IVAR;
     SET CS&DEP;
     IF SEMEAN NE .;
     KEEP CACSMPL SEMEAN;
     RENAME SEMEAN = SEMEAN&IGRP;
  RUN;
```

```
   PROC PRINT DATA=C&IGRP&&DEPVAR&IVAR;
     TITLE2 "Print CATCHMENT DESCRIPT DATA=C&IGRP&&DEPVAR&IVAR";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;

 %MEND  C_SUDAAN;

 *
;
%*********************************;
%*  call the macros;
%*********************************;

%MACRO MAINLOOP(MIN_VAR,MAX_VAR,MIN_GRP,MAX_GRP);
   %* loop over the set of dependent variables;
     %DO IVAR = &MIN_VAR %TO &MAX_VAR;
       %DO IGRP = &MIN_GRP %TO &MAX_GRP;
         %MAKE_INC;
         %IF &IGRP = 1 OR &IGRP = 2 OR &IGRP = 5 or &igrp = 8 %THEN %do;
           %SCORE1;
           %SCORE2; %end;
         %ELSE
           %SCORE2;
       %END;
     %END;

%MEND;

%MAINLOOP(&MIN_VAR,&MAX_VAR,&MIN_GRP,&MAX_GRP);
```

G.8.D ReportCards\CAHPS_Adult2020\COMPOSIT.SAS - Calculate CAHPS Composite Scores - Annual.

```
*************************************************************************
* Project:  DoD - Quarterly Adult Report Cards
* Program:  COMPOSIT.SAS
* Purpose:  Generate Quarterly Adult Report Card composite scores
* Requires: Programs STEP1Q.SAS and STEP2Q.SAS must be run prior
*           to this program.
*
* Modified:12) 08/01/13 by Amanda Kudis, updated for 2013 database.
*          13) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                                    Changed all FILE and INCLUDE filepaths to
..\..\ReportCards\CAHPS_Adult&FOLDER.&FYYEAR.\FILES.INC
                                    Changed R14 to R&FY.
                                    Added INFILE Data step removing BYVARs with only one occurrence.
*************************************************************************;
OPTIONS NOCENTER NOFMTERR LS=132 PS=78 SOURCE SOURCE2 NOOVP COMPRESS=YES;
LIBNAME  IN   "Data";
LIBNAME  IN2  "Data/AdultHatFiles";
LIBNAME  OUT  "Data";

%MACRO COMPOSIT (TYPE=,COMPOS=,VAR1=,VAR2=,VAR3=,VAR4=,QCOUNT=);

 DATA _NULL_;
 %IF "&TYPE" = "R" %THEN %DO;
    CALL SYMPUT ('BYVAR','XSERVREG');
 %END; %ELSE
 %IF "&TYPE" = "C" %THEN %DO;
    CALL SYMPUT ('BYVAR','CACSMPL');
 %END;

 ****************************************.
 *  Create a Composite Score          ;
 ****************************************.
 DATA _NULL_;
   FILE "../../&PC.ReportCards/CAHPS_Adult&fyyear./FILES.INC";
   PUT @6 'SET';
   IF "&VAR1" NE '' THEN PUT @8 "IN.&TYPE._&VAR1";
   IF "&VAR2" NE '' THEN PUT @8 "IN.&TYPE._&VAR2";
   IF "&VAR3" NE '' THEN PUT @8 "IN.&TYPE._&VAR3";
   IF "&VAR4" NE '' THEN PUT @8 "IN.&TYPE._&VAR4";
   PUT @8 ';';
 RUN;

 DATA COMPOS&COMPOS;
   LENGTH DEPENDNT $ 8;
   %INCLUDE "../../&PC.ReportCards/CAHPS_Adult&fyyear./FILES.INC";
   DEPENDNT = "&TYPE.COMPOS&COMPOS";
 RUN;

 PROC SORT DATA=COMPOS&COMPOS;
```

```
    BY &BYVAR;
RUN;

PROC PRINT DATA=COMPOS&COMPOS(OBS=60);
    TITLE "Print of COMPOS&COMPOS after sort";
RUN;

DATA COMPOS&COMPOS;
    SET COMPOS&COMPOS;
    BY &BYVAR;
 %IF "&TYPE" = "R" %THEN %DO;
    ARRAY N(*) REGCNT1 - REGCNT8;
    ARRAY W(*) REGWGT1 - REGWGT8;
    ARRAY TN(*) TOTCNT1 - TOTCNT8;
    ARRAY TW(*) TOTWGT1 - TOTWGT8;
 %END; %ELSE
 %IF "&TYPE" = "C" %THEN %DO;
    ARRAY N(*) CATCNT1 - CATCNT8;
    ARRAY W(*) CATWGT1 - CATWGT8;
    ARRAY TN(*) TOTCNT1 - TOTCNT8;
    ARRAY TW(*) TOTWGT1 - TOTWGT8;
 %END;
    ARRAY ADJ(*)    ADJ1 - ADJ8;
    ARRAY TOTADJ(*) TOTADJ1 - TOTADJ8;
    ARRAY AVGADJ(*) AVJADJ1 - AVJADJ8;
    RETAIN TOTADJ TN TW;
    RETAIN AVGADJ;

    IF FIRST.&BYVAR THEN DO;
      DO I = 1 TO DIM(TOTADJ);
        TOTADJ(I) = 0; TN(I)=0; TW(I)=0;
      END;
    END; DROP I;

    PUT ' ';
    PUT ' --- STARTING LOOP1: ' &BYVAR=;
    DO I = 1 TO DIM(TOTADJ);
      PUT I= ADJ(I)=;
      IF ADJ(I) NE . THEN DO;
        TOTADJ(I) = TOTADJ(I) + ADJ(I);
        TN(I)=TN(I)+N(I);
        TW(I)=TW(I)+W(I);
      END;
      PUT I= ADJ(I)= TOTADJ(I)=;
    END;

    PUT ' ';
    PUT ' --- STARTING LOOP2: ' &BYVAR=;
    IF LAST.&BYVAR THEN DO;
      DO I = 1 TO DIM(TOTADJ);
        PUT I= ADJ(I)= TOTADJ(I)= AVGADJ(I)=;
        AVGADJ(I) = TOTADJ(I)/&QCOUNT;
        adj(i)=avgadj(i);
```

G.189

```
      N(I)=TN(I)/&QCOUNT;
      W(I)=TW(I)/&QCOUNT;
    END;
    OUTPUT;
  END;

 RUN;

%do i=1 %to 8;
/* Collect Standard Errors and residuals from variables in composite */
        %if &type=R|(&i=1|&i=2|&i=5|&i=8) %then %do;
                %if &var1~= %then %do;
                        %let n=r_&var1;
                        %let m=s_&var1;

                    data s_&var1(rename=(semean&i=s_&var1));
                    set in.&type._&var1(keep=semean&i &byvar);
                    proc sort; by &byvar;
                    data r_&var1;

                    set in2.h&i.&var1(rename=(resid&i=r_&var1));

                    proc sort data=r_&var1; by mprid;
                %end;
                %if &var2~= %then %do;
                  %let n=%str(&n r_&var2);
                  %let m=%str(&m s_&var2);
                  data s_&var2(rename=(semean&i=s_&var2));
                          set in.&type._&var2(keep=semean&i &byvar);

                  proc sort; by &byvar;

                  data r_&var2;
                                set in2.h&i.&var2(rename=(resid&i=r_&var2));

                  proc sort data=r_&var2; by mprid;
                %end;
                %if &var3~= %then %do;
                  %let n=%str(&n r_&var3);

                  data s_&var3(rename=(semean&i=s_&var3));
                          set in.&type._&var3(keep=semean&i &byvar);

                  proc sort; by &byvar;

                  data r_&var3;
                          set in2.h&i.&var3(rename=(resid&i=r_&var3));

                  proc sort data=r_&var3; by mprid;
                  %let m=%str(&m s_&var3);
                %end;

                %if &var4~= %then %do;
```

```
%let n=%str(&n r_&var4);
data s_&var4(rename=(semean&i=s_&var4));
              set in.&type._&var4(keep=semean&i &byvar);

proc sort; by &byvar;

data r_&var4;
              set in2.h&i.&var4(rename=(resid&i=r_&var4));

%let m=%str(&m s_&var4);
proc sort data=r_&var4; by mprid;
%end;
/* Merge residual files and estimate correlations */
data infile;
  merge &n; by mprid;

proc sort; by &byvar;

data infile;
        set infile;
        by &byvar.;
        if first.&byvar ne 1 or last.&byvar ne 1;
run;

proc corr  outp=outf noprint;
  by &byvar;
  var &n;
  weight CFWT;

data outf;
  set outf; by &byvar;
  where _type_='CORR';

/*  sum standard error of a row variable times correlation times standard error of each column
variable, then sum sums and take square root, divide by number of variables */
data final;
  merge &m outf; by &byvar;

data final;
  set final; by &byvar;
  array r_val &n;
  array s_val &m;
  sde=0;
  do i=1 to dim(s_val);
        %do j=1 %to &qcount;
        if upcase(_name_)=upcase("R_&&var&j") then
                        sde=sum(sde,r_val(i)*s_&&var&j*s_val(i));
        %end;
  end;
run;

data sefin&compos._&i errd;
  set final; by &byvar;
```

```
       if first.&byvar then tv=0;
        tv+sde;
        if last.&byvar then do;
      /**RSG 02/2005 Changed to only do exponential if tv value is non-negative -
        those with negative trend is set aside to print out and determine whether from
         nonmissing data of 30 or more*/
               if tv >= 0 then sde&i=(tv**.5)/&qcount;
               else if tv <= 0 then do;
               output errd;
               sde&i=.;
          end;
          output sefin&compos._&i;
        end;
      run;
      /**RSG 02/2005 Count how many nonmissing values are in the trend dataa
        to determine if negative trend is something to be concerned about*/

      proc means data=infile noprint;
        by &byvar;
        var &n;
        output out=missing (drop=_type_ _freq_) n=;

      data errd2;
        merge errd(in=a drop=&n) missing (in=b);
        by &byvar;
        if a;
      run;

      proc print data=errd2;
        var &byvar tv &n;
      title "ERROR: NEGATIVE TREND FOR &N IN GROUP=&I. AND COMPOSE=&COMPOS";
      run;
      title ' '; /*RSG 02/2005 blank out title for next loop*/

      %if &i=1 %then %do;
        data sefin&compos;
                    set sefin&compos._1(keep=&byvar sde&i); by &byvar;
                    rename sde&i=semean&i;
        run;
      %end;
      %else %do;
        data sefin&compos;
                    merge sefin&compos sefin&compos._&i(keep=&byvar sde&i); by &byvar;
                    rename sde&i=semean&i;
        run;
      %end;

      %end;
%end;

data out.&type.compos&compos;
merge compos&compos sefin&compos; by &byvar;
run;
```

```
PROC PRINT DATA=OUT.&TYPE.COMPOS&COMPOS;
    TITLE1 COMPTITL;
 RUN;
%MEND COMPOSIT;

*-----------------------------------;
*-     set the parameters here     -;
*-----------------------------------;
***********************************.
*  call the macro for each composite;
***********************************;   /*MJS 02/04/04*/
%COMPOSIT (type=R,compos=1,var1=R&FY.029,var2=R&FY.033,qcount=2);
%COMPOSIT (type=R,compos=2,var1=R&FY.007,var2=R&FY.010,qcount=2);
%COMPOSIT (type=R,compos=3,var1=R&FY.021,var2=R&FY.022,var3=R&FY.023,var4=R&FY.024,qcount=4);
%COMPOSIT (type=R,compos=4,var1=R&FY.041,var2=R&FY.042,qcount=2);
%COMPOSIT (type=R,compos=5,var1=R&FY.046,var2=R&FY.047,qcount=2);


%COMPOSIT (type=C,compos=1,var1=R&FY.029,var2=R&FY.033,qcount=2);
%COMPOSIT (type=C,compos=2,var1=R&FY.007,var2=R&FY.010,qcount=2);
%COMPOSIT (type=C,compos=3,var1=R&FY.021,var2=R&FY.022,var3=R&FY.023,var4=R&FY.024,qcount=4);
%COMPOSIT (type=C,compos=4,var1=R&FY.041,var2=R&FY.042,qcount=2);
%COMPOSIT (type=C,compos=5,var1=R&FY.046,var2=R&FY.047,qcount=2);
```

G.9.A LOADWEB\LOADCAHP.SAS - Convert CAHPS Scores into WEB layout - Annual.

```
************************************************************************
*
* PROGRAM:  LOADCAHP.SAS
* TASK:    2007 DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE: Convert the CAHPS Scores Database into the WEB layout
*
* WRITTEN: 06/01/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                               Changed IN to "..\&PC.REPORTCARDS\CAHPS_ADULT&FYYEAR.\DATA".
                               Changed LOADCAHQ to "..\LOADWEB\LOADCAHQ.INC"
                               Changed YEAR to &FYYEAR.
                               Changed R14 to R&FY.
                               Inserted &FYYEAR. into TITLE1
*
* INPUTS:   1) CAHPS Individual and Composite data sets with adjusted scores
*
* OUTPUT:   1) LOADCAHP.sas7bdat - Combined CAHPS Scores Database in WEB layout
*
* INCLUDES: 1) LOADCAHQ.INC - Format definitions for CAHPS Individual
*           and composite data sets
*
* NOTES:
*
* 1) The following steps need to be run prior to this program:
*    - STEP1.SAS - Recode questions and generate group files
*    - STEP2.SAS - Calculate individual adjusted scores for group 1-8
*    - COMPOSIT.SAS - Calculate composite adjusted scores for group 1-8
*
* 2) The output file (LOADCAHP.sas7bdat) will be run through the
*    MAKEHTML.SAS program to generate the WEB pages.
*
************************************************************************
* Assign data libraries and options
************************************************************************;
LIBNAME IN  "../&PC.ReportCards/CAHPS_Adult&FYYEAR./Data";
LIBNAME OUT ".";
LIBNAME LIBRARY "../../Data/fmtlib";

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER NOFMTERR;


************************************************************************
* Load Format definitions for CAHPS Individual and composite data sets.
************************************************************************;
%INCLUDE "../LoadWeb/LOADCAHQ.INC";


************************************************************************
************************************************************************
*
```

```
* Process Macro Input Parameters:
*
* 1) QUESTION = Variable Question Name (DSN).
*    - For individual Questions it is the variable name
*    - For composite Questions it is called xCOMPOSn
*      where n = a predefined composite # and
*          x = R (Region) or C (Catchment)
* 2) TYPE = Type of Score (COMPOSITE or INDIVIDUAL)
* 3) REGCAT = Region/Catchment Area
*
*****************************************************************************
*****************************************************************************;
%MACRO PROCESS(QUESTION=,TYPE=,REGCAT=);
*****************************************************************************
* Assign value for BENTYPE composite year
*****************************************************************************;
%LET YEAR = &FYYEAR.;

*****************************************************************************
* Assign prefix for weighted/unweighted count variables.
* Unweighted counts are REGCNTn or CATCNTn where n=group number.
* Weighted counts are REGWGTn or CATWGTn where n=group number.
*****************************************************************************;
%IF "&REGCAT" = "Region" %THEN %DO;
  %LET PREFIX = REG;
%END;
%ELSE %IF "&REGCAT" = "Catchment" %THEN %DO;
  %LET PREFIX = CAT;
%END;
%ELSE %DO;
  %PUT "ERROR: Invalid Type = &TYPE";
%END;

*****************************************************************************
*
* Convert the CAHPS individual Scores Record into WEB layout.
* There are 8 logical records (adjusted scores) per physical record:
*
* _____
*   Adjusted Score        Definitions
*   Group Number
* _____
* 1. Prime enrollees        XINS_COV IN (1,2,6) AND H08007>=2
* 2. Enrollees w/mil PCM     XENR_PCM IN (1,2,6) AND H08007>=2
* 3. Enrollees w/civ PCM     XENR_PCM = 3  AND H08007>=2
* 4. Nonenrollees          XINS_COV IN (3)
* 5. Active duty           BFGROUPP=1
* 6. Active duty dependents   BFGROUPP=2
* 7. Retirees and dependents  BFGROUPP IN (3,4)
* 8. All beneficiaries      All beneficiaries
*
*****************************************************************************;
DATA &QUESTION;
```

```
SET IN.&QUESTION;

LENGTH MAJGRP  $30;
LENGTH REGION  $30;  /*RSG 02/2005 Increased length to accommodate new region*/
LENGTH REGCAT  $42;   **MER 11/11/2012 - Changed REGION to be large enough for Joint Services;
LENGTH BENTYPE $50;
LENGTH BENEFIT $34;
LENGTH TIMEPD  $5;  /*RSG 02/2005*/
********************************************************************.
* Assign Region;
********************************************************************.
%IF &REGCAT = Region %THEN %DO;
  REGION  = PUT(XSERVREG,SERVREGF.);
%END;
%ELSE %IF &REGCAT = Catchment %THEN %DO;
  REGION  = PUT(XSERVIND,SERVREGo.);
%END;
********************************************************************.
* Assign benefit and benefit type;
********************************************************************.
IF "&TYPE" = "INDIVIDUAL" THEN DO;
  IF DEPENDNT IN("R&FY.018", "R&FY.048", "R&FY.027", "R&FY.031") THEN
    BENTYPE = "Composite";
  ELSE
     BENTYPE = PUT(DEPENDNT,$BENTYPF.);
  BENEFIT = PUT(DEPENDNT,$BENEF.);
  TIMEPD = "&YEAR";
END;
ELSE IF "&TYPE" = "COMPOSITE" THEN DO;
  BENTYPE = "Composite";   ***MJS 07/03/03 Changed from BENTYPE = PUT(&YEAR,$BENTYPF.);
  BENEFIT = PUT(DEPENDNT,$BENEF.);
  TIMEPD = "&YEAR";
END;
ELSE PUT "ERROR: Invalid TYPE = &TYPE";
********************************************************************.
* For now, Initialize Significance test to zero.;
********************************************************************.
SIG = 0;
********************************************************************.
* Assign Region/Catchment Area;
********************************************************************.
%IF &REGCAT = Region %THEN %DO;
  REGCAT = PUT(XSERVREG,SERVREGF.);
%END;
%ELSE %IF &REGCAT = Catchment %THEN %DO;
  REGCAT = PUT(CACSMPL,CACR.);
%END;
%ELSE %DO;
  PUT "ERROR: Invalid REGCAT = &REGCAT";
%END;
********************************************************************.
* 1 = Prime Enrollees  ;
********************************************************************.
```

```
MAJGRP = PUT(1,MAJGRPF.);
SCORE = ADJ1;
SEMEAN = SEMEAN1;
N_OBS = &PREFIX.CNT1;
N_WGT = &PREFIX.WGT1;
OUTPUT;
********************************************************************;
* 2 = Enrollees with military PCM  ;
********************************************************************;
MAJGRP = PUT(2,MAJGRPF.);
SCORE = ADJ2;
SEMEAN = SEMEAN2;
N_OBS = &PREFIX.CNT2;
N_WGT = &PREFIX.WGT2;
OUTPUT;
********************************************************************;
* 3 = Enrollees with civilian PCM  ;
********************************************************************;
%IF &REGCAT = Region %THEN %DO;
  MAJGRP = PUT(3,MAJGRPF.);
  SCORE = ADJ3;
  SEMEAN = SEMEAN3;
  N_OBS = &PREFIX.CNT3;
  N_WGT = &PREFIX.WGT3;
  OUTPUT;
%END;
********************************************************************;
* 4 = Non-enrolled beneficiaries   ;
********************************************************************;
%IF &REGCAT = Region %THEN %DO;
  MAJGRP = PUT(4,MAJGRPF.);
  SCORE = ADJ4;
  SEMEAN = SEMEAN4;
  N_OBS = &PREFIX.CNT4;
  N_WGT = &PREFIX.WGT4;
  OUTPUT;
%END;
********************************************************************;
* 5 = Active duty;
********************************************************************;
MAJGRP = PUT(5,MAJGRPF.);
SCORE = ADJ5;
SEMEAN = SEMEAN5;
N_OBS = &PREFIX.CNT5;
N_WGT = &PREFIX.WGT5;
OUTPUT;
********************************************************************;
* 6 = Active duty dependents;
********************************************************************;
%IF &REGCAT = Region %THEN %DO;
  MAJGRP = PUT(6,MAJGRPF.);
  SCORE = ADJ6;
  SEMEAN = SEMEAN6;
```

```
    N_OBS = &PREFIX.CNT6;
    N_WGT = &PREFIX.WGT6;
    OUTPUT;
  %END;
  *********************************************************************;
  * 7 = Retirees and dependents;
  *********************************************************************;
  %IF &REGCAT = Region %THEN %DO;
    MAJGRP = PUT(7,MAJGRPF.);
    SCORE = ADJ7;
    SEMEAN = SEMEAN7;
    N_OBS = &PREFIX.CNT7;
    N_WGT = &PREFIX.WGT7;
    OUTPUT;
  %END;
  *********************************************************************;
  * 8 = All Beneficiaries ;
  *********************************************************************;
  MAJGRP = PUT(8,MAJGRPF.);
  SCORE  = ADJ8;
  SEMEAN = SEMEAN8;
  N_OBS = &PREFIX.CNT8;
  N_WGT = &PREFIX.WGT8;
  OUTPUT;

KEEP MAJGRP
    REGION
    REGCAT
    BENTYPE
    BENEFIT
    TIMEPD
    SCORE
    SEMEAN
    N_OBS
    N_WGT
    SIG
  ;
RUN;

%MEND;

**********************************************************************;
* COMPOSITE # 1.;
* GETTING NEEDED CARE VARIABLES.;
**********************************************************************;
%PROCESS(QUESTION=RCOMPOS1,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.029,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.033,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS1,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.029,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.033,TYPE=INDIVIDUAL,REGCAT=Catchment);
```

```
****************************************************************************;
* COMPOSITE # 2.;
* GETTING CARE QUICKLY VARIABLES.;
****************************************************************************;
%PROCESS(QUESTION=RCOMPOS2,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.007,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.010,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS2,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.007,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.010,TYPE=INDIVIDUAL,REGCAT=Catchment);


****************************************************************************;
* COMPOSITE # 3.;
* HOW WELL DOCTORS COMMUNICATE.;
****************************************************************************;
%PROCESS(QUESTION=RCOMPOS3,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.021,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.022,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.023,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.024,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS3,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.021,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.022,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.023,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.024,TYPE=INDIVIDUAL,REGCAT=Catchment);


****************************************************************************;
* COMPOSITE # .;
* COURTEOUS AND HELPFUL OFFICE STAFF.;
****************************************************************************;


****************************************************************************;
* COMPOSITE # 4.;
* CUSTOMER SERVICE.;
****************************************************************************;
%PROCESS(QUESTION=RCOMPOS4,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.041,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.042,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS4,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.041,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.042,TYPE=INDIVIDUAL,REGCAT=Catchment);


****************************************************************************;
* COMPOSITE # 5.;
* CLAIMS PROCESSING.;
****************************************************************************;
%PROCESS(QUESTION=RCOMPOS5,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.046,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R&FY.047,TYPE=INDIVIDUAL,REGCAT=Region);
```

```
%PROCESS(QUESTION=CCOMPOS5,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.046,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R&FY.047,TYPE=INDIVIDUAL,REGCAT=Catchment);


***********************************************************************;
* INDIVIDUAL # 1.;
* RATING OF ALL HEALTH CARE: 0 - 10.;
***********************************************************************;
%PROCESS(QUESTION=R_R&FY.018,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=C_R&FY.018,TYPE=INDIVIDUAL,REGCAT=Catchment);


***********************************************************************;
* INDIVIDUAL # 2.;
* RATING OF HEALTH PLAN: 0 - 10.;
***********************************************************************;
%PROCESS(QUESTION=R_R&FY.048,TYPE=INDIVIDUAL,REGCAT=Region)
%PROCESS(QUESTION=C_R&FY.048,TYPE=INDIVIDUAL,REGCAT=Catchment)


***********************************************************************;
* INDIVIDUAL # 3.;
* RATING OF PERSONAL DOCTOR: 0 - 10.;
***********************************************************************;
%PROCESS(QUESTION=R_R&FY.027,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=C_R&FY.027,TYPE=INDIVIDUAL,REGCAT=Catchment);


***********************************************************************;
* INDIVIDUAL # 4.;
* SPECIALTY CARE: 0 - 10.;
***********************************************************************;
%PROCESS(QUESTION=R_R&FY.031,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=C_R&FY.031,TYPE=INDIVIDUAL,REGCAT=Catchment);


***********************************************************************;
***********************************************************************;
* STACK up all of the files into one final output dataset.;
***********************************************************************;
***********************************************************************;
DATA OUT.LOADCAHP;
  SET R_R&FY.029 C_R&FY.029
    R_R&FY.033 C_R&FY.033
    R_R&FY.007 C_R&FY.007
    R_R&FY.010 C_R&FY.010
    R_R&FY.021 C_R&FY.021
    R_R&FY.022 C_R&FY.022
    R_R&FY.023 C_R&FY.023
    R_R&FY.024 C_R&FY.024
    R_R&FY.041 C_R&FY.041
    R_R&FY.042 C_R&FY.042
    R_R&FY.046 C_R&FY.046
    R_R&FY.047 C_R&FY.047
    R_R&FY.018 C_R&FY.018
    R_R&FY.048 C_R&FY.048
    R_R&FY.027 C_R&FY.027
```

```
       R_R&FY.031 C_R&FY.031
       RCOMPOS1 CCOMPOS1
       RCOMPOS2 CCOMPOS2
       RCOMPOS3 CCOMPOS3
       RCOMPOS4 CCOMPOS4
       RCOMPOS5 CCOMPOS5

   ;
   IF SCORE = . THEN DELETE;
RUN;

TITLE1 "&FYYEAR. DOD Health Survey Scores/Report Cards";
TITLE2 "Program Name: LOADCAHP.SAS By Keith Rathbun";
TITLE3 "Program Inputs: CAHPS Individual and Composite data sets with adjusted scores";
TITLE4 "Program Outputs: LOADCAHP.sas7bdat - Combined CAHPS Scores Database in WEB layout";

PROC FREQ;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT
    REGION*REGCAT
    /MISSING LIST;
RUN;
```

G.9.B LOADWEB\LOADCAHQ.INC - Format definitions for converting the Scores Database into the WEB layout - Annual.

```
****************************************************************************
*
* PROGRAM:  LOADCAHQ.INC
* TASK:    QUARTERLY DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE:  Format definitions for converting the CAHPS Scores Database
*        into the WEB layout.
*
* WRITTEN:  11/09/2000 BY KEITH RATHBUN, Adapted from LOADCAHP.INC.
*
* MODIFIED: 1) 08/13/2001 BY KEITH RATHBUN, Added XSERVAFF format to
*          accommodate the short reports.
*        2) 01/24/2002 BY KEITH RATHBUN, Added BENTYPF = 1998,1999,2000
*          added catchment composites.
*        3) 04/10/2002 BY KEITH RATHBUN, Added parameters for 2002 survey.
*        4) 04/03/2003 BY MIKE SCOTT, Added parameters for 2003 survey.
*        5) 07/08/2003 BY MIKE SCOTT, Added formats GETNCARE, GETCAREQ,
*          CRTSHELP, HOWWELL, CUSTSERV, CLMSPROC, and PREVCARE.
*        6) 03/22/2004 BY KEITH RATHBUN, Added parameters for 2004 survey.
*          Changed R04031 to be "Wait Less than 15 Minutes For Appointment".
*        7) 05/06/2004 BY MIKE SCOTT, Changed R04031 back to 2003 version of
*          the label ("Wait More than 15 Minutes Past Appointment") so that
*          the Q1 2004 version of the question is consistent with past
*          versions.  The label will be changed to the new version ("Waiting
*          in the Doctor's Office") in Makehtmq.sas.
*        8) 02/2006 BY REGINA GRAMSS, Changed date format to fielding dates.
*        9) 03/21/2006 BY KEITH RATHBUN, Added parameters for 2006 survey.
*       10) 08/22/2006 BY JUSTIN OH, Changed SERVREGF format for Overseas.
*       11) 12/15/2006 BY JUSTIN OH, Added parameters for 2007 survey.
*       12) 02/02/2007 BY JUSTIN OH, Added "s" in Healthy Behaviors in VALUE BEN.
*       13) 01/10/2008 BY KEITH RATHBUN, Added parameters for 2008 survey.
*       14) 01/09/2009 BY MIKE RUDACILLE, Added parameters for 2009 survey.
*       14) 01/16/2009 BY MIKE RUDACILLE, Changed CONUS to USA.
*       15) 04/11/2009 by Mike Rudacille - Changed formats to reflect
*          modifications to beneficiary reports necessary for V4
*       16) 12/17/09 by Emma Ernst, Added parameters for 2010 survey.
*       17) 12/02/10 by Mike Rudacille, Added parameters for 2011 survey.
*          Also removed 2000 parameters for space considerations.
*       18) 12/10/11 by Mike Rudacille, Added parameters for 2012 survey.
*          Also removed 2002 parameters for space considerations.
*       19) 11/03/12 by Mike Rudacille, Updated for handling of
*          Joint Service facilities
*       20) 12/27/12 by Aimee Valenzuela, Added parameters for 2013 survey.
*       21) 09/20/13 by Amanda Kudis, Added parameters for 2014 survey.
*       22) 12/12/17 by Matt Turbyfill, Combined North and South into East
*          in REGIONF, SERVREGF and SERVREGO.
*
*
* INPUTS:  No direct input
*
```

```
* OUTPUT:  No direct output
*
* NOTES:   1) Under the new contract (8860), the survey year was changed
*          to be based on the year the survey is administered (2002)
*          as opposed to the questioning reference frame (2001).  This
*          include file contains variable names for both the 2001
*          survey administration year and the the 2002 administration
*          year surveys.
*
*************************************************************************
;
*************************************************************************
* FORMAT Definitions
*************************************************************************;
PROC FORMAT;
  VALUE MAJGRPF
    1 = "Prime Enrollees         "
    2 = "Enrollees with Military PCM"
    3 = "Enrollees with Civilian PCM"
    4 = "Non-enrolled Beneficiaries "
    5 = "Active Duty             "
    6 = "Active Duty Dependents   "
    7 = "Retirees and Dependents   "
    8 = "All Beneficiaries        "
   ;
  VALUE XSERVAFF
    1 = "ARMY"
    2 = "AIR FORCE"
    3 = "NAVY"
    4 = "OTHER"
    5 = "DHA"
   ;
  VALUE REGIONF
    0 = "USA MHS "
    1 = "East"
    2 = "West"
    3 = "Overseas"
   ;

/*JSO 08/24/2006, Changed Overseas to Service for Europe,Pacific,Latin*/
  VALUE SERVREGF
    1 = "East Army"
    2 = "East Air Force"
    3 = "East Navy"
    4 = "East Other"
    5 = "East DHA"
    6 = "West Army"
    7 = "West Air Force"
    8 = "West Navy"
    9 = "West Other"
    10 = "West DHA"
    11 = "Europe Army"
    12 = "Europe Air Force"
```

```
     13 = "Europe Navy"
     14 = "Europe Other"
     15 = "Europe DHA"
     16 = "Pacific Army"
     17 = "Pacific Air Force"
     18 = "Pacific Navy"
     19 = "Pacific Other"
     20 = "Pacific DHA"
     21 = "Latin America Army"
     22 = "Latin America Air Force"
     23 = "Latin America Navy"
     24 = "Latin America Other"
     25 = "Latin America DHA"
     31 = "USA ARMY"
     32 = "USA AIR FORCE"
     33 = "USA NAVY"
     34 = "USA OTHER";

/*JSO 08/24/2006, Changed Overseas to Europe,Pacific,Latin*/
   VALUE SERVREGO
     1 = "East Army"
     2 = "East Air Force"
     3 = "East Navy"
     4 = "East Other"
     5 = "East DHA"
     6 = "West Army"
     7 = "West Air Force"
     8 = "West Navy"
     9 = "West Other"
    10 = "West DHA"
    11 = "Overseas Europe"
    12 = "Overseas Pacific"
    13 = "Overseas Latin America";

   VALUE $BENTYPF
   "2009 Q1 " = "January, 2009                    "
   "2009 Q2 " = "April, 2009                   "
   "2009 Q3 " = "July, 2009                  "
   "2009 Q4 " = "October, 2009                    "
   "2010 Q1 " = "January, 2010                   "
   "2010 Q2 " = "April, 2010                 "
   "2010 Q3 " = "July, 2010                 "
   "2010 Q4 " = "October, 2010                   "
   "2011 Q1 " = "January, 2011                  "
   "2011 Q2 " = "April, 2011                "
   "2011 Q3 " = "July, 2011                "
   "2011 Q4 " = "October, 2011                  "
   "2012 Q1 " = "January, 2012                  "
   "2012 Q2 " = "April, 2012                "
   "2012 Q3 " = "July, 2012                "
   "2012 Q4 " = "October, 2012                  "
   "2013 Q1 " = "January, 2013                  "
   "2013 Q2 " = "April, 2013                "
```

```
    "2013 Q3 " = "July, 2013                     "
    "2013 Q4 " = "October, 2013                     "
    "2014 Q1 " = "January, 2014                     "
    "2014 Q2 " = "April, 2014                     "
    "2014 Q3 " = "July, 2014                     "
    "2014 Q4 " = "October, 2014                     "
    "2015 Q1 " = "January, 2015                     "
    "2015 Q2 " = "April, 2015                     "
    "2015 Q3 " = "July, 2015                     "
    "2015 Q4 " = "October, 2015                     "
    "2016 Q1 " = "January, 2016                     "
    "2016 Q2 " = "April, 2016                     "
    "2016 Q3 " = "July, 2016                     "
    "2016 Q4 " = "October, 2016                     "
    "2017 Q1 " = "January, 2017                     "
    "2017 Q2 " = "April, 2017                     "
    "2017 Q3 " = "July, 2017                     "
    "2017 Q4 " = "October, 2017                     "
    "2018 Q1 " = "January, 2018                     "
    "2018 Q2 " = "April, 2018                     "
    "2018 Q3 " = "July, 2018                     "
    "2018 Q4 " = "October, 2018                     "
    "2019 Q1 " = "January, 2019                     "
    "2019 Q2 " = "April, 2019                     "
    "2019 Q3 " = "July, 2019                     "
    "2019 Q4 " = "October, 2019                     "
    "2020 Q1 " = "January, 2020                     "
    "2020 Q2 " = "April, 2020                     "
    "2020 Q3 " = "July, 2020                     "
    "2020 Q4 " = "October, 2020                     "


/********************************************************************************
******************/
  /* Admin. Year Defn.                                        */
  /* 2009    2010    2011    2012    2013    2014    2015    2016    2017    2018    2019    */

/********************************************************************************
******************/
    "R09029", "R10029", "R11029", "R12029", "R13029", "R14029", "R15029", "R16029", "R17029", "R18029",
"R19029", "R20029" = "Getting to See a Specialist      "
    "R09033", "R10033", "R11033", "R12033", "R13033", "R14033", "R15033", "R16033", "R17033", "R18033",
"R19033", "R20033" = "Getting Treatment              "
    "R09007", "R10007", "R11007", "R12007", "R13007", "R14007", "R15007", "R16007", "R17007", "R18007",
"R19007", "R20007" = "Wait for Urgent Care            "
    "R09010", "R10010", "R11010", "R12010", "R13010", "R14010", "R15010", "R16010", "R17010", "R18010",
"R19010", "R20010" = "Wait for Routine Visit          "
    "R09021", "R10021", "R11021", "R12021", "R13021", "R14021", "R15021", "R16021", "R17021", "R18021",
"R19021", "R20021" = "Listens Carefully              "
    "R09022", "R10022", "R11022", "R12022", "R13022", "R14022", "R15022", "R16022", "R17022", "R18022",
"R19022", "R20022" = "Explains so You Can Understand    "
    "R09023", "R10023", "R11023", "R12023", "R13023", "R14023", "R15023", "R16023", "R17023", "R18023",
"R19023", "R20023" = "Shows Respect              "
```

```
  "R09024", "R10024", "R11024", "R12024", "R13024", "R14024", "R15024", "R16024", "R17024", "R18024",
"R19024", "R20024" = "Spends Time with You          "
  "R09040", "R10040", "R11041", "R12041", "R13041", "R14041", "R15041", "R16041", "R17041", "R18041",
"R19041", "R20041" = "Getting Information           "
  "R09041", "R10041", "R11042", "R12042", "R13042", "R14042", "R15042", "R16042", "R17042", "R18042",
"R19042", "R20042" = "Courteous Customer Service       "
  "R09045", "R10045", "R11046", "R12046", "R13046", "R14046", "R15046", "R16046", "R17046", "R18046",
"R19046", "R20046" = "Claims Handled in a Reasonable Time"
  "R09046", "R10046", "R11047", "R12047", "R13047", "R14047", "R15047", "R16047", "R17047", "R18047",
"R19047", "R20047" = "Claims Handled Correctly         "
  "R09018", "R10018", "R11018", "R12018", "R13018", "R14018", "R15018", "R16018", "R17018", "R18018",
"R19018", "R20018" = "Health Care                "
  "R09047", "R10047", "R11048", "R12048", "R13048", "R14048", "R15048", "R16048", "R17048", "R18048",
"R19048", "R20048" = "Health Plan                "
  "R09027", "R10027", "R11027", "R12027", "R13027", "R14027", "R15027", "R16027", "R17027", "R18027",
"R19027", "R20027" = "Primary Care Manager          "
  "R09031", "R10031", "R11031", "R12031", "R13031", "R14031", "R15031", "R16031", "R17031", "R18031",
"R19031", "R20031" = "Specialty Care             "
               "PHYSIC  " = "Physical                "
               "MENTAL  " = "Mental                "
  ;
  VALUE $BENEF
  "RCOMPOS1","CCOMPOS1","R09029","R09033",
          "R10029","R10033",
          "R11029","R11033",
          "R12029","R12033",
          "R13029","R13033",
          "R14029","R14033",
          "R15029","R15033",
          "R16029","R16033",
          "R17029","R17033",
          "R18029","R18033",
          "R19029","R19033",
          "R20029","R20033"

  = "Getting Needed Care  "

  "RCOMPOS2","CCOMPOS2","R09007","R09010",
          "R10007","R10010",
          "R11007","R11010",
          "R12007","R12010",
          "R13007","R13010",
          "R14007","R14010",
          "R15007","R15010",
          "R16007","R16010",
          "R17007","R17010",
          "R18007","R18010",
          "R19007","R19010",
          "R20007","R20010"

  = "Getting Care Quickly "

  "RCOMPOS3","CCOMPOS3","R09021","R09022","R09023","R09024",
```

```
                "R10021","R10022","R10023","R10024",
                "R11021","R11022","R11023","R11024",
                "R12021","R12022","R12023","R12024",
                "R13021","R13022","R13023","R13024",
                "R14021","R14022","R14023","R14024",
                "R15021","R15022","R15023","R15024",
                "R16021","R16022","R16023","R16024",
                "R17021","R17022","R17023","R17024",
                "R18021","R18022","R18023","R18024",
                "R19021","R19022","R19023","R19024",
                "R20021","R20022","R20023","R20024"

    = "How Well Doctors Communicate "

    "RCOMPOS4","CCOMPOS4","R09040","R09041",
                "R10040","R10041",
                "R11041","R11042",
                "R12041","R12042",
                "R13041","R13042",
                "R14041","R14042",
                "R15041","R15042",
                "R16041","R16042",
                "R17041","R17042",
                "R18041","R18042",
                "R19041","R19042",
                "R20041","R20042"

    = "Customer Service        "

    "RCOMPOS5","CCOMPOS5","R09045","R09046",
                "R10045","R10046",
                "R11046","R11047",
                "R12046","R12047",
                "R13046","R13047",
                "R14046","R14047",
                "R15046","R15047",
                "R16046","R16047",
                "R17046","R17047",
                "R18046","R18047",
                "R19046","R19047",
                "R20046","R20047"

    = "Claims Processing
        "
    "RCOMPOS11","COMPOS11","MENTAL","PHYS"
    = "Health Status              "

/*******************************************************************************
********************/
  /* Admin. Year Defn.                                        */
  /* 2009    2010    2011    2012    2013    2014    2015    2016    2017    2018    2019    */
```

```
/***********************************************************************************
********************/
   "R09018", "R10018", "R11018", "R12018", "R13018", "R14018", "R15018", "R16018", "R17018", "R18018",
"R19018", "R20018" = "Health Care                  "
   "R09047", "R10047", "R11048", "R12048", "R13048", "R14048", "R15048", "R16048", "R17048", "R18048",
"R19048", "R20048" = "Health Plan                 "
   "R09027", "R10027", "R11027", "R12027", "R13027", "R14027", "R15027", "R16027", "R17027", "R18027",
"R19027", "R20027" = "Primary Care Manager            "
   "R09031", "R10031", "R11031", "R12031", "R13031", "R14031", "R15031", "R16031", "R17031", "R18031",
"R19031", "R20031" = "Specialty Care              "
  ;
   VALUE BEN
/* 0 = 'Total'  deleted no longer calculating total 04/2005 RSG ***/
 1 = 'Getting Needed Care'
 2 = 'Getting Care Quickly'
 3 = 'How Well Doctors Communicate'
 4 = 'Customer Service'
 5 = 'Claims Processing'
 6 = 'Health Plan'
 7 = 'Health Care'
 8 = 'Primary Care Manager'
 9 = 'Specialty Care'
10 = 'Preventive Care'
11 = 'Healthy Behaviors';

  VALUE MAJOR
 1 = "Prime Enrollees         "
 2 = "Enrollees with Military PCM"
 3 = "Enrollees with Civilian PCM"
 4 = "Non-enrolled Beneficiaries "
 5 = "Active Duty            "
 6 = "Active Duty Dependents    "
 7 = "Retirees and Dependents   "
 8 = "All Beneficiaries        ";

  VALUE GETNCARE
 1 = "Getting to See a Specialist"
 2 = "Getting Treatment"
 3 = "Composite";

  VALUE GETCAREQ
 1 = "Wait for Routine Visit"
 2 = "Wait for Urgent Care"
 3 = "Composite";

  VALUE HOWWELL
 1 = "Listens Carefully"
 2 = "Explains so You Can Understand"
 3 = "Shows Respect"
 4 = "Spends Time with You"
 5 = "Composite";
```

```
VALUE CUSTSERV
1 = "Getting Information"
2 = "Courteous Customer Service"
3 = "Composite";

VALUE CLMSPROC
1 = "Claims Handled in a Reasonable Time"
2 = "Claims Handled Correctly"
3 = "Composite";

VALUE PREVCARE
1 = "Mammography"
2 = "Pap Smear"
3 = "Hypertension"
4 = "Prenatal Care"
5 = "Composite";

VALUE SMOKEF
1 = "Non-Smoking Rate"
2 = "Counselled To Quit"
3 = "Percent Not Obese"
4 = "Composite";
RUN;
```

G.10.A Benchmark\BENCHA03.SAS - Calculate CAHPS Benchmark data for HCSDB - Annual.

```
**************************************************************************
*
* PROGRAM:  BENCHA03.SAS
* TASK:    Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE:  Adjust Adult CAHPS Benchmarks
*
* WRITTEN:  June 2000 BY ERIC SCHONE
*
* INPUTS:   1) BENCHA02.SD2 - 2005 Adult CAHPS Questions Renamed to be
*              consistent with the 2006 MPR DOD Survey.
*           2) GROUP8.SD2 - CAHPS Group8 (all beneficiaries) Dataset
*
* OUTPUTS:  1) Benchmark Composite Scores Data Sets
*
* MODIFIED:34) Aug 2, 2012 by Amanda Kudis - Updated for 2012 and removed insurnace restriction.
*           35) Aug 1, 2013 by Amanda Kudis - Updated for 2013.
*           36) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                            Replaced RCTYPE with &PC.ReportCards
                            Changed IN to &BENCHDATA.
                            Changed IN2 to "../&RCTYPE/CAHPS_Adult&FYYEAR./Data".
                            Changed LIBRARY to ../../DATA/FMTLIB
                            Replaced MERGE statement in &Q._&L., OUT&COMPNO._&I., and
OUT.COMP&COMPNO._&I DATA steps with SET statements.
                            Added MERGE=1 to R_&X.
                            Added BY MERGE to TEMP step.
                            Changed R14 to R&FY.
                            Changed CONVERT.SAS to
../ReportCards/CAHPS_Adult&FYYEAR./CONVERT.SAS*
* NOTES:
*
* 1) Run this program after BENCHA01.SAS and BENCHA02.SAS.
* 2) This program will generate the input for BENCHA04.SAS.
*
**************************************************************************
* Assign data libraries and options
**************************************************************************;

/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards          ***/
%LET RCTYPE = &PC.ReportCards;

libname in     "&BENCHDATA.";
libname in2    "../&RCTYPE/CAHPS_Adult&FYYEAR./Data";
libname out    "data";
LIBNAME LIBRARY "../../Data/fmtlib";

%let wgt=CFWT;

OPTIONS MLOGIC MPRINT NOCENTER MERGENOBY=WARN LS=132 PS=79;
```

```sas
%macro comb(f,t,q,l);

proc summary data=&f;
 var &t;
 where &q~=.;
 weight &wgt;
 output out=temp mean=&t;
run;

data temp;
 set temp;
 array old &t;
 call symput('z',left(dim(old)));
run;

data temp(drop=_type_ &t);
 set temp;
 array old &t;
 array new var1-var&z;
  do i=1 to &z;
   new(i)=old(i);
  end;
run;

data &q._&l;
 set temp;
 set c_&q;
 array coeffs &t;
 array means var1-var&z;
  DO I = 1 TO DIM(COEFFS);
   IF COEFFS(I) = . THEN COEFFS(I) = 0;
   IF MEANS(I) = . THEN MEANS(I) = 0;
   ADJUST + ( COEFFS(I) * MEANS(I) );
  END;
 merge=1;

 ADJUST = ADJUST + intercept;
 &q._&l=adjust;

run;

%mend comb;

%macro adjust(x,y);

proc summary data=setup;
where &x>.;
 class SUB_ID;

 output out=count;
run;

data count count2(rename=(_freq_=denom));
```

```
 set count;
 if _type_=0 then output count2;
 else output count;
run;

data count(keep=pweight SUB_ID);
 if _n_=1 then set count2;
 set count;
 pweight=denom/_freq_;
run;

data temp;
 merge count  setup; by SUB_ID;

run;
proc summary data=temp;
where &x>.;
weight pweight;
var &y;
output out=temp2 mean=&y;
data temp2;
 set temp2;
 array old &y;
 call symput('z',left(dim(old)));
run;
data temp2(keep=var1-var&z);
 set temp2;
 array old &y;
 array new var1-var&z;
  do i=1 to &z;
   new(i)=old(i);
  end;
run;
data temp;
set temp;
if _n_=1 then set temp2;
 array old &y;
 array new var1-var&z;
  do i=1 to &z;
  if old(i)=. then
   old(i)=new(i);
  end;
run;
proc reg data=temp outest=c_&x noprint;
 model &x=&y;
 weight pweight;
 output out=r_&x r=r_&x;
run;

data r_&x;
 set r_&x;
 merge=1;
run;
```

```
proc sort data=r_&x; by SUB_ID;
run;

PROC DESCRIPT DATA=r_&x DESIGN=STRWR NOPRINT;
 WEIGHT pweight;
 SETENV DECWIDTH=4;
 NEST SUB_ID / missunit;
 VAR R_&x;
 OUTPUT  SEMEAN / TABLECELL=DEFAULT
 FILENAME=s_&x;
RUN;

data s_&x(rename=(semean=s_&x));
 set s_&x(keep=semean);
%do i=1 %to 8;
 %if &i=8 %then %do;

  data group8;
   set in2.group5 in2.group6 in2.group7;
  run;
  %comb(group8,&y,&x,8);
 %end;
 %else %do;
  %comb(in2.group&i,&y,&x,&i);
 %end;
%end;

%mend adjust;

/* adjust all the variables */

%macro comp(compno,a,b,c,d);
 %if &a~= %then %do;
  %let n=r_&a;
  %let m=s_&a;
  %do i=1 %to 8;
   %let p&i=&a._&i;
  %end;
  %let grpnum=1;
   proc sort data=r_&a;
    by mpid;
   run;
 %end;
 %if &b~= %then %do;
  %let n=%str(&n r_&b);
  %let m=%str(&m s_&b);
  %do i=1 %to 8;
   %let p&i=%str(&&p&i &b._&i);
  %end;
  %let grpnum=2;
   proc sort data=r_&b;
    by mpid;
```

```
   run;
%end;
%if &c~= %then %do;
 proc sort data=r_&c;
  by mpid;
 run;
 %let grpnum=3;
 %let n=%str(&n r_&c);
 %do i=1 %to 8;
  %let p&i=%str(&&p&i &c._&i);
 %end;
 %let m=%str(&m s_&c); %end;

 %if &d~= %then %do;
  proc sort data=r_&d;
   by mpid;
  run;
  %let grpnum=4;
  %let n=%str(&n r_&d);
   %do i=1 %to 8;
    %let p&i=%str(&&p&i &d._&i);
   %end;

   %let m=%str(&m s_&d);
  %end;

 data infile;
  merge &n;
  by mpid;
 run;

 proc corr outp=outf noprint;
  var &n;
  weight pweight;
 run;

 data final;
  if _n_=1 then do;
  %if &a~= %then %do;
   set s_&a;
  %end;
  %if &b~= %then %do;
   set s_&b;
  %end;
  %if &c~= %then %do;
   set s_&c;
  %end;
  %if &d~= %then %do;
   set s_&d;
  %end;
  end;
  set  outf;
  call symput('s'||compress(_n_),substr(_name_,3));
```

```
 where _type_='CORR';
run;

data final;
 set final;
 array r_val &n;
 array s_val &m;
 sde=0;
 do i=1 to dim(s_val);
  %do i=1 %to &grpnum;
   if _name_="r_&&s&i" then
   sde=sde+r_val(i)*s_&&s&i*s_val(i);
  %end;
 end;
run;

data sefin&compno;
 set final end=last;
 tv+sde;
 if last then do;
 sde=(tv**.5)/&grpnum;
 output;
end;

%do i=1 %to 8;
 data temp(keep=&&p&i);
  merge &&p&i;
  by merge;
 run;

data output;
 set &&p&i;
 totadj+adjust;
run;

data output(keep=totadj);
 set output end=last;
 if last then do;
  totadj=totadj/&grpnum;
  output;
 end;
run;

data out&compno._&i;
 set output;
 set temp;
run;

data out.comp&compno._&i;
  set out&compno._&i;
  set sefin&compno;
run;
```

```
%end;

%mend comp;

/* create composites */
proc sort data=in.bencha02 out=setup;
 by SUB_ID;
run;
data setup;
set setup;
/*if ^(model in (2,4)); */  **AMK removed restriction 9/20/12;
if disp=0 and (responsemode=1 or responsemode=3)  ;   ***MBT 07/10/2018 Restriction changed for new
benchmark data;
RUN;

data setup;
 set setup; by SUB_ID;
 mpid=_n_;
 if agegroup ne . then do;
 age1824=0; age2534=0; age3544=0; age4554=0; age5564=0; age6574=0;

    if agegroup=1 then age1824=1;
 else if agegroup=2 then age2534=1;
 else if agegroup=3 then age3544=1;
 else if agegroup=4 then age4554=1;
 else if agegroup=5 then age5564=1;
 else if agegroup=6 then age6574=1;
 end;
 if agegroup<6;

run;
%INCLUDE "../ReportCards/CAHPS_Adult&FYYEAR./CONVERT.SAS";

%CONT2(DSN=SETUP, NUM=4,  Y=R&FY.018 R&FY.048 R&FY.027 R&FY.031);
%CONT3(DSN=SETUP, NUM=12, Y=R&FY.007 R&FY.010 R&FY.029 R&FY.033
                R&FY.021 R&FY.022 R&FY.023 R&FY.024
                R&FY.041 R&FY.042 R&FY.046 R&FY.047);
/* GETTING NEEDED CARE */
%adjust(R&FY.029,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.033,age1824 age2534 age3544 age4554  R&FY.065);
%comp(1,R&FY.029,R&FY.033);

/* GETTING NEEDED CARE QUICKLY */
%adjust(R&FY.007,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.010,age1824 age2534 age3544 age4554  R&FY.065);
%comp(2,R&FY.007,R&FY.010);

/* HOW WELL DOCTORS COMMUNICATE */
%adjust(R&FY.021,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.022,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.023,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.024,age1824 age2534 age3544 age4554  R&FY.065);
%comp(3,R&FY.021,R&FY.022,R&FY.023,R&FY.024);
```

```
/* CUSTOMER SERVICE */
%adjust(R&FY.041,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.042,age1824 age2534 age3544 age4554  R&FY.065);
%comp(4,R&FY.041,R&FY.042);

/* CLAIMS PROCESSING */
%adjust(R&FY.046,age1824 age2534 age3544 age4554  R&FY.065);
%adjust(R&FY.047,age1824 age2534 age3544 age4554  R&FY.065);
%comp(5,R&FY.046,R&FY.047);

/* RATING ALL HEALTH CARE: 0 - 10 */
%adjust(R&FY.018,age1824 age2534 age3544 age4554  R&FY.065);
%comp(6,R&FY.018);

/* RATING OF HEALTH PLAN: 0 - 10 */
%adjust(R&FY.048,age1824 age2534 age3544 age4554  R&FY.065);
%comp(7,R&FY.048);

/* RATING OF PERSONAL DR: 0 - 10 */
%adjust(R&FY.027,age1824 age2534 age3544 age4554  R&FY.065);
%comp(8,R&FY.027);

/* SPECIALTY CARE */
%adjust(R&FY.031,age1824 age2534 age3544 age4554  R&FY.065);
%comp(9,R&FY.031);
```

G.10.BBenchmark\BENCHA04.SAS - Convert the Benchmark Scores Database into the WEB layout - Annual.

```
*************************************************************************
*
* PROGRAM:  BENCHA04.SAS
* TASK:     Quarterly DOD HEALTH CARE SURVEY ANALYSIS (6401-904)
* PURPOSE:  Convert the Benchmark Scores Database into the WEB layout
*
* WRITTEN:  06/01/2000 BY KEITH RATHBUN
*
* INPUTS:   1) Benchmark data sets with adjusted scores
*           (COMPn_i.SD2 where n = composite number and i = group number)
*
* OUTPUT:   1) BENCHA04.SD2 - Combined Benchmark Scores Database in WEB layout
*
* INCLUDES: 1) LOADCAHQ.INC - Format definitions for CAHPS Individual
*           and composite data sets
*
* MODIFIED:
*
* NOTES:
*
* 1) The following steps need to be run prior to this program:
*    - BENCHA01.SAS - Extract Benchmark variables
*    - BENCHA02.SAS - Recode Benchmark variables
*    - BENCHA03.SAS - Construct Scores and SEMEAN datasets
*
* 2) The output file (BENCHA04.SAS7BDAT) will be run through the
*    MAKEHTML.SAS program to generate the WEB pages.
*
* MODIFIED: 1) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
*                                    Changed LIBRARY to "..\..\DATA\FMTLIB".
*                                    Changed YEAR to &FYYEAR.;
/*                                   Added X = .; statement to initialize X.
*                                    Changed R14 to R&FY.
*/
*************************************************************************
* Assign data libraries and options
*************************************************************************;
LIBNAME IN  "data";
LIBNAME IN2 "apredtest";
LIBNAME OUT "data";
LIBNAME LIBRARY  "../../Data/fmtlib";

OPTIONS PS=79 LS=132 COMPRESS=NO NOCENTER;


*************************************************************************
* Load Format definitions for CAHPS Individual and composite data sets.
*************************************************************************;
%INCLUDE "../LoadWeb/LOADCAHQ.INC";
```

```
**************************************************************************
**************************************************************************
*
* Process Macro Input Parameters:
*
* 1) CNUM = Composite or rating variable number (1-10)
* 2) GNUM = Group number (1-8)
* 3) NVAR = Number of variables in the composite
* 4) VARS = List of individual variables for composite
* 5) SE   = List of individual standard error variables
*
* _____
*   Adjusted Score        Definitions
*   Group Number
* _____
* 1. Prime enrollees         XINS_COV IN (1,2,6) AND H09004_R>=7
* 2. Enrollees w/mil PCM     XENR_PCM IN (1,2,6) AND H09004_R>=7
* 3. Enrollees w/civ PCM     XENR_PCM = 3     AND H09004_R>=7
* 4. Nonenrollees            XINS_COV IN (3,4,5)
* 5. Active duty             BFGROUPP = 1
* 6. Active duty dependents  BFGROUPP = 2
* 7. Retirees and dependents BFGROUPP IN (3,4)
* 8. All Beneficiaries
*
**************************************************************************;
%MACRO PROCESS(CNUM=, GNUM=, NVAR=, VARS=, SE=);
**************************************************************************
* Assign value for BENTYPE composite year
**************************************************************************;
%LET YEAR = "&FYYEAR."; * Note that this is based on Calendar Year here;


**************************************************************************
* Convert benchmark scores datasets into WEB layout.
**************************************************************************;
%IF &CNUM<6 %THEN %DO;

 DATA INP;
  SET IN2.COMP&CNUM;
   WHERE X=&GNUM;

 DATA INP;
  SET INP  IN2.PROJERR&GNUM;
  RENAME SE=SESX;
RUN;
%END;
%ELSE %DO;

 DATA INP;
  SET IN2.PROJERR&GNUM;
  RENAME SE=SESX;

        X = .;
RUN;
```

G.219

```
%END;

 DATA COMP&CNUM._&Gnum;
   SET INP;
  IF _N_=1 THEN
   SET IN.COMP&CNUM._&GNUM;
    LENGTH MAJGRP  $30;
    LENGTH REGION  $25;
    LENGTH REGCAT  $26;
    LENGTH BENTYPE $50;
    LENGTH BENEFIT $34;
    LENGTH TIMEPD  $35;   ***MJS 07/03/03 Added line;

    ********************************************************************
    * For now, assign SIG = 0
    ********************************************************************;
    SIG = 0;

    ********************************************************************
    * Assign major group
    ********************************************************************;
    MAJGRP  = PUT(&Gnum,MAJGRPF.);

    ********************************************************************
    * Assign Region and Regcat
    ********************************************************************;
    REGION  = "Benchmark";
    REGCAT  = "Benchmark";

    ********************************************************************
    * Assign benefit and benefit type
    ********************************************************************;
    IF     &CNUM = 1  THEN BENEFIT = "Getting Needed Care";
    ELSE IF &CNUM = 2  THEN BENEFIT = "Getting Care Quickly";
    ELSE IF &CNUM = 3  THEN BENEFIT = "How Well Doctors Communicate";
    ELSE IF &CNUM = 4  THEN BENEFIT = "Customer Service";
    ELSE IF &CNUM = 5  THEN BENEFIT = "Claims Processing";
    ELSE IF &CNUM = 6  THEN BENEFIT = "Health Care";
    ELSE IF &CNUM = 7  THEN BENEFIT = "Health Plan";
    ELSE IF &CNUM = 8  THEN BENEFIT = "Primary Care Manager";
    ELSE IF &CNUM = 9  THEN BENEFIT = "Specialty Care";

    BENTYPE = "Composite";   ***MJS 07/03/03 Changed from BENTYPE = PUT(&YEAR,$BENTYPF.);
    TIMEPD = PUT(&YEAR,$BENTYPF.);   ***MJS 07/03/03 Added;
     IF &CNUM<6 THEN DO;
       IF X=&GNUM THEN DO;
    ****************************************************************
    * Assign composite score and SEMEAN
    ****************************************************************;
       SCORE = TOTADJ;
       SEMEAN = SQRT(SDE**2+SESX**2);

    ****************************************************************
```

```
     * Output composite score record for each REGION
     ********************************************************************;
        OUTPUT;
       END;
      END;
     ********************************************************************
     * Now, output the individual score records
     ********************************************************************;
     IF &NVAR GT 1|&CNUM>5 THEN DO;
       ARRAY ITEMS &VARS;
       ARRAY SE   &SE;
       LENGTH NAME $8;
       DO I = 1 TO DIM(ITEMS); DROP I;
         CALL VNAME(ITEMS(I),NAME);
         NAME = SUBSTR(NAME,1,6);
         SCORE  = ITEMS(I);
         SEMEAN = SQRT(SE(I)**2+SESX**2);
         IF &NVAR GT 1 THEN
         BENTYPE = PUT(NAME,$BENTYPF.);
         TIMEPD = PUT(&YEAR,$BENTYPF.);   ***MJS 07/03/03 Added;
        IF COMPRESS(UPCASE(NAME))=COMPRESS(UPCASE(VAR)) THEN OUTPUT;
       END;
     END;

   KEEP MAJGRP
      REGION
      REGCAT
      BENTYPE
      BENEFIT
      TIMEPD   /*MJS 07/03/03 Added*/
      SEMEAN
      SCORE
      SIG
    ;
  RUN;

%MEND;

   **************************************************************************
   **************************************************************************
   * Process each of the 8 Groups.
   **************************************************************************
   **************************************************************************;
%MACRO DOIT;
%DO I = 1 %TO 8;
   **********************************************************************
   * COMPOSITE # 1.
   * GETTING NEEDED CARE VARIABLES.
   **********************************************************************;
   %PROCESS(CNUM=1, GNUM=&I, NVAR=2, VARS=R&FY.029_&I R&FY.033_&I,
      SE=S_R&FY.029 S_R&FY.033);

   **********************************************************************
```

```
 * COMPOSITE # 2.
 * GETTING CARE QUICKLY VARIABLES.
 ********************************************************************;
 %PROCESS(CNUM=2, GNUM=&I, NVAR=2, VARS=R&FY.007_&I R&FY.010_&I,
     SE=S_R&FY.007 S_R&FY.010);


 ********************************************************************
 * COMPOSITE # 3.
 * HOW WELL DOCTORS COMMUNICATE.
 ********************************************************************;
 %PROCESS(CNUM=3, GNUM=&I, NVAR=4, VARS=R&FY.021_&I R&FY.022_&I R&FY.023_&I R&FY.024_&I,
     SE=S_R&FY.021 S_R&FY.022 S_R&FY.023 S_R&FY.024);


 ********************************************************************
 * COMPOSITE # 4.
 * CUSTOMER SERVICE.
 ********************************************************************;
 %PROCESS(CNUM=4, GNUM=&I, NVAR=2, VARS=R&FY.041_&I R&FY.042_&I,
     SE=S_R&FY.041 S_R&FY.042);


 ********************************************************************
 * COMPOSITE # 5.
 * CLAIMS PROCESSING.
 ********************************************************************;
 %PROCESS(CNUM=5, GNUM=&I, NVAR=2, VARS=R&FY.046_&I R&FY.047_&I,
     SE=S_R&FY.046 S_R&FY.047);


 ********************************************************************
 * INDIVIDUAL # 1.
 * RATING OF ALL HEALTH CARE: 0 - 10.
 ********************************************************************;
 %PROCESS(CNUM=6, GNUM=&I, NVAR=1, VARS=R&FY.018_&I, SE=S_R&FY.018);


 ********************************************************************
 * INDIVIDUAL # 2.
 * RATING OF HEALTH PLAN: 0 - 10.
 ********************************************************************;
 %PROCESS(CNUM=7, GNUM=&I, NVAR=1, VARS=R&FY.048_&I, SE=S_R&FY.048);


 ********************************************************************
 * INDIVIDUAL # 3.
 * RATING OF PERSONAL DOCTOR: 0 - 10.
 ********************************************************************;
 %PROCESS(CNUM=8, GNUM=&I, NVAR=1, VARS=R&FY.027_&I, SE=S_R&FY.027);


 ********************************************************************
 * INDIVIDUAL # 4.
 * SPECIALTY CARE: 0 - 10.
 ********************************************************************;
 %PROCESS(CNUM=9, GNUM=&I, NVAR=1, VARS=R&FY.031_&I, SE=S_R&FY.031);
%END;
%MEND DOIT;
%DOIT;
```

```
***************************************************************************
***************************************************************************
* STACK up all of the files into one final output dataset.
***************************************************************************
***************************************************************************;
/*Comp4 was from questions 40 and 41 and there is no 2007 equivalent*/
DATA OUT.BENCHA04;
  SET COMP1_1 COMP1_2 COMP1_3 COMP1_4 COMP1_5 COMP1_6 COMP1_7 COMP1_8
    COMP2_1 COMP2_2 COMP2_3 COMP2_4 COMP2_5 COMP2_6 COMP2_7 COMP2_8
    COMP3_1 COMP3_2 COMP3_3 COMP3_4 COMP3_5 COMP3_6 COMP3_7 COMP3_8
    COMP4_1 COMP4_2 COMP4_3 COMP4_4 COMP4_5 COMP4_6 COMP4_7 COMP4_8
    COMP5_1 COMP5_2 COMP5_3 COMP5_4 COMP5_5 COMP5_6 COMP5_7 COMP5_8
    COMP6_1 COMP6_2 COMP6_3 COMP6_4 COMP6_5 COMP6_6 COMP6_7 COMP6_8
    COMP7_1 COMP7_2 COMP7_3 COMP7_4 COMP7_5 COMP7_6 COMP7_7 COMP7_8
    COMP8_1 COMP8_2 COMP8_3 COMP8_4 COMP8_5 COMP8_6 COMP8_7 COMP8_8
    COMP9_1 COMP9_2 COMP9_3 COMP9_4 COMP9_5 COMP9_6 COMP9_7 COMP9_8
  ;
  IF SCORE = . THEN DELETE;
RUN;

TITLE1 "Quarterly DOD Health Survey Scores/Report Cards (6663-410)";
TITLE2 "Program Name: BENCHA04.SAS By Keith Rathbun";
TITLE3 "Program Inputs: Benchmark Individual and Composite data sets with adjusted scores";
TITLE4 "Program Outputs: BENCHA04.SAS7BDAT - Combined Benchmark Scores Database in WEB layout";

PROC CONTENTS; RUN;

PROC FREQ;
TABLES TIMEPD BENEFIT BENTYPE MAJGRP REGION REGCAT
    REGION*REGCAT
    /MISSING LIST;
RUN;
```

G.11.A   ReportCards\MPR_Adult2020\PRVCOMP.SAS - Calculate Preventive Care Composite Scores - Annual.

```
*****************************************************************
*  Project:   DoD Reporting and Analysis 6077-410
*  Program:  PRVCOMPQ.SAS
*  Author:   Chris Rankin
*  Date:    12/22/2000
*  Modified:  4/19/2001 By Keith Rathbun: Restrict population to
*       xins_cov in(1,2,3,6).  Use POSTSTR instead of
*       adj_cell.
*  Modified: 1) 11/11/2012 By Mike Rudacille Updated for handling of
*             Joint Service facilities
*       2) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                                 Replaced RCTYPE with &PC.ReportCards
                                 Changed INNORM to "&NORMDATA."
                                 Changed CACLIB to ..\CAHPS_Adult&FYYEAR.\Data
                                 Changed NORMDAT to &NORMFILE.
                                 Changed INDATA to &DATAFILE.
                                 Changed YRDATA to HCS&FY.
                                 Changed YR to &FY.
                                 Changed H11 to H&NY.
                                 Changed H14 to H&FY.;
  /*                             Added lines for "cp&yr.obs&p=.;" and "cp&yr.den&p=.;"
                                 Included DATA step in GETCORR to remove groupings with only one
obs.*
*/
*  Purpose:  Calculate MPR Preventive Care Composites
*  Input:    HCSyyq_1.sas7bdat
*  Output:   RFINAL.sas7bdat
*       CFINAL.sas7bdat
*       MFINAL.sas7bdat
*       SFINAL.sas7bdat
*
*  Include
*  Files:   LOADCAHPQ.INC
*  Notes:   Next program is Loadmprq.sas
*
*       ***CHECK PARAMETER ASSIGNMENTS***
*****************************************************************;

OPTIONS NOCENTER LS=124 PS=74 SOURCE SOURCE2 MLOGIC MPRINT
    NOFMTERR COMPRESS=YES;

/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards        ***/
%LET RCTYPE = &PC.ReportCards;

LIBNAME IN          "../../../Data";
LIBNAME INNORM      "&NORMDATA.";
LIBNAME CACLIB      "../CAHPS_Adult&FYYEAR./Data";
LIBNAME OUT         ".";
LIBNAME LIBRARY     "../../../Data/fmtlib";
```

```
%LET WGT=CFWT;
%LET NORMWGT = CFWT;
%LET NORMDAT = &NORMFILE.;

%LET DEBUG=N;      /** Set to Y for Debug print of datasets **/
%LET INDATA=&DATAFILE.;

%LET YRDATA=HCS&FY.;
%LET YR=&FY.;

/***** The following parameters are used in the Variance ****/
/***** calcuation macro for region and catchment area    ****/

%LET GRPNUM=8;     /** number of groups        **/
%LET COMPNUM=6;    /** number of variables      **/ /* RSG - 04/2005 changed from 8 to 7 (eliminate
cholesterol*/
%LET REGNUM=13;    /** number of regions       **/ /* RSG - 01/2005 CHANGED TO FIT THE 16 CATEGORIES OF
XSERVREG */
                              /* JSO 08/24/2006 (16 TO 15) Changed Overseas Regions*/
                              /* MER 11/11/2012 (15 TO 18) Joint Service */
%LET CATCHNUM=9999; /** number of catchment areas **/

%LET CMPNUM1=4;   /** number of variables in first composite  **/  /*RSG 04/2005 Changed CMPNUM1 from
5 to 4*/
%LET CMPNUM2=2;   /** number of variables in second composite **/  /*MJS 04/30/03 Changed CMPNUM2
from 4 to 3*/

%LET COMPCNT=2;   /** number of composites            **/

**** set up benchmarks for preventive services ;
**** MER 3/31/11 - updated to hp 2020 goals   ;

%LET GOALVAR1= .78;  /** HP Goal for prenatal care       **/
%LET GOALVAR2= .81;  /** HP Goal for Mammography         **/
%LET GOALVAR3= .93;  /** HP Goal for Papsmear        **/
%LET GOALVAR4= .95;  /** HP Goal for Blood Pressure check **/
%LET GOALVAR5= .90;  /** access goals            **/ /*04/2005 - RSG: DELETED CHOLESTEROLE GOAL*/
%LET GOALVAR6= .90;

%INCLUDE "../../LoadWeb/LOADCAHQ.INC";

************************************************************;
* Beneficiary group note
*   Eight groups        Definitions
*   _____;
* 1. Prime enrollees       XINS_COV IN (1,2,6) AND H09004>=2
* 2. Enrollees w/mil PCM    XENR_PCM IN (1,2,6) AND H09004>=2
* 3. Enrollees w/civ PCM    XENR_PCM IN (3,7)  AND H09004>=2
* 4. Nonenrollees        XINS_COV IN (3) /*JSO 08/24/2006, Deleted 4,5*/
* 5. Active duty        XBNFGRP = 1
* 6. Active duty dependents  XBNFGRP = 2
* 7. Retirees          XBNFGRP IN (3,4)
```

```
* 8. All beneficiaries     ALL
***********************************************************;


*--------------------------------------------------
* Add cacsmpl from group8.sd2 dataset - CDR 2/05/2004
*--------------------------------------------------;

PROC SORT DATA=CACLIB.GROUP8 OUT=GROUP8(KEEP=MPRID CACSMPL XSERVIND);
  BY MPRID;
RUN;

PROC SORT DATA=IN.&INDATA(KEEP=MPRID XINS_COV HP_BP HP_MAMOG
                HP_PAP HP_PRNTL   /*ES 02/04/04*/
                XTNEXRG2 XENR_PCM XBNFGRP ENBGSMPL &WGT FIELDAGE DBENCAT
                STRATUM H&FY.010 H&FY.007 H&FY.004 H&FY.003 SERVAFF XREGION)
  OUT= &YRDATA; BY MPRID;
RUN;

/**** note -- output all data to a single dataset for macro */
/**** call                              */
/**** MACROS are no longer called for catchment areas      */

/* 08/24/2006 JSO Moved from the top of program for using Quarter vs. Annual Formats */
*LIBNAME LIBRARY '..\..\..\..\2005\Data\fmtlib';

DATA NORMDATA(KEEP=XTNEXRG2 XSERVREG &WGT PRVVAR1-PRVVAR&COMPNUM. NUMV1-
NUMV&COMPNUM.
          DENV1-DENV&COMPNUM XSERVAFF FIELDAGE);
          /* 11/15/2006 JSO Added FIELDAGE in the keep statement */

 set INNORM.&NORMDAT(KEEP=MPRID XINS_COV HP_BP HP_MAMOG HP_PAP HP_PRNTL XTNEXREG
            XENR_PCM XBNFGRP ENBGSMPL &NORMWGT DBENCAT
            H&NY.010 H&NY.007 H&NY.003 SERVAFF XREGION FIELDAGE XCATCH);
         /* 08/24/2006 JSO Added XREGION in the keep statement to get XOCONUS */
         /* 11/15/2006 JSO Added FIELDAGE in the keep statement */
         /* 05/10/2007 JSO Added H05006, DBENCAT in the keep statement */
         /* 12/21/2011 MER For switch to 2011 norm data mapped the following vars: */
         /* H05006 -> H&NY.003                              */
         /* H05007 -> H&NY.004 (subsequently taken out due to not being necessary */
         /* H05019 -> H&NY.007                             */
         /* H05022 -> H&NY.010                              */
         /* H05030 and ADJ_CELL were dropped                      */

*************************************************************************
* For quarterly reports, catchment level reporting is not done
* so the value of cellp is set to 1.
* For annual reporting purposes, cellp will need to be assigned
* to geocell
*************************************************************************;

/***Revised for 2 regions***/
IF XTNEXREG>=2 THEN XTNEXRG2=XTNEXREG-1;
ELSE XTNEXRG2=XTNEXREG;
```

```
/*RSG 02/2005 Added codes to define XTNEXREG & XSERVAFF*/

 IF SERVAFF = 'A' THEN XSERVAFF = 1;      *Army;
 ELSE IF SERVAFF = 'F' THEN XSERVAFF = 2;   *Air Force;
 ELSE IF SERVAFF = 'N' THEN XSERVAFF = 3;   *Navy;
 ELSE XSERVAFF = 4;                *Other/unknown;

 IF XCATCH = 37 THEN XCATCH = 67; /* Recode for combining of Walter Reed facilities */

 IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA;

 IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

 IF XTNEXRG2 = . THEN DELETE;

 IF XINS_COV NOT IN(1,2,3,6,9,10,11) THEN DELETE;  /*JSO 07/30/2007, Added 9*/

 NXNS_COV = XINS_COV;          /*JSO 04/26/2007 added for reservists logic*/
                  /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
 IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
 IF DBENCAT IN('GRD','IGR') AND H&NY.003 = 3 THEN DO;
   NXNS_COV = 3;
   XENR_PCM = .;
 END;

 PRVVAR1=HP_PRNTL;      /** prenatal care  **/
 PRVVAR2=HP_MAMOG;      /** mammography   **/
 PRVVAR3=HP_PAP;      /** papsmear      **/
 PRVVAR4=HP_BP;       /** blood pressure **/
 PRVVAR5=H&NY.010;      /** access var 1  **/
 PRVVAR6=H&NY.007;      /** access var 2  **/

/**** set up numerator and denominator for proportions ****/

 ARRAY PRVVAR(*) PRVVAR1-PRVVAR&COMPNUM;
 ARRAY  NUMER(*) NUMV1-NUMV&COMPNUM;
 ARRAY  DENOM(*) DENV1-DENV&COMPNUM;

 DO I = 1 TO &COMPNUM;
   IF I LE  &CMPNUM1 THEN DO;
     IF PRVVAR(I) = 1 THEN NUMER(I) = 1;
     ELSE NUMER(I)=0;
     IF PRVVAR(I) IN (1, 2) THEN DENOM(I)=1;
   END;
   ELSE IF I GT &CMPNUM1 THEN DO;
     IF PRVVAR(I) IN (1, 2) THEN NUMER(I)=1;
     ELSE NUMER(I)=0;
     IF PRVVAR(I) > 0 THEN DENOM(I)=1;
   END;
 END;
 DROP I;
 DENV4=1;
```

```
/*RSG 02/2005 Added codes to define XSERVREG CACSMPL*/

 IF XTNEXRG2 = 1 THEN DO;
   IF XSERVAFF = 1 THEN XSERVREG = 1;
   ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
   ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
   ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
   ELSE XSERVREG = 5;
 END;

 IF XTNEXRG2 = 2 THEN DO;
   IF XSERVAFF = 1 THEN XSERVREG = 6;
   ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
   ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
   ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
   ELSE XSERVREG = 10;
 END;

 IF XTNEXRG2 = 3 THEN DO; /*JSO 08/22/2006, Changed Overseas Regions*/
   IF    XREGION = 13 THEN XSERVREG = 11;
   ELSE IF XREGION = 14 THEN XSERVREG = 12;
   ELSE IF XREGION = 15 THEN XSERVREG = 13;
 END;

 /* AMK 8/02/12 - New logic for handling out of catchment OCONUS */
 IF XCATCH = 9904 THEN DO;
   IF XSERVREG <=5 THEN XCATCH=9901;
   ELSE IF XSERVREG <=10 THEN XCATCH=9903;
   ELSE IF XSERVREG = 11 THEN XCATCH=9905;
   ELSE IF XSERVREG = 12 THEN XCATCH=9906;
   ELSE IF XSERVREG = 13 THEN XCATCH=9907;
 END;

 RENAME XCATCH=CACSMPL &NORMWGT = &WGT;
run;

PROC SORT DATA=CACLIB.GROUP8 OUT=GROUP8(KEEP=MPRID CACSMPL XSERVIND);
  BY MPRID;
RUN;

/* 08/22/2006 JSO Moved from the top of program for using Quarter vs. Annual Formats */
*LIBNAME LIBRARY  "..\..\..\Data\Afinal\fmtlib";

DATA &YRDATA(KEEP=BGROUP MHS USA XSERVAFF CACSMPL &WGT. TMP_CELL
         PRVVAR1-PRVVAR&COMPNUM. NUM&YR.V1-NUM&YR.V&COMPNUM.
         DEN&YR.V1-DEN&YR.V&COMPNUM IN_GROUP8
         XTNEXRG2 XSERVREG XSERVIND);
         /* 11/15/2006 JSO Added FIELDAGE in the keep statement */

  MERGE &YRDATA.(IN=IN_1) GROUP8(IN=IN_2); /*CDR 2/05/2004 */
 BY MPRID;
 IF IN_1;
```

```
 IF IN_2=1 THEN IN_GROUP8=1;
 ELSE IN_GROUP8=0;


**************************************************************************
* For quarterly reports, catchment level reporting is not done
* so the value of cellp is set to 1.
* For annual reporting purposes, cellp will need to be assigned
* to geocell
**************************************************************************;
 IF SERVAFF = 'A' THEN XSERVAFF = 1;      *Army;
 ELSE IF SERVAFF = 'F' THEN XSERVAFF = 2;   *Air Force;
 ELSE IF SERVAFF = 'N' THEN XSERVAFF = 3;   *Navy;
 ELSE XSERVAFF = 4;                *Other/unknown;

 IF PUT(CACSMPL, DHASRV.)='1' THEN XSERVAFF=5; *DHA;


 CELLP = 1;
 LENGTH TMP_CELL 8;
 TMP_CELL = STRATUM;   /* Make STRATUM a numeric variable */

 IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

 IF XTNEXRG2 = . THEN DELETE;

 IF XINS_COV NOT IN(1,2,3,6,9,10,13,14) THEN DELETE;  /*JSO 07/30/2007, Added 9*/ /*AMK 6/17/14 removed
11 added 13/14*/

 NXNS_COV = XINS_COV;   /*JSO 05/14/2007 added for reservists logic*/
               /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
 IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
 IF DBENCAT IN('GRD','IGR') AND H&FY.003 = 3 THEN DO;
   NXNS_COV = 3;
   XENR_PCM = .;
 END;

 PRVVAR1=HP_PRNTL;      /** prenatal care  **/
 PRVVAR2=HP_MAMOG;      /** mammography   **/
 PRVVAR3=HP_PAP;       /** papsmear      **/
 PRVVAR4=HP_BP;       /** blood pressure **/
 /*RSG 04/2005 - delete cholesterol, renumber PRVVAR below*/
 PRVVAR5=H&FY.010;       /** access var 1  **/
 PRVVAR6=H&FY.007;       /** access var 2  **/

/**** set up numerator and denominator for proportions ****/

 ARRAY PRVVAR(*) PRVVAR1-PRVVAR&COMPNUM;
 ARRAY  NUMER(*) NUM&YR.V1-NUM&YR.V&COMPNUM;
 ARRAY  DENOM(*) DEN&YR.V1-DEN&YR.V&COMPNUM;

 DO I = 1 TO &COMPNUM;
   IF I LE  &CMPNUM1 THEN DO;
     IF PRVVAR(I) = 1 THEN NUMER(I) = 1;
     ELSE NUMER(I)=0;
```

```
      IF PRVVAR(I) IN (1, 2) THEN DENOM(I)=1;
    END;
    ELSE IF I GT &CMPNUM1 THEN DO;
      IF PRVVAR(I) IN (1, 2) THEN NUMER(I)=1;
      ELSE NUMER(I)=0;
      IF PRVVAR(I) > 0 THEN DENOM(I)=1;
    END;
  END;
  DROP I;
  DENV4=1;

  MHS= 1;   /* set up dummy for MHS-- include all observations */

 /* 08/22/2006, JSO Create XOUSA for 2005 data */

  IF XTNEXRG2 = 1 THEN DO;
    IF XSERVAFF = 1 THEN XSERVREG = 1;
    ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
    ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
    ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
    ELSE XSERVREG = 5;
  END;

  IF XTNEXRG2 = 2 THEN DO;
    IF XSERVAFF = 1 THEN XSERVREG = 6;
    ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
    ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
    ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
    ELSE XSERVREG = 10;
  END;

  IF XTNEXRG2 = 3 THEN DO;
    IF XREGION = 13 THEN XSERVREG = 11;
    ELSE IF XREGION = 14 THEN XSERVREG = 12;
    ELSE IF XREGION = 15 THEN XSERVREG = 13;

  END;

  IF XSERVREG = . THEN DELETE;  /* MER 11/10/10 - Deletes records with imputed TNEXREG = 'O' */
                     /* and missing XOCONUS.  (Only applies to CACSMPL = 9904)    */

 /* AMK 8/02/12 - New logic for handling out of catchment OCONUS
   USING CACSMPL INSTEAD OF XCATCH B/C NO RENAME STATEMENT AFTERWARD, AS IN
   SMK_BMI AND STEP1*/

  IF CACSMPL = 9904 THEN DO;
    IF XSERVREG <=5 THEN CACSMPL=9901;
    ELSE IF XSERVREG <=10 THEN CACSMPL=9903;
    ELSE IF XSERVREG = 11 THEN CACSMPL=9905;
    ELSE IF XSERVREG = 12 THEN CACSMPL=9906;
    ELSE IF XSERVREG = 13 THEN CACSMPL=9907;
  END;
```

```
************************************************************************
* Assign indicator of USA based on XTNEXREG.  USA stands for
* Contential United States it but includes both Alaska and Hawaii.
* 1/16/09 Changed USA to USA.
************************************************************************;
 IF XTNEXRG2 IN (1,2) THEN USA=1;                    /*RSG 01/2005 OVERALL USA*/

 ELSE IF XTNEXRG2 = 3 THEN USA=2;

* Prime enrollees    *;

 IF (NXNS_COV IN (1,2,6,13) AND H&FY.004>=2) THEN DO; /*AMK 6/17/14 added 13*/
   BGROUP=1;
   OUTPUT;
 END;

* Enrollees with military PCMs *;
 IF (XENR_PCM IN (1,2,6) AND H&FY.004>=2) THEN DO;   /*ES 02/04/04*/
   BGROUP=2;
   OUTPUT;
 END;

* Enrollees with civilian PCMs *; /*JSO 04/05/2007, added conditions for RC type*/
IF "&RCTYPE" = 'ReportCards' AND
   (XENR_PCM IN (3,7) AND H&FY.004>=2) THEN DO;
   BGROUP=3;
   OUTPUT;
 END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
   ((XENR_PCM IN (3) AND H&FY.004>=2) OR NXNS_COV IN (3,9,10,14)) THEN DO;  /*JSO 07/30/2007, Added
9*//*AMK 6/17/14 added  14*/
   BGROUP=3;
   OUTPUT;
 END;

* Nonenrollees *;

 IF NXNS_COV IN (3,9,10,14) THEN DO; /*JSO 08/24/2006, Deleted 4,5*//*AMK 6/17/14 added  14*/
   BGROUP=4;             /*JSO 07/30/2007, Added 9*/
   OUTPUT;
 END;

* Active duty     *;

 IF XBNFGRP = 1 OR DBENCAT IN('IGR','GRD') THEN DO;
   BGROUP=5;      /*JSO 07/30/2007, added DBENCAT conditions*/
   OUTPUT;
 END;

* Active duty dependents  *;

 IF XBNFGRP = 2 OR DBENCAT IN('IDG','DGR') THEN DO;
   BGROUP=6;      /*JSO 07/30/2007, added DBENCAT conditions*/
```

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```
    OUTPUT;
  END;

* Retirees  *;

 IF XBNFGRP IN (3,4) THEN DO;
    BGROUP=7;
    OUTPUT;
  END;

* All beneficiaries *;

 BGROUP=8;
 OUTPUT;
RUN;

PROC FREQ DATA=&YRDATA;
  TABLES IN_GROUP8/MISSING LIST;
  TITLE "OVERLAP BETWEEN &INDATA AND GROUP8 DATA";
RUN;

**** Next, check catchment areas for requisite number of observations ;
**** for the macro calls (exclude cacsmpl w/ <2 obs)              ;
**** also, keep list of region/catchment area combinations        ;

PROC FREQ  DATA=&YRDATA;
   TABLE BGROUP*MHS*USA*XSERVind*CACSMPL/MISSING LIST
   OUT=OBSCNT(DROP=PERCENT);
RUN;

PROC SORT DATA=&YRDATA; BY BGROUP MHS USA XSERVind CACSMPL;
RUN;

DATA HCSDB /*FAILED*/;
  MERGE &YRDATA(IN=IN_ALL) OBSCNT(IN=IN_OBS);
  BY BGROUP MHS USA XSERVind CACSMPL;
  IF COUNT < 2 THEN DO;
     PUT "Failed obs # criterion: XSERVREG=" XSERVREG "CACSMPL=" CACSMPL;
     *OUTPUT FAILED;
  END;
*  ELSE OUTPUT HCSDB;
RUN;

DATA OBSCNT;
  SET OBSCNT;
  RENAME BGROUP=GROUP;
RUN;

PROC SORT NODUPKEY DATA=OBSCNT; BY GROUP CACSMPL;
RUN;

*****************************************************
*** First, calculate standard errors and create    ***
```

```
*** a file for each analytical unit          ***
********************************************************;

PROC SORT DATA=HCSDB; BY TMP_CELL;
RUN;

********************************************************
***** Sudaan macro to calculate standard errors  *****
***** there are three output datasets created    *****
***** (XTNEXREG, XSERVREG, MHS, XSERVAFF)               *****
***** Note:  7/10/2000 use USA for MHS         *****
***** Note:  there are 8 variables and 8 groups  *****
***** Note: 1/16/09 Changed USA to USA          *****
********************************************************;

%MACRO A_SUDAAN(TABLEVAR);

*** set the number of levels in the proc descript ***;
*** for region or catchment               ***;

 %IF %UPCASE(&TABLEVAR)=XTNEXRG2 %THEN %DO;
   %LET ENDNUM=4;
   %LET PREF=S;      /** dataset prefix for service affiliation data   **/
 %END;
 %IF %UPCASE(&TABLEVAR)=XSERVREG %THEN %DO;
   %LET ENDNUM=&REGNUM;
   %LET PREF=R;      /** dataset prefix for region data   **/
 %END;
 %ELSE %IF %UPCASE(&TABLEVAR)=USA %THEN %DO;
   %LET ENDNUM=1;
   %LET PREF=C;      /** dataset prefix for catchment area data **/
 %END;
 %ELSE %IF %UPCASE(&TABLEVAR)=XSERVAFF %THEN %DO;
   %LET ENDNUM=5;    /** RSG 01/2005 Change level of USA to 4 **/
   %LET PREF=M;      /** MER 11/11/2012 Change from 4 to 5 for Joint Service **/
 %END;
%ELSE %IF %UPCASE(&TABLEVAR)=CACSMPL %THEN %DO;
   %LET ENDNUM=&CATCHNUM;
   %LET PREF=D;      /** dataset prefix for catchment area data **/
 %END;

 %DO I=1 %TO &GRPNUM;   /** 8 groups   **/

   %DO J=1 %TO &COMPNUM;  /** 6 variables **/

      DATA INDATA&I.&J(KEEP=&WGT MHS USA XTNEXRG2 XSERVREG XSERVAFF
                CACSMPL NUM&YR.V&J DEN&YR.V&J TMP_CELL);
      SET HCSDB;
      WHERE XSERVREG > 0 AND BGROUP=&I AND DEN&YR.V&J > 0;
      %IF %UPCASE(&TABLEVAR)=XSERVAFF %THEN %DO;
        IF XSERVAFF > 5 OR XSERVAFF = . THEN DELETE;  /*RSG 01/2005 Delete USA greater than 4 which are not
USA */
      %END;                          /*MER 11/11/2012 Changed from 4 to 5 for Joint Service */
```

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```
        %IF %UPCASE(&TABLEVAR)=USA %THEN %DO;
           IF USA NE 1 THEN DELETE;
        %END;
        %IF %UPCASE(&TABLEVAR)=XTNEXRG2 %THEN %DO;
           IF XTNEXRG2 NOTIN (1,2,3) THEN DELETE;
        %END;
      RUN;

*** Calculate values for regions, catchment areas ****;

        PROC DESCRIPT DATA=INDATA&I.&J DESIGN=STRWR NOPRINT;
          WEIGHT &WGT;
          SETENV DECWIDTH=4;
          NEST TMP_CELL / MISSUNIT;
          VAR NUM&YR.V&J;
          TABLES &TABLEVAR;
          SUBGROUP &TABLEVAR;
          LEVELS &ENDNUM;
          OUTPUT SEMEAN/ TABLECELL=DEFAULT REPLACE
          FILENAME=&PREF.GRP&I.V&J;
        RUN;

***** first, put all variables into one dataset for each group *****;

      DATA &PREF.GRP&I.V&J;
        SET &PREF.GRP&I.V&J;
        IF SEMEAN NE .;
        MHS=1;
      RUN;

      %IF &J=1 %THEN %DO;
        DATA &PREF.SEGRP&I;
          SET &PREF.GRP&I.V&J(KEEP=&TABLEVAR SEMEAN);
          GROUP=&I;
          IF SEMEAN NE .;
          RENAME SEMEAN = SERR&YR.V&J;
        RUN;
      %END;
      %ELSE %DO;
        DATA &PREF.SEGRP&I;
          MERGE &PREF.SEGRP&I &PREF.GRP&I.V&J(KEEP=&TABLEVAR SEMEAN);
          BY &TABLEVAR;
          GROUP=&I;
          RENAME SEMEAN = SERR&YR.V&J;
        RUN;
      %END;
    %END;

***** Put all data into one dataset  *****
***** Note:  changed output dataset  *****
***** to include group           *****;

    %IF &I=1 %THEN %DO;
```

```
   DATA &PREF.SERR;
     SET &PREF.SEGRP&I;
     KEEP GROUP &TABLEVAR SERR&YR.V1-SERR&YR.V&COMPNUM;
   RUN;
  %END;
  %ELSE %DO;

   DATA &PREF.SERR;
     SET &PREF.SERR
     &PREF.SEGRP&I;
   RUN;
  %END;

******** DEBUG PRINT   *******;

  %IF &DEBUG=Y %THEN %DO;
    %IF &I=&GRPNUM AND &PREF=R %THEN %DO;
      PROC PRINT DATA=&PREF.SERR;
        VAR &TABLEVAR GROUP SERR&YR.V1-SERR&YR.V&COMPNUM;
      RUN;
    %END;
  %END;

 %END;

%MEND A_SUDAAN;

%A_SUDAAN (USA);
%A_SUDAAN (XSERVAFF);
%A_SUDAAN (XSERVREG);
%A_SUDAAN (XTNEXRG2);
%A_SUDAAN (CACSMPL);

********************************************************
*** Next, calculate correlation coefficients       ***
*** and create a file for each analytical unit      ***
********************************************************;

%MACRO GETCORR(BYVAR);

%IF %UPCASE(&BYVAR)=XTNEXRG2 %THEN %LET PREF=S;
%ELSE %IF %UPCASE(&BYVAR)=XSERVREG %THEN %LET PREF=R;
%ELSE %IF %UPCASE(&BYVAR)=USA %THEN %LET PREF=C;
%ELSE %IF %UPCASE(&BYVAR)=XSERVAFF %THEN %LET PREF=M;
%ELSE %IF %UPCASE(&BYVAR)=CACSMPL %THEN %LET PREF=D;

PROC SORT DATA=HCSDB; BY &BYVAR BGROUP;
RUN;

DATA HCSDB1;
       SET HCSDB;
       BY &BYVAR. BGROUP;
```

```
        IF FIRST.BGROUP NE 1 OR LAST.BGROUP NE 1;
 RUN;

 %DO I = 1 %TO &GRPNUM;

   PROC CORR NOPRINT DATA=HCSDB1 OUTP=&PREF.CORRC&I;
     %IF %UPCASE(&BYVAR)=XSERVAFF %THEN %DO;
       WHERE BGROUP=&I AND 1 <= XSERVAFF <= 5;    /** RSG 0/2005 Change USA values to keep to be between
1-4 **/
     %END;                           /*MER 11/11/2012 Changed from 4 to 5 for Joint Service */
     %IF %UPCASE(&BYVAR)=USA %THEN %DO;
       WHERE BGROUP=&I AND USA = 1;
     %END;
     %ELSE %DO;
       WHERE BGROUP=&I;
     %END;
     BY &BYVAR;
     VAR PRVVAR1-PRVVAR&COMPNUM;
     WITH PRVVAR1-PRVVAR&COMPNUM;
     WEIGHT &WGT;
   RUN;

   DATA &PREF.CORRC&I;
    SET &PREF.CORRC&I;
    WHERE _TYPE_="CORR";
    GROUP=&I;
    ARRAY OLD PRVVAR1-PRVVAR&COMPNUM;
    ARRAY NEW COR&YR.V1-COR&YR.V&COMPNUM;
    DO J = 1 TO &COMPNUM;
      NEW(J)=OLD(J);
    END;
    DROP J PRVVAR1-PRVVAR&COMPNUM;
   RUN;

   %IF &I=1 %THEN %DO;

    DATA &PREF.CORRC;
     SET &PREF.CORRC&I;
    RUN;

   %END;
   %ELSE %DO;

    DATA &PREF.CORRC;
     SET &PREF.CORRC
     &PREF.CORRC&I;
    RUN;

   %END;
   %IF &DEBUG=Y %THEN %DO;
     %IF &I=&COMPNUM AND &PREF=R %THEN %DO;
       PROC PRINT DATA=&PREF.CORRC;
         WHERE GROUP=1;
```

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```
      RUN;
    %END;
   %END;
 %END;

*** Flatten dataset(for each region, condense matrix to one row) ***;

 %DO K=1 %TO &COMPNUM;

   DATA &PREF.CORR&K;
    SET &PREF.CORRC;
    WHERE _NAME_ = "PRVVAR&K";
    ARRAY CORR   (&COMPNUM) COR&YR.V1-COR&YR.V&COMPNUM;
    ARRAY CORR&K (&COMPNUM) COR&YR.V&K.1-COR&YR.V&K.&COMPNUM;
    DO L=1 TO &COMPNUM;
      CORR&K(L)=CORR(L);
    END;
    KEEP GROUP &BYVAR COR&YR.V&K.1-COR&YR.V&K.&COMPNUM;
   RUN;
   %IF &K=1 %THEN %DO;
     DATA &PREF.CORR;
      SET &PREF.CORR&K;
     RUN;
   %END;
   %ELSE %DO;
     DATA &PREF.CORR;
      MERGE &PREF.CORR(IN=IN_1) &PREF.CORR&K(IN=IN_2);
      BY GROUP &BYVAR;
     RUN;
   %END;
   %IF &DEBUG=Y %THEN %DO;
     %IF &PREF=R %THEN %DO;
      PROC PRINT DATA=&PREF.CORR;
        WHERE GROUP=1;
      RUN;
     %END;
   %END;
 %END;

%MEND GETCORR;

%GETCORR(USA);
%GETCORR(XSERVAFF);
%GETCORR(XSERVREG);
%GETCORR(XTNEXRG2);
%GETCORR(CACSMPL);

*****************************************************
***  Macro to derive composites for each      *******
***  beneficiary group, level               *******
***  output one dataset for each group       *******
*****************************************************;
```

```
%MACRO GETPROP(BYVAR);

 %LET START = %EVAL(&CMPNUM1+1);

 %IF %UPCASE(&BYVAR)=XSERVREG %THEN %LET PREF=R;
 %ELSE %IF %UPCASE(&BYVAR)=USA %THEN %LET PREF=C;
 %ELSE %IF %UPCASE(&BYVAR)=XSERVAFF %THEN %LET PREF=M;
 %ELSE %IF %UPCASE(&BYVAR)=XTNEXRG2 %THEN %LET PREF=S;
 %ELSE %IF %UPCASE(&BYVAR)=CACSMPL %THEN %LET PREF=D;

 PROC MEANS NWAY NOPRINT DATA=HCSDB;
   CLASS BGROUP &BYVAR;
   VAR NUM&YR.V1-NUM&YR.V&COMPNUM
     DEN&YR.V1-DEN&YR.V&COMPNUM;
   WEIGHT &WGT;
   OUTPUT OUT= &PREF.CMPSUM(DROP = _TYPE_)
   SUM =  ;
 RUN;
 PROC MEANS NWAY NOPRINT DATA=normdata;
 *   CLASS &BYVAR;
   VAR
     DENV1-DENV&COMPNUM;
   WEIGHT &wgt.;
   OUTPUT OUT= &PREF.norms(DROP = _TYPE_)
   SUM =  nrmv1-nrmv&compnum;
 RUN;

 PROC MEANS NWAY NOPRINT DATA=HCSDB;
   CLASS BGROUP &BYVAR;
   VAR DEN&YR.V1-DEN&YR.V&COMPNUM;
   OUTPUT OUT=&PREF.DGFR(DROP=_TYPE_ _FREQ_)
   SUM= NOBS&YR.V1-NOBS&YR.V&COMPNUM;
 RUN;

data &pref.cmpsum;

if _n_=1 then set &pref.norms;
set &pref.cmpsum;
proc sort data=&pref.cmpsum; by bgroup &byvar;
 DATA &PREF.CMPSUM;
   MERGE &PREF.CMPSUM(RENAME=(_FREQ_=N_OBS&YR.))
       &PREF.DGFR;
   BY BGROUP &BYVAR;
   %IF &PREF=M %THEN %DO;  /** added 7/10/2000 **/
     WHERE 1 <= XSERVAFF <= 5;      /** RSG 01/2005 Change USA values to keep to be between 1-4 **/
   %END;                   /*MER 11/11/2012 Changed from 4 to 5 for Joint Service */
   %ELSE %IF &PREF=C %THEN %DO;
     WHERE USA = 1;
   %END;

   **** set up group variable  **;

   RENAME BGROUP=GROUP;;
```

```
  **** set up proportions, and composites **;

  ARRAY PROPORT PROP&YR.V1-PROP&YR.V&COMPNUM;
  ARRAY NUMER   NUM&YR.V1-NUM&YR.V&COMPNUM;
  ARRAY DENOM   DEN&YR.V1-DEN&YR.V&COMPNUM;
  array norm    nrmv1-nrmv&compnum;

  DO J=1 TO DIM(PROPORT);
    PROPORT(J) = NUMER(J)/DENOM(J);
  END;
  DROP J;

  **** composites **;

** added goalvars to datastep, 5/30/2000           ;
** taken out of temporary array for variance calculations;
** and used, kept as variables                ;

  GOALVAR1=&GOALVAR1;
  GOALVAR2=&GOALVAR2;
  GOALVAR3=&GOALVAR3;
  GOALVAR4=&GOALVAR4;
  GOALVAR5=&GOALVAR5;
  GOALVAR6=&GOALVAR6;
/*RSG 04/2005 - delete goal8 since chol eliminated*/

** the weight for preventive service is defined as the      ;
** proportion of the denominator for that service to the    ;                    ;
** composite denominator                   ;
** healthy people 2000 goals -- used as benchmarks          ;

  ARRAY   SVCWGT(&COMPNUM) WGT&YR.V1-WGT&YR.V&COMPNUM;
  ARRAY   BMARK(&COMPNUM) GOALVAR1-GOALVAR&COMPNUM;
  ARRAY WGTBMARK(&COMPNUM) WTD&YR.V1-WTD&YR.V&COMPNUM;
  array comp(&compnum) cmp&yr.v1-cmp&yr.v&compnum;
cpden1=sum(of nrmv1-nrmv&cmpnum1);
cpden2=sum(of nrmv&start-nrmv&compnum);
  DO K = 1 TO &COMPNUM;
    IF K < &START THEN SVCWGT(K)= norm(K)/CPDEN1;
    ELSE SVCWGT(K) = norm(K)/CPDEN2;
    WGTBMARK(K) = SVCWGT(K)*BMARK(K);
    comp(k)=svcwgt(k)*proport(k);
  END;
  DROP K;
  CP&YR.BMK1=SUM(OF WTD&YR.V1-WTD&YR.V&CMPNUM1);
  CP&YR.BMK2=SUM(OF WTD&YR.V&START-WTD&YR.V&COMPNUM);
  comp&yr.1=sum(of cmp&yr.v1-cmp&yr.v&cmpnum1);
  comp&yr.2=sum(of cmp&yr.v&start-cmp&yr.v&compnum);
  DROP WGT&YR.V1-WGT&YR.V&COMPNUM WTD&YR.V1-WTD&YR.V&COMPNUM
     NUM&YR.V1-NUM&YR.V&COMPNUM;

 RUN;
```

```
      %IF &DEBUG=Y AND &PREF=R %THEN %DO;
         PROC PRINT DATA=&PREF.CMPSUM;  /* print out final dataset */
         RUN;                    /* for region to check    */
      %END;

      %MEND GETPROP;

      %GETPROP(USA);
      %GETPROP(XSERVAFF);
      %GETprop(XSERVREG);
      %GETPROP(XTNEXRG2);
      %GETProp(CACSMPL);


      *******************************************************
      ** since MHS benchmarks will be displayed        ****
      ** set up adjustment factor to apply to          ****
      ** each analytical unit's composite benchmarks    ****
      *******************************************************;

      DATA ADJUST;
        SET MCMPSUM(KEEP=GROUP CP&YR.BMK1 CP&YR.BMK2);
        WHERE GROUP=8;        /** use all beneficiaries **/
        RENAME CP&YR.BMK1=MHS&YR.BM1;
        RENAME CP&YR.BMK2=MHS&YR.BM2;
        DROP GROUP;
      RUN;


      *******************************************************
      ***   Macro to merge 3 datasets for each       *******
      ***   called by analytical unit                *******
      ***   output final dataset for                 *******
      ***   XSERVAFF, XSERVREG, XTNEXREG, MHS (USA)   *******
      *******************************************************;

      PROC FORMAT;  /*RSG 02/2005 - hardcoded in prog to have caps vs format in loadcahq.inc*/
        VALUE REGIONF
          0 = "USA MHS "
          1 = "EAST"
          2 = "WEST"
          3 = "OVERSEAS"
        ;
      %MACRO GETSIG(BYVAR);

      %LET START = %EVAL(&CMPNUM1+1);
      %LET NEXT  = %EVAL(&CMPNUM1+2);

      %IF %UPCASE(&BYVAR)=XSERVREG %THEN %LET PREF=R;
      %ELSE %IF %UPCASE(&BYVAR)=USA %THEN %LET PREF=C;
      %ELSE %IF %UPCASE(&BYVAR)=XSERVAFF %THEN %LET PREF=M;
      %ELSE %IF %UPCASE(&BYVAR)=XTNEXRG2 %THEN %LET PREF=S;
      %ELSE %IF %UPCASE(&BYVAR)=CACSMPL %THEN %LET PREF=D;
```

```
DATA OUT.&PREF.FINAL (KEEP= MAJGRP REGION REGCAT GOALVAR1-GOALVAR&COMPNUM
         SIG&YR.V1-SIG&YR.V&COMPNUM SCOR&YR.V1-SCOR&YR.V&COMPNUM
         CP&YR.SIG1-CP&YR.SIG&COMPCNT CP&YR.1SE CP&YR.2SE
         CP&YR.BMK1-CP&YR.BMK&COMPCNT
         SERR&YR.V1-SERR&YR.V&COMPNUM CP&YR.1SE CP&YR.2SE
         COMP&YR.1 COMP&YR.2 PROP&YR.V1-PROP&YR.V&COMPNUM
         DF&YR.SCR1-DF&YR.SCR&COMPNUM DF&YR._CP1 DF&YR._CP2
         NOBS&YR.V1-NOBS&YR.V&COMPNUM CP&YR.OBS1-CP&YR.OBS&COMPCNT
         DEN&YR.V1-DEN&YR.V&COMPNUM CP&YR.DEN1-CP&YR.DEN&COMPCNT);

/** output a dataset to check **/

 /* OUT.&PREF.CHECK(DROP=DROP=SESQ&YR.V1-SESQ&YR.V&COMPNUM
           PROP&YR.V1-PROP&YR.V&COMPNUM
           SEM&YR.V11-SEM&YR.V&COMPNUM.&COMPNUM);*/

 FORMAT MAJGRP $30. REGION $30. REGCAT $42.; /* MER 11/11/12 - Updated REGION for Joint Service
facilities */

 %IF &PREF=D %THEN %DO;

   MERGE OBSCNT(IN=IN_OBS) &PREF.CMPSUM(IN=IN_PROP) &PREF.CORR
       &PREF.SERR;
   BY GROUP &BYVAR;
   IF IN_OBS;

 %END;
 %ELSE %DO;

   MERGE &PREF.CMPSUM(IN=IN_PROP) &PREF.CORR
       &PREF.SERR;
   BY GROUP &BYVAR;
   IF IN_PROP;

 %END;

 /**  MAJGRP -- text field for group   **/

    IF GROUP=1 THEN MAJGRP="Prime Enrollees          ";
 ELSE IF GROUP=2 THEN MAJGRP="Enrollees with Military PCM";
 ELSE IF GROUP=3 THEN MAJGRP="Enrollees with Civilian PCM";
 ELSE IF GROUP=4 THEN MAJGRP="Non-enrolled Beneficiaries ";
 ELSE IF GROUP=5 THEN MAJGRP="Active Duty            ";
 ELSE IF GROUP=6 THEN MAJGRP="Active Duty Dependents    ";
 ELSE IF GROUP=7 THEN MAJGRP="Retirees and Dependents   ";
 ELSE IF GROUP=8 THEN MAJGRP="All Beneficiaries         ";

 /**** REGION AND REGCAT SETUP        **/

 %IF &PREF=D %THEN %DO;
   REGCAT=PUT(CACSMPL, CACR.);
   REGION=PUT(XSERVind, SERVREGo.);
 %END;
```

```
%IF &PREF=S %THEN %DO;
  REGCAT=PUT(XTNEXRG2,REGIONF.);
  REGION=PUT(XTNEXRG2,REGIONF.);
%END;
%else %IF &PREF=C %THEN %DO;
  REGION="USA MHS";
  REGCAT="USA MHS";
%END;
%ELSE %IF &PREF=R %THEN %DO;
  REGION=PUT(XSERVREG, SERVREGo.);
  REGCAT=PUT(XSERVREG, SERVREGo.);
%END;
%ELSE %IF &PREF=M %THEN %DO;                /** RSG 1/2005 Add codes for service grouping **/
  REGION=PUT(XSERVAFF,XSERVAFF.);
  REGCAT=PUT(XSERVAFF,XSERVAFF.);
%END;

/**** setup t statistics, degreees of freedom    **/

ARRAY   TSTAT{&COMPNUM} T_&YR.V1-T_&YR.V&COMPNUM;
ARRAY   BMARK{&COMPNUM} GOALVAR1-GOALVAR&COMPNUM;
ARRAY  STNDERR{&COMPNUM} SERR&YR.V1-SERR&YR.V&COMPNUM;
ARRAY  SERRSQR{&COMPNUM} SESQ&YR.V1-SESQ&YR.V&COMPNUM;
ARRAY    DEGF{&COMPNUM} DF&YR.SCR1-DF&YR.SCR&COMPNUM;
ARRAY   DENOM{&COMPNUM} DEN&YR.V1-DEN&YR.V&COMPNUM;
ARRAY  PROPORT{&COMPNUM} PROP&YR.V1-PROP&YR.V&COMPNUM;
ARRAY   SCORE{&COMPNUM} SCOR&YR.V1-SCOR&YR.V&COMPNUM;
ARRAY  PVALUE{&COMPNUM} PVAL&YR.V1-PVAL&YR.V&COMPNUM;
ARRAY     SIG{&COMPNUM} SIG&YR.V1-SIG&YR.V&COMPNUM;
ARRAY   N_OBS{&COMPNUM} NOBS&YR.V1-NOBS&YR.V&COMPNUM;
array   norm{&compnum} nrmv1-nrmv&compnum;
/** get the item variance, t-statistics, df, p-values **/
/** and whether significant              **/

DO I=1 TO &COMPNUM;
  SERRSQR{I}=STNDERR{I}**2;  /* Item variance */
  SCORE{I}=PROPORT{I}*100;   /* Score (prop. * 100) */
  IF STNDERR{I} > 0 THEN TSTAT{I}=(PROPORT{I}-BMARK{I})/STNDERR{I};
  ELSE TSTAT{I}=.;
  DEGF{I}=N_OBS{I}-1;
  PVALUE{I}=(1-PROBT(ABS(TSTAT{I}),DEGF{I}))*2;
  IF PVALUE{I} GE .05 THEN SIG{I}=0;
  ELSE IF PVALUE{I} < .05 THEN DO;
    IF PROPORT{I} > BMARK{I} THEN SIG{I}=1;
    IF PROPORT{I} < BMARK{I} THEN SIG{I}=-1;
  END;
END;
DROP I;

%DO I=1 %TO &COMPNUM.&COMPNUM.;
                SEM&YR.V&I. = 0;
%END;
```

```
/** multiply each item pair std. errors and correlation coefficients **/
/** preventive care composite                        **/

ARRAY SERRC1{&CMPNUM1} SERR&YR.V1-SERR&YR.V&CMPNUM1;
ARRAY SEwC1{&CMPNUM1} SEw&YR.V1-SEw&YR.V&CMPNUM1;
%DO J = 1 %TO &CMPNUM1;
  ARRAY  SMEAN&J{&CMPNUM1} SEM&YR.V&J.1-SEM&YR.V&J.&CMPNUM1;
  ARRAY CORVAR&J{&CMPNUM1} COR&YR.V&J.1-COR&YR.V&J.&CMPNUM1;
  DO K=1 TO &CMPNUM1;
    SMEAN&J{K}=SERR&YR.V&J*SERRC1{K}*CORVAR&J{K}*norm{K}*nrmV&J;
  END;
  SEM&YR.V&J.&J=0; /** don't count in final standard error calculation **/
  sew&yr.v&j= (nrmV&j**2)*SESQ&YR.V&j;
  %END;
DROP K;
/** multiply each item pair std. errors and correlation coefficients **/
/** access to care composite                        **/

ARRAY SERRC2{&CMPNUM2} SERR&YR.V&START-SERR&YR.V&COMPNUM;

%DO L = &START %TO &COMPNUM;
  ARRAY  SMEAN&L{&CMPNUM2} SEM&YR.V&L.&START-SEM&YR.V&L.&COMPNUM;
  ARRAY CORVAR&L{&CMPNUM2} COR&YR.V&L.&START-COR&YR.V&L.&COMPNUM;
  DO M=1 TO &CMPNUM2;
    SMEAN&L{M}=SERR&YR.V&L*SERRC2{M}*CORVAR&L{M};
  END;
  SEM&YR.V&L.&L=0;  /** don't coun't in final standard error calculation **/
 %END;
 DROP M;
/** calculate composite t-statistic, pvalue, and whether significant **/
/** for composites                        **/

 %DO P=1 %TO &COMPCNT;
   %IF &P=1 %THEN %DO;

     /** composite standard error comprised of two parts **/
     CP&YR.&P.SE1=SUM(OF SEw&YR.V1-SEw&YR.V&CMPNUM1);
     CP&YR.&P.SE2=SUM(OF SEM&YR.V11-SEM&YR.V&CMPNUM1.&CMPNUM1.);
     cp&yr.obs&p=sum(of nobs&yr.v1-nobs&yr.v&cmpnum1);
     cp&yr.den&p=sum(of nrmv1-nrmv&cmpnum1);
   %END;
   %ELSE %DO;
     CP&YR.&P.SE1=SUM(OF SESQ&YR.V&START-SESQ&YR.V&COMPNUM);
     CP&YR.&P.SE2=SUM(OF SEM&YR.V&START.&START.-SEM&YR.V&COMPNUM.&COMPNUM.);
     cp&yr.obs&p=.;
     cp&yr.den&p=.;

   %END;

 /** add the two parts of the composite standard error  **/
 /** calculate the composite t statistics and p-values  **/
 /** determine whether differences re sigificant      **/


                          G.243
```

```
/**RSG - 02/2005 Some of the following codes will produce some
      "error" (e.g., fields that are not initialized) - these
      are "leftover" codes from previous versions of the survey
      where 2 composite scores were produced.  Now since we only
      use 1 composite score, these are basically calculations that
      are not used...but kept in "just in case"**/
   IF CP&YR.DEN&P > 0 THEN CP&YR.&P.SE=SQRT(CP&YR.&P.SE2+CP&YR.&P.SE1)/cp&yr.den&P;  /*RSG
02/2005 prevent division by zero*/
    ELSE CP&YR.&P.SE = .;
    IF CP&YR.&P.SE > 0 THEN CP&YR._T&P.=(COMP&YR.&P.-CP&YR.BMK&P.)/CP&YR.&P.SE;
    ELSE CP&YR._T&P.= .;
    DF&YR._CP&P.=CP&YR.OBS&P. - 1;
    CP&YR._P&P.=(1-PROBT(ABS(CP&YR._T&P.),DF&YR._CP&P.))*2;
    IF CP&YR._P&P GE .05 THEN CP&YR.SIG&P=0;
    ELSE IF CP&YR._P&P < .05 THEN DO;
      IF COMP&YR.&P. > CP&YR.BMK&P THEN CP&YR.SIG&P= 1;
      ELSE IF COMP&YR.&P. < CP&YR.BMK&P THEN CP&YR.SIG&P=-1;
    END;

  %END;

  OUTPUT OUT.&PREF.FINAL;

  /*%IF &PREF=M %THEN %DO;
    OUTPUT OUT.&PREF.CHECK;
  %END; */

 RUN;

 PROC SORT DATA = OUT.&PREF.FINAL;BY MAJGRP REGION REGCAT;RUN;

%MEND GETSIG;

/** RSG 02/2005 - Any errors relating to unintialized fields such as
   cp&yr.den2 or cp&yr.obs2 can be ignored - these (as well as field
   that uses these fields for calculations, e.g. df&yr._cp2, are not
   used **/
%GETSIG(USA);
%GETSIG(XTNEXRG2);
%GETSIG(XSERVREG);
%GETSIG(XSERVAFF);
%GETSIG(CACSMPL);
```

G.11.BReportCards\MPR_Adult2020\smoking_BMI.sas - Calculate Healthy Behavior Composite Scores - Annual.

```
*************************************************************************
*
* Project:  DoD Reporting and Analysis 6077-410
* Program:  SMOKING_BMI.SAS
* Purpose:  Calculate Smoking Rate and Smoking Cessation
*         for each region-service affiliation and
*         conus-service affiliation groups.
*
* Date:    1/31/2005
* Author:   Regina Gramss
*
* Modified: 27) 11/11/2012 By Mike Rudacille Updated for handling of Joint Service facilities
*         28) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                                Replaced RCTYPE with &PC.ReportCards
                                Changed BENCH to "&BENCHINPUT."
                                Changed INNORM to "&NORMDATA."
                                Changed INGP to ..\CAHPS_ADULT&FYYEAR.\DATA
                                Changed DSN to &DATAFILE.
                                Changed DSN_NORM to &NORMFILE.
                                Changed CURRENT to &FYYEAR.
                                Changed C13_ZAMV to &BENCHFILE.
                                Added LIBRARY "&NORMFMTLIB."
                                Removed line referencing JOINTSRV in the NORMDATA step.
                                Changed LOADCAHQ to "..\..\LOADWEB\LOADCAHQ.INC"
                                Changed H11 to H&NY.
                                Changed H14 to H&FY.
                                Added LIBRARY '..\..\..\Data\fmtlib'.
                                Added NSUM = ROUND(NSUM,1)
*
* Inputs:  1) HCS11A_2.sas7bdat - Annual 2011 Survey data
*        2) HCS13A_2.sas7bdat - Annual 2013 Survey data
*        3) AC2011DB.sas7bdat - 2011 CAHPS Benchmark Data
*
* Output:  1) SMOKE.sas7bdat
*
*
*************************************************************************;

OPTIONS COMPRESS=YES NOCENTER LS=124 PS=74 SOURCE SOURCE2 NOFMTERR;

/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards        ***/
%LET RCTYPE = &PC.ReportCards;

LIBNAME BENCH     "&BENCHINPUT.";
LIBNAME INDAT     "../../../Data";
LIBNAME INNORM    "&NORMDATA.";
LIBNAME OUT       ".";
LIBNAME LIBRARY '../../../Data/fmtlib';
LIBNAME INGP "../CAHPS_Adult&FYYEAR./Data";
```

```
%LET DSN=&DATAFILE.;
%LET DSN_NORM=&NORMFILE.;          /*JSO 08/24/2006, Changed Regions, 16 to 15*/ /* MER 11/03/12 15
to 18 */
%LET REGNUM = 13;                /*RSG 01/2005 Number of Regions (with serv affiliation)*/
%LET CONNUM = 4;                 /*RSG 01/2005 Number of Conus level (with serv affiliation)*/
%LET SRVNUM = 5;                 /*MER 11/03/2012 Number of service affiliations, including Joint Service */
%LET CURRENT = &FYYEAR.;
%LET WGT = CFWT;
%LET NORMWGT = CFWT;
%LET CATCHNUM=9999;               /*RSG 02/2005 number of catchment areas **/

DATA BENCHA01;
  SET BENCH.&BENCHFILE. ;
  if disp =0 and responsemode in (1 3) ;  /*20180208 - MBT - Limitation for complete eligibles receiving mail or
internet survey changed for new benchmark data*/
  if S46 in (1,2) & S47>=1 & S47<=4;  /*02/2006 RSG - REMOVED REQUIREMENT FOR ADDITIONAL VISIT (ACC22
FIELD)*/
  cessbnch=0;
  if S47>1 then cessbnch=1;

proc summary nway; class sub_id;
var cessbnch;
output out=tbench mean=;
proc print;
proc summary;
var cessbnch;
output out=tbench mean=;
proc print;
data _null_;
set tbench;
call symput('CNSLGOAL',cessbnch);
run;

%LET NSMKGOAL = 0.88;

%LET BMIGOAL  = 0.69;

%INCLUDE "../../LoadWeb/LOADCAHQ.INC";

PROC FORMAT;
VALUE AGEF
LOW - 34 = 1
 35 - 49 = 2
 50 - 64 = 3
 65 - HIGH = 4;

/* 08/22/2006 JSO Moved from the top of program for using Quarter vs. Annual Formats */
LIBNAME LIBRARY "&NORMFMTLIB.";

DATA NORMDATA (KEEP=TMP_CELL AGE_GRP XTNEXRG2 XSERVREG XSERVAFF
          SM_RATE SM_CESS SM_RTDN SM_CSDN  BMI_DN BMI
          TOTCON GROUP XSEXA &WGT. age_n MPCSMPL CACSMPL NXNS_COV);
```

```
            /* 05/10/2007 JSO Added NXNS_COV in the keep statement */
SET INNORM.&DSN_NORM. (DROP=CACSMPL) ;
LENGTH AGE_N AGE_GRP TMP_CELL 8.;

/***Revised for 2 regions***/
IF xtnexreg>1 THEN XTNEXRG2=xtnexreg-1;
else XTNEXRG2=xtnexreg;

TMP_CELL=STRATUM;

AGE_N = FIELDAGE;

AGE_GRP = PUT(AGE_N, AGEF.);
IF AGE_GRP < 4;

IF SERVAFF = 'A' THEN XSERVAFF = 1;       *Army;
ELSE IF SERVAFF = 'F' THEN XSERVAFF = 2;   *Air Force;
ELSE IF SERVAFF = 'N' THEN XSERVAFF = 3;   *Navy;
ELSE XSERVAFF = 4;                 *Other/unknown;

IF XCATCH = 37 THEN XCATCH = 67; /* Recode for combining of Walter Reed facilities */

IF XTNEXRG2 = 1 THEN DO;
  IF XSERVAFF = 1 THEN XSERVREG = 1;
  ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
  ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
  ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
  ELSE XSERVREG = 5;
END;

IF XTNEXRG2 = 2 THEN DO;
  IF XSERVAFF = 1 THEN XSERVREG = 6;
  ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
  ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
  ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
  ELSE XSERVREG = 10;
END;

IF XTNEXRG2 = 3 THEN DO; /*JSO 08/22/2006, Changed Overseas Regions*/
  IF    XREGION = 13 THEN XSERVREG = 11;
  ELSE IF XREGION = 14 THEN XSERVREG = 12;
  ELSE IF XREGION = 15 THEN XSERVREG = 13;
END;

IF HP_SMKH3 IN (1,2) THEN DO;
  SM_RATE = 0;
  IF HP_SMKH3 = 2 THEN SM_RATE=1;
  SM_RTDN=1;
END;

/* MER 3/31/11 Start using HP_CESH3 instead of re-creating work already done in convarq */
IF HP_CESH3 IN (1,2) THEN DO;
  SM_CESS = 0;
```

```
   IF HP_CESH3 = 1 THEN SM_CESS=1;
   SM_CSDN=1;
END;

IF xbmicat > 0  THEN DO;
   BMI = 0;
   BMI_DN=1;
   IF xbmicat <=3 THEN BMI=1;
END;

IF XTNEXRG2 IN (1,2) THEN TOTCON=1;

ELSE IF XTNEXRG2 = 3 THEN TOTCON=2;

IF MPCSMPL = 3 THEN MPCSMPL = 2;  /* RSG 02/2006 GROUP WARRANT OFFICER WITH OFFICER */

/* AMK 8/02/12 - New logic for handling out of catchment OCONUS */
IF XCATCH = 9904 THEN DO;
   IF XSERVREG <=5 THEN XCATCH=9901;
   ELSE IF XSERVREG <=10 THEN XCATCH=9903;
   ELSE IF XSERVREG = 11 THEN XCATCH=9905;
   ELSE IF XSERVREG = 12 THEN XCATCH=9906;
   ELSE IF XSERVREG = 13 THEN XCATCH=9907;
END;

RENAME XCATCH=CACSMPL ;

IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

IF XTNEXRG2 = .   THEN DELETE;

IF XINS_COV NOT IN(1,2,3,6,9,10,11) THEN DELETE;  /*JSO 07/30/2007, Added 9*/ /*MER 07/12/11 Added
10,11*/

NXNS_COV = XINS_COV;          /*JSO 04/26/2007 added for reservists logic*/
                     /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
IF DBENCAT IN('GRD','IGR') AND H&NY.003 = 3 THEN DO;
   NXNS_COV = 3;
   XENR_PCM = .;
END;

* prime enrollees;
IF NXNS_COV IN (1,2,6) AND H&NY.004>=2 THEN DO;
   GROUP=1;
   OUTPUT;
END;

* enrollees with military pcms; /*JSO 04/05/2007, added conditions for RC type*/
IF XENR_PCM IN (1,2,6) AND H&NY.004>=2 THEN DO;
   GROUP=2;
   OUTPUT;
END;
```

```
* enrollees with civilian pcms; /*JSO 04/05/2007, added conditions for RC type*/
IF "&RCTYPE" = 'ReportCards' AND
  XENR_PCM = 3 AND H&NY.004>=2 THEN DO;
  GROUP=3;
  OUTPUT;
END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
  ((XENR_PCM = 3 AND H&NY.004>=2) OR NXNS_COV IN (3,9,10)) THEN DO; /*JSO 07/30/2007, Added 9*/
  GROUP=3;
  OUTPUT;
END;

* nonenrollees;
IF NXNS_COV IN (3,9,10) THEN DO; /*JSO 08/24/2006, Deleted 4,5*/
  GROUP=4;                /*JSO 07/30/2007, Added 9*/
  OUTPUT;
END;

* active duty;
IF XBNFGRP = 1 OR DBENCAT IN('IGR','GRD') THEN DO;
  GROUP=5;      /*JSO 07/30/2007, added DBENCAT conditions*/
  OUTPUT;
END;

* active duty dependents;
IF XBNFGRP = 2 OR DBENCAT IN('IDG','DGR')THEN DO;
  GROUP=6;      /*JSO 07/30/2007, added DBENCAT conditions*/
  OUTPUT;
END;

* retirees;
IF XBNFGRP IN (3,4) THEN DO;
  GROUP=7;
  OUTPUT;
END;

* all beneficiaries;
GROUP=8;
OUTPUT;

RUN;

LIBNAME LIBRARY '../../../Data/fmtlib';

DATA SMOKE (KEEP=TMP_CELL AGE_GRP XTNEXRG2 XSERVREG XSERVAFF TOTCON GROUP
        SM_RATE SM_CESS SM_RTDN SM_CSDN XSEXA &WGT BMI_DN BMI
        CACSMPL MPCSMPL NXNS_COV);/* 05/10/2007 JSO Added NXNS_COV in the keep statement */
SET INDAT.&DSN. (DROP=CACSMPL);
LENGTH AGE_N AGE_GRP TMP_CELL 8.;

/* MER 4/20/09 - Restrict dataset to just non-zero V4 weights */
*IF &WGT <= 0 THEN DELETE;
```

```
TMP_CELL=STRATUM;

AGE_N = FIELDAGE;

AGE_GRP = PUT(AGE_N, AGEF.);

IF AGE_GRP < 4;
IF SERVAFF='A' THEN XSERVAFF=1;          *Army;
  ELSE IF SERVAFF='F' THEN XSERVAFF=2;     *Air Force;
  ELSE IF SERVAFF='N' THEN XSERVAFF=3;     *Navy;
  ELSE XSERVAFF=4;

IF XCATCH = 37 THEN XCATCH = 67; /* Recode for combining of Walter Reed facilities */

IF PUT(XCATCH, DHASRV.)='1' THEN XSERVAFF=5; *DHA;

IF XTNEXRG2 = 1 THEN DO;
  IF XSERVAFF = 1 THEN XSERVREG = 1;
  ELSE IF XSERVAFF = 2 THEN XSERVREG = 2;
  ELSE IF XSERVAFF = 3 THEN XSERVREG = 3;
  ELSE IF XSERVAFF = 4 THEN XSERVREG = 4;
  ELSE XSERVREG = 5;
END;

IF XTNEXRG2 = 2 THEN DO;
  IF XSERVAFF = 1 THEN XSERVREG = 6;
  ELSE IF XSERVAFF = 2 THEN XSERVREG = 7;
  ELSE IF XSERVAFF = 3 THEN XSERVREG = 8;
  ELSE IF XSERVAFF = 4 THEN XSERVREG = 9;
  ELSE XSERVREG = 10;
END;

IF XTNEXRG2 = 3 THEN DO; /*JSO 08/24/2006, Changed Overseas Regions*/
  IF    XREGION = 13 THEN XSERVREG = 11;
  ELSE IF XREGION = 14 THEN XSERVREG = 12;
  ELSE IF XREGION = 15 THEN XSERVREG = 13;
END;

IF XSERVREG = . THEN DELETE;  /* MER 11/10/10 - Deletes records with imputed TNEXREG = 'O' */
                  /* and missing XOCONUS.  (Only applies to CACSMPL = 9904)    */

IF XTNEXRG2 IN (1,2) THEN TOTCON=1;

ELSE IF XTNEXRG2=3 THEN TOTCON=2;

IF MPCSMPL = 3 THEN MPCSMPL = 2;  /* RSG 02/2006 GROUP WARRANT OFFICER WITH OFFICER */

/* AMK 8/02/12 - New logic for handling out of catchment OCONUS */
IF XCATCH = 9904 THEN DO;
  IF XSERVREG <=5 THEN XCATCH=9901;
  ELSE IF XSERVREG <=10 THEN XCATCH=9903;
  ELSE IF XSERVREG = 11 THEN XCATCH=9905;
```

```
  ELSE IF XSERVREG = 12 THEN XCATCH=9906;
  ELSE IF XSERVREG = 13 THEN XCATCH=9907;
END;

RENAME XCATCH=CACSMPL;

IF FIELDAGE >= '065' THEN DELETE; /*JSO added 11/10/2006*/

IF XTNEXRG2 = . THEN DELETE;

IF XINS_COV NOT IN(1,2,3,6,9,10,13,14) THEN DELETE;  /*JSO 07/30/2007, Added 9*//*AMK 6/17/14 removed
11, added 13/14*/

NXNS_COV = XINS_COV;          /*JSO 04/26/2007 added for reservists logic*/
                    /*JSO 07/30/2007, added DBENCAT, NXNS_COV conditions*/
IF DBENCAT NOT IN('IGR','GRD','IDG','DGR') AND NXNS_COV = 9 THEN DELETE;
IF DBENCAT IN('GRD','IGR') AND H&FY.003 = 3 THEN DO;
  NXNS_COV = 3;
  XENR_PCM = .;
END;

IF HP_SMKH3 IN (1,2) THEN DO;
  SM_RATE = 0;
  IF HP_SMKH3 = 2 THEN SM_RATE=1;
  SM_RTDN=1;
END;

/* MER 10/07/11 Start using HP_CESH3 instead of re-creating work already done in convarq */
IF HP_CESH3 IN (1,2) THEN DO;
  SM_CESS = 0;
  IF HP_CESH3 = 1 THEN SM_CESS=1;
  SM_CSDN=1;
END;

IF xbmicat > 0  THEN DO;
   BMI = 0;
   BMI_DN=1;
   IF xbmicat <=3 THEN BMI=1;
END;

* prime enrollees;
IF NXNS_COV IN (1,2,6,13) AND H&FY.004>=2 THEN DO;/*AMK 6/17/14 added 13*/
  GROUP=1;
  OUTPUT;
END;

* enrollees with military pcms; /*JSO 04/05/2007, added conditions for RC type*/
IF XENR_PCM IN (1,2,6) AND H&FY.004>=2 THEN DO;
  GROUP=2;
  OUTPUT;
END;

* enrollees with civilian pcms; /*JSO 04/05/2007, added conditions for RC type*/
```

```
IF "&RCTYPE" = 'ReportCards' AND
   XENR_PCM = 3 AND H&FY.004>=2 THEN DO;
   GROUP=3;
   OUTPUT;
END;
ELSE IF "&RCTYPE" = 'PurchasedReportCards' AND
   ((XENR_PCM = 3 AND H&FY.004>=2) OR NXNS_COV IN (3,9,10,14)) THEN DO; /*JSO 07/30/2007, Added
9*//*AMK 6/17/14 added 14*/
   GROUP=3;
   OUTPUT;
END;

* nonenrollees;
IF NXNS_COV IN (3,9,10,14) THEN DO; /*JSO 08/24/2006, Deleted 4,5*//*AMK 6/17/14 added 14*/
   GROUP=4;            /*JSO 07/30/2007, Added 9*/
   OUTPUT;
END;

* active duty;
IF XBNFGRP = 1 OR DBENCAT IN('IGR','GRD') THEN DO;
   GROUP=5;     /*JSO 07/30/2007, added DBENCAT conditions*/
   OUTPUT;
END;

* active duty dependents;
IF XBNFGRP = 2 OR DBENCAT IN('IDG','DGR') THEN DO;
   GROUP=6;     /*JSO 07/30/2007, added DBENCAT conditions*/
   OUTPUT;
END;

* retirees;
IF XBNFGRP IN (3,4) THEN DO;
   GROUP=7;
   OUTPUT;
END;

* all beneficiaries;
GROUP=8;
OUTPUT;

RUN;

proc freq;
table xservreg*cacsmpl/list;
run;

PROC SORT DATA=SMOKE;
BY TMP_CELL;
PROC SORT DATA=NORMDATA;
BY TMP_CELL;
RUN;

%MACRO A_SUDAAN(TABLEVAR,SMOKE,SMOKEVAR,DEN);
```

```
%IF %UPCASE(&TABLEVAR)=XSERVREG %THEN %DO;
  %LET ENDNUM=&REGNUM;
  %LET PREF=R;
%END;
%ELSE %IF %UPCASE(&TABLEVAR)=XSERVAFF %THEN %DO;
  %LET ENDNUM=&SRVNUM;
  %LET PREF=M;
%END;
%ELSE %IF %UPCASE(&TABLEVAR)=XTNEXRG2 %THEN %DO;
  %LET ENDNUM=&CONNUM;
  %LET PREF=S;
%END;
%ELSE %IF %UPCASE(&TABLEVAR)=CACSMPL %THEN %DO;   /**RSG 02/2005 add code to calc by CACSMPL**/
  %LET ENDNUM=&CATCHNUM;
  %LET PREF=D;
%END;
%ELSE %IF %UPCASE(&TABLEVAR)=TOTCON %THEN %LET PREF=C;

%DO I = 1 %TO 8;

  DATA INDAT&I.(KEEP=&WGT XSERVAFF XSERVREG AGE_GRP XSEXA CACSMPL MPCSMPL
            &SMOKEVAR. &DEN. TMP_CELL XTNEXRG2);
  SET SMOKE;
  WHERE XSERVREG > 0 AND GROUP=&I. AND &DEN. >= 0;
    %IF %UPCASE(&TABLEVAR) = XSERVAFF %THEN %DO;
      IF XSERVAFF > 5 OR XSERVAFF = . THEN DELETE; /* MER 11/11/12 - Changed 4 to 5 */
    %END;
    %IF %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
      IF TOTCON NE 1 THEN DELETE;
    %END;
    %IF %UPCASE(&TABLEVAR) = XTNEXRG2 %THEN %DO;
      IF XTNEXRG2 NOTIN (1,2,3) THEN DELETE;
    %END;
  RUN;

  DATA NORMDAT&I.(KEEP=&WGT XSERVAFF XSERVREG AGE_GRP XSEXA &SMOKEVAR. &DEN.
            TMP_CELL XTNEXRG2 MPCSMPL);
    SET NORMDATA;
    WHERE XSERVREG > 0 AND GROUP=&I.;

    %IF %UPCASE(&TABLEVAR) = XSERVAFF %THEN %DO;
      IF XSERVAFF > 5 OR XSERVAFF = . THEN DELETE; /* MER 11/11/12 - Changed 4 to 5 */
    %END;
    %IF %UPCASE(&TABLEVAR) = XTNEXRG2 %THEN %DO;
      IF XTNEXRG2 NOTIN (1,2,3) THEN DELETE;
    %END;
  RUN;

  %IF %UPCASE(&SMOKE) NE CS AND %UPCASE(&TABLEVAR) NE TOTCON %THEN %DO;
    PROC DESCRIPT DATA=INDAT&I. DESIGN=STRWR NOPRINT;
        WEIGHT &WGT;
      SETENV DECWIDTH=4;
```

```
          NEST TMP_CELL / missunit;
          VAR &SMOKEVAR;
          TABLES AGE_GRP*XSEXA*MPCSMPL*&TABLEVAR.;
          SUBGROUP AGE_GRP XSEXA MPCSMPL &TABLEVAR.;
          LEVELS 8 2 2 &ENDNUM.;
          OUTPUT  SEMEAN MEAN wsum nsum
            / TABLECELL=DEFAULT REPLACE
            FILENAME=&PREF.GRP&I.&SMOKE.;
       RUN;
    %END;
    %ELSE %IF %UPCASE(&SMOKE) NE CS AND %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
            PROC DESCRIPT DATA=INDAT&I. DESIGN=STRWR NOPRINT;
            WEIGHT &WGT;
          SETENV DECWIDTH=4;
          NEST TMP_CELL / missunit;
          VAR &SMOKEVAR;
          TABLES AGE_GRP*XSEXA*MPCSMPL;
          SUBGROUP AGE_GRP XSEXA MPCSMPL;
          LEVELS 3 2 2;
          OUTPUT  SEMEAN MEAN wsum nsum
            / TABLECELL=DEFAULT REPLACE
            FILENAME=&PREF.GRP&I.&SMOKE.;
       RUN;
    %END;

    %IF %UPCASE(&SMOKE) NE CS %THEN %DO;

            DATA &PREF.SER_&I.&SMOKE.;
          SET &PREF.GRP&I.&SMOKE.;
          GROUP=&I.;
          IF SEMEAN NE .;
          %IF %UPCASE(&TABLEVAR) NE TOTCON %THEN %DO;
            KEEP &TABLEVAR. GROUP AGE_GRP XSEXA MPCSMPL SEMEAN MEAN wsum nsum;
          %END;
          %IF %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
            TOTCON=1;
            KEEP TOTCON GROUP AGE_GRP XSEXA MPCSMPL SEMEAN MEAN wsum nsum;
          %END;
       RUN;

       /* CREATE WEIGHTS FROM 2005 DATA*/
       proc summary data=normdat&i. nway;
            var &WGT;
            where &den>0;
            class age_grp xsexa MPCSMPL;
            output out=norm_&i. sum=normwt;

       proc sort data=&pref.ser_&i.&smoke.;
            by age_grp xsexa mpcsmpl;

       data &pref.ser_&i.&smoke.;
            merge &pref.ser_&i.&smoke.(in=gin) norm_&i.;
            by age_grp xsexa mpcsmpl;
```

```
        if gin;
        wsum=wsum/normwt;
        nsum=nsum/normwt;
        sesq=normwt*semean**2;
    run;

    proc summary data=&pref.ser_&i.&smoke. nway;
        var mean semean sesq wsum nsum;
        class &tablevar.;
        weight normwt;
        output out=&pref.sert&i.&smoke. mean(mean sesq)= sum(wsum nsum)= sumwgt(semean)=;
    run;

    data &pref.sert&i.&smoke;
      set &pref.sert&i.&smoke;
      group=&i.;
          semean=sqrt(sesq/semean);
                                      NSUM = ROUND(NSUM,1);
      drop _type_ _freq_;
    run;

    %IF &I. = 1 %THEN %DO;

      DATA &PREF._&SMOKE.;
          SET &PREF.SERT&I.&SMOKE.;
      RUN;
    %END;
    %ELSE %DO;

      DATA &PREF._&SMOKE.;
          SET &PREF._&SMOKE. &PREF.SERT&I.&SMOKE.;
      RUN;

      PROC SORT DATA=&PREF._&SMOKE.;
        BY GROUP;
      RUN;
    %END;
%END;
        %IF %UPCASE(&SMOKE) = CS AND %UPCASE(&TABLEVAR) NE TOTCON %THEN %DO;
        PROC DESCRIPT DATA=INDAT&I. DESIGN=STRWR NOPRINT;
          WEIGHT &WGT;
          SETENV DECWIDTH=4;
          NEST TMP_CELL / missunit;
          VAR &SMOKEVAR;
          TABLES AGE_GRP*XSEXA*&TABLEVAR.;
          SUBGROUP AGE_GRP XSEXA &TABLEVAR.;
          LEVELS 3 2 &ENDNUM.;
          OUTPUT  SEMEAN MEAN wsum nsum
              / TABLECELL=DEFAULT REPLACE
                FILENAME=&PREF.GRP&I.&SMOKE.;
    RUN;
%END;
%ELSE %IF %UPCASE(&SMOKE) = CS AND %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
```

G.255

```
        PROC DESCRIPT DATA=INDAT&I. DESIGN=STRWR NOPRINT;
          WEIGHT &WGT;
          SETENV DECWIDTH=4;
          NEST TMP_CELL / missunit;
          VAR &SMOKEVAR;
          TABLES AGE_GRP*XSEXA;
          SUBGROUP AGE_GRP XSEXA;
          LEVELS 3 2 ;
          OUTPUT  SEMEAN MEAN wsum nsum
              / TABLECELL=DEFAULT REPLACE
                FILENAME=&PREF.GRP&I.&SMOKE.;
    RUN;
%END;

%IF %UPCASE(&SMOKE) = CS %THEN %DO;

      DATA &PREF.SER_&I.&SMOKE.;
    SET &PREF.GRP&I.&SMOKE.;
    GROUP=&I.;
    IF SEMEAN NE .;
    %IF %UPCASE(&TABLEVAR) NE TOTCON %THEN %DO;
      KEEP &TABLEVAR. GROUP AGE_GRP XSEXA SEMEAN MEAN wsum nsum;
    %END;
    %IF %UPCASE(&TABLEVAR) = TOTCON %THEN %DO;
      TOTCON=1;
      KEEP TOTCON GROUP AGE_GRP XSEXA SEMEAN MEAN wsum nsum;
    %END;
    RUN;

    /* CREATE WEIGHTS FROM 2005 DATA*/
    proc summary data=normdat&i. nway;
        var &WGT;
        where &den>0;
        class age_grp xsexa;
        output out=norm_&i. sum=normwt;

    proc sort data=&pref.ser_&i.&smoke.;
        by age_grp xsexa;

    data &pref.ser_&i.&smoke.;
        merge &pref.ser_&i.&smoke.(in=gin) norm_&i.;
        by age_grp xsexa;
        if gin;
        wsum=wsum/normwt;
        nsum=nsum/normwt;
        sesq=normwt*semean**2;
    run;

    proc summary data=&pref.ser_&i.&smoke. nway;
        var mean semean sesq wsum nsum;
        class &tablevar.;
        weight normwt;
        output out=&pref.sert&i.&smoke. mean(mean sesq)= sum(wsum nsum)= sumwgt(semean)=;
```

```
        run;

        data &pref.sert&i.&smoke;
          set &pref.sert&i.&smoke;
         group=&i.;
                semean=sqrt(sesq/semean);
         drop _type_ _freq_;
        run;

        %IF &I. = 1 %THEN %DO;

            DATA &PREF._CESS;
                        SET &PREF.SERT&I.&SMOKE.;
            RUN;
        %END;
        %ELSE %DO;

            DATA &PREF._CESS;
             SET &PREF._CESS &PREF.SERT&I.&SMOKE.;
           RUN;

            PROC SORT DATA=&PREF._CESS;
                        BY GROUP;
            RUN;
        %END;
    %END;
%END;

%MEND;

%A_SUDAAN(XSERVAFF,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(XSERVAFF,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(XSERVAFF,BM,BMI,BMI_DN);
%A_SUDAAN(XSERVREG,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(XSERVREG,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(XSERVREG,BM,BMI,BMI_DN);
%A_SUDAAN(XTNEXRG2,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(XTNEXRG2,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(XTNEXRG2,BM,BMI,BMI_DN);
%A_SUDAAN(TOTCON,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(TOTCON,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(TOTCON,BM,BMI,BMI_DN);
%A_SUDAAN(CACSMPL,RT,SM_RATE,SM_RTDN);
%A_SUDAAN(CACSMPL,CS,SM_CESS,SM_CSDN);
%A_SUDAAN(CACSMPL,BM,BMI,BMI_DN);

%MACRO ADDIT(PREF, TYPE);

DATA &PREF._&TYPE;
SET &PREF._&TYPE;
LENGTH BENEFIT $34. BENTYPE $50.;

BENEFIT="Healthy Behaviors";
```

G.257

```
   %IF &TYPE=RT %THEN %DO;
      BENTYPE="Non-Smoking Rate";
   %END;
   %IF &TYPE=CESS %THEN %DO;
      BENTYPE="Counselled To Quit";
   %END;
   %IF &TYPE = BM %THEN %DO;
      BENTYPE = "Percent Not Obese";
   %END;
RUN;

%MEND;

%ADDIT(C,RT);
%ADDIT(C,CESS);
%ADDIT(C,BM);
%ADDIT(M,RT);
%ADDIT(M,CESS);
%ADDIT(M,BM);
%ADDIT(R,RT);
%ADDIT(R,CESS);
%ADDIT(R,BM);
%ADDIT(S,RT);
%ADDIT(S,CESS);
%ADDIT(S,BM);
%ADDIT(D,RT);
%ADDIT(D,CESS);
%ADDIT(D,BM);

proc freq data=ingp.group8 noprint;
tables cacsmpl*xservind / list out=cacformat(drop=count percent);
run;

%MACRO MAKEDATA(PREF, TABLEVAR);
  DATA &PREF._SMOKE;
   SET &PREF._RT
      &PREF._CESS
      &PREF._BM
;
   LENGTH MAJGRP $30. REGION $30. REGCAT $42.; /* MER 11/11/2012 - Updated REGION for Joint Service
facilities */

   IF     GROUP=1 THEN MAJGRP="Prime Enrollees           ";
   ELSE IF GROUP=2 THEN MAJGRP="Enrollees with Military PCM";
   ELSE IF GROUP=3 THEN MAJGRP="Enrollees with Civilian PCM";
   ELSE IF GROUP=4 THEN MAJGRP="Non-enrolled Beneficiaries ";
   ELSE IF GROUP=5 THEN MAJGRP="Active Duty            ";
   ELSE IF GROUP=6 THEN MAJGRP="Active Duty Dependents    ";
   ELSE IF GROUP=7 THEN MAJGRP="Retirees and Dependents   ";
   ELSE IF GROUP=8 THEN MAJGRP="All Beneficiaries        ";

   %IF &TABLEVAR = XSERVAFF %THEN %DO;
      IF XSERVAFF = 1 THEN REGION = 'ARMY';
```

G.258

```
   IF XSERVAFF = 2 THEN REGION = 'AIR FORCE';
   IF XSERVAFF = 3 THEN REGION = 'NAVY';
   IF XSERVAFF = 4 THEN REGION = 'OTHER';
      IF XSERVAFF = 5 THEN REGION = 'DHA'; /* MER 11/11/12 - Added for Joint Service facilities */
%END;

 %IF &TABLEVAR = XSERVREG %THEN %DO;
    REGION = PUT(XSERVREG,SERVREGO.); /*JSO 08/24/2006, Create new format for Overseas*/
 %END;

 %IF &TABLEVAR = XTNEXRG2 %THEN %DO;
    IF XTNEXRG2=1 THEN REGION="EAST"; /*2-region modification*/
    ELSE IF XTNEXRG2=2 THEN REGION="WEST";
    ELSE IF XTNEXRG2=3 THEN REGION="OVERSEAS";
 %END;

 %IF &TABLEVAR = TOTCON %THEN %DO;
    REGION = "USA MHS";
 %END;

%IF &TABLEVAR = CACSMPL %THEN %DO;   /*RSG 02/2005 Add CACSMPL**/
    REGCAT = PUT(CACSMPL, CACR.);
    REGION = ' ';
    %END;

 %IF &TABLEVAR NE CACSMPL %THEN %DO;
    REGCAT=REGION;
    DROP GROUP &TABLEVAR;
    %END;

    %IF &TABLEVAR = CACSMPL %THEN %DO;   /*RSG 02/2005 Add CACSMPL**/
    REGCAT = PUT(CACSMPL, CACR.);
    REGION = ' ';
    %END;

 %IF &TABLEVAR NE CACSMPL %THEN %DO;
    REGCAT=REGION;
    DROP GROUP &TABLEVAR;
    %END;

 IF &TABLEVAR NE 0;
 RUN;

%IF &TABLEVAR = CACSMPL %THEN %DO;

   PROC SORT DATA=&PREF._SMOKE;
   BY CACSMPL;

   DATA &PREF._SMOKE;
   MERGE &PREF._SMOKE (IN=A) CACFORMAT (IN=B);
   BY CACSMPL;
   IF A;
   REGION=PUT(XSERVind,SERVREGO.);
```

```
     DROP GROUP &TABLEVAR;
     RUN;
   %END;

%MEND MAKEDATA;

%MAKEDATA(M,XSERVAFF);
%MAKEDATA(C,TOTCON);
%MAKEDATA(R,XSERVREG);
%MAKEDATA(S,XTNEXRG2);
%MAKEDATA(D,CACSMPL);

DATA SMOKE;
SET M_SMOKE R_SMOKE S_SMOKE C_SMOKE D_SMOKE;
SESQ = SEMEAN**2;
RENAME MEAN=SCORE wsum=n_wgt nsum=n_obs;
RUN;

/* CALCULATE COMPOSITE SCORE - AVERAGE RATE AND CESSATION*/

PROC SORT DATA=SMOKE;
BY MAJGRP REGION REGCAT;
RUN;

PROC SUMMARY DATA=SMOKE SUM;
BY MAJGRP REGION REGCAT;
VAR SCORE SESQ N_WGT N_OBS;
OUTPUT SUM= OUT=PRECOMP;
RUN;

DATA COMP(RENAME=(S_MEAN=SCORE S_SE=SEMEAN));
SET PRECOMP;
IF _FREQ_ = 3 THEN DO;
  S_MEAN=SCORE/3;
  S_SE=SQRT(SESQ)/3;
  N_OBS=round(N_OBS/3);
END;
ELSE DO;
  S_MEAN=.;
  S_SE=.;
END;
BENTYPE="Composite";
BENEFIT="Healthy Behaviors";
DROP _TYPE_ _FREQ_ SCORE SESQ;
RUN;

PROC SORT DATA=SMOKE;
BY MAJGRP BENTYPE;
RUN;

DATA BENCH;
SET SMOKE;
BY MAJGRP BENTYPE;
```

```
IF LAST.BENTYPE AND BENTYPE="Counselled To Quit" THEN DO;
  SCORE=&CNSLGOAL;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  DROP N_WGT N_OBS;
  OUTPUT;
END;
ELSE IF LAST.BENTYPE AND BENTYPE="Non-Smoking Rate" THEN DO;
  SCORE=&NSMKGOAL;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  DROP N_WGT N_OBS;
  OUTPUT;
END;
ELSE IF LAST.BENTYPE AND BENTYPE="Percent Not Obese" THEN DO;
  SCORE=&BMIGOAL;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  DROP N_WGT N_OBS;
  OUTPUT;
  SCORE=(SUM(&NSMKGOAL, &CNSLGOAL, &BMIGOAL))/3;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  BENTYPE="Composite";
  DROP N_WGT;
  OUTPUT;
END;
RUN;

PROC SORT DATA=SMOKE;
BY REGION BENTYPE;
RUN;

DATA TEMP;
SET SMOKE;
IF REGION=REGCAT;
RUN;

PROC SORT DATA=TEMP;
BY REGION BENTYPE;
RUN;

DATA BENCH2;
SET TEMP;
BY REGION BENTYPE;
IF LAST.BENTYPE AND BENTYPE="Counselled To Quit" THEN DO;
  SCORE=&CNSLGOAL;
  SEMEAN=.;
  MAJGRP="Benchmark";
```

G.261

```
    DROP N_WGT N_OBS;
    OUTPUT;
  END;
  IF LAST.BENTYPE AND BENTYPE="Non-Smoking Rate" THEN DO;
    SCORE=&NSMKGOAL;
    SEMEAN=.;
    MAJGRP="Benchmark";
    DROP N_WGT;
    OUTPUT;
  END;
  IF LAST.BENTYPE AND BENTYPE="Percent Not Obese" THEN DO;
    SCORE=&BMIGOAL;
    SEMEAN=.;
    MAJGRP="Benchmark";
    DROP N_WGT;
    OUTPUT;
    SCORE=(SUM(&CNSLGOAL, &NSMKGOAL, &BMIGOAL))/3;
    SEMEAN=.;
    MAJGRP="Benchmark";
    BENTYPE="Composite";
    DROP N_WGT N_OBS;
    OUTPUT;
  END;
RUN;

DATA SIG1;
SET SMOKE COMP;
IF BENTYPE='Non-Smoking Rate' THEN DO;
  IF SEMEAN > 0 THEN TSTAT=(SCORE-&NSMKGOAL)/SEMEAN;
  ELSE TSTAT=.;
  IF N_OBS > 1 THEN PVAL=(1-PROBT(ABS(TSTAT),(N_OBS-1)))*2;
  ELSE PVAL=.;

  IF PVAL GE 0.05 THEN SIG=0;
  ELSE IF PVAL < 0.05 THEN DO;
    IF SCORE > &NSMKGOAL THEN SIG = 1;
    ELSE IF SCORE < &NSMKGOAL THEN SIG = -1;
  END;
END;
IF BENTYPE='Counselled To Quit' THEN DO;
  IF SEMEAN > 0 THEN TSTAT=(SCORE-&CNSLGOAL)/SEMEAN;
  ELSE TSTAT=.;
  IF N_OBS > 1 THEN PVAL=(1-PROBT(ABS(TSTAT),(N_OBS-1)))*2;
  ELSE PVAL=.;
  IF PVAL GE 0.05 THEN SIG=0;
  ELSE IF PVAL < 0.05 THEN DO;
    IF SCORE > &CNSLGOAL THEN SIG = 1;
    ELSE IF SCORE < &CNSLGOAL THEN SIG = -1;
  END;
END;
IF BENTYPE='Percent Not Obese' THEN DO;
  IF SEMEAN > 0 THEN TSTAT=(SCORE-&BMIGOAL)/SEMEAN;
  ELSE TSTAT=.;
```

```
  IF N_OBS > 1 THEN PVAL=(1-PROBT(ABS(TSTAT),(N_OBS-1)))*2;
   ELSE PVAL=.;
   IF PVAL GE 0.05 THEN SIG=0;
   ELSE IF PVAL < 0.05 THEN DO;
     IF SCORE > &BMIGOAL THEN SIG = 1;
     ELSE IF SCORE < &BMIGOAL THEN SIG = -1;
   END;
END;
IF BENTYPE='Composite' THEN DO;
  IF SEMEAN > 0 THEN TSTAT=(SCORE-((SUM(&NSMKGOAL, &CNSLGOAL, &BMIGOAL))/3))/SEMEAN;
   ELSE TSTAT=.;
   IF N_OBS > 1 THEN PVAL=(1-PROBT(ABS(TSTAT),(N_OBS-1)))*2;
   ELSE PVAL=.;
   IF PVAL GE 0.05 THEN SIG=0;
   ELSE IF PVAL < 0.05 THEN DO;
     IF SCORE > ((SUM(&NSMKGOAL, &CNSLGOAL, &BMIGOAL))/3) THEN SIG = 1;
     ELSE IF SCORE <((SUM(&NSMKGOAL, &CNSLGOAL, &BMIGOAL))/3) THEN SIG = -1;
   END;
END;

DROP TSTAT PVAL;
RUN;

DATA SMOKE_ALL;
SET SIG1 BENCH BENCH2;
TIMEPD="&CURRENT.";
RUN;

PROC SORT DATA=SMOKE_ALL OUT=OUT.SMOKE;
BY MAJGRP REGION REGCAT BENTYPE;
RUN;

DATA OUT.CGRP5RT;
SET CGRP5RT;
RUN;

DATA OUT.CSER_5RT;
SET CSER_5RT;
RUN;
DATA OUT.CSERT5RT;
SET CSERT5RT;
RUN;
DATA OUT.c_smoke;
SET c_smoke;
RUN;

DATA OUT.normdat5;
SET normdat5;
RUN;
DATA OUT.norm_5;
SET norm_5;
RUN;
```

G.11.C ReportCards\MPR_Adult2020\LOADMPR.SAS - Convert the MPR Scores Database into the WEB layout - Annual.

```
**************************************************************;
* Project:  DoD Reporting and Analysis 6244-410
* Program:  LOADMPR.SAS
* Author:   Chris Rankin
* Date:    4/07/2000
* Modified: 1) 11/11/2012 By Mike Rudacille, Updated for handling of
*         Joint Service facilities
*         2) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                                Changed YR to &FY.
                                Changed YEAR to &FYYEAR.
                                Changed EYR to %EVAL(&FY.-2)
*
* Purpose:  Calculate MPR Preventive Care Composites
*
*  Input:   RFINAL.sas7bdat
*         CFINAL.sas7bdat
*         MFINAL.sas7bdat
*         DFINAL.sas7bdat
*         SFINAL.sas7bdat
*         SMOKE.sas7bdat
*  Output:  loadmpr.sas7bdat
**************************************************************;

OPTIONS COMPRESS=YES NOCENTER LS=124 PS=74 SOURCE SOURCE2;

LIBNAME   INLIB   ".";
LIBNAME   OUT     ".";
LIBNAME   LIBRARY  "../../../Data/fmtlib";  /*MJS 02/05/04*/

%LET COMPNUM=7; /*** number of questions in both composites ***/
%LET CMPNUM1=4; /*** number of questions in first composite ***/   /*MJS 02/05/04*/

%LET YR=&FY.;
%LET YEAR=&FYYEAR.;
%LET EYR=%EVAL(&FY.-2);

%INCLUDE "../../LoadWeb/LOADCAHQ.INC";

************************************************************;
*** Note -- take out access to care questions and composite ***;
************************************************************;

DATA BENCHMKS(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD SCORE SIG);
 FORMAT MAJGRP $30.  REGION $30. REGCAT $42. /* MER 11/11/2012 - Updated REGION for Joint Service
facilities */
     BENEFIT $34. BENTYPE $50. TIMEPD $35.;

 SET inlib.CFINAL;
```

```
/***** Benchmarks     *****/

ARRAY BENCHMK{*} GOALVAR1-GOALVAR&CMPNUM1 CP&yr.BMK1;
DO I = 1 TO 5;  /*MJS 02/05/04*/
  SCORE   = BENCHMK{I}*100;
  SIG     = .;
  REGION  = "Benchmark";
  REGCAT  = "Benchmark";
  BENEFIT = "Preventive Care";
  IF     I = 1 THEN BENTYPE = "Prenatal Care";
  ELSE IF I = 2 THEN BENTYPE = "Mammography";
  ELSE IF I = 3 THEN BENTYPE = "Pap Smear";
  ELSE IF I = 4 THEN BENTYPE = "Hypertension";
  /*ELSE IF I = 5 THEN BENTYPE = "Cholesterol Testing";*/  /*RSG 01/27/06*/
  ELSE IF I = 5 THEN BENTYPE = "Composite";
  TIMEPD = "&YEAR";  /*RSG 02/2005*/
  OUTPUT;
 END;
 DROP I;
RUN;

DATA BENCHMKS;
 SET BENCHMKS;
 OUTPUT;
 IF MAJGRP = "All Beneficiaries" THEN DO;
   DO REG = 1 TO 13; DROP REG; /* MER 11/11/2012 Changed 15 to 18 for Joint Service facilities */
      MAJGRP = "Benchmark";
      REGION = PUT(REG,SERVREGO.);
      REGCAT = PUT(REG,SERVREGO.);
      OUTPUT;
   END;
   DO SERV = 1 TO 5; DROP SERV; /* MER 11/11/2012 Changed 4 to 5 for Joint Service facilities */
     MAJGRP = "Benchmark";
     REGION = PUT(SERV,XSERVAFF.);
     REGCAT = PUT(SERV,XSERVAFF.);
     OUTPUT;
   END;
   MAJGRP = "Benchmark";
   REGION = 'CONUS MHS';
   REGCAT = 'CONUS MHS';
   OUTPUT;
   /***Revised for 2-region coding***/
   MAJGRP = "Benchmark";
   REGION = 'EAST';
   REGCAT = 'EAST';
   OUTPUT;
   MAJGRP = "Benchmark";
   REGION = 'WEST';
   REGCAT = 'WEST';
   OUTPUT;
   MAJGRP = "Benchmark";
   REGION = 'OVERSEAS';
   REGCAT = 'OVERSEAS';
```

```
   OUTPUT;
  END;
RUN;


PROC FREQ DATA=BENCHMKS;
  TABLES MAJGRP/MISSING LIST;
RUN;


************************;
***** Scores       **;
************************;

DATA DFINAL;
 SET INLIB.DFINAL;
 WHERE UPCASE(TRIM(MAJGRP)) IN ("PRIME ENROLLEES", "ENROLLEES WITH MILITARY PCM",
                 "ACTIVE DUTY", "ALL BENEFICIARIES");
RUN;


DATA SCORES(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD SCORE SEMEAN SIG N_OBS N_WGT);
 FORMAT MAJGRP $30.  REGION $30. REGCAT $42. /* MER 11/11/2012 - Updated REGION for Joint Service
facilities */
       BENEFIT $34. BENTYPE $50. TIMEPD $35.;
 SET INLIB.MFINAL
    INLIB.RFINAL
    DFINAL
    INLIB.SFINAL
    INLIB.CFINAL;
IF REGCAT='Out of Catchment Region 01' then REGCAT='Out of Catchment East Region';
IF REGCAT='Out of Catchment Region 02' then REGCAT='Out of Catchment East Region';
IF REGCAT='Out of Catchment Region 03' then REGCAT='Out of Catchment West Region';
IF REGCAT='Out of Catchment Region 04' then REGCAT='Out of Catchment OCONUS Region';

 ARRAY SEMEANS{*} SERR&YR.V1-SERR&YR.V&CMPNUM1. CP&YR.1SE ;
 ARRAY  SCORES{*} SCOR&YR.V1-SCOR&YR.V&CMPNUM1. Comp&YR.1;
 ARRAY  SIGNIF{*} SIG&YR.V1-SIG&YR.V&CMPNUM1.   CP&YR.SIG1;
 ARRAY   NOBS {*} NOBS&YR.V1-NOBS&YR.V&CMPNUM1. CP&YR.OBS1;
 ARRAY   NWGT {*} DEN&YR.V1-DEN&YR.V&CMPNUM1    CP&YR.DEN1;
 cp&YR.den1=0;
 DO I = 1 TO 5;  /*MJS 02/05/04*/
   SCORE  = SCORES{I};
   SEMEAN  = SEMEANS{I};
   SIG    = SIGNIF{I};
   N_OBS  = NOBS{I};
   N_WGT  = NWGT{I};
   if i<5 then cp&YR.den1+nwgt[i];
   BENEFIT = "Preventive Care";
   IF    I = 1 THEN BENTYPE = "Prenatal Care";
   ELSE IF I = 2 THEN BENTYPE = "Mammography";
   ELSE IF I = 3 THEN BENTYPE = "Pap Smear";
   ELSE IF I = 4 THEN BENTYPE = "Hypertension";
   /*ELSE IF I = 5 THEN BENTYPE = "Cholesterol Testing";*/  /*RSG 01/27/06*/
   ELSE IF I = 5 THEN DO;
      BENTYPE = "Composite";  /*RSG 02/2005*/
```

```
      score=score*100;
   END;;
   TIMEPD = "&YEAR";
   OUTPUT;
 END;
RUN;

PROC FREQ DATA=SCORES;
  WHERE UPCASE(TRIM(MAJGRP)) IN ("PRIME ENROLLEES", "ENROLLEES WITH MILITARY PCM",
                 "ACTIVE DUTY", "ALL BENEFICIARIES");
  TABLES MAJGRP*REGCAT;
RUN;

DATA DTREND;
 SET INLIB.DTREND; by majgrp;
 WHERE UPCASE(TRIM(MAJGRP)) IN ("PRIME ENROLLEES", "ENROLLEES WITH MILITARY PCM",
                 "ACTIVE DUTY", "ALL BENEFICIARIES");
RUN;

/*
proc sort data=inlib.mtrend out=mtrend; by descending majgrp;
data mtrend;
set mtrend;
retain adj1 adj2 0;
if upcase(majgrp)="ALL BENEFICIARIES" then do;
adj1=cp&YR.bmk1; adj2=cp&EYR.bmk1; end;
proc print;
proc sort data=mtrend; by majgrp;
data mtrend(drop=adj1 adj2);
set mtrend;
retain tadj1 tadj2 0;
if _n_=1 then do;
tadj1=adj1;
tadj2=adj2;
end;
*/

DATA TREND1 (KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE semean TIMEPD SCORE SIG N_OBS N_WGT);
  FORMAT MAJGRP $30.  REGION $30. REGCAT $42. /* MER 11/11/2012 - Updated REGION for Joint Service
facilities */
      BENEFIT $34. BENTYPE $50. TIMEPD $35.;

  SET inlib.CTREND
    DTREND
    INLIB.RTREND
    INLIB.STREND
    INLIB.MTREND;by majgrp;
/*
  if _n_=1 then do;
    adj1=tadj1;
    adj2=tadj2;
  end;
  retain adj1 adj2;
```

```
        score=100*((comp031*adj1/cp03bmk1)-(comp011*adj2/cp01bmk1));*/

/*RSG 02/2005 following code no longer needed - need trend for all
  benefit level, not just composite*/
/*   score=cmptrnd1;
  SIG= SIGCPTR1;
  N_OBS=DF_COMP1;
  N_WGT=NWGTC1;
  BENTYPE="Trend";
  BENEFIT="Preventive Care";
  OUTPUT;
*/
IF REGCAT='Out of Catchment Region 01' then REGCAT='Out of Catchment East Region';
IF REGCAT='Out of Catchment Region 02' then REGCAT='Out of Catchment East Region';
IF REGCAT='Out of Catchment Region 03' then REGCAT='Out of Catchment West Region';
IF REGCAT='Out of Catchment Region 04' then REGCAT='Out of Catchment OCONUS Region';

 ARRAY  SCORES{*} TRENDV1-TRENDV&CMPNUM1. CMPTRND1;
 ARRAY  SIGNIF{*} SIGTRND1-SIGTRND&CMPNUM1.   SIGCPTR1;
 ARRAY   NOBS {*} DFSCOR1-DFSCOR&CMPNUM1. DF_COMP1;
 ARRAY   NWGT {*} NWGT1-NWGT&CMPNUM1. NWGTC1;
 DO I = 1 TO 5;  /*MJS 02/05/04*/
   SCORE   = SCORES{I};
   SEMEAN=.;
   SIG     = SIGNIF{I};
   N_OBS   = NOBS{I};
   N_WGT   = NWGT{I};
   BENEFIT = "Preventive Care";
   IF    I = 1 THEN BENTYPE = "Prenatal Care";
   ELSE IF I = 2 THEN BENTYPE = "Mammography";
   ELSE IF I = 3 THEN BENTYPE = "Pap Smear";
   ELSE IF I = 4 THEN BENTYPE = "Hypertension";
   /*ELSE IF I = 5 THEN BENTYPE = "Cholesterol Testing";*/  /*RSG 01/27/06*/
   ELSE IF I = 5 THEN DO;
      BENTYPE = "Composite";  /*RSG 02/2005*/
*      score=score*100;
   END;;
   TIMEPD = "Trend";
   OUTPUT;
 END;
RUN;

DATA TREND2(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE SCORE SIG TIMEPD);
 FORMAT MAJGRP $30.  REGION $30. REGCAT $42. /* MER 11/11/2012 - Updated REGION for Joint Service
facilities */
     BENEFIT $34. BENTYPE $50. TIMEPD $35.;

 SET INLIB.CTREND;

/*RSG 02/2005 hard code in benchmark trends for each measure -
    comment out code for just composite trend benchmark*/
/*  SCORE= TRNDBMK1;
 SIG=.;
```

```
   SEMEAN=.;
 REGION="Benchmark";
 REGCAT="Benchmark";
 BENTYPE="Trend";
 BENEFIT="Preventive Care";
 OUTPUT;
*/

 DO I = 1 TO 5;   /*MJS 02/05/04*/
   SCORE   = 0;
   SIG     = .;
   REGION  = "Benchmark";
   REGCAT  = "Benchmark";
   BENEFIT = "Preventive Care";
   IF     I = 1 THEN BENTYPE = "Prenatal Care";
   ELSE IF I = 2 THEN BENTYPE = "Mammography";
   ELSE IF I = 3 THEN BENTYPE = "Pap Smear";
   ELSE IF I = 4 THEN BENTYPE = "Hypertension";
   /*ELSE IF I = 5 THEN BENTYPE = "Cholesterol Testing";*/   /*RSG 01/27/06*/
   ELSE IF I = 5 THEN BENTYPE = "Composite";
   TIMEPD = "Trend";  /*RSG 02/2005*/
   OUTPUT;
 END;
 DROP I;
RUN;

DATA OUT.LOADMPR(KEEP=MAJGRP REGION REGCAT BENEFIT semean BENTYPE SCORE SIG
            N_OBS N_WGT TIMEPD);
 SET BENCHMKS TREND1 TREND2 SCORES INLIB.SMOKE;
RUN;

PROC FREQ DATA=OUT.LOADMPR;
  WHERE TIMEPD='Trend';
  TABLES BENTYPE*REGION/MISSING LIST;
RUN;
```

G.12 ReportCards\MPR_Adult2020\TRENDMPR.SAS - Calculate Trend and Perform Significance tests on MPR Scores - Annual.

```
****************************************************************
*
*  Project:  DoD Reporting and Analysis 6244-410
*  Program:  TRENDMPR.SAS
*  Author:   Chris Rankin
*  Date:     6/19/2000
*
*  Modified: 1) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                                  Changed YR to &FY.
                                  Changed EYR to %EVAL(&FY.-2)
                                  Changed IN&EYR to
..\..\..\Programs\20&EYR.\&PC.ReportCards\MPR_Adult20&EYR.
                                  Renamed IN14 and IN12 to IN&FY. And IN&EYR.
       2)  08/09/2018 by Irna May Connor, Added "east-" prefixes to 2016's data.
*
*  Purpose:  Calculate trends from 2012 to 2014.
*
*  Outputs:  RTREND.sas7bdat
*        MTREND.sas7bdat
*        CTREND.sas7bdat
*        STREND.sas7bdat
*        DTREND.sas7bdat
*
*  Inputs:   RFINAL.sas7bdat
*        CFINAL.sas7bdat
*        MFINAL.sas7bdat
*        SFINAL.sas7bdat
*        DFINAL.sas7bdat
*
*  Notes:    1) Next program is loadmpr.sas.
*
****************************************************************;
OPTIONS NOCENTER LS=124 PS=74 SOURCE SOURCE2;

%LET YR = &FY.;
%LET EYR =  %EVAL(&FY.-2);

LIBNAME IN&YR   ".";
LIBNAME IN&EYR. "../../../../20&EYR.E2/Programs/&PC.ReportCards/MPR_Adult20&EYR.";
LIBNAME OUT    ".";
LIBNAME LIBRARY "../../../Data/fmtlib";

libname FMT2 "/sasdata/Projects/50713_HCS/DATA/HCSDB/20&FY2./Data/fmtlib/";
libname FMT1 "/sasdata/Projects/50713_HCS/DATA/HCSDB/20&FY1./Data/fmtlib/";
libname FMTNEW "/sasdata/Projects/50713_HCS/DATA/HCSDB/20&FY./Data/fmtlib/";

%LET COMPNUM=7;   /** number of variables - 02/2006 RSG - changed from 8 to 7 because cholesterol dropped
**/
```

```
**** Note:  groups changed 6/16/2000 to correspond with ;
**** definition of CAHPS groups                ;

*********************************************************;
* Beneficiary group note
*   Eight groups        Definitions
* _____;
* 1. Prime enrollees       XINSCOV IN (1,2,6) AND H08007>=2
* 2. Enrollees w/mil PCM    XENR_PCM IN (2,6)  AND H08007>=2
* 3. Enrollees w/civ PCM    XENR_PCM=3      AND H08007>=2
* 4. Nonenrollees         XINSCOV IN (3)
* 5. Active duty          BFGROUPP=1
* 6. Active duty dependents   BFGROUPP=2
* 7. Retirees           BFGROUPP IN (3,4)
* 8. All beneficiaries     ALL
*********************************************************;

proc format library=fmt2.formats cntlout=fmt2;
run;
proc format library=fmt1.formats cntlout=fmt1;
run;
proc format library=fmtnew.formats cntlout=fmtnew;
run;
proc sort data=fmt2;by fmtname start end;run;
proc sort data=fmt1;by fmtname start end;run;
proc sort data=fmtnew;by fmtname start end;run;

data allfmt1;
merge fmt1 fmtnew(rename=(label=newlabel1));
by fmtname start end;
run;

data diffs1;
set allfmt1;
if label ne newlabel1 and fmtname="CACR";
regcat=label;
run;
proc sort data=diffs1;by regcat;run;

data allfmt2;
merge fmt2 fmtnew(rename=(label=newlabel2));
by fmtname start end;
run;

data diffs2;
set allfmt2;
if label ne newlabel2 and fmtname="CACR";
regcat=label;
run;
proc sort data=diffs2;by regcat;run;

/*** macro to merge final datasets together and calculate trends ***/
```

```
%MACRO TRENDS(INDATA, OUTDATA);

 /*Adding "east-" prefixes to 2016's data so that it's consistent with 2018 data.*/
 /*This recode will become obsolete in 2020, but it will do no harm.*/
 DATA &INDATA.&EYR.;
   SET IN&EYR..&INDATA;
/*** Recode Out of Catchments ***/
 IF FIND(REGCAT,"9905")>0 THEN REGCAT = "Out of Catchment Europe Region";
 IF FIND(REGCAT,"9906")>0 THEN REGCAT = "Out of Catchment Pacific Region";
 IF FIND(REGCAT,"9907")>0 THEN REGCAT = "Out of Catchment Latin America Region";

 RUN;
 /*END OF ADDITION*/

%macro adjfmt(ds=);

proc sort data=&ds. ;by regcat;run;

data lblchk &ds.(drop=newlabel1 newlabel2 labelchange);
merge &ds.(in=a) diffs1(in=b keep=regcat newlabel1) diffs2(in=c keep=regcat newlabel2);
by regcat;
length labelchange $300;
labelchange=cat(regcat," ",newlabel1," ",newlabel2);
if a and (b or c) then output lblchk;
if b then regcat=newlabel1;
if c then regcat=newlabel2;
if a then output &ds.;
run;

proc sort data=&ds.;by majgrp region regcat;run;

title "MPR Catchment labels changed in DS. from past two years";
proc freq data=lblchk;
where newlabel1 ne regcat or newlabel2 ne regcat;
table regcat newlabel1 newlabel2 labelchange / missing;
run;
title "All REGCAT values in &ds.";
proc freq data=&ds.;
table regcat / missing;
run;
title;
%mend;

%adjfmt(ds=&INDATA.&EYR.)

 PROC SORT DATA=&INDATA.&EYR.;
   BY MAJGRP REGION REGCAT;
 RUN;

 PROC SORT DATA=IN&YR..&INDATA;
   BY MAJGRP REGION REGCAT;
 RUN;
```

```
DATA OUT.&OUTDATA;
  MERGE IN&YR..&INDATA(IN=IN_&YR.) &INDATA.&EYR.(IN=IN_&EYR.);
  BY MAJGRP REGION REGCAT;
  IF IN_&YR. & IN_&EYR.;

  /*** calculate trends in the composite benchmarks ***/
  ARRAY  BMK&YR.{*} CP&YR.BMK1 CP&YR.BMK2;
  ARRAY  BMK&EYR.{*} CP&EYR.BMK1 CP&EYR.BMK2;
  ARRAY BMKTRND{*} TRNDBMK1 TRNDBMK2;

  DO J=1 TO 2;
    IF BMK&EYR.{J} > 0 THEN BMKTRND{J}=100*(BMK&YR.{J}-BMK&EYR.{J});
    ELSE BMKTRND{J}=.;
  END;
  DROP J;

  /*** note-- don't use adjusted scores ***/
  ARRAY SCORE&YR.{*} PROP&YR.V1-PROP&YR.V&COMPNUM COMP&YR.1 COMP&YR.2;
  ARRAY SCORE&EYR.{*} PROP&EYR.V1-PROP&EYR.V&COMPNUM COMP&EYR.1 COMP&EYR.2;
  ARRAY  SERR&YR.{*} SERR&YR.V1-SERR&YR.V&COMPNUM CP&YR.1SE  CP&YR.2SE;
  ARRAY  SERR&EYR.{*} SERR&EYR.V1-SERR&EYR.V&COMPNUM CP&EYR.1SE  CP&EYR.2SE;
  ARRAY   TREND{*} TRENDV1-TRENDV&COMPNUM   CMPTRND1 CMPTRND2;
  ARRAY   TSTAT{*} T_TRNDV1-T_TRNDV&COMPNUM T_CTRND1 T_CTRND2;
  ARRAY  PVALUE{*} P_TRNDV1-P_TRNDV&COMPNUM P_CTRND1 P_CTRND2;
  ARRAY     SIG{*} SIGTRND1-SIGTRND&COMPNUM SIGCPTR1 SIGCPTR2;
  ARRAY DEGFR&YR.{*} DF&YR.SCR1-DF&YR.SCR&COMPNUM DF&YR._CP1 DF&YR._CP2;
  ARRAY DEGFR&EYR.{*} DF&EYR.SCR1-DF&EYR.SCR&COMPNUM DF&EYR._CP1 DF&EYR._CP2;
  ARRAY    DEGF{*} DFSCOR1-DFSCOR&COMPNUM DF_COMP1 DF_COMP2;
  ARRAY   DENOM{*} DENOMT1-DENOMT&COMPNUM DENOMTC1 DENOMTC2;
  ARRAY   DEN&EYR.{*} DEN&EYR.V1-DEN&EYR.V&COMPNUM CP&EYR.DEN1 CP&EYR.DEN2;
  ARRAY   DEN&YR.{*} DEN&YR.V1-DEN&YR.V&COMPNUM CP&YR.DEN1 CP&YR.DEN2;
  ARRAY    NWGT{*} NWGT1-NWGT&COMPNUM NWGTC1 NWGTC2;

  /*** setup t statistics, degreees of freedom    ***/
  DO I=1 TO 9;
    IF SCORE&EYR.{I} GE 0 AND SCORE&YR.{I} GE 0 THEN DO;
      IF SCORE&EYR.{I} > 0 THEN TREND{I}=100*(SCORE&YR.{I}-SCORE&EYR.{I});
      ELSE TREND{I}=.;
      DENOM{I}= SERR&EYR.{I}**2+SERR&YR.{I}**2;
      IF DENOM{I} > 0 THEN
        TSTAT{I}=(SCORE&YR.{I}-SCORE&EYR.{I})/SQRT(DENOM{I});
      ELSE TSTAT{I}=.;
      DEGF{I}=MIN(DEGFR&YR.{I},DEGFR&EYR.{I});
      NWGT{I}=MIN(DEN&YR.{I},DEN&EYR.{I});
      IF DEGF{I}=0 THEN DEGF{I}=1;
      IF DEGF{I}IN (0, .) THEN
      PUT "MAJGRP=" MAJGRP "REGCAT=" REGCAT "REGION=" REGION
      "DEGFR&EYR.=" DEGFR&EYR.{I} "DEGFR&YR.=" DEGFR&YR.{I};
      PVALUE{I}=(1-PROBT(ABS(TSTAT{I}),DEGF{I}))*2;
      IF TREND{I}=. THEN SIG{I}=.;
      ELSE IF TREND{I} NE . THEN DO;
        IF PVALUE{I} GE .05 THEN SIG{I}=0;
        IF PVALUE{I} < .05  THEN DO;
```

```
          IF TSTAT{I} > 0 THEN SIG{I}=1;
          IF TSTAT{I} < 0 & TSTAT{I} ne . THEN SIG{I}=-1;
        END;
      END;
    END;
  END;
  DROP I;
RUN;

%MEND TRENDS;

%TRENDS(MFINAL, MTREND);
%TRENDS(RFINAL, RTREND);
%TRENDS(CFINAL, CTREND);
%TRENDS(SFINAL, STREND);
%TRENDS(DFINAL, DTREND);

/*
proc format library=fmt2.formats cntlout=fmt2;
run;
proc format library=fmt1.formats cntlout=fmt1;
run;
proc format library=fmtnew.formats cntlout=fmtnew;
run;
proc sort data=fmt2;by fmtname start end;run;
proc sort data=fmt1;by fmtname start end;run;
proc sort data=fmtnew;by fmtname start end;run;

data allfmt1;
merge fmt1 fmtnew(rename=(label=newlabel1));
by fmtname start end;
run;

data diffs1;
set allfmt1;
if label ne newlabel1 and fmtname="CACR";
regcat=label;
run;
proc sort data=diffs1;by regcat;run;

data allfmt2;
merge fmt2 fmtnew(rename=(label=newlabel2));
by fmtname start end;
run;

data diffs2;
set allfmt2;
if label ne newlabel2 and fmtname="CACR";
regcat=label;
run;
proc sort data=diffs2;by regcat;run;

proc sort data=OUT.dtrend ;by regcat;run;
```

```
data lblchk OUT.dtrend(drop=newlabel1 newlabel2 labelchange);
merge OUT.dtrend(in=a) diffs1(in=b keep=regcat newlabel1) diffs2(in=c keep=regcat newlabel2);
by regcat;
length labelchange $300;
labelchange=cat(regcat," ",newlabel1," ",newlabel2);
if a and (b or c) then output lblchk;
if b then regcat=newlabel1;
if c then regcat=newlabel2;
if a then output OUT.dtrend;
run;

proc sort data=out.dtrend;by majgrp region regcat;run;

title "MPR Catchment labels changed from past two years";
proc freq data=lblchk;
where newlabel1 ne regcat or newlabel2 ne regcat;
table regcat newlabel1 newlabel2 labelchange / missing;
run;
title "All REGCAT values in DTREND";
proc freq data=OUT.dtrend;
table regcat / missing;
run;
title;
*/
```

G.13.A LOADWEB\FAKE.SAS - Generate the WEB layout/template file - Annual.

```
/***************************************************************************/
/* PROJECT:  6244-410 - 2006 Annual Beneficiary Reports                  */
/* PROGRAM:  FAKE.SAS                                    */
/* PURPOSE:  Generate Fake Data for Report Cards                          */
/* AUTHOR:   Mark A. Brinkley                           */
/*                                             */
/* MODIFIED: 1) November 12, 2012 By Mike Rudacille - Updated for          */
/*        handling of Joint Service facilities                 */
/*     2) December 1, 2014 By Matt Turbyfill,                        */
/*                         Revised for the Macro Program.              */
/*                         Changed IN to ..\&PC.ReportCards\CAHPS_Adult&FYYEAR.\Data
        */
/*                         Changed LOADCAHQ to ..\LoadWeb\LOADCAHQ.INC
                 */
/*                         Changed PERIOD1 to &YEAR2.
                         */
/*                         Changed PERIOD2 to &YEAR1.
                         */
/*                         Changed PERIOD3 to &FYYEAR.
                         */
/*                         Changed HCSyyq_2 to &DATAFILE.
                 */
/*                                        */
/***************************************************************************/

LIBNAME OUT '.';
LIBNAME IN  "../&PC.ReportCards/CAHPS_Adult&FYYEAR./Data"; /*** Changed to group8 location for revised
cacsmpl KRR 02-05-2004 ***/
LIBNAME LIBRARY  '../../Data/fmtlib';

OPTIONS COMPRESS=YES NOFMTERR;

%include "../LoadWeb/LOADCAHQ.INC";

/*RSG 02/2005 added to make fake.sd2 with macros*/
%LET NUMQTR = 4;  /*RSG 02/2005 - Numbering based off quarterly program*/
%LET PERIOD1 = &YEAR2.;
%LET PERIOD2 = &YEAR1.;
%LET PERIOD3 = &FYYEAR.;
%LET PERIOD4 = Trend;

DATA TEMP;
  SET IN.GROUP8(KEEP=XSERVind XSERVAFF XTNEXRG2 USA CACSMPL);  /*KRR 02/05/04*/
RUN;

*************************************************************************
* CACSMPL FORMAT DEFINITIONS FOR REPORT CARD USE FACILITY NAME
* RSG - 02/2005 - USE CACR FORMAT FROM LIBRARY
*************************************************************************;
```

```
proc freq data=temp;
  table xservind*cacsmpl/ noprint out=temp2;
run;

data temp3;
  length cafmt $42;
  set temp2 end=last; by xservind;
  caf=0;
  where cacsmpl ne 9999;
  if first.xservind then do;
    cafmt=put(xservind,servrego.);
    output;
  end;
  cafmt=put(cacsmpl,cacr.);
  caf=1;
  if count>1 & cafmt ne 'INV' then output;
  if last then do;
    xservind=0;
    caf=0;
    cafmt='Benchmark';
    output;

    caf=1;

    xservind=19;
    cafmt = 'ARMY';
    output;

    xservind=20;
    cafmt = 'AIR FORCE';
    output;

    xservind=21;
    cafmt = 'NAVY';
    output;

    xservind=22;
    cafmt = 'OTHER';
    output;

    xservind=23;
    cafmt = 'DHA';
    output;

    xservind=24;
    cafmt = 'EAST';
    output;
/*
    xservind=25;
    cafmt = 'EAST-SOUTH';
    output;
*/
    xservind=26;
```

```
cafmt = 'WEST';
output;

xservind=27;
cafmt = 'OVERSEAS';
output;

xservind=28;
cafmt = 'Europe Army';
output;

xservind=29;
cafmt = 'Europe Air Force';
output;

xservind=30;
cafmt = 'Europe Navy';
output;

xservind=31;
cafmt = 'Europe Other';
output;

xservind=32;
cafmt = 'Europe DHA';
output;

xservind=33;
cafmt = 'Pacific Army';
output;

xservind=34;
cafmt = 'Pacific Air Force';
output;

xservind=35;
cafmt = 'Pacific Navy';
output;

xservind=36;
cafmt = 'Pacific Other';
output;

xservind=37;
cafmt = 'Pacific DHA';
output;

xservind=38;
cafmt = 'Latin America Army';
output;

xservind=39;
cafmt = 'Latin America Air Force';
```

```
       output;

       xservind=40;
       cafmt = 'Latin America Navy';
       output;

       xservind=41;
       cafmt = 'Latin America Other';
       output;

       xservind=42;
       cafmt = 'Latin America DHA';
       output;

       xservind=43;
       cafmt = 'USA MHS';
       output;
    end;
run;

proc sort; by xservind caf cafmt; run;

data temp4;
   set temp3 end=last;
   start=_n_; label=cafmt; type='N'; fmtname='ROWMAT';
   if last then call symput('x',_n_);
run;

proc format cntlin=temp4;
proc print data=temp4;


RUN;

%MACRO FAKE;
DATA FAKE;

  KEEP MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD I K;   ***MJS 06/18/03 Added TIMEPD;

  LENGTH MAJGRP  $ 30
      REGION  $ 30   /*RSG 01/2005 lengthen format to fit service affiliation*/
      REGCAT  $ 42   /*MER 11/08/2012 length format for REGION for Joint Service facilities */
      BENTYPE $ 50
      TIMEPD  $ 5;   ***MJS 06/18/03 Added TIMEPD;


  DO I=1 TO 8;        ** 8 Major groups **;

    MAJGRP=PUT(I,MAJGRPF.);

    DO J=1 TO &x       ** Region/catchment **;

    REGCAT=PUT(J,ROWMAT.);
```

```
        RETAIN REGION;

     **RSG 01/2005 Change code to fit XSERVREG values**;
     IF REGCAT IN ('ARMY','NAVY','AIR FORCE','OTHER','DHA',
            'EAST','WEST','OVERSEAS','USA MHS',
            'Overseas Europe','Overseas Pacific','Overseas Latin America',
            'East Army','East Navy','East Air Force','East Other','East DHA',
            'West Army','West Navy','West Air Force','West Other','West DHA',
            'Europe Army', 'Europe Navy', 'Europe Air Force', 'Europe Other','Europe DHA',
            'Pacific Army', 'Pacific Navy', 'Pacific Air Force', 'Pacific Other','Pacific DHA',
            'Latin America Army', 'Latin America Navy', 'Latin America Air Force',
            'Latin America Other', 'Latin America DHA')
       THEN REGION=REGCAT;


      DO K=1 TO 11;     ** 11 Benefits **;  /*** 12-13 MAB ***/

       BENEFIT=PUT(K,BEN.);

       IF K=1 THEN DO;
          DO L=1 TO 3;            ***MJS 06/18/03 Added L loop and BENTYPE PUT;
            BENTYPE=PUT(L,GETNCARE.);   ***that replaced BENTYPE hard assignment;
            %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2
years;
               TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
             %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
          END;
        END;
        ELSE IF K=2 THEN DO;
          DO L=1 TO 3;            ***MJS 06/18/03 Added L loop and BENTYPE PUT;
            BENTYPE=PUT(L,GETCAREQ.);   ***that replaced BENTYPE hard assignment;
            %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2
years;
               TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
             %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
          END;
        END;
        ELSE IF K=3 THEN DO;
          DO L=1 TO 5;            ***MJS 06/18/03 Added L loop and BENTYPE PUT;
            BENTYPE=PUT(L,HOWWELL.);   ***that replaced BENTYPE hard assignment;
            %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2
years;
               TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
             %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
          END;
        END;
        ELSE IF K=4 THEN DO;
          DO L=1 TO 3;            ***MJS 06/18/03 Added L loop and BENTYPE PUT;
            BENTYPE=PUT(L,CUSTSERV.);   ***that replaced BENTYPE hard assignment;
            %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2
years;
               TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
             %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
```

```
            END;
         END;
      ELSE IF K=5 THEN DO;
         DO L=1 TO 3;              ***MJS 06/18/03 Added L loop and BENTYPE PUT;
           BENTYPE=PUT(L,CLMSPROC.);   ***that replaced BENTYPE hard assignment;
           %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2
years;
              TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
           %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
         END;
      END;
      ELSE IF K=6 THEN DO;
         %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2 years;
           BENTYPE = "Composite";   ***MJS 07/07/03 Added;
           TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/   ***MJS 07/07/03 Changed BENTYPE
to TIMEPD;
         %END;                ***MJS 07/07/03 Deleted BENTYPE="Trend" OUTPUT after this line;
      END;
      ELSE IF K=7 THEN DO;
         %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2 years;
           BENTYPE = "Composite";   ***MJS 07/07/03 Added;
           TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/   ***MJS 07/07/03 Changed BENTYPE
to TIMEPD;
         %END;                ***MJS 07/07/03 Deleted BENTYPE="Trend" OUTPUT after this line;
      END;
      ELSE IF K=8 THEN DO;
         %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2 years;
           BENTYPE = "Composite";   ***MJS 07/07/03 Added;
           TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/   ***MJS 07/07/03 Changed BENTYPE
to TIMEPD;
         %END;                ***MJS 07/07/03 Deleted BENTYPE="Trend" OUTPUT after this line;
      END;
      ELSE IF K=9 THEN DO;
         %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2 years;
           BENTYPE = "Composite";   ***MJS 07/07/03 Added;
           TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/   ***MJS 07/07/03 Changed BENTYPE
to TIMEPD;
         %END;                ***MJS 07/07/03 Deleted BENTYPE="Trend" OUTPUT after this line;
      END;
      ELSE IF K=10 THEN DO;
         DO L=1 TO 5;              ***MJS 06/18/03 Added L loop and BENTYPE PUT;
           BENTYPE=PUT(L,PREVCARE.);   ***that replaced BENTYPE hard assignment;
           %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2
years;
              TIMEPD = "&&PERIOD&Q"; OUTPUT; /*** 02-01-2001 KRR ***/
           %END;   ***MJS 06/18/03 Deleted BENTYPE="Trend" and OUTPUT;
         END;
      END;
    ELSE IF K=11 THEN DO;         ***RSG 02/2005 Added for smoking scores.;
       DO M=1 TO 4;
         BENTYPE=PUT(M,SMOKEF.);
         %DO Q = 1 %TO &NUMQTR;   ***RSG 02/2005 Changed start point to 2 for annual - only go back 2
years;
```

```
                TIMEPD = "&&PERIOD&Q"; OUTPUT;
           %END;
         END;
       END;
     END;
   END;
 END;
RUN;
%MEND FAKE;
%FAKE;


/*** 12-13 MAB ***/
/*** Need to create single benchmarks for ALL major groups ***/
DATA EXTRA;
  SET FAKE;
  IF MAJGRP="Prime Enrollees" AND REGION=REGCAT AND REGION^="Benchmark";
  MAJGRP="Benchmark";
RUN;
/*** Combine extra data with fake ***/
DATA FAKE;
  SET EXTRA FAKE;
  IF REGCAT="Benchmark" THEN REGION=REGCAT;
RUN;

/*** Need to clean up data ***/
DATA FAKE2;
  SET FAKE;

  /*** Need to set oddball records to missing ***/
  if region=''|compress(regcat)='.' then delete;

  /*** Don't populate catchment areas for 4 major groups ***/
  IF I IN(3,4,6,7) AND REGION^=REGCAT THEN DELETE;
  SIG = .;
  SCORE = .;

  DROP I K;
RUN;

/*RSG 02/2005 ORDER FILE*/

DATA ORDER1;
  SET FAKE2;
  IF MAJGRP = "Benchmark" THEN DELETE;

  IF MAJGRP = "Prime Enrollees" THEN LINEUP=1;
  IF MAJGRP = "Enrollees with Military PCM" THEN LINEUP=2;
  IF MAJGRP = "Enrollees with Civilian PCM" THEN LINEUP=3;
  IF MAJGRP = "Standard/Extra Users" THEN LINEUP=4;
  IF MAJGRP = "Active Duty" THEN LINEUP=5;
  IF MAJGRP = "Active Duty Dependents" THEN LINEUP=6;
  IF MAJGRP = "Retirees and Dependents" THEN LINEUP=7;
  IF MAJGRP = "All Users" THEN LINEUP=8;
```

G.282

```
IF REGION = "Benchmark" THEN LINEUP1=1;
ELSE IF UPCASE(REGION) = 'USA MHS' THEN LINEUP1=2;

ELSE IF UPCASE(REGION) = 'ARMY' THEN LINEUP1=3;
ELSE IF UPCASE(REGION) = 'NAVY' THEN LINEUP1=4;
ELSE IF UPCASE(REGION) = 'AIR FORCE' THEN LINEUP1=5;
ELSE IF UPCASE(REGION) = 'OTHER' THEN LINEUP1=6;
ELSE IF UPCASE(REGION) = 'DHA' THEN LINEUP1=7;

ELSE IF UPCASE(REGION) = 'EAST' THEN LINEUP1=8;
ELSE IF UPCASE(REGION) = 'EAST ARMY' THEN LINEUP1=9;
ELSE IF UPCASE(REGION) = 'EAST NAVY' THEN LINEUP1=10;
ELSE IF UPCASE(REGION) = 'EAST AIR FORCE' THEN LINEUP1=11;
ELSE IF UPCASE(REGION) = 'EAST OTHER' THEN LINEUP1=12;
ELSE IF UPCASE(REGION) = 'EAST DHA' THEN LINEUP1=13;
/*
ELSE IF UPCASE(REGION) = 'EAST-SOUTH' THEN LINEUP1=14;
ELSE IF UPCASE(REGION) = 'EAST-SOUTH ARMY' THEN LINEUP1=15;
ELSE IF UPCASE(REGION) = 'EAST-SOUTH NAVY' THEN LINEUP1=16;
ELSE IF UPCASE(REGION) = 'EAST-SOUTH AIR FORCE' THEN LINEUP1=17;
ELSE IF UPCASE(REGION) = 'EAST-SOUTH OTHER' THEN LINEUP1=18;
ELSE IF UPCASE(REGION) = 'EAST-SOUTH JOINT SERVICE' THEN LINEUP1=19;
*/
ELSE IF UPCASE(REGION) = 'WEST' THEN LINEUP1=20;
ELSE IF UPCASE(REGION) = 'WEST ARMY' THEN LINEUP1=21;
ELSE IF UPCASE(REGION) = 'WEST NAVY' THEN LINEUP1=22;
ELSE IF UPCASE(REGION) = 'WEST AIR FORCE' THEN LINEUP1=23;
ELSE IF UPCASE(REGION) = 'WEST OTHER' THEN LINEUP1=24;
ELSE IF UPCASE(REGION) = 'WEST DHA' THEN LINEUP1=25;

ELSE IF UPCASE(REGION) = 'OVERSEAS' THEN LINEUP1=26;

ELSE IF UPCASE(REGION) = 'OVERSEAS EUROPE' THEN LINEUP1=27;
ELSE IF UPCASE(REGION) = 'EUROPE ARMY' THEN LINEUP1=28;
ELSE IF UPCASE(REGION) = 'EUROPE NAVY' THEN LINEUP1=29;
ELSE IF UPCASE(REGION) = 'EUROPE AIR FORCE' THEN LINEUP1=30;
ELSE IF UPCASE(REGION) = 'EUROPE OTHER' THEN LINEUP1=31;
ELSE IF UPCASE(REGION) = 'EUROPE DHA' THEN LINEUP1=32;

ELSE IF UPCASE(REGION) = 'OVERSEAS PACIFIC' THEN LINEUP1=33;
ELSE IF UPCASE(REGION) = 'PACIFIC ARMY' THEN LINEUP1=34;
ELSE IF UPCASE(REGION) = 'PACIFIC NAVY' THEN LINEUP1=35;
ELSE IF UPCASE(REGION) = 'PACIFIC AIR FORCE' THEN LINEUP1=36;
ELSE IF UPCASE(REGION) = 'PACIFIC OTHER' THEN LINEUP1=37;
ELSE IF UPCASE(REGION) = 'PACIFIC DHA' THEN LINEUP1=38;

ELSE IF UPCASE(REGION) = 'OVERSEAS LATIN AMERICA' THEN LINEUP1=39;
ELSE IF UPCASE(REGION) = 'LATIN AMERICA ARMY' THEN LINEUP1=40;
ELSE IF UPCASE(REGION) = 'LATIN AMERICA NAVY' THEN LINEUP1=41;
ELSE IF UPCASE(REGION) = 'LATIN AMERICA AIR FORCE' THEN LINEUP1=42;
ELSE IF UPCASE(REGION) = 'LATIN AMERICA OTHER' THEN LINEUP1=43;
ELSE IF UPCASE(REGION) = 'LATIN AMERICA DHA' THEN LINEUP1=44;
```

```
    ELSE LINEUP1=45;

  IF REGION=REGCAT THEN LINEUP2=1;
  ELSE LINEUP2=2;

RUN;   ***MJS 07/03/03 Changed BENTYPE to TIMEPD;

PROC SORT DATA=ORDER1 OUT=OUT.FAKE (DROP=LINEUP LINEUP1 LINEUP2);
BY LINEUP LINEUP1 LINEUP2 REGCAT;
RUN;

PROC FREQ;
  TABLES MAJGRP REGION REGCAT BENTYPE BENEFIT;
RUN;
```

G.13.B   LOADWEB\MERGFINL.SAS - Merge the final CAHPS and MPR Scores Databases into the WEB layout - Annual.

```
*************************************************************************
*
* PROGRAM:  MERGFINL.SAS
* TASK:    2007 DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE:  Merge the final CAHPS and MPR Scores Databases
*       into the WEB layout preserving the order of the FAKE.SD2.
*
* WRITTEN:  06/07/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 08/01/2013 BY AMANDA KUDIS: Updated to support the 2013
*          annual HCSDB.
*       2) 08/01/2014 BY AMANDA KUDIS: Updated to support the 2014
*          annual HCSDB.
*       3) December 1, 2014 By Matt Turbyfill, Revised for the Macro Program.
                                  Replaced RCTYPE with &PC.ReportCards
                                  Replaced BCHTYPE with &PC.Benchmark
                                  Changed IN03 to ..\..\Programs\&YEAR2.\&PC.LoadWeb
                                  Changed IN04 to ..\..\Programs\&YEAR1.\&PC.LoadWeb
                                  Changed IN05 to ..\&RCTYPE\MPR_Adult&FYYEAR.
                                  Changed IN06 to
..\..\Programs\&YEAR2.\&RCTYPE\MPR_Adult&YEAR2.
                                  Changed IN07 to
..\..\Programs\&YEAR1.\&RCTYPE\MPR_Adult&YEAR1.
                                  Changed IN09 to ..\..\Programs\&YEAR2.\&BCHTYPE\data
                                  Changed IN10 to ..\..\Programs\&YEAR1.\&BCHTYPE\data
                                  Changed PERIOD2 to &YEAR2.
                                  Changed PERIOD1 to &YEAR1.
                                  Changed PERIOD to &FYYEAR.
                                  Renamed all all variables inding in 12, 13, or 14 to &FY2., &FY1., or
&FY., respectively
                                  Inserted &FYYEAR into TITLE1
*
* INPUTS:   1) MPR and CAHPS Individual and Composite data sets with adjusted
*          scores, and benchmark data for DoD HCS.
*          - LOADMPR.sas7bdat  - MPR Scores Databases
*          - LOADCAHP.sas7bdat - CAHPS Scores Databases
*          - BENCHA04.sas7bdat - CAHPS Benchmark Databases
*          - FAKE.sas7bdat    - WEB Layout in Column order
*
* OUTPUT:   1) MERGFINL.sas7bdat - Combined Scores Database in WEB layout
*
* NOTES:
*
* 1) The following steps need to be run prior to this
*   program (2005,2006,2007):
*  - STEP1.SAS      - Recode questions and generate CAHPS group files
*  - STEP2.SAS      - Calculate CAHPS individual adjusted scores for groups 1-8
*  - COMPOSIT.SAS   - Calculate composite adjusted scores for group 1-8
*  - PRVCOMP.SAS    - Calculate MPR individual and composite scores
```

```
*  - SMOKING_BMI.SAS - Calculate MPR smoking and BMI scores
*  - BENCHA01-04.SAS - Convert Benchmark Scores into WEB layout
*  - LOADCAHP.SAS   - Convert CAHPS Scores Database into WEB layout
*
* 2) The output file (MERGFINL.SD2) will be run through the
*    MAKEHTML.SAS program to generate the WEB pages.
*
*************************************************************************
* Assign data libraries and options
*************************************************************************;

/*** SELECT PROGRAM - ReportCards OR PurchasedReportCards        ***/
%LET RCTYPE = &PC.ReportCards;

/*** SELECT PROGRAM - Benchmark OR PurchasedBenchmark            ***/
%LET BCHTYPE = &PC.Benchmark;

LIBNAME IN01  ".";
LIBNAME IN02  ".";
LIBNAME IN03  "../../../&YEAR2.E2/Programs/&PC.LoadWeb";
LIBNAME IN04  "../../../&YEAR1./Programs/&PC.LoadWeb";
LIBNAME IN05  "../&RCTYPE/MPR_Adult&FYYEAR.";
LIBNAME IN06  "../../../&YEAR2.E2/Programs/&RCTYPE/MPR_Adult&YEAR2.";
LIBNAME IN07  "../../../&YEAR1./Programs/&RCTYPE/MPR_Adult&YEAR1.";
LIBNAME IN08  "../&BCHTYPE/data";
LIBNAME IN09  "../../../&YEAR2.E2/Programs/&BCHTYPE/data";
LIBNAME IN10  "../../../&YEAR1./Programs/&BCHTYPE/data";
LIBNAME OUT   ".";

libname FMT2 "/sasdata/Projects/50713_HCS/DATA/HCSDB/20&FY2./Data/fmtlib/";
libname FMT1 "/sasdata/Projects/50713_HCS/DATA/HCSDB/20&FY1./Data/fmtlib/";
libname FMTNEW "/sasdata/Projects/50713_HCS/DATA/HCSDB/20&FY./Data/fmtlib/";

OPTIONS PS=79 LS=142 COMPRESS=YES NOCENTER;

%LET PERIOD2 = &YEAR2.;
%LET PERIOD1 = &YEAR1.;
%LET PERIOD  = &FYYEAR.;

*************************************************************************
* Construct ORDERing variable from WEB layout
*************************************************************************;
DATA ORDER;
  SET IN01.FAKE;
  ORDER = _N_;
  LENGTH KEY $200;
  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
     UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
     UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
  KEEP KEY ORDER;
RUN;

PROC SORT DATA=ORDER; BY KEY; RUN;
```

```
**************************************************************************
* Merge the Scores Databases
**************************************************************************;
DATA MERGFINL;
  LENGTH TIMEPD $35.;
  SET IN02.LOADCAHP (IN=INCAHP&FY.)
    IN03.LOADCAHP (IN=INCAHP&FY2.)
    IN04.LOADCAHP (IN=INCAHP&FY1.)
    IN05.LOADMPR  (IN=INMPR&FY.)
    IN06.LOADMPR  (IN=INMPR&FY2.)
    IN07.LOADMPR  (IN=INMPR&FY1.)
    IN08.BENCHA04 (IN=INBEN&FY.)
    IN09.BENCHA04 (IN=INBEN&FY2.)
    IN10.BENCHA04 (IN=INBEN&FY1.);
  SVCAHP&FY. = INCAHP&FY.;
  SVCAHP&FY2. = INCAHP&FY2.;
  SVCAHP&FY1. = INCAHP&FY1.;
  SVMPR&FY.  = INMPR&FY. ;
  SVMPR&FY2.  = INMPR&FY2. ;
  SVMPR&FY1.  = INMPR&FY1. ;
  SVBEN&FY.  = INBEN&FY. ;
  SVBEN&FY2.  = INBEN&FY2. ;
  SVBEN&FY1.  = INBEN&FY1. ;

  IF SCORE = . THEN DELETE;
  IF TRIM(REGCAT) = "INV" THEN DELETE;
  IF (INMPR&FY2. OR INMPR&FY1.) AND TIMEPD ='Trend' THEN DELETE; *AMK 9/27/&FY1.;

  IF SUBSTR(REGCAT,1,9)="Kimbrough" AND TIMEPD IN ('2018' '2019') THEN REGION = "East DHA";/*Inserted for
FY2020 beacuse Kimbrough was changed to a DHA facility for 2020*/
RUN;

proc format library=fmt2.formats cntlout=fmt2;
run;
proc format library=fmt1.formats cntlout=fmt1;
run;
proc format library=fmtnew.formats cntlout=fmtnew;
run;
proc sort data=fmt2;by fmtname start end;run;
proc sort data=fmt1;by fmtname start end;run;
proc sort data=fmtnew;by fmtname start end;run;

data allfmt1;
merge fmt1 fmtnew(rename=(label=newlabel1));
by fmtname start end;
run;

data diffs1;
set allfmt1;
if label ne newlabel1 and fmtname="CACR";
regcat=label;
run;
```

```
proc sort data=diffs1;by regcat;run;

data allfmt2;
merge fmt2 fmtnew(rename=(label=newlabel2));
by fmtname start end;
run;

data diffs2;
set allfmt2;
if label ne newlabel2 and fmtname="CACR";
regcat=label;
run;
proc sort data=diffs2;by regcat;run;

proc sort data=mergfinl ;by regcat;run;

data lblchk mergnew(drop=newlabel1 newlabel2 labelchange);
merge mergfinl(in=a) diffs1(in=b keep=regcat newlabel1) diffs2(in=c keep=regcat newlabel2);
by regcat;
length labelchange $200;
labelchange=cat(regcat," ",newlabel1," ",newlabel2);
if a and (b or c) then output lblchk;
if b then regcat=newlabel1;
if c then regcat=newlabel2;
if a then output mergnew;
run;

title "Catchment labels changed from past two years";
proc freq data=lblchk;
where newlabel1 ne regcat or newlabel2 ne regcat;
table regcat newlabel1 newlabel2 labelchange / missing;
run;
title "All REGCAT values in MERGFINL";
proc freq data=mergnew;
table regcat / missing;
run;
title;

DATA MERGFINL;
SET mergnew;
  LENGTH KEY $200;
/*** Recode Out of Catchments ***/
  IF FIND(REGCAT,"9905")>0 THEN REGCAT = "Out of Catchment Europe Region";
  IF FIND(REGCAT,"9906")>0 THEN REGCAT = "Out of Catchment Pacific Region";
  IF FIND(REGCAT,"9907")>0 THEN REGCAT = "Out of Catchment Latin America Region";

  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
      UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
      UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));
RUN;
title "More REGCAT values in MERGFINL";
proc freq data=MERGFINL;
table regcat / missing;
```

```
run;
title;
PROC SORT DATA=MERGFINL; BY KEY; RUN;

*****************************************************************************
* Append ORDERing variable to the merged Scores database file
*****************************************************************************;
DATA MERGFINL2 out.MISSING;
  MERGE MERGFINL(IN=IN1) ORDER(IN=IN2);
  BY KEY;

  LENGTH FLAG $30;
  IF IN1 AND IN2 THEN FLAG = "IN SCORES DB AND LAYOUT";
  ELSE IF   IN1 THEN FLAG = "IN SCORES DB ONLY";
  ELSE IF   IN2 THEN FLAG = "IN LAYOUT ONLY";

  LENGTH SOURCE $30;
  IF SVCAHP&FY. = 1 THEN SOURCE = "CAHPS &PERIOD.";
  IF SVCAHP&FY1. = 1 THEN SOURCE = "CAHPS &PERIOD1.";
  IF SVCAHP&FY2. = 1 THEN SOURCE = "CAHPS &PERIOD2.";
  IF SVMPR&FY.  = 1 THEN SOURCE = "MPR &PERIOD.  ";
  IF SVMPR&FY1.  = 1 THEN SOURCE = "MPR &PERIOD1.  ";
  IF SVMPR&FY2.  = 1 THEN SOURCE = "MPR &PERIOD2.  ";
  IF SVBEN&FY.  = 1 THEN SOURCE = "BENCHMARK &PERIOD.";
  IF SVBEN&FY1.  = 1 THEN SOURCE = "BENCHMARK &PERIOD1.";
  IF SVBEN&FY2.  = 1 THEN SOURCE = "BENCHMARK &PERIOD2.";

  IF IN1 AND NOT IN2 THEN OUTPUT out.MISSING; *Missing from layout;
  IF IN1 AND ORDER NE . THEN OUTPUT MERGFINL2;
RUN;

*****************************************************************************
* Reorder file according to WEB layout
*****************************************************************************;
PROC SORT DATA=MERGFINL2 OUT=OUT.MERGFINL; BY ORDER; RUN;

DATA FAKE;
SET IN01.FAKE;
  ORDER = _N_;
RUN;

DATA LAYONLY;
  MERGE FAKE(IN=IN1) OUT.MERGFINL(IN=IN2 KEEP=ORDER);
  BY ORDER;
  IF IN1 AND NOT IN2;
RUN;

TITLE1 "&FYYEAR. DOD Health Survey Scores/Report Cards";
TITLE2 "Program Name: MERGFINL.SAS By Keith Rathbun";
TITLE3 "Program Inputs: MPR and CAHPS Combined Scores data sets and WEB Layout";
TITLE4 "Program Outputs: MERGFINL.sas7bdat - Merged Final Scores Database for input to MAKEHTML.SAS";

TITLE5 "MERGFINL.sas7bdat Data source counts";
```

```
PROC FREQ DATA=OUT.MERGFINL;
 TABLES SOURCE FLAG

 SVCAHP&FY. SVCAHP&FY1. SVCAHP&FY2.
 SVMPR&FY.  SVMPR&FY1.  SVMPR&FY2.
 SVBEN&FY.  SVBEN&FY1.  SVBEN&FY2.

 SVCAHP&FY. * SVCAHP&FY1. * SVCAHP&FY2. *
 SVMPR&FY.  * SVMPR&FY1.  * SVMPR&FY2.  *
 SVBEN&FY.  * SVBEN&FY1.  * SVBEN&FY2.

 /MISSING LIST;
RUN;

TITLE5 "MERGFINL.sas7bdat Data attribute counts";
PROC FREQ DATA=OUT.MERGFINL;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT
     REGION*REGCAT
    /MISSING LIST;
RUN;

TITLE5 "LAYONLY.sas7bdat Data attribute counts";
PROC FREQ DATA=LAYONLY;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT
     REGION*REGCAT
    /MISSING LIST;
RUN;

TITLE5 "No matching record found in LAYOUT file (FAKE.sas7bdat)";
PROC PRINT DATA=OUT.MISSING;
VAR MAJGRP REGION REGCAT BENTYPE BENEFIT;
RUN;
```

G.14 LOADWEB\TREND_A.SAS - Calculate Trends for CAHPS Scores - Annual.

```
*************************************************************************
*
* PROGRAM:  TREND_A.SAS
* TASK:     2007 DOD HEALTH CARE SURVEY ANALYSIS (6244-410)
* PURPOSE:  Add TREND records to Scores database.
*
* WRITTEN:  07/28/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 08/01/2013 BY AMANDA KUDIS -- updated for 2013 survey.
*           2) 12/01/2014 By Matt Turbyfill, revised for the Macro Program.
                                    Changed first TIMEPD limitation to "&FYYEAR."
                                    Changed second TIMEPD limitation to WHERE TIMEPD IN
("&YEAR2.","&FYYEAR.")
                                    Renamed all all variables inding in 12, 13, or 14 to &FY2., &FY1., or
&FY., respectively
                                    Inserted &FYYEAR into TITLE1
                                    Changed TEMP12 and 14 to TEMP&FY2. and &FY.  Also change
limitations on datasets respectively to &YEAR2. and &FYYEAR.
*
* INPUTS:   1) CONUS_Q.sas7bdat - MPR and CAHPS Scores Database in WEB layout
*           2) FAKE.sas7bdat - Scores Database WEB Layout
*
* OUTPUT:   1) TREND_A.sas7bdat - Combined Scores Database in WEB layout
*
* NOTES:
*
* 1) All of the scores DB programs must be run and MERGFINL.SAS prior to
*    running this program.  All report card records must be merged prior
*    to the trend calculations (MERGFINL.SAS,CONUS_Q.SAS,TOTAL_A.SAS).
*
* 2) The output file (TREND_A.sas7bdat) will be run through the
*    MAKEHTML.SAS program to generate the HTML consumer reports.
*
*************************************************************************
* Assign data libraries and options
*************************************************************************;

LIBNAME IN   ".";
LIBNAME OUT  ".";

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER ERRORS=10000;
/*RSG 02/2005 code copied from 2003 TOTAL_Ar.SAS - eliminate all records
 with semean>.05 or missing and delete all records for that region/regcat
 this will reduce the number of missing data*/

/* MER 11/17/08 semean threshold was changed to .07 */

data fakecut(keep=region regcat);
set in.conus_q;
where majgrp='Prime Enrollees' & region ne regcat
```

```
 & benefit='Health Plan' & timepd="&FYYEAR."; *AMK 08/01/2012 changed timepd to 2012;
if semean>.07|semean=.;

proc sort; by region regcat;
data fake;
set in.fake;
oorder=_n_;
proc sort data=fake; by region regcat;
data newfake;
merge fakecut(in=fin) fake; by region regcat;
if fin then delete;
proc sort data=newfake out=out.newfake; by oorder;
run;

***************************************************************************
* Extract records to calculate TRENDs.  Keep only 2001/2003 pairs for CAHPS
* records.  Trends have already been calculated for MPR scores.
***************************************************************************;

DATA TRENDS;
  SET IN.CONUS_Q (drop=key);      * AMK 08/01/2013, changed 2010, 2012 ;
  WHERE TIMEPD IN ("&YEAR2.","&FYYEAR."); * to 2011,2013;
  ***********************************************************************
  * Trends already calculated for MPR scores, so remove from file
  * (RSG 02/2005) EXCEPT Healthy Behavior scores whose trend need to be calculated
  ***********************************************************************;

  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
      UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
      UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));

  *AMK 08/01/2014, changed to svmpr12/13/14;
  IF (SVMPR&FY2. = 1 or SVMPR&FY1. = 1 or SVMPR&FY. = 1)
    AND BENEFIT NE 'Healthy Behaviors' THEN DELETE;

RUN;

DATA TEMP&FY2.;
  SET TRENDS;
  KEEP MAJGRP REGION REGCAT BENEFIT BENTYPE ;
  IF TIMEPD = "&YEAR2.";
RUN;
PROC SORT DATA=TEMP&FY2.; BY MAJGRP REGION REGCAT BENEFIT BENTYPE; RUN;

DATA TEMP&FY.;
  SET TRENDS;
  KEEP MAJGRP REGION REGCAT BENEFIT BENTYPE;
  IF TIMEPD = "&FYYEAR.";
RUN;
PROC SORT DATA=TEMP&FY.; BY MAJGRP REGION REGCAT BENEFIT BENTYPE; RUN;

DATA PAIR&FY2.&FY.(keep=majgrp region regcat benefit bentype);
  MERGE TEMP&FY2.(IN=IN&FY2.) TEMP&FY.(IN=IN&FY.);
```

```
    BY MAJGRP REGION REGCAT BENEFIT BENTYPE;
    IF IN&FY2. AND IN&FY.;
  RUN;

  PROC SORT DATA=TRENDS;
    BY MAJGRP REGION REGCAT BENEFIT BENTYPE;
  RUN;

  DATA TRENDS2;
    MERGE TRENDS(IN=INTREND) PAIR&FY2.&FY.(IN=INPAIR);
    BY MAJGRP REGION REGCAT BENEFIT BENTYPE;
    IF INTREND AND INPAIR;
  RUN;

  PROC SORT DATA=TRENDS;
    BY MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD;
  RUN;
   proc print data=trends(obs=100);
  **************************************************************************
  * Calculate TRENDs keeping only the TREND records
  *************************************************************************;

  DATA TRENDS bench;
    SET TRENDS(drop=bscore bsemean);
    BY MAJGRP REGION REGCAT BENEFIT BENTYPE TIMEPD;
    IF TIMEPD = "&YEAR2." THEN DO;
      SCORE&FY2. = SCORE/100;
      SE&FY2.   = SEMEAN;
      N&FY2.    = N_OBS;
      W&FY2.    = N_WGT;
    END;
    RETAIN SCORE&FY2. SE&FY2. N&FY2. W&FY2.;
    IF TIMEPD = "&FYYEAR." THEN DO;
      SCORE&FY. = SCORE/100;
      SE&FY.   = SEMEAN;
      N&FY.    = N_OBS;
      W&FY.    = N_WGT;
    END;
    RETAIN SCORE&FY. SE&FY. N&FY. W&FY.;
    IF TIMEPD = "&FYYEAR" THEN DO;
      TIMEPD = "Trend";
      KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
          UPCASE(TRIM(MAJGRP))  || UPCASE(TRIM(REGCAT))  ||
          UPCASE(TRIM(REGION))  || UPCASE(TRIM(TIMEPD));
      SOURCE = "TREND";
      SEMEAN = SQRT(SE&FY2.**2+SE&FY.**2);
      N_OBS  = MIN(N&FY2.,N&FY.);
      N_WGT  = MIN(W&FY2.,W&FY.);
      SCORE  = SCORE&FY.-SCORE&FY2.;
      DSCORE = 100*(SCORE&FY.-SCORE&FY2.);
      if region='Benchmark' then OUTPUT bench;
      else output trends;
    END;
```

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```
   DROP ORDER SCORE&FY2. SCORE&FY. SE&FY2. SE&FY. N&FY2. N&FY.;
RUN;

PROC SORT DATA=trends;
  BY MAJGRP BENEFIT BENTYPE TIMEPD;
RUN;
proc sort data=bench out=benchs(keep=majgrp benefit bentype timepd score semean);
by majgrp benefit bentype timepd;
run;

*************************************************************************
* Perform significance tests for CAHPS scores
*************************************************************************;
DATA trends;
  MERGE trends(IN=SIN) BENCHs(RENAME=(SCORE=BSCORE SEMEAN=BSEMEAN));
  BY MAJGRP BENEFIT BENTYPE;
  if bsemean=. then bsemean=0;
  TEMP = (SCORE-BSCORE)/SQRT(BSEMEAN**2+SEMEAN**2);
  TEST = 2*(1-PROBT(ABS(TEMP),N_OBS-1));
  SIG = 0;
  IF N_OBS >= 30 AND TEST < 0.05 THEN SIG = 1;
  IF SCORE < BSCORE THEN SIG = -SIG;
  IF SIN;
RUN;

data trends;
set trends bench;
score=dscore;
PROC SORT DATA=TRENDS; BY KEY; RUN;

*************************************************************************
* Construct ORDERing variable from WEB layout
* (RSG 02/2005 add fix to order it properly
*************************************************************************;
DATA ORDER;
  LENGTH KEY $200;
  SET IN.newFAKE;
  ORDER = _N_;
  KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
      UPCASE(TRIM(MAJGRP)) || UPCASE(TRIM(REGCAT)) ||
      UPCASE(TRIM(REGION)) || UPCASE(TRIM(TIMEPD));
  KEEP KEY ORDER;
RUN;

PROC SORT DATA=ORDER; BY KEY; RUN;

DATA MERGTRND;
  MERGE TRENDS(IN=IN1) ORDER(IN=IN2);
  BY KEY;
  IF IN1 and in2;
RUN;

PROC SORT DATA=IN.CONUS_Q OUT=CONUS_Q;
```

```
by key;run;
data conus_q;
    merge conus_q order(in=gin); by key;
    if gin;
proc sort data=CONUS_Q; by order;
PROC SORT DATA=MERGTRND; BY ORDER; RUN;

DATA OUT.TREND_A;
  update MERGTRND CONUS_Q;
  BY ORDER;

  IF BENEFIT = "Primary Care Manager" THEN BENEFIT = "Personal Doctor";   /*MJS 02/14/2003*/

  IF REGCAT = "5th Med Grp-Minot" THEN REGION = "West Air Force";
  IF substr(region,1,5) in ('Latin','Europ','Pacif') then delete;
  IF REGION IN ("West DHA","Europe DHA",
          "Pacific DHA","Latin America DHA") THEN DELETE;

RUN;

TITLE1 "&FYYEAR. DOD Health Survey Scores/Report Cards";
TITLE2 "Program Name: TREND_A.SAS By Keith Rathbun";
TITLE3 "Program Inputs: MPR and CAHPS data records in WEB Layout";
TITLE4 "Program Outputs: TREND_A.sas7bdat - Merged Final Scores Database with TRENDs for input to
SIGNIF_A.SAS";

TITLE5 "FREQs of TREND_A.sas7bdat";
PROC FREQ;
  TABLES SOURCE FLAG MAJGRP REGION BENEFIT BENTYPE
  /MISSING LIST;
RUN;

TITLE5 "FREQs of newFAKE.sas7bdat";
PROC FREQ DATA=IN.newFAKE;
  TABLES MAJGRP REGION BENEFIT BENTYPE
  /MISSING LIST;
RUN;
```

G.15   PROGRAMS\HCSDB_Bene_Report_Macro_Batch_Program1.SAS - Run all beneficiary report programs as a single process, including purchased care.

```
/*********************
This program was created with the transition to the SAS Grid in December 2016 by Matt Turbyfill.
It was adapted from HCSDB_Bene_Report_Macro_Bath_Program.sas, which had been run on the SAS server.
This program runs the programs comprising the first part of the bene reports.
After running this program, Vartest.Do needs to be run in STATA for both Regular and Purchased Care.
Next, run HCSDB_Bene_Report_Macro_Bath_Program2.sas.

Includes: HCSDB_Bene_Report_Macros.sas

Modified:
*********************/

%Include "/sasdata/Projects/50713_HCS/DATA/HCSDB/2020/Programs/HCSDB_Bene_Report_Macros.sas";

proc printto print = "&Programs./HCSDB_Bene_Report_Macro_Batch_Program1.lst"
log = "&Programs./HCSDB_Bene_Report_Macro_Batch_Program1.log" new;
run;

%MACRO RUNPROGS();

%PUT PROGRAMS4 = &PROGRAMS.;

%LET I = 0;
%DO %UNTIL (&I = 2);

%IF &I = 0 %THEN %LET PC = %str();
%IF &I > 0 %THEN %LET PC = Purchased;
%LET I = %EVAL(&I+1);

%IF &RUNBENCH = 1 %THEN %DO;
        %runprog(dir=&PROGRAMS./&PC.Benchmark, file = BENCHA01);
        %runprog(dir=&PROGRAMS./&PC.Benchmark, file = BENCHA02);
%END;

%runprog(dir=&PROGRAMS./&PC.ReportCards/CAHPS_Adult&FOLDER.&FYYEAR., file =STEP1Q);

%runprog(dir=&PROGRAMS./&PC.ReportCards/CAHPS_Adult&FOLDER.&FYYEAR., file =STEP2&Q.);
%runprog(dir=&PROGRAMS./&PC.ReportCards/CAHPS_Adult&FOLDER.&FYYEAR., file =COMPOSIT,i=&i);
%runprog(dir=&PROGRAMS./&PC.LoadWeb/&LOADD., file =&LOADF.,i=&i);

%runprog(dir=&PROGRAMS./&PC.Benchmark, file =BENCHA03);

%runprog(dir=&PROGRAMS./&PC.Benchmark/apredtest, file =SAS2STATA_Grps);
%END;

%MEND;
%RUNPROGS;

proc printto;run;
```

APPENDIX H

R CODE FOR 2020 TRICARE CONSUMER WATCH – QUARTERS I-III AND COMBINED ANNUAL AND PURCHASED CARE CONSUMER WATCH – QUARTERS I-III

H.1.A 2020\Programs\ConsumerWatch\code\0_reports_wrapper.Rmd - Run Consumer Watch reports

```
---
title: "Run consumer watch reports"
output: html_document

params:
 purchased: FALSE

 annual: TRUE
 fy: 2020
 qtr: NA # set to NA for annual, or 1, 2, 3 for quarterly

 ## Not applicable for annual
 CW_reports: ["USA MHS", "Overseas Pacific","Overseas Europe",
        "ARMY","NAVY","AIR FORCE","DHA"]
 PCW_reports:  ["USA MHS", "EAST","WEST"]
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = F, message=F)

library("pacman")

p_load(haven)
p_load(sjlabelled)
p_load(yaml)

p_load(dplyr)
p_load(magrittr)
p_load(tidyr)
p_load(purrr)
p_load(stringr)
p_load(forcats)

p_load(ggplot2)
p_load(ggthemes)
p_load(ggrepel)
p_load(officer)
p_load(pander)
library(plotMPR) # this needs to be installed from MPR CRAN

# this code was written for flextable 0.5.5 and will not work with version 0.4.4
#   as of 8/2019, version 0.5.5 can be downloaded from the Berkely CRAN mirror as below, and officer is a
dependancy
if (!"flextable" %in% rownames(installed.packages()) | packageVersion("flextable")<"0.5.5"){
 install.packages(c("officer","flextable"), repo= "https://cran.cnr.berkeley.edu")
 library(officer)
}
stopifnot(packageVersion("flextable")>="0.5.5")
```

```
library(flextable)
```

Hyperparameters
```{r, results="asis"}
# set hyperparameters from header and display

purchased <- params$purchased
annual <- params$annual
fy <- params$fy
qtr <- params$qtr
CW_reports <- params$CW_reports
PCW_reports <- params$PCW_reports

map_df(names(params)[1:4], ~tibble(param=.x, value=as.character(params[[.x]]))) %>%
  pandoc.table()
```


```{r}
## ALTER FOR DEBUGGING

# The following are used for degugging or testing with different quarter/year of data
test_with_custom_path = F
#custom_path =
"N:\\Project\\50713_HCS\\SASGRID\\DATA\\HCSDB\\Q1FY2020\\Programs\\ConsumerWatch\\2020 test\\"
%>%
#  paste0(ifelse(purchased, "PurchasedConsumerWatch", "ConsumerWatch"))

max_num_reports = NULL # default NULL, only generate first few reports
dont_update_figures = F # don't update figures (generate reports with existing figures)
dont_write_docs = F # don't write to the word docs (only generate figures)

skip_RR = F # use placeholder response rates so that lack of RR isn't barrier figure/doc updates

if (test_with_custom_path | !is.null(max_num_reports) | dont_update_figures | dont_write_docs | skip_RR){
  print("DEBUGING MODE: One or more debugging arguments is reports may not all rerun")
}
```


```{r}
# user should not need to edit
############################ SECTION 1 ############################
# SETUP: set paths and source functions

stopifnot(annual | !is.na(qtr), (!annual) | (!purchased))

# derived costants
yrqtr = ifelse(!annual, paste0("Q",qtr,"FY",fy), fy)

# paths
outpath<- paste0("N:/Project/50713_HCS/SASGRID/DATA/HCSDB/",
            yrqtr,
            "/Programs/",
```

```r
                ifelse(purchased, "PurchasedConsumerWatch", "ConsumerWatch"))
if (test_with_custom_path){
  outpath = custom_path
}

dat_file <- paste0("N:/Project/50713_HCS/SASGRID/DATA/HCSDB/",
            yrqtr,
            "/Programs/LoadWeb/",
            ifelse(annual, "trend_a.sas7bdat", "total_qp4.sas7bdat"))

response_rates_path <- paste0("N:\\Project\\50713_HCS\\SASGRID\\DATA\\HCSDB\\",
                    yrqtr,"\\Programs\\Response_Rate\\For_consumer_watch_report")

stopifnot(file.exists(outpath))
stopifnot(file.exists(dat_file))
stopifnot(file.exists(response_rates_path))

dir.create(file.path(outpath, "Output"), showWarnings = F)
dir.create(file.path(outpath, "Images"), showWarnings = F)
if (annual) dir.create(file.path(outpath, "QA"), showWarnings = F) # folder to QA plots with two separate lines

# source functions
if (!grepl("HCSConsumerWatch$", getwd())){
  stop("Incorrect working directory. Please set correct working directory by opening code through R project
(Programs.Rproj)")
}

stopifnot("functions" %in% list.files())
for (f in list.files("functions")){
  source(file.path("functions",f))
}

source("1_generate_figures.R")
source("2_populate_template.R")
```

```{r}
# user should not need to edit
############################ SECTION 2 ############################
# SETUP: Construct labels used in figures and tables

if (annual){
  labels <- paste0("FY", fy - (2:0))
} else {
  qtrs = ifelse(qtr - (2:0) < 1, qtr + 1:3, qtr - (2:0))
  fys = as.character(fy - (qtrs>qtr))
  labels = paste0("Q", qtrs, "FY", substr(fys,3,4))
}

if(purchased){groups = c("Direct Care", "Purchased Care")} else {groups = "Prime Enrollees"}
benchmark_lab = paste0("Benchmark", labels[length(labels)])
varlist <- unlist(map(groups, ~paste0(., " ", labels)))
varlist2 <- c(benchmark_lab, varlist)
```

```
```

Gruups included in reports
```{r, results="asis"}
data.frame(groups=varlist2) %>% pandoc.table()
```

```{r}
# user should not need to edit
################### SECTION 3 ###################
# DATA: Get consumer watch data

Dat <- get_data() #function from sourced script "dat_functions"

stopifnot(varlist2 %in% Dat$label) # check all labels in data

stopifnot(Dat$score==Dat$score_uncapped |
        (Dat$score_uncapped>100 & Dat$score==100) |
        is.na(Dat$score)) # check score cap
```

Check time period mapping
```{r, results="asis"}
Dat %>% count(timepd, fyqtr) %>% mutate(fyqtr=fct_relevel(fyqtr, labels)) %>%
  arrange(fyqtr) %>% pandoc.table()
```

```{r, warning=F}
# user should not need to edit
################### SECTION 4 ###################
#DATA: metadata (e.g. which reports to make)

# set up report metadata (reponse rate, sample size, region)
region_map <- function(regions){
  if (!annual){return(regions)}
  reg1 <- map_chr(regions, ~(strsplit(., " ")[[1]][1]))
  reg2 <- map_chr(regions, ~(strsplit(., " ")[[1]][2]))
  case_when(toupper(reg1) %in% c("EAST","WEST") ~ reg1,
        reg1=="USA" ~ regions,
        reg1=="Overseas" ~ reg2)
}

if (annual){
  reports_yaml <- read_yaml("reports_list.yml")
  reports_list = reports_yaml$REPORTS

  if (!all(unique(Dat$regcat) %in% c(reports_yaml$REPORTS, reports_yaml$NOT_REPORTS))){
    print("Please add the following regcats to either the REPORTS of NOT_REPORTS list of reports_list.yml")
    setdiff(unique(Dat$regcat), c(reports_yaml$REPORTS, reports_yaml$NOT_REPORTS))

    stop("")
  }
} else if (purchased){
```

```r
  reports_list = PCW_reports
} else{reports_list=CW_reports}

metadata <- Dat %>% filter(regcat %in% reports_list) %>%
  select(regcat, region) %>%
  distinct() %>%
  mutate(region = region_map(region)) %>%
  select_if(annual | names(.)!="region")

if (annual){
  stopifnot(!is.na(metadata$region) & metadata$region %in% c("USA MHS", "East", "West", "Pacific", "Europe"))
}
```

```{r}
# add in response rates (this may take some finagling each quarter/years)
if (!skip_RR){
  response_rates = get_response_rates()

  stopifnot(metadata$regcat %in% response_rates$report)
  metadata <- metadata %>% left_join(response_rates, by=c("regcat"="report")) %>%
    arrange(regcat)
} else {metadata <- metadata %>% mutate(RR=1, N=1) %>% arrange(regcat)}

stopifnot(!is.na(metadata$RR), !is.na(metadata$N))

# for debug - only run first n reports
if (!is.null(max_num_reports)){metadata = metadata %>% head(max_num_reports)}
```

Reports to run
```{r, results="asis"}
metadata %>% mutate(num = 1:n()) %>% select(num, everything()) %>% pandoc.table()
```

```{r, include=F}
# user should not need to edit
##################################### SECTION 5 #####################################

# Generate images
if (!dont_update_figures){
  # set up data frame to kkep track of plots with missing values
  missing_ratings <- tibble(regcat = character(), plot=character(), n_missing = integer(), total=integer())

  metadata %>%
    pull(regcat) %>% map(~generate_figures_report(.,
                       composite_plots=T, # toggle to F to skip rerunning plots with since composites
                       double_plots=T,  # toggle to F to skip rerunning plots comparing 2 composites
                       preventive_table=T, # toggle to F to skip rerunning preventive care table
                       show_ft = F)) # toggle whether flextables print to console (you will not see plots then)


  #missing_ratings %>% left_join(metadata %>% select(-RR,-N), by="regcat") %>%
```

```
  #  select(regcat, region, everything()) %>%
  #  write.csv(file.path(outpath, "missing_ratings.csv"), row.names = F)
}
```

```{r, include=F}
# user should not need to edit
###################### SECTION 6 ######################
# Figure out which reports have empty customer service plots (only for annual)
missing_ratings <- read.csv(file.path(outpath, "missing_ratings.csv"))
totally_missing <- missing_ratings %>% filter(n_missing==total)
if (nrow(totally_missing)!=0 & !annual){
  stop("There is a plot where data is totally missing, but only annual is set up for this currently")
}
if (any(totally_missing$plot != "Customer Service")){
  stop("There is at least one report with a plot, other than customer service, with no data for any quarter")
}

# populate word document template for each region
report_type_map <- function(report){
  type = case_when(report=="USA MHS"~"usa",
            annual~"MTF",
            grepl("EAST|WEST|EUROPE|PACIFIC", toupper(report))~"region",
            grepl("ARMY|NAVY|AIR FORCE|DHA", toupper(report))~"service")
  if (any(is.na(type))){
    stop(paste0("No type for reports ", type[is.na(type)]))
  }
  return(type)
}

if (!dont_write_docs){
  metadata %>% pull(regcat) %>% map(~populate_template_region(., type=report_type_map(.)))
}
```

List of reports with missingness in plots

Reports with no info on customer service (should only happen for annual)
```{r, results="asis"}
totally_missing %>% select(regcat) %>% pandoc.table()
```

Other reports with missingness in ratings other than customer service
```{r}
missing_ratings %>% #anti_join(totally_missing, by="regcat") %>%
  group_by(regcat, region) %>%
  summarise(n_plots_missing=n(),
        n_points_missing = sum(n_missing),
        customer_service_only = all(plot=="Customer Service")) %>%
  filter(!customer_service_only) %>%
  arrange(desc(n_points_missing)) %>% select(-customer_service_only) %>%
  pandoc.table(split.table=Inf)
```
```

H.1.B 2020\Programs\ConsumerWatch\code\1_generate_figures.R - Function to generate entire set of figures for reports

```r
if (F){# for debug
  report="USA MHS"
}

generate_figures_report <- function(report, verbose=T,
                      composite_plots=T, double_plots=T, preventive_table=T,
                      show_ft = T){
  # the last three arguments are used to skip a part of the function
  # to save time when only som outputs need to be updated

  if(verbose){print(paste0("Generating figures for ", report))}
  outpath <- file.path(outpath, "Images", report)
  outpath = gsub("\\'","",outpath)
  dir.create(outpath, showWarnings = FALSE)

  dat <- Dat %>% filter(regcat %in% c(report, "Benchmark"))
  stopifnot(nrow(dat)>0)

  # response rate and sample size
  # metadata %>% filter(region_rr == region %>%
  #  saveRDS(file.path(outpath, "sample_info.RDS"))

  # plots and tables
  if (composite_plots){
   graph_composites(dat, "Health Care", "Health Care", 1, outpath=outpath)
   graph_composites(dat, "Health Plan", "Health Plan", 2, outpath=outpath)
   graph_composites(dat, "Personal Doctor", "Personal Provider", 3, outpath=outpath)
   graph_composites(dat, "Specialty Care", "Specialty Care", 4, outpath=outpath)

   if (purchased){
    graph_composites(dat, "Getting Needed Care", "Getting Needed Care", 5, outpath=outpath)
    graph_composites(dat, "Getting Care Quickly", "Getting Care Quickly", 6, outpath=outpath)
    graph_composites(dat, "How Well Doctors Communicate", "Doctor Communication", 7, outpath=outpath)
    graph_composites(dat, "Customer Service", "Customer Service", 8, outpath=outpath)
    #graph_composites(dat, "Claims Processing", "Claims Processing", 9, outpath=outpath)
   } else {
    graph_composites(dat, "How Well Doctors Communicate", "Doctor Communication", 6, outpath=outpath)
    graph_composites(dat, "Customer Service", "Customer Service", 7, outpath=outpath)
   }
  }

  if (double_plots){
   if (!purchased){
    graph_composites(dat, c("Getting Needed Care", "Getting Care Quickly"), "Access Composites", 5,
outpath=outpath)
    #graph_composites(dat, c("Customer Service", "Claims Processing"), "Claims and Services", 7,
outpath=outpath)
   }
  }
```

```
  if (preventive_table){
   preventive_care_table(dat=dat, outpath=outpath, show_ft)
  }

}
```

H.1.C 2020\Programs\ConsumerWatch\code\2_populate_template.R - Function to fill in word document templates

```r
####populate word template#####

if (annual){
 # check that the no-Customer Service template was updated after main template (otherwise may be out of sync)
 template_file <- file.path(outpath, "report_template.docx")
 template_file_noCS <- file.path(outpath, "report_template_noCS.docx")
 if (file.mtime(template_file) >= file.mtime(template_file_noCS)){
  stop("main template updated after no-customer service template, noCS template may need to be updated to stay in sync")
 }
}

p_load(scales)
TABLE_ALIGN = "left"

write_plot <- function(obj, title, image_path, has_legend=T, height=NULL, width=PLOT_WIDTH){
 if (is.null(height)){
  if (has_legend){height <- PLOT_HEIGHTS[2]} else {height <- PLOT_HEIGHTS[1]}
 }
 obj %>% body_add_fpar(fpar(
  external_img(src = file.path(image_path, title), height = height, width = width),
  fp_p = fp_par(text.align = "left") ))
}

populate_template_region <-function(report, type){
 stopifnot(type %in% c("usa", "MTF", "region", "service"))
 print(paste0("Creating report for ", report))
 image_path = file.path(outpath, "Images", report)
 image_path = gsub("\\'","",image_path)

 sample_info <- metadata %>% filter(regcat==report)
 stopifnot(nrow(sample_info)==1)
 stopifnot(sum(is.na(sample_info))==0)

 descriptor = ifelse(type=="usa", "USA MHS", paste0("your ", type)) # NEEDS UPDATE

 missing_CS = report %in% (totally_missing %>% filter(plot=="Customer Service") %>% pull(regcat))
 doc <- read_docx(file.path(outpath, ifelse(purchased, "report_template_PC.docx",
                            ifelse(!missing_CS, "report_template.docx", "report_template_noCS.docx"))))

 doc_head <- doc %>%
  headers_replace_text_at_bkm("fyqtr_header",
               ifelse(annual, paste0("Fiscal Year ",fy),
                    paste0("Quarter ", qtr, " FY ", fy))) %>%
  headers_replace_text_at_bkm("Group_header", report) %>%
  headers_replace_text_at_bkm("fyqtr_header2",
               ifelse(annual, paste0("Fiscal Year ",fy),
                    paste0("Quarter ", qtr, " FY ", fy))) %>%
```

```
  headers_replace_text_at_bkm("Group_header2", report) %>%
  body_replace_text_at_bkm("fyqtr",
                     ifelse(annual, paste0("Fiscal Year ",fy),
                     paste0("Quarter ", qtr, " FY ", fy))) %>%
  body_replace_text_at_bkm("Group", report) %>%
  body_replace_text_at_bkm("Group_in", descriptor)

if (!purchased){
 doc_head <- doc_head %>%
   body_replace_text_at_bkm("RR", as.character(paste0(sample_info$RR[1],"%"))) %>%
   body_replace_text_at_bkm("N", as.character(comma(sample_info$N[1])))
}

# body (plots and tables)
doc_body <- doc_head %>%
 cursor_reach("Figure 1. High rating of health care") %>%
 write_plot("1_HealthCare.jpeg", image_path, has_legend=purchased) %>%
 cursor_reach("Figure 2. High rating of health plan") %>%
 write_plot("2_HealthPlan.jpeg", image_path, has_legend=purchased) %>%
 cursor_reach("Figure 3. High rating of personal doctor") %>%
 write_plot("3_PersonalProvider.jpeg", image_path, has_legend=purchased) %>%
 cursor_reach("Figure 4. High rating of specialty care") %>%
 write_plot("4_SpecialtyCare.jpeg", image_path, has_legend=purchased)

if (!purchased){
 doc_body <- doc_body %>%
   cursor_reach("Figure 5. High rating of access composites") %>%
   write_plot("5_AccessComposites.jpeg", image_path, has_legend=T) %>%
   cursor_reach ("Figure 6. High rating of doctor communication") %>%
   write_plot("6_DoctorCommunication.jpeg", image_path, has_legend=F) %>%
   cursor_reach("Table 1. Preventive care") %>%
   body_add_flextable(readRDS(file.path(image_path, "PreventiveCare.RDS")), align = TABLE_ALIGN)

 if (!missing_CS){
   doc_body <- doc_body %>%
   cursor_reach ("Figure 7. High rating of customer service") %>%
   write_plot("7_CustomerService.jpeg", image_path, has_legend=T)
 }
} else {
 doc_body <- doc_body %>%
   cursor_reach ("Figure 5. High rating of getting needed care") %>%
   write_plot("5_GettingNeededCare.jpeg", image_path, has_legend=T) %>%
   cursor_reach ("Figure 6. High rating of getting care quickly") %>%
   write_plot( "6_GettingCareQuickly.jpeg", image_path, has_legend=T) %>%
   cursor_reach ("Figure 7. High rating of doctor communication") %>%
   write_plot( "7_DoctorCommunication.jpeg", image_path, has_legend=T) %>%
   cursor_reach ("Figure 8. High rating of customer service") %>%
   write_plot( "8_CustomerService.jpeg", image_path, has_legend=T) %>%
   #cursor_reach ("Figure 9. High ratings of Claims Processing") %>%
   #write_plot( "9_ClaimsProcessing.jpeg", image_path, has_legend=T) %>%
   cursor_reach("Table 1. Preventive care") %>%
 body_add_flextable(readRDS(file.path(image_path, "PreventiveCare.RDS")), align = TABLE_ALIGN)
}
```

```
# appendix (plain text tables for 508 compliance
doc_appendix <- doc_body %>%
  cursor_reach("Table A.1. High rating of health care") %>%
  body_add_flextable(readRDS(file.path(image_path, "1_HealthCare508.RDS")), align = TABLE_ALIGN) %>%
  cursor_reach("Table A.2. High rating of health plan") %>%
  body_add_flextable(readRDS(file.path(image_path, "2_HealthPlan508.RDS")), align = TABLE_ALIGN) %>%
  cursor_reach("Table A.3. High rating of personal doctor") %>%
  body_add_flextable(readRDS(file.path(image_path, "3_PersonalProvider508.RDS")), align = TABLE_ALIGN)
%>%
  cursor_reach("Table A.4. High rating of specialty care") %>%
  body_add_flextable(readRDS(file.path(image_path, "4_SpecialtyCare508.RDS")), align = TABLE_ALIGN)

 if (!purchased){
  doc_appendix <- doc_appendix %>%
    cursor_reach("Table A.5. High rating of access composites") %>%
      body_add_flextable(readRDS(file.path(image_path, "5_AccessComposites508.RDS")), align = TABLE_ALIGN)
%>%
    cursor_reach("Table A.6. High rating of doctor communication") %>%
      body_add_flextable(readRDS(file.path(image_path, "6_DoctorCommunication508.RDS")), align =
TABLE_ALIGN)

  if (!missing_CS){
   doc_appendix <- doc_appendix %>%
     cursor_reach("Table A.7. High rating of customer service") %>%
     body_add_flextable(readRDS(file.path(image_path, "7_CustomerService508.RDS")), align = TABLE_ALIGN)
%>%
     cursor_reach("Table A.8. Preventive care") %>%
     body_add_flextable(readRDS(file.path(image_path, "PreventiveCare508.RDS")), align = TABLE_ALIGN)
  } else {
   doc_appendix <- doc_appendix %>%
     cursor_reach("Table A.7. Preventive care") %>%
     body_add_flextable(readRDS(file.path(image_path, "PreventiveCare508.RDS")), align = TABLE_ALIGN)
  }
 } else {
  doc_appendix <- doc_appendix %>%
    cursor_reach("Table A.5. High rating of getting needed care") %>%
      body_add_flextable(readRDS(file.path(image_path, "5_GettingNeededCare508.RDS")), align = TABLE_ALIGN)
%>%
    cursor_reach("Table A.6. High rating of getting care quickly") %>%
      body_add_flextable(readRDS(file.path(image_path, "6_GettingCareQuickly508.RDS")), align = TABLE_ALIGN)
%>%
    cursor_reach("Table A.7. High rating of doctor communication") %>%
      body_add_flextable(readRDS(file.path(image_path, "7_DoctorCommunication508.RDS")), align =
TABLE_ALIGN) %>%
    cursor_reach("Table A.8. High rating of customer service") %>%
      body_add_flextable(readRDS(file.path(image_path, "8_CustomerService508.RDS")), align = TABLE_ALIGN)
%>%
    #cursor_reach("Table A.9. High ratings of Claims Processing") %>%
    #  body_add_flextable(readRDS(file.path(image_path, "9_ClaimsProcessing508.RDS"))) %>%
    cursor_reach("Table A.9. Preventive care") %>%
      body_add_flextable(readRDS(file.path(image_path, "PreventiveCare508.RDS")), align = TABLE_ALIGN)
 }
```

```
  outpath = ifelse(annual, file.path(outpath, "Output", sample_info$region),
             file.path(outpath, "Output"))
  dir.create(outpath, showWarnings = FALSE)

  print(doc, target = file.path(outpath, paste0(report, ".docx")))
}
```

H.1.D 2020\Programs\ConsumerWatch\code\functions\plot_functions.R - Functions to generate plots and tables

```
#DARK_BLUE = "#0D2A49"
TAN = "#F8F6F0"
DARK_BLUE = "#0B2949" # 11 41 73
DARK_RED = "#9B201D" # 155 32 29
stopifnot(windowsFonts()$sans=="TT Arial")

PLOT_HEIGHTS <- c(1.875, 2.05) # (w/o legend, w/ legend)
PLOT_WIDTH <- 3.1
PAGE_WIDTH = 7.1#DARK_BLUE = "#0D2A49"
TAN = "#F8F6F0"
DARK_BLUE = "#0B2949" # 11 41 73
DARK_RED = "#9B201D" # 155 32 29
stopifnot(windowsFonts()$sans=="TT Arial")

LABEL_OFFSET = 4 # how far above or below points labels are. Will need to change if plot dim or point size
change


FigureTheme = theme(axis.text=element_text(family ="sans", color="black"),
            plot.background = element_rect(color=NA, fill=TAN),
            axis.line=element_line(color="black", size=.25),
            text=element_text(family="sans", color="black"),
            legend.position="bottom",
            legend.title=element_blank())

ft_MPR1 <- function(ft, nrow, shade_pairs){
  stop("ft_MRP1 is the old format pre-communications review, do you really want to use that?")
  if (!shade_pairs){shade_rows <- seq(2,nrow,2)}
  else {shade_rows = (1:nrow)[1:nrow %% 4 %in% c(0,3)]}

  ft %>%
    bg(bg = DARK_BLUE, part = "header") %>%
    bold(part = "header") %>%
    color(color = "#ffffff", part = "header") %>%
    #bg(bg = "#E0D4B5", i = seq(2,nrow,2)) %>%
    bg(bg = mpr_cols("dark blue 25"), i = shade_rows) %>%
    border_remove()
    #align(j = 1, align = "left", part = "body") %>%
    #align(align = "center", part = "header") %>%
    #fontsize(part = "all", size = 9)
}

ft_MPR2 <- function(ft, nrow, shade_pairs){
  #if (!shade_pairs){shade_rows <- seq(2,nrow,2)}
  #else {shade_rows = (1:nrow)[1:nrow %% 4 %in% c(0,3)]}

  # horixontal lines every row or every other row
  if (!shade_pairs){line_rows <- 1:nrow} else {line_rows <- seq(2,nrow,2)}
```

```
  ft <- ft %>%
    bg(bg=DARK_BLUE, part = "header") %>%
    bold(part = "header") %>%
    color(color = "white", part = "header") %>%

    font(font="Arial", part="all") %>%
    fontsize(size=8, part="all") %>%
    align(align="left", part="all") %>%
    valign(valign="center", part="all") %>%

    border_remove() %>%
    border(i=line_rows, border.bottom = fp_border(color = DARK_BLUE))


  # set cells widths so that table is full page
  cell_widths <- dim_pretty(ft)$widths/(sum(dim_pretty(ft)$width))*PAGE_WIDTH
  ft <- ft %>% width(width=cell_widths) %>%
    hrule(rule="exact", part="all") %>%
    height_all(height=.18, part="all")

  return(ft)
}

ft_theme = function(ft, nrow, shade_pairs=F){
  ft %>% ft_MPR2(nrow, shade_pairs)
}

############################### FUNCTIONS ###################################

# appendix table from filtered df
make_appendix_table <- function(data, benefit_name, keep_bene=T, composite=T, show_n=F,
                    value_label="Percentage"){
  if (composite){appendix <- data %>% filter(benefit==benefit_name)}
  if (!composite){appendix <- data %>% filter(bentype==benefit_name)}

  if (!"n_obs" %in% names(appendix)){
    stopifnot(!show_n)
    appendix <- appendix %>% mutate(n_obs=NA)
  }
  appendix <- appendix %>%
    mutate(label=as.character(label),
         score=as.character(round(score)),
         sig=case_when(grepl("Benchmark", label)~"",
               sig==1~ "Significantly higher than benchmark (p < .05)     ",
               sig==-1~"Significantly lower than benchmark (p < .05)      ",
               sig==0~ "Value is not significantly different than benchmark")) %>%
    right_join(data.frame(label=varlist2) %>% mutate(label=as.character(label)), by="label") %>%
    mutate(score = ifelse(is.na(score), "-", score),
         sig = ifelse(is.na(sig) | sig=="", "NA", sig),
         n_obs = ifelse(is.na(n_obs) | n_obs=="", "NA", n_obs)) %>%
    select (label, score, n_obs, sig) %>%
    set_names(c("Group", value_label, "Obs","Significance")) %>%
    mutate_at("Group", ~gsub("fy","FY",str_to_sentence(.)))
```

```r
  if (!show_n){
    appendix <- appendix %>% select(-"Obs")
  }

  if (keep_bene){
    appendix %<>% mutate(Composite = str_to_sentence(benefit_name)) %>% select(Composite, everything())
  }
  if (keep_bene & !composite){ appendix %<>% rename('Type of Care'=Composite)}

  return(appendix)
}

add_line_geoms <- function(g, graphfile, bene_list){
  ## No longer used - but may be needed in future. Makes sure legend appears correctly when missing ratings
  benchmark = graphfile %>% filter(label==benchmark_lab)
  ghost_df <- graphfile %>% select(groupvar)  %>% mutate(fyqtr=1)

  if (length(bene_list)>1 | purchased){
    if (purchased & length(bene_list)>1){stop("Cannot plot more than one benefit with pruchased care")}
    return( g +
          geom_hline(data=benchmark, aes(yintercept = score, linetype=groupvar),
                  size= 0.5, color=DARK_RED, show.legend=F) +
          geom_line(data = graphfile %>% filter(label %in% varlist[1:2]),
                  aes(linetype=groupvar, group=groupvar), size=.5) +
          geom_line(data = graphfile %>% filter(label %in% varlist[2:3]),
                  aes(linetype=groupvar, group=groupvar), size=.5) +
          geom_point(ghost_df, mapping = aes(shape=groupvar), y=100, alpha=0)
    ) # this last line is a workaround for making the shapes appear in the legend even when there are no ratings
  } else {
    if (nrow(graphfile) == nrow(benchmark)){
      return(g + geom_hline(data=benchmark, aes(yintercept = score),  size= 0.5, color = "red"))
    }
    return( g +
          geom_hline(data=benchmark, aes(yintercept = score),  size= 0.5, color = "red") +
          geom_line(data = graphfile %>% filter(label %in% varlist[1:2]), group=1, size=.5) + # connect times 1 and 2
if applic
          geom_line(data = graphfile %>% filter(label %in% varlist[2:3]), group=1, size=.5) + # connect times 1 and 2
if applic
          guides(shape=F, linetype=F))
  }
}

graph_composites <- function(dat, bene_list, title, n, outpath,
                    x_offset = c(0,0), y_offset=c(0,0), na.rm = TRUE, ...){

  if (purchased) stop("Colors not yet implemented for purchased")

  graphfile<- dat %>% filter(label %in% varlist2, benefit %in% bene_list, bentype=="Composite")%>%
    select (sig, score, majgrp2, benefit, label, fyqtr) %>%
    mutate(groupvar = as.factor(case_when(purchased & majgrp2!="Benchmark"~majgrp2,
                          purchased & majgrp2=="Benchmark"~groups[1],
                          !purchased~benefit)),
```

```r
            score=round(score),
            legend_grp = case_when(!purchased & length(bene_list)==1 ~ str_to_sentence(majgrp2),
                       length(bene_list)>1 ~ paste0(ifelse(majgrp2=="Benchmark", "Benchmark: ", ""),
                                      str_to_sentence(benefit))))

  if (nrow(graphfile) < length(varlist2)*length(bene_list)){
    new_missing <- tibble(regcat = unique(dat$regcat[dat$regcat!="Benchmark"]),
                 plot = title,
                 n_missing = length(varlist2)*length(bene_list) - nrow(graphfile),
                 total = length(varlist)*length(bene_list)) # total possible excluding benchmark

    missing_ratings <<- bind_rows(missing_ratings, new_missing) # super assignment!
  }

  if (nrow(graphfile %>% filter(label %in% varlist))==0){ return() } # return if no plot to make

  if (!purchased){
    graphfile <- graphfile %>% mutate(benefit = fct_relevel(factor(benefit, bene_list), bene_list))
  }

  # decide which labels are above versus below
  ## when 2 lines, label upper point above top and lower point below
  label_positions <- graphfile %>% filter(label %in% varlist) %>% group_by(fyqtr) %>%
    mutate(label_pos = case_when(score>100-LABEL_OFFSET~"down", # make sure labels aren't near top/bottom
                   #score<ymin+LABEL_OFFSET~"up",
                   # special case if two points with same label
                   length(unique(score))==1 & length(score)==2 ~ ifelse((1:n())==1, "up", "down"),
                   # otherwise put higher score above and lower score below
                   score==max(score)~ "up", T~"down"),
           label_y = score + LABEL_OFFSET*ifelse(label_pos=="up",1,-1))
  graphfile <- full_join(graphfile, label_positions, by=intersect(names(graphfile), names(label_positions)))

  # graph constants
  if (purchased | length(bene_list)>1) COLORS <- c(DARK_RED, mpr_cols("red 50"), DARK_BLUE, mpr_cols("dark
blue 50"))
  else COLORS <- c(DARK_RED, DARK_BLUE)
  ALPHA = as.numeric(!COLORS %in% c(DARK_RED, mpr_cols("red 50")))
  if (length(COLORS)!=length(unique(graphfile$legend_grp))){
    stop("Need to code the case where only one of the two ratings in bene_list has non-missing values")
  }

  if (length(COLORS)==2){
    FigureTheme <- FigureTheme +
      theme(legend.text = element_text(size = 7, margin = margin(r=10)),
         legend.box.margin=margin(-7,-7,-7,-7))
  } else {
    FigureTheme <- FigureTheme +
      theme(legend.text = element_text(size = 7),
         legend.box.margin=margin(-10,-10,-10,-45))
  }

  # choose ymin and adjust distance of labels from points accordingly
  ymin = max((5*(0:10))[ min(min(graphfile$score), min(graphfile$label_y, na.rm=T)) > (5*(0:10))])
```

```r
 if (ymin<50){
  graphfile <- graphfile %>% mutate(label_y = score + (LABEL_OFFSET*(50/ymin)*ifelse(label_pos=="up",1,-1)))
  stopifnot(graphfile$label_y>=ymin | is.na(graphfile$label_pos))
 }

 # make plot
 outplot <- graphfile %>%
  #filter(label %in% varlist) %>%
  mutate(label = fct_relevel(factor(label, varlist), varlist),
       fyqtr = fct_relevel(factor(fyqtr), intersect(labels, fyqtr))) %>%

  ggplot(aes(x = fyqtr, y=score, color=legend_grp, group=legend_grp)) +
  geom_line(data = graphfile %>% filter(label %in% varlist[1:2]), size=.5) +
  geom_line(data = graphfile %>% filter(label %in% varlist[2:3]), size=.5) +
  geom_hline(data = graphfile %>% filter(!label %in% varlist), aes(yintercept=score, color=legend_grp)) +
  geom_text(data = . %>% filter(label %in% varlist),
         aes(label=round(score), y=label_y), size=2.5, show.legend=F) +
  geom_point(aes(alpha = legend_grp), fill="white", size=2, shape=21) +
  geom_point(data = . %>% filter(abs(sig)==1),
          size=2, shape=16, show.legend=F) +  # add filled points again so they are on top
  #scale_fill_manual(values = c("0" = "white", "1" = "black")) +
  scale_color_manual(values = COLORS) +
  scale_alpha_manual(values = ALPHA) +
  guides(fill=F, color=guide_legend(ncol=2)) +

  ylim(ymin, 100) +
  labs( x = ifelse(annual, "Fiscal Year", "Quarter"), y = "Percentage")+
  scale_x_discrete(limits=labels, drop=F) +
  theme_tufte(base_size = 9) +
  FigureTheme

 out_height = ifelse(purchased | length(bene_list)>1, PLOT_HEIGHTS[2], PLOT_HEIGHTS[1])
 ggsave(paste(n, "_", gsub(" ", "", title), ".jpeg", sep=""), plot = outplot, dpi=300, dev='jpeg',
     height=out_height, width=PLOT_WIDTH, units="in", path= outpath)

 if (length(bene_list)>1 & annual){# save annual plots with 2 lines to QA folder
  report=strsplit(outpath,"/")[[1]][length(strsplit(outpath,"/")[[1]])]

  ggsave(paste(report, "_", gsub(" ", "", title), ".jpeg", sep=""), plot = outplot, dpi=300, dev='jpeg',
      height=out_height, width=PLOT_WIDTH, units="in", path=file.path(outpath, "..", "..", "QA"))
 }

 if (purchased | length(bene_list)>1){
  if ( sum(label_positions$label_pos=="down") != sum(label_positions$label_pos=="up")){
   # check whether labels that are both above or both below point are close to each other
   if (purchased){stop("The following check needs to be implemented for purchased (replace benefit with
group)")}

   diffs <- graphfile %>% filter(!is.na(label_pos)) %>% group_by(fyqtr) %>%
     filter(length(unique(label_pos))==1) %>% select(fyqtr, benefit, score) %>%
     spread(benefit, score) %>% set_names("fyqtr", "point1", "point2") %>%
     mutate(diff = abs(point1-point2)) %>% pull(diff)
```

```
    # I haven't fully tested rules for figuring out whether lables might overlap, so am leaving this cbroad assert
here for now
    ## TO DO: write logic for lowering the lower y limit if putting label above would truely case label overlap
    if (min(diffs)<=2*LABEL_OFFSET){
      stop("Potential overlapping labels: please review plot manually and adjust labelling rules accordingly")
    }
  }
}

  #make appendix tables

  ft_data <- purrr::map_df(bene_list, ~make_appendix_table(graphfile,., keep_bene=(length(bene_list)>1)))
  ft <- ft_data %>% flextable() %>% ft_theme(nrow(ft_data))
  #print(ft)

  appendixname<-paste(n, "_", (gsub(" ", "", title)) ,"508.RDS", sep="")
  saveRDS(ft, file.path(outpath, appendixname))
}


# preventive care table

preventive_care_table <- function(dat, outpath, show_ft=T){
  headinglabels<- c("Type of Care", "Group","T1","T2","T3", "HP2020 Goal")

  row_spine <- dat %>% filter(benefit=="Preventive Care" | benefit=="Healthy Behaviors",
                    bentype!="Composite") %>%
    select(bentype, majgrp2) %>% distinct() %>%
    expand(bentype, majgrp2) %>% filter(majgrp2!="Benchmark")

  # prepate data
  prevent_scores <- dat %>%
    filter(benefit=="Preventive Care" | benefit=="Healthy Behaviors",
        bentype!="Composite", label %in% varlist) %>%
    select(bentype, majgrp2,  fyqtr, score) %>%
    full_join(row_spine %>% expand(bentype, majgrp2, fyqtr=labels),
          by=c("bentype","majgrp2", "fyqtr")) %>%
    mutate(fyqtr = fct_relevel(factor(fyqtr), labels)) %>%

    spread(key=fyqtr, value = score) %>%
    right_join(dat %>% filter(label == benchmark_lab, # merge back in bene labels
                    benefit=="Preventive Care" | benefit=="Healthy Behaviors",
                    bentype!="Composite") %>%
            select(bentype, score), by=c("bentype")) %>%
    mutate_if(is.numeric, ~as.character(round(.,0)))

  prevent_sig <- dat %>%
    filter(benefit=="Preventive Care" | benefit=="Healthy Behaviors",
        bentype!="Composite", label %in% varlist) %>%
    select(bentype, majgrp2, fyqtr, sig) %>%
    full_join(row_spine %>% expand(bentype, majgrp2, fyqtr=labels),
          by=c("bentype","majgrp2", "fyqtr")) %>%
    mutate(fyqtr = fct_relevel(factor(fyqtr), labels)) %>%
```

```
  spread(key=fyqtr, value = sig) %>%
  set_names("bentype","majgrp2","sig1","sig2","sig3")

prevent_n <- dat %>%
  filter(benefit=="Preventive Care" | benefit=="Healthy Behaviors",
       bentype!="Composite", label %in% varlist) %>%
  select(bentype, majgrp2, fyqtr, n_obs) %>%
  full_join(row_spine %>% expand(bentype, fyqtr=labels), by=c("bentype","fyqtr")) %>%
  mutate(fyqtr = fct_relevel(factor(fyqtr), labels)) %>%
  spread(key=fyqtr, value = n_obs) %>%
  set_names("bentype","majgrp2","n1","n2","n3") %>%
  mutate_all(as.character)

# checks
stopifnot(ncol(prevent_scores)==length(labels)+3)
stopifnot(ncol(prevent_sig)==length(labels)+2)
stopifnot(ncol(prevent_n)==length(labels)+2)
stopifnot(nrow(prevent_scores)==nrow(row_spine))

# make table
fmt_above = fp_text(color=DARK_BLUE, vertical.align="superscript")
fmt_below = fp_text(color=DARK_RED, vertical.align="superscript")
ben_levels = c("Mammography", "Pap Smear", "Hypertension", "Prenatal Care (in 1st trimester)",
           "Percent Not Obese", "Non-Smokers (adults)", "Counseled To Quit (adults)")

apply_formats_func = ifelse(purchased, apply_formats_PCW, apply_formats_CW)

ft_data = prevent_scores %>%
  left_join(prevent_sig %>% mutate_if(is.numeric, all_vars(case_when(.>0~"a", .<0~"b"))),
by=c("bentype","majgrp2")) %>%
  left_join(prevent_n, by=c("bentype","majgrp2")) %>%
  mutate(bentype = recode(bentype, "Counselled To Quit"="Counseled To Quit (adults)",
               "Non-Smoking Rate"="Non-Smokers (adults)",
               "Prenatal Care"="Prenatal Care (in 1st trimester)")) %>%
  set_names(c(headinglabels,paste0("sig",1:3), paste0("n",1:3))) %>%
  full_join(data.frame(ben = ben_levels) %>% mutate(ben=as.character(ben)),
        by=c("Type of Care"="ben")) %>%
  arrange(factor(.[[1]], ben_levels)) %>%
  mutate_at(paste0("T",1:3), ~ifelse(is.na(.), "-",.)) %>%
  mutate_at(c("Type of Care", "Group"), ~gsub("fy","FY",str_to_sentence(.)))

# make flextable
if (!purchased){
  colkeys = setdiff(headinglabels, "Group")
} else {colkeys=headinglabels}

ft = ft_data %>% flextable(col_keys = colkeys) %>%
  apply_formats_func(fmt_below=fmt_below, fmt_above=fmt_above) %>%
  set_header_labels(values = list("T1"=labels[1], "T2"=labels[2], "T3"=labels[3])) %>%
  #align(j=1, align="left") %>%
  ft_theme(nrow=nrow(ft_data), shade_pairs = purchased) %>%
  hrule(rule="auto", part="all") # ignore heights set by format function
```

```r
  if (show_ft){print(ft)}
  saveRDS(ft, file.path(outpath,"PreventiveCare.RDS"))

  # table for appendix
  appendix_dat <- dat %>%
    filter(benefit=="Preventive Care" | benefit=="Healthy Behaviors",
           bentype!="Composite") %>%
    mutate(bentype=recode(bentype, "Counselled To Quit"="Counseled To Quit (adults)",
                   "Non-Smoking Rate"="Non-Smokers (adults)",
                   "Prenatal Care"="Prenatal Care (in 1st trimester)"))

  ft_data <- map_df(ben_levels, ~make_appendix_table(appendix_dat, ., composite=F, show_n = purchased))
  ft <- ft_data %>% flextable() %>% ft_theme(nrow(ft_data))

  saveRDS(ft, file.path(outpath, "PreventiveCare508.RDS"))
}

### format funcs for flextable cells

apply_formats_CW <- function(ft, fmt_below, fmt_above){
  ft %>%
    display(i = ~ sig1=="b", col_key = "T1", pattern = "{{T1_}}{{sig1_}}",
        formatters = list(T1_~T1, sig1_~sig1),
        fprops = list(sig1_ = fmt_below)) %>%
    display(i = ~ sig2=="b", col_key = "T2", pattern = "{{T2_}}{{sig2_}}",
        formatters = list(T2_~T2, sig2_~sig2),
        fprops = list(sig2_ = fmt_below)) %>%
    display(i = ~ sig3=="b", col_key = "T3", pattern = "{{T3_}}{{sig3_}}",
        formatters = list(T3_~T3, sig3_~sig3),
        fprops = list(sig3_ = fmt_below)) %>%

    display(i = ~ sig1=="a", col_key = "T1", pattern = "{{T1_}}{{sig1_}}",
        formatters = list(T1_~T1, sig1_~sig1),
        fprops = list(sig1_ = fmt_above)) %>%
    display(i = ~ sig2=="a", col_key = "T2", pattern = "{{T2_}}{{sig2_}}",
        formatters = list(T2_~T2, sig2_~sig2),
        fprops = list(sig2_ = fmt_above)) %>%
    display(i = ~ sig3=="a", col_key = "T3", pattern = "{{T3_}}{{sig3_}}",
        formatters = list(T3_~T3, sig3_~sig3),
        fprops = list(sig3_ = fmt_above))
}

apply_formats_PCW <- function(ft, fmt_below, fmt_above){
  ft %>%
    display(i = ~ sig1=="b", col_key = "T1", pattern = "{{T1_}}{{sig1_}} ({{n1_}})",
        formatters = list(T1_~T1, sig1_~sig1, n1_~n1),
        fprops = list(sig1_ = fmt_below)) %>%
    display(i = ~ sig2=="b", col_key = "T2", pattern = "{{T2_}}{{sig2_}} ({{n2_}})",
        formatters = list(T2_~T2, sig2_~sig2, n2_~n2),
        fprops = list(sig2_ = fmt_below)) %>%
    display(i = ~ sig3=="b", col_key = "T3", pattern = "{{T3_}}{{sig3_}} ({{n3_}})",
        formatters = list(T3_~T3, sig3_~sig3, n3_~n3),
        fprops = list(sig3_ = fmt_below)) %>%
```

```
display(i = ~ sig1=="a", col_key = "T1", pattern = "{{T1_}}{{sig1_}} ({{n1_}})",
    formatters = list(T1_~T1, sig1_~sig1, n1_~n1),
    fprops = list(sig1_ = fmt_above)) %>%
display(i = ~ sig2=="a", col_key = "T2", pattern = "{{T2_}}{{sig2_}} ({{n2_}})",
    formatters = list(T2_~T2, sig2_~sig2, n2_~n2),
    fprops = list(sig2_ = fmt_above)) %>%
display(i = ~ sig3=="a", col_key = "T3", pattern = "{{T3_}}{{sig3_}} ({{n3_}})",
    formatters = list(T3_~T3, sig3_~sig3, n3_~n3),
    fprops = list(sig3_ = fmt_above)) %>%

display(i = ~ is.na(sig1) & !is.na(n1), col_key = "T1", pattern = "{{T1_}} ({{n1_}})",
    formatters = list(T1_~T1, n1_~n1)) %>%
display(i = ~ is.na(sig2) & !is.na(n2), col_key = "T2", pattern = "{{T2_}} ({{n2_}})",
    formatters = list(T2_~T2, n2_~n2)) %>%
display(i = ~ is.na(sig3) & !is.na(n3), col_key = "T3", pattern = "{{T3_}} ({{n3_}})",
    formatters = list(T3_~T3, n3_~n3))
}
```

H.1.E 2020\Programs\ConsumerWatch\code\functions\data_functions.R - Function to read in data

```
# functions for reading data and response rates

timepd_map <- function(timepd){
  if (annual){fyqtr = ifelse(timepd == "Trend", "Trend", paste0("FY",timepd))}
  else {
   year=ifelse(timepd=="Trend", NA, gsub(".*(20[0-9][0-9])","\\1",timepd))
   month=gsub("(.*),.*", "\\1",timepd)
   qtr = case_when(month %in% c("October")~1,
            month %in% c("January")~2,
            month %in% c("April","July")~3)
   fyqtr = case_when(timepd=="Trend" ~ "Trend",
             qtr==1 ~ paste0("Q",qtr,"FY",as.numeric(year)+1-2000),
             qtr %in% c(2:3) ~ paste0("Q",qtr,"FY",as.numeric(year)-2000))
  }
  return(fyqtr)
}

get_data <- function(){
 d=read_sas(dat_file)
 d %>% set_colnames(tolower(colnames(.))) %>%
  mutate(
    fyqtr= timepd_map(timepd),
    majgrp2 = ifelse(regcat=="Benchmark", "Benchmark", majgrp),
    majgrp2 = case_when(majgrp2=="Enrollees with Military PCM"~"Direct Care",
              majgrp2=="Purchased Care Users"~"Purchased Care",
              T~majgrp2),
    label = paste(majgrp2, fyqtr, sep = " ")) %>%
   filter(source!="FAKE ONLY", label %in% varlist2,
       # this second condition makes sure we don't have duplicate info on benchmark (bench is same for all
groups, pick one)
       (!grepl("^Benchmark",label) | ((!annual & majgrp=="Benchmark") | (annual & majgrp=="All
Beneficiaries")))) %>%
   mutate(score_uncapped = score,
       score = ifelse(score>100, 100, score)) %>%
   mutate(label = fct_relevel(factor(label), varlist2),
       fyqtr = fct_relevel(factor(fyqtr), intersect(labels, fyqtr)))
}
```

H.1.F 2020\Programs\ConsumerWatch\code\functions\response_rates - Function to read in response rates

```
library(readxl)

###############################################

get_response_rates_sheet <- function(sheet, map=NULL){
  file = file.path(response_rates_path, paste0("RR_for_", sheet, "_cw.xlsx"))
  if (!file.exists(file)){
    stop(paste0("Response rates file ", file, " does not exist. Please update name in RR_names.yml"))
  }

  if (! is.null(map)){
    xwalk = data.frame(DOMAIN=names(map), report=unlist(map), stringsAsFactors = F)

    read_excel(file) %>%
      mutate(DOMAIN = !!sym(sheet)) %>%
      right_join(xwalk, by="DOMAIN") %>%
      select(DOMAIN, report, RR, cnt_smpl)%>%
      rename(N=cnt_smpl)
  }else {
    read_excel(file) %>%
      mutate(DOMAIN = !!sym(sheet), report=DOMAIN) %>%
      select(DOMAIN, report, RR, cnt_smpl)%>%
      rename(N=cnt_smpl)
  }
}

get_response_rates <- function(){

  # Get response rates for each domain not including MTF
  SHEETS = read_yaml("RR_names.yml")
  if (annual){SHEETS = SHEETS["USA"]} # not regional or servaff reports for annual

  RR_df <- 1:length(SHEETS) %>% map_df(~get_response_rates_sheet(names(SHEETS)[.], SHEETS[[.]]))

  # get MTF response rates for annual
  if (annual){
    xcatch_RR = get_response_rates_sheet("XCATCH")
    chk = metadata %>% anti_join(xcatch_RR, by=c("regcat"="report")) %>%
      filter(regcat!="USA MHS")
    if (nrow(chk)>0){
      stop("Some facilities are in the data but not response rates file (may have different names in RR file. Contact Matt and/or Sabrina")
    }

    RR_df <- RR_df %>% rbind(xcatch_RR %>% filter(report %in% metadata$regcat))
  }

  # checks
  if (any(is.na(RR_df))){
```

```
  print(RR_df)
  stop("Response rates missing for some reports, please check RR_names.yml")
 }

 stopifnot(!all(RR_df$RR<1))
 stopifnot(all(RR_df$N>1))
 stopifnot(annual | all(CW_reports %in% sort(RR_df$report)))

 return(RR_df %>% select(-"DOMAIN"))
}
```