Contract No.: GS-10F-0050L (W81XWH-09-F-0511)
MPR Reference No.: 40309-H20

Health Care Survey of DoD Beneficiaries:

FY2014 Adult Sampling Report

July 2014

Submitted to:

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

Task Order Officer:
Richard R. Bannick, Ph. D., FACHE

Submitted by:

Mathematica Policy Research, Inc.
1100 1st Street, NE, 12th
FloorWashington, DC 20002-4221 (202)
484-5261

Project Director:
Nancy A. Clusen

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Contents

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Appendices

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Executive Summary

The Health Care Survey of DoD Beneficiaries (HCSDB) is a quarterly survey of active duty military personnel, retirees, and their family members. The HCSDB measures beneficiaries' health care status as well as their access to, use of, and satisfaction with care in the military health system (MHS). The HCSDB, was fielded annually from 1995 to 2000 and quarterly from 2001 to 2012. Since the first quarter of 2013, HCSDB has been fielded only for the first three quarters of fiscal year[1]. The FY2014 Adult HCSDB sample design is same as the 2013 design. In cooperation with Defense Health Agency (DHA) staff, we selected five subpopulations important to data users and policymakers: (1) beneficiaries enrolled with a military primary care manager (PCM[2]) or active duty beneficiaries; (2) beneficiaries who use Managed Care Support Contractors; (3) beneficiaries who use TRICARE Standard/Extra[3]; (4) beneficiaries enrolled in TRICARE Reserve Select; (5) beneficiaries age 65 or older. Along with geographic area, these five subpopulations form the foundation of the stratification scheme. As in years past we continue to use a permanent random number sample selection method. This report documents the procedures Mathematica Policy Research, Inc. (Mathematica) used to design and select the sample of adult beneficiaries for the first quarterly survey of FY2014. Subsequent quarterly surveys in FY2014 will essentially follow the same design.

The FY2014 Adult HCSDB has a stratified sample design with 100,000 adult beneficiaries selected each quarter. The sample selection process involved 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.

The FY2014 Adult HCSDB sample design's major features are:

- The sampling frame consisted of the roughly 7.5 million beneficiaries 18 or older or all the active duty regardless of their age that were eligible for military health care benefits as of August 31, 2013. The sampling frame consists of beneficiaries living both in the U.S. and abroad.

[1] The fiscal year is the accounting period for the federal government which begins on October 1 and ends on September 30. The fiscal year is designated by the calendar year in which it ends; for example, fiscal year 2013 begins on October 1, 2012 and ends on September 30, 2013.

[2] PCM represents whether the beneficiary is enrolled to a Military or Civilian PCM, based on the TRICARE Prime & USFHP Enrollment DMIS Code.

[3] TRICARE Standard and Extra is a fee-for-service plan available in the United States. The plan does not need any enrollment—coverage is automatic for all registered in the Defense Enrollment Eligibility Reporting System and show eligible for TRICARE.

- We first stratified the sampling frame by five analytic groups, as described above. Each group was further stratified by a combination of geographic area[4] and enrollment/beneficiary group.[5]

- The precision goal for the adult survey estimates was expressed in terms of half-lengths of 95 percent confidence intervals for a percentage of size 50. Each quarter the survey should yield estimates with precision levels of 7 percentage points for: beneficiaries enrolled with a military PCM by TNEX region[6]; beneficiaries enrolled to Managed Care Support Contractors by TNEX region; and beneficiaries 65 or older by TNEX region. Combining three quarters of the Quarterly Beneficiary Survey should yield estimates with precision levels of 7 percentage points for the following subpopulations: beneficiaries enrolled to key Military Treatment Facilities (MTF), and TRICARE Reserve Select enrollees. Combining three quarters of data should yield estimates with precision levels of 6 percentage points for Standard/Extra users by beneficiary group.

- At the time of the Q1FY2014 sampling, we used the rates based on historical response rate by beneficiary group, American Community Survey estimates of internet coverage by age, and potential loss due to no longer offering a paper option. They are 13 percent for active duty beneficiaries; 4 percent for active duty family members enrolled in Civilian PCM; 5 percent for active duty family members enrolled in Military PCM; 3 percent for active duty family members not enrolled in Prime; 19 percent for retirees and their family members younger than 65 enrolled in Civilian PCM; 17 percent for retirees and their family members younger than 65 enrolled in Military PCM; 14 percent for retirees and family members younger than 65 not enrolled in Prime; 7 percent for retirees and their family members age 65 or older; and 23 percent for the TRICARE Reserve Select (TRS). If the response rates obtained are equal to or better than the response ratesused, we expect to attain the precision requirements under the budgetary sample size of 100,000.

- We continue to use a permanent random number sample selection algorithm to ensure that beneficiaries will not be selected for more than one quarterly survey in FY2014.

[4] The geographic areas include military treatment facilities (MTFs) for enrollees with certain military PCMs, TNEX regions for all others enrolled with a military treatment facility (MTF), and TNEX regions for all other beneficiaries.

[5] Types of TRICARE Prime enrollment status and beneficiary groups include: (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 or older enrolled in Senior Prime with a civilian PCM; (9) retirees and their family members age 65 or older enrolled in Senior Prime with a military PCM; and (10) retirees and their family members age 65 or older not enrolled in Senior Prime;and (11) beneficiaries enrolled in TRICARE Reserve Select.

[6] TRICARE managed care support contractor region.

Chapter 1

Introduction

The Health Care Survey of Department of Defense Beneficiaries (HCSDB) is a quarterly survey of active duty military personnel, retirees, and their family members eligible for care under the military health system (MHS). The HCSDB measures the health status of MHS beneficiaries as well as their access to, use of, and satisfaction with care. The first HCSDB was conducted in 1995, and the survey was fielded annually until 2000. From 2001 to 2012, the HCSDB was consisted of four independent, cross-sectional quarterly surveys. Since 2013, last quarter has dropped and HCSDB has consisted of three independent, cross-sectional quarterly surveys, which are combined into an annual dataset at the end of the year. In 2014, the annual data set combined the three quarters of the fiscal year 2014.

In FY2014 Adult HCSDB sample design, in cooperation with Defense Health Agency (DHA) staff, we identified five subpopulations important to data users and policy makers: (1) beneficiaries enrolled with a military PCM or active duty beneficiaries; (2) beneficiaries who use Managed Care Support Contractors (MCSC); (3) beneficiaries who use Standard/Extra; (4) beneficiaries enrolled in TRICARE Reserve Select; (5) beneficiaries age 65 or older. These five subpopulations form the stratification scheme's foundation. Each subpopulation in (1),(2),(3) above was further stratified by geographic area, enrollment, and beneficiary group.

The subpopulation in (4) was not further stratified. The subpopulation in (5) was further stratified by geographic area. Subsequently, as in years past, we continue to use a permanent random number sample selection method (for further discussion, please see chapter 5).

This report documents the procedures Mathematica Policy Research, Inc. (Mathematica) used to design and select the sample of adult beneficiaries for the first quarterly survey of FY2014. Subsequent quarterly surveys in FY2014 will essentially follow the same design. Chapter 2 explains how Mathematica used a population data file of all MHS beneficiaries to develop the sampling frame. Chapter 3 explains how the sampling frame was stratified before the sample was selected. Chapter 4 describes how the sample sizes were derived to meet the precision requirements specified for the survey estimates. In Chapter 5, we present the permanent random number sample selection procedure used to draw the sample. We also describe the creation of the sampling weights, which reflect the probability of selection, and we summarize the checking procedures designed to ensure that sampling was implemented as specified.

The appendices include tables and SAS programs that provide detailed information about the Adult quarterly survey sample selection. Appendix A lists Defense Enrollment Eligibility Reporting System (DEERS) variables provided by Defense Health Agency (DHA). Appendix B contains a detailed table of facilities for which beneficiaries with a military PCM were assigned a catchment area as the geographic area. Appendix C includes population, sample, and weighted sample counts tabulated for all sampling strata as part of the sample verification process. Appendix C also includes population, sample, and weighted sample counts for two analytic domains, service and enrollment and beneficiary group. Appendix D includes all variables delivered to Altarum, the data collection contractor, after the sample was selected. Appendix E contains all SAS programs used for the FY2014 quarterly survey sample design and sample selection. Appendix F includes all technical arguments and related formulas used to determine the sample sizes. Appendix G includes a chart describing the stratification scheme.

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Chapter 2

Construction of the Sampling Frame

To select a sample that represents the target population, a sampling frame that lists all members of that population must first be created. The quarterly survey sampling frame was based on a population data file provided by DHA and constructed as follows:

- An extract of the Defense Enrollment Eligibility Reporting System (DEERS) data file that includes all eligible beneficiaries on the reference date of August 31, 2013 was used to construct the sampling frame.
- The sampling frame was constructed by excluding beneficiaries under the age of 18 who are not active duty from the DEERS extract data file and constructing additional variables required for sampling purposes.

A. SPECIFICATIONS FOR THE DEERS EXTRACT FILE

The first step in building the frame was to prepare specifications that DHA could use to create the population data file. The variables were based on data from DEERS. The sampling frame is an extract of this DEERS file. The file contained data for 10 million DoD health care beneficiaries (adults and children) as of August 31, 2013, including information needed for sample selection and address and locator information for mailing the survey questionnaires. The variables in the extract file are listed in Appendix A.

Because we planned to use in-house SAS programs for sampling, we converted the extract file to a SAS data set. Prior to Quarter 4 FY2007, the constructed variable SSNSMPL[7] was used to uniquely identify beneficiaries. However, this variable contains confidential data, so it is no longer available. Instead, beneficiaries in the population data file are uniquely identified by the variable PTNT_ID, which is the identifier that is used to represent the person within the Department of Defense Electronic Data Interchange. We created an internal Mathematica identification variable (MPRID) by randomly and uniquely assigning values to all adult beneficiaries in the extract file. For historical purposes, we retained a crosswalk file that includes PTNT_ID, and MPRID. The crosswalk file allows us to link frame records to the DEERS database to get address information after sample selection. Appendix E includes the SAS programs we used to check the DEERS variables we requested, create the crosswalk file, and transform the data set to a SAS data set.

To safeguard the security of the DEERS extract file, we used the procedures outlined in the following sources: *The Guide to Understanding Configuration Management in Trusted Systems (Orange Book)*, DoD 5200.28, Appendix III to OMB Circular Number A-130-Security of Federal Automated Information Resources, the Computer Security Act of 1987, and the Privacy Act of 1974. We also maintained a secure data storage facility and a C2-compliant local area network, and we set up chain-of-custody procedures. The original extract was returned to DHA four weeks after we received the data.

[7] SSNSMPL is formed by three DEERS variables: the nine-digit Social Security number (SPONSSN), the one-digit family sequence number (SPDUPID), and the two-digit DEERS dependent suffix (LEGDDSCD).

B. DETERMINING ELIGIBLES FOR THE SAMPLING FRAME

This report describes the procedures used to design and select the sample of adult beneficiaries for the first quarterly survey of FY2014.The quarterly survey sampling frame was constructed using the DEERS extract file described above and only retaining beneficiaries 18 years of age or older and all active duty beneficiaries regardless of their age on the reference date (that is, August 31, 2013 for the first quarterly survey of 2014). In other words, the quarterly survey sampling frame includes individuals who meet the following criteria:

- Beneficiaries 18 years of age or older and all active duty beneficiaries regardless of their age on the reference date and living in the United States or abroad
- Eligible for military health care benefits

Beneficiaries whose ages were missing from the DEERS file were included in the quarterly survey sampling frame if the beneficiary was not a dependent child of a sponsor, that is, if not (PNTYPCD ='D' AND MBRRELCD in ('C','D','E')). Such cases represented less than 1.0 percent of the more than 10 million (adult and child) records in the sampling frame. Because they are all classified as sponsors, spouses of a sponsor, parents of a sponsor, or in-laws of a sponsor, it is safe to assume that they were 18 or older at the time of sampling.

The sample was selected from this quarterly survey sampling frame of eligible adult beneficiaries after the constructed variables were added. Constructed variables are described below.

C. CONSTRUCTING ADDITIONAL VARIABLES REQUIRED FOR SAMPLING

Because the sample design for the quarterly survey is a stratified design, variables for stratification had to be included in the sampling frame. Strata are defined by a combination of analytic group, geographic area, and enrollment and beneficiary group. (The stratification procedure is described in Chapter 3.) Some sampling variables had to be created using the information from the DEERS extract files. These variables appear below, along with the input DEERS variables used to construct them.

- **MPRID (nonconfidential identification number)**. This variable corresponds uniquely to PTNT_ID so that units in the frame can be linked back to information from the extract file.
- **GROUP (Analysis group of interest)**. This variable consists of the values 0, 1, 2, 3, and 6 which denote the following groups: 0 = beneficiaries enrolled in TRICARE Reserve Select; 1 = beneficiaries younger than 65 enrolled in Prime with a military PCM and all the active duty beneficiaries; 2 = beneficiaries younger than 65 enrolled in Prime with a civilian PCM; 3 = Non-enrollees younger than 65; 6= beneficiaries age 65 or older. This variable was created from DEERS variables ACV[8], PATCAT[9], PCM, and DAGEQY[10]. The definitions of the sampling variable GROUP for GROUP=2 and 3 are different from the subpopulations (2) and (3) listed on Page 1 in Chapter 1, because as we will mention later in Chapter 4, the sample frame does not indicate whether a beneficiary uses a MCSC or Standard/Extra.
- **COM_GEO (geographic area).** For beneficiaries with a military PCM (GROUP = 1), the geographic area is either the enrollment DMIS_ID for a specific MTF. Defense Health Agency

[8] ACV identifies TRICARE prime enrollment type and USFHP enrollment

[9] PATCAT is the aggregated code based on derived beneficiary category and person age years quantity

[10] DAGEQY is the age of the person in years, calculated based on person birth date and the extract date.

(DHA) provided Mathematica a list of DMIS_ID for 111 reporting MTFs or their corresponding TNEX region. There are four TNEX regions: North, South, West, and Overseas. For the other 3 groups (GROUP = 2, 3, and 6), the geographic area is set to the TNEX region (TNEXREG). For GROUP=0, we did not stratify by geographic area.

- **ENBGSMPL (enrollment status and beneficiary group of a beneficiary).** This variable was defined as a combination of beneficiary and enrollment groups. This variable consists of the values 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11, which denote the following groups: 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 or older enrolled in Senior Prime with a civilian PCM; 9 = retirees and their family members age 65 or older enrolled in Senior Prime with a military PCM; and 10 = retirees and their family members age 65 or older not enrolled in Senior Prime; and 11 = beneficiaries enrolled in TRICARE Reserve Select. Retirees whose age was missing were classified as not enrolled in TRICARE Prime. This variable was created from DEERS variables PATCAT, PNTYPCD[11], PNLCATCD[12], PCM, DAGEQY, and ACV.

- **EBSMPL (enrollment status and beneficiary group of a beneficiary as one of the stratification variables).** The values of this variable is the same as the values of ENBGSMPL for GROUP = 0, 1, 2, and 3. For GROUP =6, we do not differentiate between the enrollment and beneficiary group, and EBSMPL takes the value of 99.

[11] PNTYPCD represents a specific kind of person

[12] PNLCATCD represents how the DoD personnel and/or finance center views the sponsor based on accountability and reporting strengths.

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Chapter 3

Construction of Sampling Strata

The quarterly survey sample was independently selected within strata. We stratified the quarterly survey sample into non overlapping subpopulations for three reasons:

1. We want data with known precision for certain analytic domains.

2. Response rates differ markedly for different beneficiary groups. For example, active duty beneficiaries historically respond at a rate considerably lower than retirees.

3. Stratification may increase precision in the estimates of characteristics of the whole MHS population. By stratifying the population, we can create homogeneous subpopulations. If each stratum is homogeneous, a precise estimate of any stratum mean can be obtained from a small sample in that stratum. These estimates can then be combined into a precise estimate for the whole population.

We constructed the strata taking into consideration the first two of the three reasons above. Key analytic domains are constructed based on enrollment and beneficiary group characteristics. In addition, we believe that TRICARE Prime enrollment type, beneficiary group, and geographic area correlate with many of the survey variables.

Therefore, we defined the strata by a combination of analytic group, geographic area, and enrollment and beneficiary group. This chapter describes how we constructed the strata.

A. STRATIFICATION VARIABLES

The quarterly survey sampling frame included three stratification variables: (1) analytic group (GROUP), (2) geographic area (COM_GEO), and (3) enrollment and beneficiary group (EBSMPL).

1. Analytic Group

The analytic group (GROUP) defines five subpopulations within which we want survey data with known precision. These groups include (1) beneficiaries under 65 and enrolled in Prime with a military PCM or active duty beneficiaries, (2) beneficiaries under 65 and enrolled in Prime with a civilian PCM, (3) beneficiaries under age 65 not enrolled in Prime, (4) beneficiaries enrolled in TRICARE Reserve Select, and (5) beneficiaries age 65 or older. These five subpopulations were selected in cooperation with DHA staff in order to meet the needs of data users and policymakers.

2. TRICARE Prime Enrollment Status and Beneficiary Type

The enrollment status and beneficiary type stratification variable, ENBGSMPL, was developed as follows. First, enrollment status was determined by dividing the target population into four enrollment groups: (1) enrolled in TRICARE Prime with a military PCM, (2) enrolled in TRICARE Prime with a civilian PCM, (3) enrolled in TRICARE Reserve Select, and (4) not enrolled in TRICARE Prime. Enrollment status was determined using the DEERS variable for the PCM code and the Alternate Care Value (ACV). Following the definition of PCM values, all beneficiaries with

PCM = MTF (military PCM) or PCM = CIV (civilian PCM) are enrolled in Prime. All beneficiaries with PCM = blank are not enrolled in Prime. All beneficiaries with ACV = R are enrolled in TRICARE Reserve Select. We then created EBSMPL, which is equal to the value of ENBGSMPL for GROUP = 0, 1, 2, and 3. However, for GROUP =6, this variable does not differentiate the enrollment and beneficiary group, and EBSMPL takes on the value of 99.

Next, beneficiaries were separated into four groups: (1) active duty beneficiaries, (2) family members of active duty beneficiaries, (3) retirees and their family members younger than 65, and (4) retirees and their family members age 65 or older. We used DEERS variable PATCAT to identify each beneficiary group. All beneficiaries with PATCAT = ACTDTY are active duty; all beneficiaries with PATCAT = DEPACT are active duty family members. Those beneficiaries with PATCAT = NADD<65 are retirees and their family members younger than 65; and those beneficiaries with PATCAT = NADD65+ are retirees and their family members age 65 or older. Two beneficiaries in quarter one were missing beneficiary group assignment (PATCAT). Details are in the SAS code in Appendix E.

All active duty are in their own enrollment and beneficiary group. Active duty beneficiaries who are not enrolled in TRICARE Reserve Select are grouped together because they are regarded as being enrolled in TRICARE Prime.

3. Geographic Area

The definition of geographic area depends on the beneficiary's analytic group. For beneficiaries younger than 65 enrolled in Prime with a military PCM and all the active duty beneficiaries (GROUP = 1), the geographic area was defined as either the Military Treatment Facility (MTF) with financial responsibility for the beneficiary or their corresponding TNEX region. For all other beneficiaries (GROUP = 0, 2, 3, 6), the geographic area was defined as the TNEX region where the beneficiary lived. The Defense Medical Information System (DMIS) assigns an identifier called the ENRID for each beneficiary who is enrolled. For enrollees with a military PCM, the value of ENRID defines their geographic area except when the ENRID corresponds to an inactive facility, a facility whose purpose is only administration, or when the ENRID is assigned because a beneficiary is at sea. See Appendix B for a full list of these facilities. In these cases, we used the derived geographic catchment area variable (DCATCH).

B. COLLAPSING STRATA

Because the populations of some strata were too small, we collapsed strata when necessary. Specifically, the “Overseas” TNEX region in GROUP = 6 is collapsed with the largest TNEX region within the same GROUP. In addition, we collapsed across the EBSMPL for some geographic areas.

C. STRATIFICATION RESULTS

The stratification scheme resulted in 320 strata (STRATUM), which can be uniquely specified using three variables: GROUP, GEOSMPL (collapsed version of geographic area COM_GEO), and EBSMPL (collapsed version of enrollment status and beneficiary group ENBGSMPL). The sampling frame contains these variables as well as other variables used in developing the final collapsed strata.

The final step before selecting the sample was to generate stratum-level population counts to allocate the sample to meet predetermined precision rules for various domains. The following chapter discusses sample size allocation.

Chapter 4

Sample Sizes

The total sample size for the quarterly survey was determined based on the sample size appropriate for each analytic domain. Analytic domains are usually larger than a single stratum, usually consisting of a group of sampling strata. Therefore, we specified precision requirements for these analytic domains. In addition, an optimum allocation was made to strata to reduce sampling errors of survey estimates. In this chapter, we present the procedures used for the quarterly survey sample size allocations, including the requirements, expected proportions, response rates, and how the sample sizes were finally determined.

A. PRECISION REQUIREMENTS

Stratum-level sample sizes were determined based on precision requirements, expected proportions, and expected response rates. These requirements were defined to ensure adequate precision for constructing 95 percent confidence intervals for proportion estimates. The survey estimates the proportion of beneficiaries with certain attributes for particular domains of interest. When the sample size is large enough and the proportion is near neither zero nor one, we can assume that estimated proportions will follow approximate normal distributions according to the Central Limit Theorem (Skinner, Holt, and Smith 1989, Sukasih and Jang 2005). The resulting 100(1-α) percent confidence interval for a proportion of interest *P* is based on the standard formula:

(4.1) $$p \pm z_{1-\alpha/2}\sqrt{V(p)} = p \pm HL$$

where *p* is an estimate of *P*, $z_{1-\alpha/2}$ is the 100(1-α/2)th percentile point from the standard normal distribution with a mean of zero and a standard deviation of one, *V*(*p*) is the variance of the estimate, and HL is the half-length of the two-sided 95 percent confidence interval, or $HL = z_{0.975}\sqrt{V(p)}$.

For the quarterly survey, precision requirements specified that the *HL* of the 95 percent confidence interval in (4.1) for a given estimate should be less than or equal to a specified value. Because the maximum *HL* value occurs for *P* = 0.5, the precision requirements for the *HLs* were set for *P* values of 0.5, which helped to ensure that *HLs* for all estimates would be less than or equal to the specified values.

Similar to FY2013, the FY2014 sample design specifies precision for a number of important analytic domains. These precision levels vary by domain. Moreover, some precision requirements are specified as quarterly confidence intervals and others are specified as annual (combining three quarters) confidence intervals. Combining three quarters of the quarterly survey should yield MTF level estimates with precision of 7 percentage points. Moreover, combining three quarters should yield precision levels of 6 percentage points for TRICARE Reserve Select estimates. Each quarter the quarterly survey should yield MTF enrolled by TNEX region estimates with precision of 7 percentage points and beneficiaries 65 or older by TNEX region with precision of 7 percentage points.

By creating strata for beneficiaries enrolled with a civilian PCM and beneficiaries not enrolled, we plan to achieve our desired precision levels for beneficiaries who use Managed Care Support Contractors and beneficiaries who use Standard/Extra, respectively. Each quarter should yield MCSC by TNEX region estimates with precision of 7 percentage points. Combining four quarters should yield Standard/Extra users by beneficiary group by TNEX region estimates with precision of 6 percentage points.

B. EXPECTED PROPORTION

The sample frame does not indicate whether a beneficiary uses a MCSC or Standard/Extra. Therefore, after calculating the number of eligible respondents needed to achieve the precision requirements, we inflated the resulting sample sizes to account for the expected proportion of MCSC users among those enrolled with a civilian PCM and Standard/Extra users among nonenrollees younger than 65. Seventy-three percent of active duty family members enrolled in Prime with civilian PCM younger than 65 and 92 percent of retirees and their family members enrolled in Prime with civilian PCM younger than 65 are expected to be users of MCSC; 45.5 percent of nonenrolled active duty family members younger than 65 and 27.5 percent of nonenrolled retirees and their family members younger than 65 are expected to be Standard/Extra users. To calculate the sample size to account for the expected proportion, we adjusted the sample allocation by the inverse of the expected proportion.

C. RESPONSE RATES

After calculating the number of eligible respondents needed to achieve the precision requirements and the expected proportion, we inflated the resulting sample sizes to account for survey nonresponse. The rates are based on historical response rate by beneficiary group, American Community Survey estimates of internet coverage by age, and potential loss due to no longer offering a paper option. were used to approximate the expected quarterly survey response rates in FY2014. Because response rates were known to vary substantially across enrollment and beneficiary groups, we projected different response rates for each group: 13 percent for active duty beneficiaries; 4 percent for active duty family members enrolled in Civilian PCM; 5 percent for active duty family members enrolled in Military PCM; 3 percent for active duty family members not enrolled in Prime; 19 percent for retirees and their family members younger than 65 enrolled in Civilian PCM; 17 percent for retirees and their family members younger than 65 enrolled in Military PCM; 14 percent for retirees and family members younger than 65 not enrolled in Prime; 7 percent for retirees and their family members age 65 or older; and 23 percent for the TRICARE Reserve Select (TRS). To calculate the final sample size, we adjusted the sample allocation by the inverse of the anticipated response rate.

D. SAMPLE SIZE COMPUTATION

In this section, we describe the key algorithms used to determine sample sizes and summarize how each precision requirement affected the total sample size. The technical presentation in Appendix F is the basis for the sample sizes we developed to meet the survey precision requirements. Appendix E includes the in-house SAS programs we used in determining sample sizes.

The first step was allocating eligible respondents to each stratum corresponding to a stratum-level precision requirement.[13] Next, we allocated the initial sample sizes needed to achieve the precision requirements for each domain created by age, enrollment type, beneficiary group, and geographic area (see Section A above for details on domain-specific precision requirements). We needed values for stratum-level population size (POPSIZE) and domain-specific population size (DSUM1). The summation in the formula occurs over all strata within the domain *d*. Input values needed to calculate sample size for domain *d* for (F.7) and (F.8) in Appendix F were:

- N_h : POPSIZE for stratum *h*
- $N_d = \sum_{h=1}^{H} N_{dh}$: DSUM1 is the population size of domain *d* over all strata
- $V_{d,o} = B_d^2 / 3.8416$ for all geographic areas
- *B* = precision requirement for domains

The optimal domain-level sample sizes were calculated using (F.9) in Appendix F for all domains. Here, N_d, N_h, and $V_{d,0}$ are the same as defined above, and the summation in the formula occurs over all strata within domain *d*. The output is denoted by n_d. With the optimal domain-level sample sizes, n_d, stratum-level sample sizes were also optimally allocated for all strata. Input values for (F.11) in Appendix F are the same as defined for (F.9) above. The resulting sample sizes at this step are denoted as n_h^{opt}.

After finalizing strata sample sizes for eligible respondents, we incorporated the expected proportion and then the expected response rates to obtain the final sample sizes. We used the unweighted response rates from the third quarters of 2010 HCSDB response rates for beneficiary groups as the expected response rates *R; R* = 0.13, 0.04, 0.05, 0.03, 0.19, 0.17, 0.14, 0.07, and 0.23 for enrollment and beneficiary group 1 (AD), 2 (ADFM-CIV), 3 (ADFM-MTF), 4 (ADFM-NE), 5 (RET<65-CIV), 6 (RET<65-MTF), 7 (RET<65-NE), 8 (RET65+), and 9 (TRICARE- TRS), respectively. The final sample sizes were then calculated as:

$$n_{h,F} = \frac{n_h}{R_h}$$

where n_h denotes the sample size in stratum *h* and R_h denotes the expected response rate in stratum *h.* Once we attained the required precision goals, we optimally allocated the overall sample of 100,000 beneficiaries.

[13] A stratum-level precision requirement was set to obtain initial stratum level sample sizes necessary for our in-house sample size determination program.

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Chapter 5

Selecting the Sample

The quarterly survey sampling was independently performed within the strata (see Chapter 3) based on the sample size allocation (see Chapter 4). Within each stratum, beneficiaries were sorted by a random number that was permanently assigned to a frame unit. After beneficiaries were sorted, we sampled them using a permanent random number (PRN) technique (Ohlsson 1995). This technique permanently associates a random number with each beneficiary and avoids overlap between samples for different quarterly surveys in the same year and across years.

Beneficiaries were sampled at varying rates depending on the sampling stratum. The algorithm that was used to draw the sample automatically selected beneficiaries to yield the predetermined stratum sample size. In this chapter we describe the PRN selection procedure, and how we checked the sample to evaluate the selection procedure. Appendix E contains the SAS program for the quarterly survey sample selection.

A. PRN SELECTION PROCEDURE

Our sample selection process was based on a stratified sample design and predetermined stratum sample sizes. The population was stratified by the cross of the three stratifying variables; small cells were collapsed as discussed in Chapter 3. Independent samples were drawn from each stratum separately.

1. Assignment of the Permanent Random Number

When we first implemented the PRN selection method for the 2001 HCSDB, each beneficiary in the sampling frame was permanently assigned a random number drawn independently from the uniform distribution on the interval (0,1). These PRNs, permanent for beneficiaries who stayed on the frame, were used for every subsequent sample selection. The frame has been updated for each quarter. Beneficiaries who became ineligible were removed from the list along with their PRNs. Beneficiaries who became eligible and were added to the frame were assigned a unique PRN. Prior to selecting the sample for the FY2014 HCSDB, the newly eligible beneficiaries added to the ordered list of PRNs.

2. Partitioning the Frame into the Four Zones

For the quarterly surveys in FY2014, overlap among the three quarterly samples, as well as overlap with the FY2013 HCSDB, had to be kept to a minimum. This was achieved by partitioning the sampling frame into four zones before drawing the first quarterly sample:

- Zone 1 for all beneficiaries with $0.75 \leq PRN < 1$.
- Zone 2 for all beneficiaries with $0 \leq PRN < 0.25$.
- Zone 3 for all beneficiaries with $0.25 \leq PRN < 0.5$.
- Zone 4 for all beneficiaries with $0.5 \leq PRN < 0.75$.

Zone 1 was used for the sample for the first quarterly survey. Before the selection, we checked that this zone had enough beneficiaries in each stratum to meet the sample size requirements for the survey.

Using the stratum sample size n_h for each stratum (h = 1, …, 320), we used a PRN sample selection method. Sample selection was independent and essentially identical across sampling strata. The following describes the sample selection procedure for one stratum.

Recall that each zone was stratified according to the procedures outlined in Chapter 3 and that within each stratum, the PRNs are arranged in ascending order. The starting point for Zone 1, a_i, was equal to 0.75 for quarter 1. This starting point was chosen to minimize the overlap with quarter 1 FY2013. Therefore, for stratum h, the sample consists of the first n_h beneficiaries with a random number larger than 0.75, where n_h is the predetermined stratum sample size. This procedure was repeated for every stratum. We wrote a custom program for the sample selection (Appendix E).

3. Overlap Between the 2012 and 2013 Samples and the 2014 Sample

The PRN method provides the means to reduce overlap between year 2013 and year 2014 of the quarterly survey. By selecting varying starting points for the different quarters we minimized the potential overlap. However, the starting point is usually determined following pattern across four quarters within a year. We had an overlap of 528 cases between Q1FY2014 and Q1FY2013, and 6038 cases between Q1 FY2014 and Q1 FY2012. However, this level of overlap is small and, based on the research of Creel et al. (2002), we do not expect any negative effects on response due to the overlap.

B. SAMPLING WEIGHT

The last step in sample selection was to compute the base sampling weight (BWT) for each record. We constructed the sampling weight on the basis of the sample design, which used differential probabilities of selection across strata. The sampling weight is not the final analysis weight. The final analysis weight will be calculated taking in to account differential non-response. Established precision requirements determined the sample sizes. The sampling weights, which reflect these unequal sampling rates across strata, were defined as the inverse of the beneficiary's selection probability, or $BWT_{hi} = N_h/n_h$, where BWT_{hi} is the sampling weight for the i^{th} sampled beneficiary from the h^{th} stratum, N_h is the total number of beneficiaries in the h^{th} stratum, and n_h is the number of sampled beneficiaries from stratum h. The sum of the sampling weights over selections from the h^{th} stratum equals the total population size of the h^{th} stratum or N_h.

C. CHECKS FOR THE SELECTED SAMPLE

After drawing the sample, we evaluated the selection procedure by checking sample sizes for all strata. Appendix C contains these frequency tables:

- The number of sampled records for each stratum (STRATUM)
- The weighted count of sampled records for STRATUM, where the weight is equal to BWT_h, where h = stratum
- The number of frame records for each stratum
- The number of sampled records for each branch of service (SVCCD)
- The weighted count of sampled records for SVCCD

- The number of frame records for SVCCD
- The number of sampled records for each enrollment/beneficiary type (ENBGSMPL)
- The weighted count of sampled records for ENBGSMPL
- The number of frame records for ENBGSMPL

The sample counts after selection must be the same as the predetermined sample sizes for each stratum. Also, the weighted sample counts must be the same as the population counts for each stratum. For non-sampling variables such as SVCCD and ENBGSMPL, sample count distributions were checked against the corresponding population distributions to ensure that no operational errors occurred and that the sample appeared to be reasonably balanced. Because the sampling rates used in the selection process varied, the weighted distributions do not exactly match the population distributions.

After completing the sample checks, we attached the data elements that will be used in the survey mailing and operations to each record in the sample extract file. The file was then sent to Altarum for updating contact information. All variables in the sample extract file are specified in Appendix D.

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

References

Cox, B.G., et al. (1998). “The 1998 Health Care Survey of DoD Beneficiaries: Form A Sample Design.” Submitted to United HealthCare.

Creel, D., Jang, D., Kasprzyk, D., Williams, T. (2002). “Permanent Random Number Technique to Minimize Response Burden in Repeated Surveys.” *2002 Proceedings of the American Statistical Association, Survey Research Methods Section* [CD-ROM]. Alexandria, VA: American Statistical Association.

Jang, D., Satake, M.. (1999). “The 1999 Health Care Survey of DoD Beneficiaries: Adult Sample Design.” Submitted to United HealthCare.

Ohlsson, E. (1995). “Coordination of Samples Using Permanent Random Numbers.” In *Business Survey Methods* edited by B.G. Cox et al. New York: John Wiley & Sons.

Skinner, C.J., Holt, D., and Smith, T.M.F. (1989). *Analysis of Complex Surveys.* New York: John Wiley & Sons.

Sukasih, A., Jang, D. (2005). "An Application of Confidence Interval Methods for Small Proportions in the Health Care Survey of DoD Beneficiaries," *2005 Proceedings of the American Statistical Association, ASA Section on Survey Research Methods*[CD-ROM], Alexandria, VA: American Statistical Association: pp. 3608-3612.

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

APPENDIX A

DEERS VARIABLES REQUESTED BY MATHEMATICA

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

DEERS VARIABLES

Variable	Explanation
B.1.	Age of beneficiary in years, representing the difference between the date-of-birth and the date of the reference date
B.2.	Beneficiary's date of birth
B.3.	Beneficiary's record type
B.4.	Beneficiary's race/ethnicity
B.5.	Beneficiary's sex
B.6.	Beneficiary's Medicare eligibility code
B.7.	Medicare A Begin Reason Code
B.8.	Medicare A Effective Date
B.9.	Medicare A Expiration Date
B.10.	Beneficiary's primary care manager code
B.11.	Beneficiary's alternative care value
B.12.	Beneficiary's enrolled DMIS
B.13.	Beneficiary's first name
B.14.	Beneficiary's last name
B.15.	Beneficiary's middle name
B.16.	Beneficiary's generation
B.17.	Beneficiary's residential address - line 1
B.18.	Beneficiary's residential address - line 2
B.19.	Beneficiary's residential address – city
B.20.	Beneficiary's residential address – state
B.21.	Beneficiary's residential address – country
B.22.	Beneficiary's residential address – zip
B.23.	Beneficiary's residential address – zip extension
B.24.	Beneficiary's residential address flag - 0 if no res. Address available, 1 if there is a residential address
B.25.	Beneficiary's residence phone number
B.26.	Beneficiary Category coded as one of the following groups: (1) Active duty; (2) Dependent of active duty; (3) Dependent of Medically Eligible Guard/Reserve; (4) Dependents of Retiree; (5) Dependent Survivor; (6) Medically Eligible Guard/Reserve; (7) Dependent of Inactive Guard; (8) Inactive Guard/Reserve; (9) Other; (10) Retirees; and (11) Unknown
B.27.	Beneficiary Type coded as one of these four groups: (1) Active duty; (2) Active duty dependents; (3) Retirees and their dependents less than 65; or (4) Retirees and their dependents 65 and over
B.28.	Beneficiary's Catchment area from the consolidation of (i) the list of MTFs for Prime enrollees with military Primary Care Organization; (ii) the list of catchment areas for Prime enrollees with a civilian Primary Care Organization; and (iii) the list of service areas for non- enrollees

Variable	Explanation
B.29.	The code represents a geographical PRISM service area that is similar in concept to the inpatient catchment area except this is based on a 20-mile service area
B.30	Beneficiary's TRICARE region based on the constructed Catchment area assignment
B.31.	Beneficiary's TNEX region based on the newly defined TNEX organization
B.32.	Person/Patient ID
B.33.	Primary Record Identifier/Flag
B.34.	Beneficiary's SSN
B.35.	Beneficiary's DMDC Dependent Suffix
B.36.	Beneficiary's MTF Service Area
B.37.	Beneficiary's Medical Eligibility Status
C.1.	DEERS last update date
C.2.	CHCS mailing address line 1
C.3.	CHCS mailing address line 2
C.4.	CHCS mailing address line 3
C.5.	CHCS city
C.6.	CHCS home telephone number
C.7.	CHCS first name
C.8.	CHCS last name
C.9.	CHCS state
C.10.	CHCS last update date
C.11.	CHCS zip code
D.1.	Dependent's relationship to sponsor
S.1.	Sponsor's social security number
S.2.	Sponsor's duty status
S.3.	Sponsor duplicate identifier
S.4.	Sponsor's marital status
S.5.	Sponsor's pay grade
S.6.	Sponsor's rank abbreviation
S.7.	Branch classification of Service with which the sponsor is affiliated
S.8.	The code that represents an aggregated sponsor branch of service based on Service Branch Classification Code, General Location Code, and Derived Beneficiary Category
S.9.	Medical privileges of sponsor
S.10.	Sponsor's unit address -street 1
S.11.	Sponsor's unit address -street 2
S.12.	Sponsor's unit address – city
S.13.	Sponsor's unit address -state/with asterisks to distinguish foreign vs. domestic addresses

Variable	Explanation
S.14.	Sponsor's unit address – zip
S.15.	Sponsor's unit address flag - 0 if no unit address available, 1 if there is a unit address
S.16.	Sponsor's unit—region
S.17.	Sponsor's unit address - DMIS code
S.18.	Sponsor's residential address – line 1
S.19.	Sponsor's residential address – line 2
S.20.	Sponsor's residential address – city
S.21.	Sponsor's residential address – state
S.22.	Sponsor's residential address – country
S.23.	Sponsor's residential address – zip
S.24.	Sponsor's residential address – zip extension
S.25.	Sponsor's residential address flag - 0 if no res. address available, 1 if there is a residential address
S.26.	Sponsor's residence phone number
S.27.	Sponsor's pay category
S.28.	Sponsor's DMDC ID
S.29.	Sponsor's Reserve Component Code

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

APPENDIX B

Q1 2014 TABLES FOR ENROLLEES WITH A MILITARY PCM AND GEOGRAPHIC AREA EQUAL TO CATCHMENT AREA

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Table B.1

Enrollees with a Military PCM and Geographic Area Equal to Catchment Area

ASSIGN	DMIS_ID	DMIS_FAC
MANAGED CARE CONTRACTOR	6901	MANAGED CARE CNTRCTR-REGION 01
	6902	MANAGED CARE CNTRCTR-REGION 02
	6903	MANAGED CARE CNTRCTR-REGION 03
	6904	MANAGED CARE CNTRCTR-REGION 04
	6905	MANAGED CARE CNTRCTR-REGION 05
	6906	MANAGED CARE CNTRCTR-REGION 06
	6907	MANAGED CARE CNTRCTR-REGION 07
	6908	MANAGED CARE CNTRCTR-REGION 08
	6909	MANAGED CARE CNTRCTR-REGION 09
	6910	MANAGED CARE CNTRCTR-REGION 10
	6911	MANAGED CARE CNTRCTR-REGION 11
	6912	MANAGED CARE CNTRCTR-REGION 12
	6913	MANAGED CARE CNTRCTR-REGION 13
	6914	MANAGED CARE CNTRCTR-REGION 14
	6915	MANAGED CARE CNTRCTR-REGION 15
	6916	MANAGED CARE CNTRCTR-REGION AK
	6917	MANAGED CARE CNTRCTR-REGION 17
	6918	MANAGED CARE CNTRCTR-REGION 18
	6919	MANAGED CARE CNTRCTR-REGION 19
	8001	88TH MED GROUP-TSC PCM
	8002	SCOTT MED CENTER TSC-PCM
	8003	NAV HOSP GREAT LAKES TSC-PCM
	8004	BLANCHFIELD ARMY HOSP TSC-PCM
	8005	IRELAND ACH-KNOX TSC-PCM
	8006	PORTSMOUTH VA-MCS-PCM
	8007	CAMP LEJEUNE-MCS-PCM
	8008	SEYMOUR JOHNSON AFB-MCS-PCM
	8009	FT BRAGG-MCS-PCM
	8010	779TH MED GRP ANDREWS TSC-PCM
	8011	87TH MED GRP MCGUIRE TSC-PCM
	8012	66TH MED GRP HANSCOM TSC-PCM
	8013	436TH MED GRP DOVER TSC-PCM

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
MANAGED CARE CONTRACTOR, CONT.	8014	WALTER REED AMC TSC-PCM
	8015	KELLER ACH TSC-PCM
	8016	GUTHRIE AHC-FT. DRUM TSC-PCM
	8017	NNMC BETHESDA TSC-PCM
	8018	NAVAMBCARECEN GROTON TSC-PCM
	8019	CHANUTE AFB(RANTOUL) TSC-PCM
	8020	FT BENJAMIN HARRISON TSC-PCM
	8021	GRISSOM AFB(PERU) TSC-PCM
	8022	KI SAWYER AFB(GWINN) TSC-PCM
	8023	WURTSMITH AFB(OSCODA) TSC-PCM
	8024	AKRON/CANTON TSC-PCM
	8025	CHICAGO/GARY TSC-PCM
	8026	CINCINNATI TSC-PCM
	8027	CLEVELAND TSC-PCM
	8028	COLUMBUS TSC-PCM
	8029	DETROIT TSC-PCM
	8030	LANGLEY AFB TSC-PCM
	8031	NH CHERRY POINT TSC-PCM
	8032	FORT LEE TSC-PCM
	8033	FORT EUSTIS TSC-PCM
	8034	MILWAUKEE TSC-PCM
	8035	ST LOUIS TSC-PCM
	8036	YOUNGSTOWN TSC-PCM
INACTIVE	0002	NOBLE AHC-FT. MCCLELLAN
	0012	97th STRAT HOSP-EAKER
	0041	BMC KEY WEST
	0044	31st MED GRP-HOMESTEAD
	0082	WALSON ACH-FT. DIX
	0111	64th MED GRP-REESE
	0213	NMCL LONG BEACH
	0235	750th MED SQUAD-ONIZUKA AS
	0250	60th MED GRP-MCCLELLAN
	0449	24th MED GRP-HOWARD
	0585	10 SPEC FORCES-FT. CARSON

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
INACTIVE, CONT.	0626	52nd MED GRP-BITBURG
	5208	USUHS
AT SEA	3031	USS JOHN F KENNEDY (CV67)
	3032	USS NIMITZ (CVN68)
	3033	USS EISENHOWER (CVN69)
	3034	USS T ROOSEVELT (CVN71)
	3035	USS ABRAHAM LINCOLN (CVN72)
	3036	USS JOHN STENNIS (CVN74)
	3037	USS MT WHITNEY (LCC20)
	3038	USS TARAWA (LHA1)
	3039	USS SAIPAN (LHA2)
	3040	USS NASSAU (LHA4)
	3041	USS PELELIU (LHA5)
	3042	USS WASP (LHD1)
	3043	USS ESSEX (LHD2)
	3044	USS KEARSARGE (LHD3)
	3045	USS BOXER (LHD4)
	3046	USS BATAAN (LHD5)
	3047	USS AUSTIN (LPD4)
	3048	USS OGDEN (LPD5)
	3049	USS DULUTH (LPD6)
	3050	USS CLEVELAND (LPD7)
	3051	USS DUBUQUE (LPD8)
	3052	USS DENVER (LPD9)
	3053	USS JUNEAU (LPD10)
	3054	USS SHREVEPORT (LPD12)
	3055	USS NASHVILLE (LPD13)
	3056	USS TREMTOM (LPD14)
	3057	USS PONCE (LPD15)
ADMINISTRATIVE PURPOSES	1976	BMC CAMP MARGUARITA
	1977	BMC CAMP LAS FLORES
	1978	BMC CAMP LAS PULGAS
	1979	BMC CAMP HORNO
	1980	BMC CAMP SAN MATEO

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
ADMINISTRATIVE PURPOSES, CONT.	6301	OP FORCES-NH CAMP PENDLETON
	6302	OP FORCES-NH LEMOORE
	6303	OP FORCES-NMC SAN DIEGO
	6304	OP FORCES-NH TWENTY-NINE PALM
	6305	OP FORCES-NBHC GROTON
	6306	OP FORCES-NH PENSACOLA
	6307	OP FORCES-NH JACKSONVILLE
	6308	OP FORCES-NH GREAT LAKES
	6309	OP FORCES-NNMC BETHESDA
	6310	OP FORCES-NMCL PAXTUXENT
	6311	OP FORCES-NH CAMP LEJEUNE
	6312	OP FORCES-NH CHERRY POINT
	6313	OP FORCES-NACC NEWPORT
	6314	OP FORCES-NH CHARLESTON
	6315	OP FORCES-NH BEAUFORT
	6316	OP FORCES-NH CORPUS CHRISTI
	6317	OP FORCES-NMC PORTSMOUTH
	6318	OP FORCES-NH BREMERTON
	6319	OP FORCES-NH OAK HARBOR
	6320	OP FORCES-NMCL PEARL HARBOR
	6321	OP FORCES-NMCL ANNAPOLIS
	6322	OP FORCES-NBHC PORTSMOUTH
	6323	OP FORCES-NMCL QUANTICO
	6501	TRICARE SRVC AREA (PORTSMOUTH)
	6502	SAN ANTONIO SRVC AREA (LACKLAN
	6503	SAN FRANCISCO SRVC AREA (TRAVI
	6504	SOUTH CA SRVC AREA (SAN DIEGO)
	6505	COLORADO SRVC AREA (CARSON)
	6506	FT STEWART/BEAUFORT SRVC AREA
	6507	NORTH CAROLINA SERVICE AREA
	6508	SOUTH CAROLINA SERVICE AREA
	6509	DELAWARE VALLEY SRVC AREA
	6510	WASHINGTON SRVC AREA
	6511	HAWAII TRICARE CATCHMENT AREA

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
ADMINISTRATIVE PURPOSES, CONT.	6512	CALIFORNIA/HAWAII ENROLLMENT
	6700	TRICARE EUROPE-SEMBACH AB
	6701	ARAXOS
	6702	MEDICAL AID STATION GLONS
	6703	MED AID STATION KLEIN BROGEL
	6704	401 EABG/SG-TUZLA AB
	6705	525 EABS/SG-YUGOSLAVIA
	6706	AMERICAN FORCES ISTRES AB
	6707	MED AID STATION BUECHEL
	6708	MED AID STATION KALKAR
	6709	12 SWS/SG (AFSPC)-THULE AB
	6710	406 EABG/SG-TASZAR AB
	6711	31 MUNSS-GHEDI AB
	6712	426 ABS/SG-STAVENGER
	6713	763 EXP AS-MUSCAT
	6714	DET 4 18 SPSS (SPACECOM)-MORON
	6715	DET 2 45TH LG AFSPC-AA AIR FLD
	6716	USDAO SCOTLAND
	6717	21SW DET AFSPC-RAF FYLINGDALES
	6718	AFSPC UNIT-OAKHANGER
	6719	USDAO KABUL
	6720	WESTERN EUROPE
	6721	EASTERN EUROPE
	6722	NORTHERN AFRICA
	6723	SOUTHERN AFRICA
	6724	CENTCOM
	6725	USDAO VIENNA
	6726	USDAO BAKU
	6727	USDAO MINSK
	6728	USDAO BRUSSELS
	6729	USDAO BENIN-PORTO-NOVO
	6730	USDAO SARAJEVO
	6731	USODC GABORONE
	6732	USDAO SOFIA

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
ADMINISTRATIVE PURPOSES, CONT.	6733	USDAO OUAGADOUGOU
	6734	AM EMB BUJUMBURA
	6735	USDAO YAOUNDE
	6736	USDAO PRAIA
	6737	AM EMB BANGUI
	6738	USDAO N'DJAMENA
	6739	USDAO BRAZZAVILLE
	6740	USDAO ABIDJAN
	6741	USDAO ZAGREB
	6742	USDAO NICOSIA
	6743	USDAO PRAGUE
	6744	USDAO KINSHASA
	6745	USDAO COPENHAGEN
	6746	USDAO DJIBOUTI
	6747	USDAO CAIRO
	6748	USDAO MALABO
	6749	USDAO ASMARA
	6750	USDAO TALLINN
	6751	USDAO ADDIS ABABA
	6752	USDAO HELSINKI
	6753	USDAO PARIS
	6754	AM EMB LIBREVILLE
	6755	AM EMB BANJUL
	6756	USDAO TBILISI
	6757	USDAO BERLIN
	6758	USDAO ACCRA
	6759	USODC ATHENS
	6760	JOINT CMND S CENTRAL-LARISSA
	6761	USDAO CONAKRY
	6762	USDAO BISSAU
	6763	USDAO VATICAN CITY
	6764	USDAO BUDAPEST
	6765	USDAO REYKJAVIK
	6766	USDAO TEHRAN

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
ADMINISTRATIVE PURPOSES, CONT.	6767	USDAO BAGHDAD
	6768	USDAO DUBLIN
	6769	USDAO TEL AVIV
	6770	USODC ROME
	6771	USDAO AMMAN
	6772	AM EMB ALMATY
	6773	USDAO NAIROBI
	6774	USDLO KUWAIT CITY
	6775	USDAO BISHKEK
	6776	USDAO RIGA
	6777	USDAO BEIRUT
	6778	USDAO MASERU
	6779	USDAO MONROVIA
	6780	USDAO TRIPOLI
	6781	USDAO VADUZ
	6782	USDAO VILNIUS
	6783	USDAO LUXEMBOURG
	6784	USDAO CAMP ABLE SENTRY-SKOPJE
	6785	USDAO LILONGWE
	6786	USDAO BAMAKO
	6787	USDAO VALETTA
	6788	USDAO NOUAKCHOTT
	6789	USDAO CHISINAU
	6790	USDAO MONTE CARLO
	6791	USDAO RABAT
	6792	USDAO MAPUTO
	6793	USDAO WINDHOEK
	6794	USDAO THE HAGUE
	6795	AF RHEINDAHLEM
	6796	US AID STATION VOLKEL
	6797	AM EMB NIAMEY
	6798	USDAO LAGOS
	6799	USDAO OSLO
	6800	USDAO MUSCAT

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
ADMINISTRATIVE PURPOSES, CONT.	6801	USDAO ISLAMABAD
	6802	USDAO WARSAW
	6803	CINCSOUTHLAND-LISBON
	6804	USDAO LISBON
	6805	USDAO DOHA
	6806	USDAO BUCHAREST
	6807	USDAO MOSCOW
	6808	USDAO KIGALI
	6809	USDAO SAN MARINO
	6810	USDAO DAKAR
	6811	USDAO PRISTINA
	6812	USDAO VICTORIA
	6813	USDAO FREETOWN
	6814	USDAO BRATISLAVA
	6815	USDAO LJUBLJANA
	6816	USDAO MOGADISHU
	6817	USDAO PRETORIA
	6818	JOINT COMMND SOUTHWEST-GRANADA
	6819	USDAO MADRID
	6820	USDAO KHARTOUM
	6821	USDAO MBABANE
	6822	USDAO STOCKHOLM
	6823	USDAO BERN
	6824	US MSN SPL LSN DET-GENEVA
	6825	USDAO DAMASCUS
	6826	USDAO DUSHANBE
	6827	USDAO DAR ES SALAAM
	6828	USDAO LOME
	6829	USDAO TUNIS
	6830	USDAO TURKMENISTAN
	6831	USDAO ABU DHABI
	6832	USDAO KAMPALA
	6833	USDAO KIEV
	6834	USDAO TASHKENT

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
ADMINISTRATIVE PURPOSES, CONT.	6835	USDAO SANAA
	6836	USDAO LUSAKA
	6837	USDAO HARARE
	6838	MARINE SEC BATT NICOSIA
	6839	USOMC-CAIRO
	6840	US NAVAL FORCES-CAIRO
	6841	NAMRU
	6842	USMC GUARD-BREMERHAVEN
	6843	USMC SEC BATTALION JERUSALEM
	6844	USMC NAIROBI
	6845	USOMC KUWAIT
	6846	USMC ROTTERDAM
	6847	USOMC MUSCAT
	6848	USMC KARACHI
	6849	USMC LAHORE
	6850	USMC PESHAWAR
	6851	USMC KRAKOW
	6852	USMC ST PETERSBURG
	6853	USMC YEKATERINBURG
	6854	USMC SEC JEDDAH
	6855	USMC CAPETOWN
	6856	MARINE SEC GRD DET-GENEVA
	6857	US SUPPORT UNIT MANAMA
	6858	FAROE ISLAND
	6859	KARUP
	6860	BASSAS DA INDIA
	6861	ILE EUROPA
	6862	ST. PIERRE & MIQUELON
	6863	US DET BONN
	6864	KIGAH
	6865	BOUVET ISLAND
	6866	SVALBARD
	6867	P3 DET CMD MASIRAH ISLAND
	6868	PRINCE SULTAN AIR BASE

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
ADMINISTRATIVE PURPOSES, CONT.	6869	HOFUF
	6870	JUBAIL
	6871	KHAMIS
	6872	TABUK
	6873	RIYADAH
	6874	IZMIR
	6875	USMC ISTANBUL
	6876	UNITED ARAB EMIRATES
	6877	GIBRALTAR
	6878	GUERNSEY
	6879	ISLE OF MAN
	6880	JERSEY
	6881	ST. HELENA
	6991	ACTIVE DUTY ARMY
	6992	ACTIVE DUTY NAVY
	6993	ACTIVE DUTY USAF
	6994	ACTIVE DUTY NON-DOD
	7166	528th SPPT BAT (SPEC OP)-BRAGG
	7167	HQ-USASOC-FT. BRAGG
	7168	HQ-1st SFG (AIRBORNE)-LEWIS
	7169	1st SFG (1st BATTLION)-OKINAWA
	7170	1st SFG (2nd BATTALION)-LEWIS
	7171	1st SFG (3rd BATTALION)-LEWIS
	7172	HQ-3rd SFG (AIRBORNE)-BRAGG
	7173	3rd SFG (1st BATTALION)-BRAGG
	7174	3rd SFG (2nd BATTALION)-BRAGG
	7175	3rd SFG (3rd BATTALION)-BRAGG
	7176	HQ 5th SFG (AIRBORNE)-CAMPBELL
	7177	5th SFG (1st BATTALION)-CAMPBL
	7178	5th SFG (2nd BATTALION)-CAMPBL
	7179	5th SFG (3rd BATTALION)-CAMPBL
	7180	HQ 7th SFG (AIRBORNE)-BRAGG
	7181	7th SFG (1st BATTALION)-BRAGG
	7182	7th SFG (2nd BATTALION)-BRAGG

Table B.1 *(continued)*

ASSIGN	DMIS_ID	DMIS_FAC
ADMINISTRATIVE PURPOSES, CONT.	7183	7th SFG (3rd BATTALION)-BRAGG
	7184	HQ 160th SPEC OPS AV REG-CAMPB
	7185	160th SOAR (1ST BATTLN)-CAMPBL
	7186	160th SOAR (2nd BATTLN)-CAMPBL
	7187	160th SOAR (3rd BATTLN)-STEWRT
	7188	HQ 75th RANGER REG-BENNING
	7189	75th RNGR REG (1st BATTLN)-STE
	7190	75th RNGR REG (2nd BATTLN)-LEW
	7191	75th RNGR REG (3rd BATTLN)-BEN
	7192	10th SFG (1st BATTLN)-STUTTGAR
	7193	10th SFG (2nd BATTLN)-CARSON
	7194	10th SFG (3rd BATTLN)-CARSON
	7195	HQ-USA SPL OP SPPT CMD SOSCOM

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

APPENDIX C

Q1 2014 TABLES FOR SAMPLING CHECK

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Table C.1

Selected Sample Dataset By Zone and
Maximum Permanent Random Number Selected

STRATUM	FRAME SIZE	SAMPLE SIZE (Quarter 1 only)	FRAME				Maximum PRN (Zone 1 only)
			ZONE1	ZONE2	ZONE3	ZONE4	
0999911	172683	940	43056	43143	43187	43297	1.00000
1000103	2263	231	550	622	564	527	0.99973
1000106	6473	162	1626	1636	1581	1630	0.99998
1000301	6420	129	1612	1600	1644	1564	0.99968
1000303	2563	232	628	637	624	674	0.99936
1000306	4688	72	1194	1193	1135	1166	0.99995
1000401	3632	86	881	932	910	909	0.99961
1000403	2228	231	549	552	551	576	0.99873
1000406	5763	103	1440	1484	1423	1416	0.99992
1000501	13986	176	3616	3454	3412	3504	0.99983
1000503	3388	232	830	803	890	865	0.99880
1000506	2362	62	604	591	590	577	0.99996
1000601	7302	95	1884	1733	1853	1832	0.99997
1000603	7094	265	1797	1730	1767	1800	0.99967
1000606	8177	81	2027	2045	2089	2016	0.99995
1000801	3256	110	832	794	831	799	0.99991
1000803	2059	231	508	506	498	547	0.99984
1000806	3095	79	798	730	768	799	0.99986
1000901	5136	81	1267	1234	1343	1292	0.99998
1000903	3091	232	791	750	783	767	0.99977
1000906	10084	111	2453	2525	2520	2586	0.99994
1001001	7707	136	1971	1876	1938	1922	0.99999
1001003	3197	232	783	827	811	776	0.99950
1001006	4786	64	1239	1165	1222	1160	0.99985
1001301	7316	156	1827	1894	1761	1834	0.99979
1001303	2211	231	599	544	542	526	0.99988
1001306	2014	62	483	497	516	518	0.99891
1001401	10466	116	2558	2665	2702	2541	0.99969
1001403	4202	232	1058	1044	1034	1066	0.99972
1001406	10033	84	2535	2452	2519	2527	0.99995
1001801	2917	157	753	711	693	760	0.99977
1001803	2544	391	638	632	630	644	0.99976
1001901	2213	129	516	563	546	588	0.99910
1001903	2810	469	702	706	680	722	0.99898
1002401	41765	172	10315	10479	10519	10452	0.99999
1002403	11984	232	2947	2913	3090	3034	0.99982
1002406	7049	62	1810	1739	1774	1726	0.99996
1004801	25795	145	6468	6557	6542	6228	0.99990
1004803	8628	232	2178	2143	2097	2210	0.99957
1004806	11645	62	2884	2819	3074	2868	0.99981
1004901	24624	145	6157	6166	6158	6143	0.99998
1004903	11146	232	2755	2810	2803	2778	0.99981
1004906	8016	62	1976	2000	2051	1989	1.00000
1005101	4893	116	1205	1256	1247	1185	0.99998
1005103	2076	231	517	550	503	506	0.99910
1005106	4607	83	1153	1143	1165	1146	0.99990

Table C-1 *(continued)*

STRATUM	FRAME SIZE	SAMPLE SIZE (Quarter 1 only)	FRAME ZONE1	FRAME ZONE2	FRAME ZONE3	FRAME ZONE4	Maximum PRN (Zone 1 only)
1005201	36795	161	9069	9237	9253	9236	0.99997
1005203	12925	232	3212	3279	3192	3242	0.99988
1005206	7699	62	1959	1933	1915	1892	0.99999
1005301	3788	154	940	950	969	929	0.99977
1005303	3445	400	821	868	849	907	0.99971
1005501	5908	105	1497	1488	1471	1452	0.99996
1005503	3352	232	894	834	811	813	0.99995
1005506	6383	86	1600	1641	1577	1565	0.99996
1005601	16412	184	4221	4105	4100	3986	0.99996
1005603	2019	231	524	521	482	492	0.99936
1005606	4056	62	1003	1022	1027	1004	0.99946
1005701	18586	161	4624	4690	4645	4627	0.99982
1005703	8152	232	2064	2037	2032	2019	0.99995
1005706	3672	62	931	937	885	919	0.99996
1005801	4783	116	1186	1217	1217	1163	1.00000
1005803	2877	232	735	694	707	741	0.99922
1005806	4049	75	1040	1025	989	995	0.99978
1006001	32906	172	8161	8122	8288	8335	0.99997
1006003	13641	232	3358	3404	3431	3448	0.99973
1006006	4558	62	1196	1101	1138	1123	0.99992
1006101	12346	131	3124	3098	3059	3065	0.99997
1006103	4636	232	1130	1146	1176	1184	0.99968
1006106	8815	71	2296	2240	2161	2118	0.99959
1006201	6040	135	1447	1569	1489	1535	0.99975
1006203	2914	232	742	728	710	734	0.99984
1006206	3395	62	835	886	844	830	0.99922
1006401	9707	149	2494	2372	2390	2451	0.99986
1006403	4169	232	1086	1037	1056	990	0.99997
1006406	2835	62	708	765	658	704	0.99969
1006601	8307	111	2019	2144	2057	2087	0.99975
1006603	3304	232	819	791	862	832	0.99991
1006606	8893	90	2220	2256	2205	2212	0.99986
1006701	19993	152	5051	4939	4918	5085	0.99998
1006703	5112	232	1281	1316	1303	1212	0.99991
1006706	10195	62	2595	2554	2507	2539	0.99986
1006801	5127	132	1295	1224	1374	1234	0.99993
1006803	2252	231	560	535	566	591	0.99950
1006806	3373	66	834	835	815	889	0.99992
1006901	19608	123	4920	4897	4939	4852	0.99987
1006903	7905	232	1953	1881	2053	2018	0.99978
1006906	16214	77	4009	4110	4048	4047	0.99999
1007301	9309	130	2328	2319	2306	2356	0.99987
1007303	2505	232	629	636	626	614	0.99994
1007306	7705	82	1958	1933	1900	1914	0.99990
1007403	3505	835	866	873	921	845	0.99939
1007501	12930	155	3216	3218	3249	3247	0.99992
1007503	3876	232	973	946	964	993	1.00000
1007506	3820	62	968	928	1002	922	0.99995
1007601	4183	135	1031	1077	1021	1054	0.99979
1007603	1973	231	470	511	501	491	0.99988
1007606	2421	62	607	589	632	593	0.99926

Table C-1 *(continued)*

STRATUM	FRAME SIZE	SAMPLE SIZE (Quarter 1 only)	FRAME ZONE1	FRAME ZONE2	FRAME ZONE3	FRAME ZONE4	Maximum PRN (Zone 1 only)
1007701	3519	145	876	897	859	887	0.99982
1007703	3605	425	906	885	924	890	0.99997
1007801	6479	99	1693	1549	1610	1627	0.99990
1007803	3407	232	863	840	844	860	0.99983
1007806	8155	94	2057	2020	2042	2036	1.00000
1007901	12125	103	3027	3130	3005	2963	0.99938
1007903	5696	232	1466	1435	1380	1415	0.99991
1007906	14311	93	3432	3572	3669	3638	0.99993
1008301	4191	132	1061	1047	1024	1059	0.99993
1008303	5146	464	1295	1276	1307	1268	0.99941
1008601	9515	216	2392	2335	2386	2402	0.99981
1008603	2844	232	663	703	710	768	0.99992
1008901	55173	166	13906	13829	13658	13780	0.99999
1008903	22850	232	5759	5666	5715	5710	0.99994
1008906	9132	62	2331	2274	2308	2219	0.99997
1009101	43685	211	10896	10995	10839	10955	0.99997
1009103	7062	232	1768	1839	1736	1719	0.99960
1009106	2900	62	695	765	706	734	0.99967
1009201	8050	141	1973	2052	2018	2007	0.99996
1009203	3249	232	792	838	826	793	0.99971
1009206	3348	62	848	848	832	820	0.99991
1009401	5754	181	1440	1414	1500	1400	0.99969
1009403	3579	323	898	907	875	899	0.99999
1009501	7414	84	1867	1841	1817	1889	0.99983
1009503	3665	232	935	889	927	914	0.99986
1009506	12937	112	3338	3216	3218	3165	0.99997
1009601	7885	137	2011	1952	1959	1963	0.99994
1009603	3363	232	861	802	858	842	0.99986
1009606	4479	62	1109	1097	1100	1173	0.99997
1009801	13157	141	3329	3287	3267	3274	0.99994
1009803	4983	232	1228	1240	1302	1213	0.99994
1009806	5907	62	1537	1438	1421	1511	0.99963
1010001	10511	140	2636	2685	2582	2608	1.00000
1010003	4471	232	1165	1090	1131	1085	0.99996
1010006	4532	62	1128	1144	1136	1124	0.99955
1010101	6060	147	1506	1545	1457	1552	0.99981
1010103	2132	231	552	548	521	511	0.99993
1010106	2102	62	528	547	482	545	0.99985
1010301	7821	153	1966	1949	1988	1918	0.99994
1010303	2262	231	553	572	566	571	0.99847
1010306	2579	62	658	619	643	659	0.99963
1010401	11438	176	2776	2837	2923	2902	0.99994
1010403	2327	232	611	557	592	567	0.99987
1010406	2296	62	580	586	557	573	0.99991
1010501	10682	132	2719	2712	2648	2603	0.99984
1010503	3718	232	962	894	957	905	0.99985
1010506	7722	73	1909	1895	1978	1940	0.99991
1010801	30720	153	7792	7520	7702	7706	0.99999
1010803	13499	232	3345	3366	3390	3398	0.99998
1010806	7642	62	1926	1876	1918	1922	0.99950
1010901	21052	124	5254	5390	5203	5205	0.99997

Table C-1 *(continued)*

STRATUM	FRAME SIZE	SAMPLE SIZE (Quarter 1 only)	FRAME ZONE1	FRAME ZONE2	FRAME ZONE3	FRAME ZONE4	Maximum PRN (Zone 1 only)
1010903	5318	232	1348	1319	1295	1356	0.99938
1010906	20298	91	5090	4990	5077	5141	0.99994
1011001	44967	157	11276	11271	11237	11183	0.99999
1011003	17807	232	4472	4350	4524	4461	0.99999
1011006	10278	62	2502	2571	2590	2615	0.99994
1011201	4488	169	1111	1070	1138	1169	0.99959
1011203	3332	358	795	807	857	873	0.99966
1011301	2267	107	574	608	543	542	0.99948
1011303	3966	534	1014	1006	977	969	0.99966
1011701	10336	85	2544	2561	2591	2640	0.99996
1011703	6874	232	1789	1755	1662	1668	0.99996
1011706	16337	102	4031	4047	4112	4147	0.99992
1011801	5617	156	1409	1316	1457	1435	0.99952
1011803	4963	395	1294	1218	1247	1204	0.99986
1011901	4729	109	1196	1185	1184	1164	0.99997
1011903	2532	232	650	665	594	623	0.99996
1011906	4783	84	1191	1176	1204	1212	0.99996
1012001	10727	111	2686	2740	2649	2652	0.99997
1012003	6394	232	1597	1579	1611	1607	0.99991
1012006	10223	80	2475	2493	2615	2640	0.99997
1012101	5672	99	1478	1374	1441	1379	0.99999
1012103	4282	232	1029	1080	1072	1101	0.99994
1012106	6653	88	1626	1705	1718	1604	0.99965
1012201	5650	105	1402	1398	1420	1430	1.00000
1012203	3131	232	789	783	798	761	0.99998
1012206	6194	87	1517	1555	1590	1532	0.99989
1012301	14174	81	3594	3537	3500	3543	1.00000
1012303	14718	234	3693	3724	3579	3722	0.99994
1012306	23860	101	5950	6028	5910	5972	0.99995
1012401	56334	178	14026	14112	14180	14016	0.99997
1012403	13060	232	3206	3278	3313	3263	0.99993
1012406	9272	62	2343	2274	2333	2322	0.99996
1012501	43171	141	10731	10788	10771	10881	0.99992
1012503	18563	232	4541	4641	4727	4654	0.99996
1012506	17558	62	4383	4473	4320	4382	0.99993
1012601	12028	122	3084	3002	2967	2975	0.99983
1012603	6347	232	1577	1623	1588	1559	0.99999
1012606	9286	72	2335	2365	2249	2337	1.00000
1012701	7013	138	1771	1730	1760	1752	0.99977
1012703	2968	232	768	713	687	800	0.99955
1012706	3683	62	953	916	948	866	0.99991
1012801	3295	123	837	822	843	793	0.99989
1012803	4556	488	1128	1202	1154	1072	0.99970
1012901	3498	167	884	851	884	879	0.99968
1012903	2651	362	663	676	655	657	0.99947
1013101	4682	185	1202	1209	1136	1135	0.99992
1013103	2752	311	713	706	684	649	0.99984
1023101	4285	160	1064	1111	1045	1065	0.99997
1023103	3598	384	897	882	910	909	0.99995
1024801	2994	153	767	735	761	731	0.99950
1024803	2725	400	685	674	685	681	0.99996

Table C-1 *(continued)*

STRATUM	FRAME SIZE	SAMPLE SIZE (Quarter 1 only)	FRAME ZONE1	FRAME ZONE2	FRAME ZONE3	FRAME ZONE4	Maximum PRN (Zone 1 only)
1025201	6944	113	1725	1764	1752	1703	0.99971
1025203	4359	232	1070	1089	1114	1086	0.99964
1025206	6201	77	1521	1569	1616	1495	0.99987
1028001	9837	150	2466	2553	2395	2423	0.99996
1028003	9422	413	2285	2410	2392	2335	0.99993
1030601	8402	213	2149	2080	2125	2048	1.00000
1030603	3165	232	768	758	801	838	0.99999
1031001	2588	160	632	661	660	635	0.99956
1031003	2133	379	519	523	537	554	0.99953
1033001	18560	214	4666	4642	4632	4620	0.99997
1033003	6815	232	1680	1757	1698	1680	0.99999
1036401	3724	170	925	944	930	925	0.99961
1036403	2719	355	674	663	702	680	0.99900
1036601	3262	81	827	776	841	818	0.99947
1036603	3769	232	974	957	956	882	0.99998
1036606	10069	112	2481	2435	2539	2614	0.99996
1037801	3604	81	893	905	906	900	0.99968
1037803	6229	389	1569	1576	1577	1507	0.99955
1037806	2855	62	679	742	715	719	0.99995
1038501	12088	181	3032	3071	2947	3038	0.99987
1038503	2199	231	541	581	538	539	0.99953
1038506	2228	62	542	544	586	556	0.99809
1038701	3232	129	800	828	818	786	0.99958
1038703	2124	242	538	541	537	508	0.99967
1038706	1959	62	483	475	510	491	0.99997
1040501	2603	96	641	659	651	652	0.99970
1040503	2630	278	660	643	653	674	0.99964
1040506	2732	77	702	617	683	730	0.99978
1040701	3213	103	774	782	808	849	1.00000
1040703	2529	232	611	643	645	630	0.99927
1040706	3432	84	845	825	885	877	0.99970
1050803	15508	842	3867	3810	3911	3920	0.99992
1060701	18874	146	4670	4706	4757	4741	0.99996
1060703	9680	232	2435	2473	2370	2402	0.99994
1060706	5858	62	1435	1524	1457	1442	0.99982
1060901	15431	200	3920	3865	3788	3858	0.99998
1060903	7231	269	1853	1801	1771	1806	0.99996
1061201	21454	199	5460	5333	5325	5336	0.99985
1061203	3654	232	966	855	941	892	0.99961
1061206	2273	62	586	567	560	560	0.99997
1062001	4222	140	1108	1025	1084	1005	0.99989
1062003	4656	441	1154	1151	1226	1125	0.99969
1062101	16913	213	4185	4182	4219	4327	0.99998
1062103	6200	232	1550	1525	1565	1560	0.99997
1062201	17059	217	4205	4169	4338	4347	0.99995
1062203	4924	232	1216	1221	1228	1259	0.99996
1063301	7904	185	2008	1940	2007	1949	0.99994
1063303	4679	313	1187	1168	1168	1156	0.99941
1080401	7630	193	1910	1932	1865	1923	0.99996
1080403	4004	290	976	1051	948	1029	0.99976
1080503	5517	839	1371	1406	1322	1418	0.99982

Table C-1 *(continued)*

STRATUM	FRAME SIZE	SAMPLE SIZE (Quarter 1 only)	FRAME				Maximum PRN (Zone 1 only)
			ZONE1	ZONE2	ZONE3	ZONE4	
1080601	9098	198	2173	2326	2272	2327	0.99996
1080603	4441	277	1125	1076	1138	1102	0.99961
1621503	8514	841	2111	2129	2126	2148	0.99988
1713901	8604	199	2151	2146	2176	2131	0.99995
1713903	4127	273	1059	987	1022	1059	0.99937
1900101	108822	1278	27288	27181	27239	27114	0.99999
1900103	9131	308	2181	2303	2330	2317	0.99994
1900106	8323	75	2112	2070	2135	2006	0.99998
1900201	71710	1246	17989	17939	17913	17869	0.99998
1900203	6549	327	1623	1640	1595	1691	0.99965
1900206	7049	93	1726	1793	1809	1721	0.99970
1900301	99331	1151	24755	24854	24825	24897	0.99999
1900303	15206	506	3702	3851	3855	3798	0.99999
1900306	13446	119	3291	3360	3402	3393	0.99998
1900401	60036	1215	15302	14897	14807	15030	0.99998
1900403	9939	577	2414	2535	2457	2533	0.99997
1900406	2244	62	586	525	555	578	0.99985
2900102	79636	1476	19595	19727	20362	19952	0.99999
2900105	249418	832	62037	62229	62458	62694	1.00000
2900202	69066	1040	17229	17377	17095	17365	0.99994
2900205	335999	911	83712	83889	84275	84123	1.00000
2900302	66829	1665	16647	16470	16745	16967	0.99999
2900305	178022	798	44579	44774	44613	44056	1.00000
2900405	4168	1050	1081	1034	1029	1024	0.99999
3900104	68224	5858	17043	17217	16909	17055	1.00000
3900107	463783	1745	116246	116249	115824	115464	1.00000
3900204	50724	5856	12626	12680	12704	12714	1.00000
3900207	364516	1745	91573	91170	90791	90982	1.00000
3900304	52914	5856	13283	13138	13142	13351	1.00000
3900307	329002	1745	81959	82131	82600	82312	1.00000
3900404	52100	5856	12995	13186	12891	13028	0.99999
6900199	649818	849	162982	161531	162767	162538	1.00000
6900299	817725	887	204853	204750	203865	204257	1.00000
6900399	651405	849	162948	163213	162466	162778	1.00000

Table C.2

Unweighted Sample Counts, Weighted Sample Counts,
and Frame Counts by Stratum

STRATUM	Sample Size	Weight Sample	Frame Size
0999911	940	172683	172683
1000103	231	2263	2263
1000106	162	6473	6473
1000301	129	6420	6420
1000303	232	2563	2563
1000306	72	4688	4688
1000401	86	3632	3632
1000403	231	2228	2228
1000406	103	5763	5763
1000501	176	13986	13986
1000503	232	3388	3388
1000506	62	2362	2362
1000601	95	7302	7302
1000603	265	7094	7094
1000606	81	8177	8177
1000801	110	3256	3256
1000803	231	2059	2059
1000806	79	3095	3095
1000901	81	5136	5136
1000903	232	3091	3091
1000906	111	10084	10084
1001001	136	7707	7707
1001003	232	3197	3197
1001006	64	4786	4786
1001301	156	7316	7316
1001303	231	2211	2211
1001306	62	2014	2014
1001401	116	10466	10466
1001403	232	4202	4202
1001406	84	10033	10033
1001801	157	2917	2917
1001803	391	2544	2544
1001901	129	2213	2213
1001903	469	2810	2810
1002401	172	41765	41765
1002403	232	11984	11984
1002406	62	7049	7049
1002601	113	2277	2277
1002603	517	3646	3646
1002801	148	7736	7736
1002803	232	2854	2854
1002806	62	2510	2510
1002901	189	57328	57328
1002903	232	7577	7577
1002906	62	11088	11088
1003001	168	12395	12395
1003003	232	3702	3702
1003006	62	2280	2280
1003201	143	27385	27385
1003203	232	12150	12150

Table C-2 *(continued)*

STRATUM	Sample Size	Weight Sample	Frame Size
1003206	62	9938	9938
1003301	95	6342	6342
1003303	232	2585	2585
1003306	106	9340	9340
1003801	149	24980	24980
1003803	232	7408	7408
1003806	62	10339	10339
1003901	130	18917	18917
1003903	232	7751	7751
1003906	70	13432	13432
1004201	97	8629	8629
1004203	232	4673	4673
1004206	95	11167	11167
1004301	98	3151	3151
1004303	560	6272	6272
1004501	82	7992	7992
1004503	232	4726	4726
1004506	109	14097	14097
1004601	81	2180	2180
1004603	629	8525	8525
1004701	128	15607	15607
1004703	232	5115	5115
1004706	78	12460	12460
1004801	145	25795	25795
1004803	232	8628	8628
1004806	62	11645	11645
1004901	145	24624	24624
1004903	232	11146	11146
1004906	62	8016	8016
1005101	116	4893	4893
1005103	231	2076	2076
1005106	83	4607	4607
1005201	161	36795	36795
1005203	232	12925	12925
1005206	62	7699	7699
1005301	154	3788	3788
1005303	400	3445	3445
1005501	105	5908	5908
1005503	232	3352	3352
1005506	86	6383	6383
1005601	184	16412	16412
1005603	231	2019	2019
1005606	62	4056	4056
1005701	161	18586	18586
1005703	232	8152	8152
1005706	62	3672	3672
1005801	116	4783	4783
1005803	232	2877	2877
1005806	75	4049	4049
1006001	172	32906	32906
1006003	232	13641	13641
1006006	62	4558	4558
1006101	131	12346	12346
1006103	232	4636	4636

Table C-2 *(continued)*

STRATUM	Sample Size	Weight Sample	Frame Size
1006106	71	8815	8815
1006201	135	6040	6040
1006203	232	2914	2914
1006206	62	3395	3395
1006401	149	9707	9707
1006403	232	4169	4169
1006406	62	2835	2835
1006601	111	8307	8307
1006603	232	3304	3304
1006606	90	8893	8893
1006701	152	19993	19993
1006703	232	5112	5112
1006706	62	10195	10195
1006801	132	5127	5127
1006803	231	2252	2252
1006806	66	3373	3373
1006901	123	19608	19608
1006903	232	7905	7905
1006906	77	16214	16214
1007301	130	9309	9309
1007303	232	2505	2505
1007306	82	7705	7705
1007403	835	3505	3505
1007501	155	12930	12930
1007503	232	3876	3876
1007506	62	3820	3820
1007601	135	4183	4183
1007603	231	1973	1973
1007606	62	2421	2421
1007701	145	3519	3519
1007703	425	3605	3605
1007801	99	6479	6479
1007803	232	3407	3407
1007806	94	8155	8155
1007901	103	12125	12125
1007903	232	5696	5696
1007906	93	14311	14311
1008301	132	4191	4191
1008303	464	5146	5146
1008601	216	9515	9515
1008603	232	2844	2844
1008901	166	55173	55173
1008903	232	22850	22850
1008906	62	9132	9132
1009101	211	43685	43685
1009103	232	7062	7062
1009106	62	2900	2900
1009201	141	8050	8050
1009203	232	3249	3249
1009206	62	3348	3348
1009401	181	5754	5754
1009403	323	3579	3579
1009501	84	7414	7414
1009503	232	3665	3665

Table C-2 *(continued)*

STRATUM	Sample Size	Weight Sample	Frame Size
1009506	112	12937	12937
1009601	137	7885	7885
1009603	232	3363	3363
1009606	62	4479	4479
1009801	141	13157	13157
1009803	232	4983	4983
1009806	62	5907	5907
1010001	140	10511	10511
1010003	232	4471	4471
1010006	62	4532	4532
1010101	147	6060	6060
1010103	231	2132	2132
1010106	62	2102	2102
1010301	153	7821	7821
1010303	231	2262	2262
1010306	62	2579	2579
1010401	176	11438	11438
1010403	232	2327	2327
1010406	62	2296	2296
1010501	132	10682	10682
1010503	232	3718	3718
1010506	73	7722	7722
1010801	153	30720	30720
1010803	232	13499	13499
1010806	62	7642	7642
1010901	124	21052	21052
1010903	232	5318	5318
1010906	91	20298	20298
1011001	157	44967	44967
1011003	232	17807	17807
1011006	62	10278	10278
1011201	169	4488	4488
1011203	358	3332	3332
1011301	107	2267	2267
1011303	534	3966	3966
1011701	85	10336	10336
1011703	232	6874	6874
1011706	102	16337	16337
1011801	156	5617	5617
1011803	395	4963	4963
1011901	109	4729	4729
1011903	232	2532	2532
1011906	84	4783	4783
1012001	111	10727	10727
1012003	232	6394	6394
1012006	80	10223	10223
1012101	99	5672	5672
1012103	232	4282	4282
1012106	88	6653	6653
1012201	105	5650	5650
1012203	232	3131	3131
1012206	87	6194	6194
1012301	81	14174	14174
1012303	234	14718	14718

Table C-2 *(continued)*

STRATUM	Sample Size	Weight Sample	Frame Size
1012306	101	23860	23860
1012401	178	56334	56334
1012403	232	13060	13060
1012406	62	9272	9272
1012501	141	43171	43171
1012503	232	18563	18563
1012506	62	17558	17558
1012601	122	12028	12028
1012603	232	6347	6347
1012606	72	9286	9286
1012701	138	7013	7013
1012703	232	2968	2968
1012706	62	3683	3683
1012801	123	3295	3295
1012803	488	4556	4556
1012901	167	3498	3498
1012903	362	2651	2651
1013101	185	4682	4682
1013103	311	2752	2752
1023101	160	4285	4285
1023103	384	3598	3598
1024801	153	2994	2994
1024803	400	2725	2725
1025201	113	6944	6944
1025203	232	4359	4359
1025206	77	6201	6201
1028001	150	9837	9837
1028003	413	9422	9422
1030601	213	8402	8402
1030603	232	3165	3165
1031001	160	2588	2588
1031003	379	2133	2133
1033001	214	18560	18560
1033003	232	6815	6815
1036401	170	3724	3724
1036403	355	2719	2719
1036601	81	3262	3262
1036603	232	3769	3769
1036606	112	10069	10069
1037801	81	3604	3604
1037803	389	6229	6229
1037806	62	2855	2855
1038501	181	12088	12088
1038503	231	2199	2199
1038506	62	2228	2228
1038701	129	3232	3232
1038703	242	2124	2124
1038706	62	1959	1959
1040501	96	2603	2603
1040503	278	2630	2630
1040506	77	2732	2732
1040701	103	3213	3213
1040703	232	2529	2529
1040706	84	3432	3432

Table C-2 *(continued)*

STRATUM	Sample Size	Weight Sample	Frame Size
1050803	842	15508	15508
1060701	146	18874	18874
1060703	232	9680	9680
1060706	62	5858	5858
1060901	200	15431	15431
1060903	269	7231	7231
1061201	199	21454	21454
1061203	232	3654	3654
1061206	62	2273	2273
1062001	140	4222	4222
1062003	441	4656	4656
1062101	213	16913	16913
1062103	232	6200	6200
1062201	217	17059	17059
1062203	232	4924	4924
1063301	185	7904	7904
1063303	313	4679	4679
1080401	193	7630	7630
1080403	290	4004	4004
1080503	839	5517	5517
1080601	198	9098	9098
1080603	277	4441	4441
1621503	841	8514	8514
1713901	199	8604	8604
1713903	273	4127	4127
1900101	1278	108822	108822
1900103	308	9131	9131
1900106	75	8323	8323
1900201	1246	71710	71710
1900203	327	6549	6549
1900206	93	7049	7049
1900301	1151	99331	99331
1900303	506	15206	15206
1900306	119	13446	13446
1900401	1215	60036	60036
1900403	577	9939	9939
1900406	62	2244	2244
2900102	1476	79636	79636
2900105	832	249418	249418
2900202	1040	69066	69066
2900205	911	335999	335999
2900302	1665	66829	66829
2900305	798	178022	178022
2900405	1050	4168	4168
3900104	5858	68224	68224
3900107	1745	463783	463783
3900204	5856	50724	50724
3900207	1745	364516	364516
3900304	5856	52914	52914
3900307	1745	329002	329002
3900404	5856	52100	52100
6900199	849	649818	649818
6900299	887	817725	817725
6900399	849	651405	651405

Table C.3

Unweighted Sample Counts, Weighted Sample Counts,
and Frame Counts for Branch of Service

SVCCD	Unweighted Sample Count	Weighted Sample Count	Frame Count
1: Foreign Army	25	3987.04	3365
2: Foreign Navy	15	1308.90	1906
3: Foreign Marine Corps	1	265.78	121
4: Foreign Air Force	34	5383.92	4896
A: Army	36691	2942067.84	2968979
C: Coast guard	2096	165927.57	162637
D: Office of the Sec Def	0	0.00	33
F: Air Force	31192	2149330.25	2127775
H: Public Health Service	419	29305.96	24452
M: Marine Corps	7791	592676.13	574984
N: Navy	21716	1634872.40	1657067
O: NOAA	20	2424.21	1334
X: Not Applicable	0	0.00	1

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Table C.4

Unweighted Sample Counts, Weighted Sample Counts, and Frame Counts
for Enrollee/Beneficiary Group(ENBGSMPL)

ENBGSMPL	Unweighted Sample Count	Weighted Sample Count	Frame Count
01: active duty	21634	1675998.02	1675986
02: active duty family member, prime, civilian pcm	5070	219059.91	219237
03: active duty family member, prime, military pcm	25782	549709.60	550043
04: active duty family member, nonenrollee	18638	186823.30	184024
05: retired or family member or retiree, less than 65, civilian pcm	2702	764078.09	764048
06: retired or family member of retiree, less than 65, military pcm	12626	645810.39	646615
07: retired or family member of retiree, less than 65, military pcm	10030	1199961.43	1200299
08: retired or family member of retiree, 65 or older, civilian pcm	62	48568.56	44448
09: retired or family member of retiree, 65 or older, military pcm	190	154183.84	158047
10: retired or family member of retiree, 65 or older, nonenrollee	2326	1910673.87	1912120
11: TRICARE Reserve Select enrollee	940	172683.00	172683

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Table C.5

Unweighted Sample Counts, Weighted Sample Counts, and Frame Counts
for Collapsed Enrollee/Beneficiary Group (EBSMPL)

EBSMPL	Unweighted Sample Count	Weighted Sample Count	Frame Count
01: active duty	19774	1655378	1655378
02: active duty family member, prime, civilian pcm	4181	215531	215531
03: active duty family member, prime, military pcm	34292	637478	637478
04: active duty family member, nonenrollee	23426	223962	223962
05: retired or family member of retiree, less than 65, civilian pcm	3591	767607	767607
06: retired or family member of retiree, less than 65, military pcm	5976	578662	578662
07: retired or family member of retiree, less than 65, nonenrollee	5235	1157301	1157301
11: TRICARE Reserve Select (TRS) enrollee	940	172683	172683
99: 65 and older and not active duty and not enrolled in TRS	2585	2118948	2118948

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

APPENDIX D

Q1 2014 VARIABLES DELIVERED TO ALTARUM

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

LIST OF VARIABLES IN THE DATA SET DELIVERED TO ALTARUM (FORM A - SAMPLA02.SAS7BDAT)

#	Variable	Type	Length	Label	Values	Source
1	ACV	Char	1	Alternate Care Value	A = Active Duty Prime enrollee D = TRICARE Senior Prime enrollee E = TRICARE Prime enrollee G = TRICARE Plus (CHAMPUS Eligible) L = TRICARE Plus (non-CHAMPUS Eligible) U = Enrolled to Uniformed Services Family Health Plan (formerly USTFs) Blank = Not enrolled in TRICARE Prime or USFHP	DEERS
2	C_ADDR1	Char	40	CHCS Mailing Address Line 1		CHCS
3	C_ADDR2	Char	40	CHCS Mailing Address Line 2		CHCS
4	C_ADDR3	Char	40	CHCS Mailing Address Line 3		CHCS
5	C_CITY	Char	20	CHCS City		CHCS
6	C_HMFON	Char	14	CHCS Home Telephone Number		CHCS
7	C_NAME1	Char	20	CHCS First Name		CHCS
8	C_NAME2	Char	26	CHCS Last Name		CHCS
9	C_STATE	Char	2	CHCS State		CHCS
10	C_UPDT	Char	8	CHCS Last Update Date		CHCS
11	C_ZIP	Char	5	CHCS Zip Code		CHCS
12	DAGEQY	Char	3	Beneficiary Age at time of Deers Extract	18 or older, Blank as missing	DEERS
13	DBENCAT	Char	3	Beneficiary Category	ACT = Active Duty DA = Dependent of Active Duty GRD = Guard/Reserve DGR = Dependent of Guard/Reserve RET = Retiree DR = Dependent of Retiree DS = Survivor OTH = Other Z = Unknown	DEERS
14	DCATCH	Char	4	Catchment Area at Time of Extract		DEERS

#	Variable	Type	Length	Label	Values	Source
15	DHSRGN	Char	2	Health Service Region	01 - Northeast 02 - Mid-Atlantic 03 - Southeast 04 - Gulf South 05 - Heartland 06 - Southwest 07 - Central 08 - Central 09 - Southern California 10 - Golden Gate 11 - Northwest 12 - Hawaii AK - Alaska 13 - Europe 14 - Pacific 15 - Latin America/Canada XX/ZZ - Unknown	DEERS
16	DMDCSPON	Char	10	DMDC Sponsor EDI PN		DEERS
17	DMEDELG	Char	1	Medical Privilege Code	1 - Direct Care Only 2 - Direct Care and CHAMPUS 4 - Transitional Direct Care Only 5 - Transitional Direct Care and CHAMPUS 6 - Transitional Direct Care and Medicare 7 - Direct Care and Medicare 8 - Other C - No Direct Care but CHAMPUS Eligible U - USTF Enrollee	
18	DPRISM	Char	4	PRISM (20 mile) clinic service area		DEERS
19	DSPONSVC	Char	1	Derived Sponsor Branch of Service	A = Army C = Coast Guard F = Air Force M = Marine Corps N = Navy V = Navy Afloat X = Other Z = Unknown	DEERS
20	DTYAFLAG	Char	1	TRICARE Young Adult Indicator	0 = Not enrolled in TRICARE Young Adult 1 = Enrolled in TRICARE Young Adult Flag	DEERS
21	D_UPDT	Char	8	DEERS Last Update Date		DEERS

#	Variable	Type	Length	Label	Values	Source
22	ENBGSMPL	Num	3	Beneficiary/Enrollment Group	01-Active Duty (AD) 02-AD family member, prime, civilian pcm 03-AD family member, prime, military pcm 04-AD family member, nonenrollee 05-Ret/fam. mem. retiree, <65, civilian pcm 06-Ret/fam. mem. retiree, <65, military pcm 07-Ret/fam. mem. retiree, <65, nonenrollee 08-Ret/fam. mem. retiree, >65, civilian pcm 09-Ret/fam. mem. retiree, >65, military pcm 10-Ret/fam. mem. retiree, >65, nonenrollee 11-TRICARE Reserve Select	MPR
23	ENRID	Char	4	Enrollment DMISID		DEERS
24	HADDFLG	Char	1	Residential Address - FLAG	0 = No address line1 1 = Address line1 present	DEERS
25	HCDP	Char	3	Derived Medical Insured Health Care Delivery Program Plan Coverage Code	See HCDP.xlsx for list of values	DEERS
26	MACITYNM	Char	20	Residential Address - City		DEERS
27	MACTRYCD	Char	2	Residential Address, Country		DEERS
28	MALN1TX	Char	40	Residential Address - Line1		DEERS
29	MALN2TX	Char	40	Residential Address - Line2		DEERS
30	MAPRZIP	Char	5	Residential Address - ZIP		DEERS
31	MAPRZIPX	Char	4	Residential Address - ZIPX		DEERS
32	MASTCD	Char	2	Residential Address - State		DEERS
33	MBRRELCD	Char	1	Member Relationship Code	A = Self B = Spouse C = Child or stepchild D = Ward (not court ordered) E = Ward (court ordered) F = Dependent parent, stepparent, parent-in-law, or stepparent-in-law G = Surviving spouse H = Former spouse (20/20/20) I = Former spouse (20/20/15) J = Former spouse (10/20/10) K = Former spouse (transitional assistance (composite))	DEERS

#	Variable	Type	Length	Label	Values	Source
34	MEDTYPE	Char	1	Medicare Eligibility	A - Medicare A Only B - Medicare B Only C - Medicare A and B N - No Medicare eligibility	
35	MPRID	Char	8	Unique MPR Identifier		MPR
36	MRTLSTAT	Char	1	Marital Status	A = Annulled D = Divorced I = Interlocutory decree L = Legally separated M = Married N = Never married S = Single / Not married [nonstandard] W = Widow or widower Z = Unknown	DEERS
37	MSA_ID	Char	4	MTF Service Area		DEERS
38	NHFF	Num	8	NHFF - Stratum Sample Size		MPR
39	PATCAT	Char	7	Aggregated Beneficiary Category	ACTDTY = Active Duty and Guard/Reserve (no age cut). DEPACT = Dependent of Active Duty & Guard/Reserve (no age cut). NADD<65 = Retiree, Dependent of Retiree, Survivor, & Other under the age of 65. NADD65+ = Retiree, Dependent of Retiree, Survivor, & Other 65 years of age and older. UNKNOWN = Unknown (Derived Beneficiary Category equal to Z)	DEERS
40	PAYPLNCD	Char	5	Pay Plan Code		DEERS
41	PCM	Char	3	Enrolled to a Military or Civilian PCM - recoded so IF ACV = 'Z' THEN PCM = ' '; ELSE IF ('6900' < ENRID < '6999' OR '7900' < ENRID < '7999' OR '8000' < ENRID < '8099' OR '0180' <= ENRID <= '0199') THEN PCM='CIV'; ELSE PCM='MTF';	CIV = DMIS values of ‘8000’ to ‘8050’, or ‘6900’ to ‘6916’, or ‘7900’ to ‘7916’, or ‘0190’ to ‘0199’ (these last codes are USFHP enrollees). MTF = All other enrollment DMIS Codes. Blank = Not enrolled to TRICARE Prime or USFHP	DEERS

#	Variable	Type	Length	Label	Values	Source
42	PGCD	Char	2	Pay Grade	00 = Unknown 00 – ZZ (not WW) = Used when pay plan is civil service 01 = Used when pay plan is cadet 01 – 05 = Used when pay plan is warrant officer 01 – 09 = Used when pay plan is enlisted 01 – 11 = Used when pay plan is officer	DEERS
43	PN1STNM	Char	20	Beneficiary First Name		DEERS
44	PNBRTHDT	Char	8	Beneficiary Date of Birth		DEERS
45	PNCDNCY	Char	4	Beneficiary Generation		DEERS
46	PNID	Char	9	Beneficiary/Dependent SSN		DEERS
47	PNLCATCD	Char	1	Personnel Category Code (Duty Status)	A = Active duty B = Presidential Appointee C = DoD civil service D = Disabled American veteran E = DoD contractor F = Former member H = Medal of Honor I = Other Government Agency Employee J = Academy student K = Non-appropriated fund DOD employee L = Lighthouse service M = Non-government Agency Personnel N = National Guard O = Other Government Agency Contractor Q = Reserve retiree R = Retired military T = Foreign military U = Foreign national employee V = Reserve W = DOD beneficiary based on prior sponsor's eligibility	DEERS
48	PNLSTNM	Char	26	Beneficiary Last Name		DEERS
49	PNSEXCD	Char	1	Beneficiary Sex	F = Female M = Male Z = Unknown	DEERS

#	Variable	Type	Length	Label	Values	Source
50	PNTYPCD	Char	1	Beneficiary Type Code	B = Both sponsor and dependent (i.e., the person has a joint marriage spouse) D = Dependent O = Other (e.g., someone who collapses in front of a military hospital and is treated at the hospital) S = Sponsor X = Prior sponsor (e.g., a sponsor who has been archived) Y = Prior dependent (e.g., a dependent who has been archived)	DEERS
51	PRN	Num	8	Permanent Random Number		MPR
52	PRRECFLG	Char	1	Primary Record Identifier/Flag	1 = Primary Record	DEERS
53	PTNT_ID	Char	10	Unique Patient ID		DEERS
54	RACEETHN	Char	1	Sponsor's Race/Ethnicity	A = American Indian or Alaskan Native B = Asian or Pacific islander C = Black (not Hispanic) D = White (not Hispanic) E = Hispanic X = Other Z = Unknown	DEERS
55	RANKCD	Char	6	Rank Code	See RANKCD.xlsx for list of values	DEERS
56	SADDFLG	Char	1	Sponsor Address - FLAG	0 = No address line1 1 = Address line1 present	DEERS
57	SPCITYNM	Char	20	Sponsor Address - City		DEERS
58	SPCTRYCD	Char	2	Sponsor Address, Country		DEERS
59	SPDUPID	Char	1	Family Sequence Number	1 = First occurrence of an SSN 2 = Second occurrence of an SSN 3 = Third occurrence of an SSN 4 = Fourth occurrence of an SSN	DEERS
60	SPLN1TX	Char	40	Sponsor Address - Line1		DEERS
61	SPLN2TX	Char	40	Sponsor Address - Line2		DEERS
62	SPONSSN	Char	9	Sponsor Social Security Number		DEERS
63	SPPRZIP	Char	5	Sponsor Residential Address - ZIP		DEERS
64	SPPRZIPX	Char	4	Sponsor Address - ZIPX		DEERS
65	SPSTCD	Char	2	Sponsor Residential Address - State		DEERS
66	SPTNUMCD	Char	14	Sponsor Phone Number		DEERS
67	STRATUM	Char	7	Stratum		MPR

#	Variable	Type	Length	Label	Values	Source
68	SVCCD	Char	1	Branch of Service	A = Army N = Navy M = Marine Corps F = Air Force C = Coast Guard D = Office of the Secretary of Defense H = The Commissioned Corps of the PHS O = The Commissioned Corps of the NOAA 1 = Foreign Army 2 = Foreign Navy 3 = Foreign Marine Corps 4 = Foreign Air Force X = Not applicable	DEERS
69	TNEXREG	Char	1	Next Generation of Contracts Region	N = North (MHS Regions 1,2,5) S = South (MHS Regions 3,4,6) W = West (MHS Regions 7,8,9,10,11,12,AK) O = Other (MHS Regions 13,14,15,16)	DEERS
70	TNUMCD	Char	14	Residence Telephone Number		DEERS
71	UADDFLG	Char	1	Unit Address - FLAG	0 = No address line1 1 = Address line1 present	DEERS
72	UICADD1	Char	30	Unit Address - Line1		DEERS
73	UICADD2	Char	30	Unit Address - Line2		DEERS
74	UICCITY	Char	30	Unit Address - City		DEERS
75	UICST	Char	2	Unit Address - State		DEERS
76	UICZIP	Char	5	Unit Address - ZIP		DEERS
77	ULOCDMIS	Char	4	Unit Address - DMIS Code		DEERS
78	ULOCGRN	Char	2	Unit Address - Region		DEERS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

APPENDIX E

Q1 2014 SAS CODE FOR SAMPLE FRAME CONSTRUCTION AND SAMPLE SELECTIONS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

1. CONSTRUCT EXTRACT AND CROSSWALK FILES

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

DEERS.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************
* PROGRAM: DEERS.SAS
* TASK:    DOD HEALTH CARE SURVEY, SAMPLING (40309.H20)
* PURPOSE: CONVERT THE DEER FILE INTO SAS DATA FILES.
*         SPLIT DEERS RAW DATASETS INTO SMALLER PARTS AND CONVERT IN SAS DATA
*
* WRITTEN: 10/18/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 04/22/2002 BY KEITH RATHBUN, REMOVED TSPSITE FROM FREQS.
*          2) 10/10/2003 BY DAWN FERRAGAMO,ADDED TNEXREG TO FREQS.
*          3) 07/02/2004 BY KEITH RATHBUN, ADDED PRIMARY RECORD
*             IDENTIFIER/FLAG (PRRECFLG) AND REMOVED REFERENCE TO PNARSNCD.
*          4) 01/07/2005 BY REGINA GRAMSS, REMOVED CODES FOR TNEXREG
*             SINCE THEY WERE INCLUDED IN THE FILE.
*          5) 06/29/2005 BY REGINA GRAMSS, CHANGED LIBNAME TO RERUN FOR CHILD DATA.
*          6) 10/07/2005 BY KEITH RATHBUN, UPDATED FOR Q1 2006 PROCESSING.
*          7) 01/24/2006 BY KEITH RATHBUN, UPDATED FOR Q2 2006 PROCESSING.
*             RECODE PCM = ' ' WHEN ACV = 'Z'.
*          8) 01/14/2006 BY KEITH RATHBUN, ADDED PCM*ACV*ENRID CROSSTAB
*             TO CHECK FOR POTENTIAL PCM PROBLEMS.
*          9) 07/12/2006 BY KEITH RATHBUN, MODIFIED TO SPLIT ONE FILE INTO
*             FOUR PARTS. ONE BIG FILE IS PROVIDED ON DVD NOW.
*         10) 10/19/2006 BY SKY ANDRECHECK. CHANGED OUTPUT NAMES TO DEERS
*              INSTEAD OF OLD CONTRACTOR NAME (STI)
*
* LAST UPDATED: 11/01/2012 SABRINA R. FOR Q2FY2013 HCSDB ADULT SAMPLING
*
* INPUTS:
* 1) NAME VARIES - RAW DEERS POPULATION EXTRACT FILE
*
* OUTPUTS:
* 1) DEERS001.SAS7BDAT - DEERS POPULATION EXTRACT FILE (PART 1)
* 2) DEERS002.SAS7BDAT - DEERS POPULATION EXTRACT FILE (PART 2)
* 3) DEERS003.SAS7BDAT - DEERS POPULATION EXTRACT FILE (PART 3)
* 4) DEERS004.SAS7BDAT - DEERS POPULATION EXTRACT FILE (PART 4)
*
* INCLUDES:
* 1) LAYOUT.SAS - INPUT STEP FOR RAW DATA FROM ALTARUM
*
* NOTES:
* 1) AS OF 07/12/2006 THE DEERS PITE FILE IS PROVIDED BY STI ON DVD.
*    THIS RAW FILE IS CONVERTED INTO 4 SAS DATASETS FOR MORE
*    EFFICIENT SUBSEQUENT PROCESSING.
* 2) UNDER THE NEW CONTRACT (8860), THE SUVEY YEAR WAS CHANGED
*    TO BE BASED ON THE YEAR THE SURVEY IS ADMINISTERED (2002)
*    AS OPPOSED TO THE QUESTIONING REFERENCE FRAME (2001). THIS PROGRAM
*    REFERENCES FOLDERS NAMED ACCORDING TO THE NEW CONVENTION [I.E.
*    THE SURVEY ADMINISTRATION YEAR (2002 FOR PROJECT 8860)].
* 3) SINCE Q2FY2011, DEERS FILE CONTAINS HCSDB POPULATION AND SELECT RESERVE
*    POPULATION.
* 3) SINCE Q3FY2011, CORRECT PCM
* 4) 9/20/2013 TWO ADDITIONAL VARIABLES HCDP AND DTYAFLAG ARE ADDED TO DATA
*************************************************************************;
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

%LET QUARTER=Q1FY2014;
```

```
LIBNAME   OUT "K:\&QUARTER.";

*Input data (name varies each quarter);
FILENAME  IN  "K:\TSS\DEERS_08312013_for711_2013\aug13a_flag.txt";

*Path for Layout file;
%let pathlayout=L:\&QUARTER.\Programs\Sampling;

PROC FORMAT;
  VALUE $ADDFMT ' '  = 'missing'
             OTHER = 'nonmissing';
  VALUE $IDFMT ' ', '.'       = 'Missing'
             '0190'-'0199'   = '[0190,0199]: USFHP,d_fac=T'
             '6900'<-'6919'  = '(6900,6919]: Managed Care Contractor, d_fac=TSCPCM'
             '7900'<-'7919'  = '(7900,7919]: Tricare remote prime, d_fac=TPR'
             '8000'<-<'8090' = '(8000,8090)'
             Other          = 'Other nonmissing';
RUN;

DATA OUT.DEERS001 OUT.DEERS002 OUT.DEERS003 OUT.DEERS004;
   INFILE IN LRECL=99999 RECFM=V MISSOVER;
   %INCLUDE "&pathlayout.\LAYOUT.SAS";


*************************************************************************
*****
   * since Q3FY2011, correct PCM
   * Reformat PCM values to values we had before so the data is consistent with
   * previous DEERS extracts.

*************************************************************************
****;
   IF ACV in ( 'Z','R' ) THEN PCM = ' ';
   ELSE IF ('6900' < ENRID <= '6919' OR
          '7900' < ENRID <= '7919' OR
          '8000' < ENRID < '8090' OR
          '0190' <= ENRID <= '0199' OR
       ACV IN ('B','F') )
          THEN PCM='CIV';
    ELSE PCM='MTF';

   /*change_hx since Q2FY2011*/
   IF     _N_ LE 2500000 THEN OUTPUT OUT.DEERS001;
   ELSE IF _N_ LE 5000000 THEN OUTPUT OUT.DEERS002;
   ELSE IF _N_ LE 7500000 THEN OUTPUT OUT.DEERS003;
   ELSE OUTPUT OUT.DEERS004;
RUN;

************************************************************************
* PRINTIT - MACRO PARAMETERS:
* 1) PNUM = SAS output file suffix
************************************************************************
*******;
%MACRO PRINTIT(PNUM=);

TITLE1 "DOD Health Care Survey, Sampling (40309.H20)";
TITLE2 "PROGRAM: DEERS.SAS (&QUARTER.)";
```

```
TITLE3 "PURPOSE: CONVERT THE DEER FILE INTO SAS DATA FILES";
TITLE4 "PROC CONTENTS: DEERS&PNUM.SAS7BDAT";
PROC CONTENTS DATA=OUT.DEERS&PNUM; RUN;

TITLE4 "PROC FREQ: DEERS&PNUM.SAS7BDAT";
PROC FREQ DATA=OUT.DEERS&PNUM;
  FORMAT ENRID $IDFMT.;
  TABLES
    PCM*ACV*ENRID
    TNEXREG
    PRRECFLG
    PNTYPCD
    MRTLSTAT
    PNSEXCD
    MDCABRSN
    PNLCATCD
    SVCCD
    PAYPLNCD
    PGCD
    MBRRELCD
    RANKCD
    ULOCGRN
    ULOCDMIS
    RACEETHN
    DCATCH
    DMEDELG
    DAGEQY
    DBENCAT
    DPRISM
    DHSRGN
    DSPONSVC
    MEDTYPE
    ENRID
    ACV
    PCM
    PATCAT
    MSA_ID
    RSVCC
    DELGIND
    DELGIND*RSVCC
    HCDP
    DTYAFLAG
  /MISSING LIST;
RUN;

PROC FREQ DATA=OUT.DEERS&PNUM;
  TABLES C_ADDR1  C_ADDR2  C_ADDR3  C_CITY  C_STATE C_ZIP
     MALN1TX MALN2TX MACITYNM MASTCD MACTRYCD MAPRZIP MAPRZIPX
     UICADD1 UICADD2 UICCITY UICST UICZIP
     SPLN1TX SPLN2TX SPCITYNM SPSTCD SPCTRYCD SPPRZIP SPPRZIPX
    /MISSING LIST;

  FORMAT C_ADDR1  C_ADDR2  C_ADDR3  C_CITY  C_STATE C_ZIP
     MALN1TX MALN2TX MACITYNM MASTCD MACTRYCD MAPRZIP MAPRZIPX
     UICADD1 UICADD2 UICCITY UICST UICZIP
     SPLN1TX SPLN2TX SPCITYNM SPSTCD SPCTRYCD SPPRZIP SPPRZIPX $ADDFMT.;
RUN;
```

```
%MEND PRINTIT;

*************************************************************************
**
* END PRINTIT MACRO
*************************************************************************
*;
%PRINTIT(PNUM=001);
%PRINTIT(PNUM=002);
%PRINTIT(PNUM=003);
%PRINTIT(PNUM=004);

****************************** THE END  *********************************;
```

LAYOUT.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*******************************************************************************
* PROGRAM:  LAYOUT.SAS
* TASK:     DOD Health Care Survey, Sampling (40309.H20)
* PURPOSE:  INPUT step for the DEERS Extract file from contractor
*
* WRITTEN:  10/18/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 04/22/2002 BY KEITH RATHBUN, Removed TSPSITE from layout.
*           2) 10/10/2003 BY DAWN FERRAGAMO, ADDED TNEXREG TO LAYOUT.
*           3) 04/09/2004 BY KEITH RATHBUN, ADDED PTNT_ID TO LAYOUT.
*           4) 06/29/2004 BY KEITH RATHBUN, Removed PNARSNCD, PNMIDNM,
*              SPTNUMCD, and TNUMCD from LAYOUT since they are no longer
*              available on the STI-provided DEERS extract.  Added
*              Primary Record Identifier/Flag (PRRECFLG) to the layout.
*           5) 01/07/2005 BY REGINA GRAMSS, added back in TNUMCD & SPTNUMCD
*              in LAYOUT and Labels.
*           6) 06/29/2004 BY REGINA GRAMSS, changed LABEL in DAGEQY to use
*              file ref. date 10 JUNE 2005
*           7) 01/29/2007 BY SKY ANDRECHECK, Added variable "DMDCSPON"
*           8) 04/26/2007 by H Xu.
*              Changed LEGDDSCD to filler3, and ssnsmpl is not created,
*              since LEGDDSCD is not no longer provided.
*           9) 08/01/2007 by H Xu.
*              Added CHCS addresses variables
*            10)08/05/2008 Sabrina R. changed LABEL in DAGEQY to use file ref.
date June 30, 2008
*              11)9/20/2013 Sabrina R: HCDP and D_TYA_FLAG added to Variable
List
* NOTE:     We change Reference Date for DAGEQY Each Qtr
*           Q3FY2010 : MSA_ID added to Variable List
*           Q2FY2011:  RSVCC (Reserve Component Category Code),
*                      DELGIND (MHS eligibility indicator) were added to the
variable list
*******************************************************************************
*******************************************************************************
* Input RAW data (ignore delimiters!)
*******************************************************************************;
INPUT
   @1      SPONSSN    $CHAR9.
   @11     SPDUPID    $CHAR1.
   @13     PNTYPCD    $CHAR1.
   @15     PNID       $CHAR9.
   @25     PNBRTHDT   $CHAR8.
   @34     MRTLSTAT   $CHAR1.
   @36     PNSEXCD    $CHAR1.
   @38     FILLER1    $CHAR2.  /* KRR - DELETED PNARSNCD 06/29/2004 */
   @41     MDCABRSN   $CHAR1.
   @43     MDCAEFDT   $CHAR8.
   @52     MDCAEXDT   $CHAR8.
   @61     FILLER3    $CHAR2. /*HX - DELETED LEGDDSCD 04/26/2007*/
   @64     PNLCATCD   $CHAR1.
   @66     SVCCD      $CHAR1.
   @68     PAYPLNCD   $CHAR5.
   @74     PGCD       $CHAR2.
   @77     MBRRELCD   $CHAR1.
   @79     MALN1TX    $CHAR40.
   @120    MALN2TX    $CHAR40.
```

```
   @161    MACITYNM   $CHAR20.
   @182    MASTCD     $CHAR2.
   @185    MACTRYCD   $CHAR2.
   @188    MAPRZIP    $CHAR5.
   @194    MAPRZIPX   $CHAR4.
   @199    HADDFLG    $CHAR1.
   @201    TNUMCD     $CHAR14. /* RSG - ADDED BACK IN TNUMCD 01/07/2005 */
   @216    PNLSTNM    $CHAR26.
   @243    PN1STNM    $CHAR20.
   @264    FILLER2    $CHAR20. /* KRR - DELETED PNMIDNM 06/29/2004 */
   @285    PNCDNCY    $CHAR4.
   @290    RANKCD     $CHAR6.
   @297    ULOCGRN    $CHAR2.
   @300    ULOCDMIS   $CHAR4.
   @305    RACEETHN   $CHAR1.
   @307    DCATCH     $CHAR4.
   @312    DMEDELG    $CHAR1.
   @314    DAGEQY     $CHAR3.
   @318    DBENCAT    $CHAR3.
   @322    DPRISM     $CHAR4.
   @327    DHSRGN     $CHAR2.
   @330    DSPONSVC   $CHAR1.
   @332    MEDTYPE    $CHAR1.
   @334    UICADD1    $CHAR30.
   @365    UICADD2    $CHAR30.
   @396    UICCITY    $CHAR30.
   @427    UICST      $CHAR2.
   @430    UICZIP     $CHAR5.
   @436    UADDFLG    $CHAR1.
   @438    SPLN1TX    $CHAR40.
   @479    SPLN2TX    $CHAR40.
   @520    SPCITYNM   $CHAR20.
   @541    SPSTCD     $CHAR2.
   @544    SPCTRYCD   $CHAR2.
   @547    SPPRZIP    $CHAR5.
   @553    SPPRZIPX   $CHAR4.
   @558    SADDFLG    $CHAR1.
   @560    SPTNUMCD   $CHAR14. /* RSG - ADDED BACK IN SPTNUMCD 01/07/2005 */
   @575    ENRID      $CHAR4.
   @580    ACV        $CHAR1.
   @582    PCM        $CHAR3.
   @586    PATCAT     $CHAR7.
   @594    TNEXREG    $CHAR1.
   @596    PTNT_ID    $CHAR10.
   @607    PRRECFLG   $CHAR1.  /* KRR - ADDED PRRECFLG 06/30/2004 */
   @609     DMDCSPON   $CHAR10. /* HXu - The following 11 variables are added
on 08/01/2007 */
   @620    D_UPDT     $CHAR8.
   @629    C_ADDR1    $CHAR40.
   @670    C_ADDR2    $CHAR40.
   @711    C_ADDR3    $CHAR40.
   @752    C_CITY     $CHAR20.
   @773    C_HMFON    $CHAR14.
   @788    C_NAME1    $CHAR20.
   @809    C_NAME2    $CHAR26.
   @836    C_STATE    $CHAR2.
   @839    C_UPDT     $CHAR8.
```

```
   @848    C_ZIP      $CHAR5.
   @854    MSA_ID     $CHAR4.  /*Added by H Xu on 1/21/2010 for Q3FY2010*/
   @859    RSVCC      $CHAR2.  /*Added by H Xu on 10/22/2010 for q2fy2011*/
   @862    DELGIND    $CHAR1.  /*Added by H Xu on 10/22/2010 for q2fy2011*/
   @864    HCDP       $CHAR3.  /*Added by S Ra.on 09/20/2013 for TSS-B 2013*/
   @868    DTYAFLAG   $CHAR1.  /*Added by S Ra.on 09/20/2013 for TSS-B 2013*/
;
DROP FILLER1-FILLER3;


**********************************************************************
* LABEL variables
**********************************************************************;
LABEL
    SPONSSN  =   "Sponsor SSN"
    SPDUPID  =   "Family Sequence Number"
    PNTYPCD  =   "Person Type Code"
    PNID     =   "Person SSN"
    PNBRTHDT =   "Person Birth Date"
    MRTLSTAT =   "Marital Status"
    PNSEXCD  =   "Person Gender"
    MDCABRSN =   "Medicare A Begin Reason Code"
    MDCAEFDT =   "Medicare A Effective Date"
    MDCAEXDT =   "Medicare A Expiration Date"
    PNLCATCD =   "Personnel Category Code (Duty Status)"
    SVCCD    =   "Branch of Service"
    PAYPLNCD =   "Pay Plan Code"
    PGCD     =   "Pay Grade"
    MBRRELCD =   "Member Relationship Code"
    MALN1TX  =   "Residential Address, Line 1"
    MALN2TX  =   "Residential Address, Line 2"
    MACITYNM =   "Residential Address, City"
    MASTCD   =   "Residential Address, State"
    MACTRYCD =   "Residential Address, Country"
    MAPRZIP  =   "Residential Address, ZIP Code"
    MAPRZIPX =   "Residential Address, ZIP Code Extension"
    HADDFLG  =   "Residential Address Flag"
    TNUMCD   =   "Residence Telephone Number"
    PNLSTNM  =   "Person Last Name"
    PN1STNM  =   "Person First Name"
    PNCDNCY  =   "Person Generation (Cadency)"
    RANKCD   =   "Rank Code"
    ULOCGRN  =   "Unit Region"
    ULOCDMIS =   "Unit DMISID"
    RACEETHN =   "Race/Ethnic Code"
    DCATCH   =   "Catchment Area"
    DMEDELG  =   "Medical Privlege Code"
    DAGEQY    =    "Age (As of August 31, 2013)"  /*2013 TSS-B: The file Ref
Date is  August 31, 2013 */
    DBENCAT  =   "Beneficiary Category"
    DPRISM   =   "PRISM (20 mile) clinic service area"
    DHSRGN   =   "Health Service Region"
    DSPONSVC =   "Derived Sponsor Branch of Service"
    MEDTYPE  =   "Medicare Type"
    UICADD1  =   "Unit Address, Line 1"
    UICADD2  =   "Unit Address, Line 2"
    UICCITY  =   "Unit Address, City"
```

```
    UICST    =   "Unit Address, State"
    UICZIP   =   "Unit Address, ZIP Code"
    UADDFLG  =   "Unit Address Flag"
    SPLN1TX  =   "Sponsor Address, Line 1"
    SPLN2TX  =   "Sponsor Address, Line 2"
    SPCITYNM =   "Sponsor Address, City"
    SPSTCD   =   "Sponsor Address, State"
    SPCTRYCD =   "Sponsor Address, Country"
    SPPRZIP  =   "Sponsor Address, ZIP Code"
    SPPRZIPX =   "Sponsor Address, ZIP Code Extension"
    SADDFLG  =   "Sponsor Address Flag"
    SPTNUMCD =   "Sponsor Telephone Number"
    ENRID    =   "Enrollment DMISID"
    ACV      =   "Alternate Care Value"
    PCM      =   "Primary Manager Code (CIV or MIL)"
    PATCAT   =   "Aggregated Beneficiary Category"
    TNEXREG  =   "Beneficiary's TNEX Region"
    PTNT_ID  =   "unique Patient ID"
    PRRECFLG =   "Primary Record Identifier/Flag"
    DMDCSPON =   "DMDC Sponsor EDI PN"
    D_UPDT   =   "DEERS LAST UPDATE DATE"
    C_ADDR1  =   "CHCS MAILING ADDRESS LINE 1"
    C_ADDR2  =   "CHCS MAILING ADDRESS LINE 2"
    C_ADDR3  =   "CHCS MAILING ADDRESS LINE 3"
    C_CITY   =   "CHCS CITY"
    C_HMFON  =   "CHCS HOME TELEPHONE NUMBER"
    C_NAME1  =   "CHCS FIRST NAME"
    C_NAME2  =   "CHCS LAST NAME"
    C_STATE  =   "CHCS STATE"
    C_UPDT   =   "CHCS LAST UPDATE DATE"
    C_ZIP    =   "CHCS ZIP CODE"
    MSA_ID   =   "MTF Service Area"
    RSVCC      =    "Reserve Component Category Code" /*added in Q2FY2011 -
H.Xu*/
    DELGIND   =    "MHS eligibility indicator"         /*added in Q2FY2011 -
H.Xu*/
    HCDP      =   "Derived Medical Insured Health Care Delivery Program Plan
Coverage Code" /*added in TSS-B 2013-SR*/
    DTYAFLAG =   "TRICARE Young Adult Indicator" /*added in TSS-B 2013-SR*/
 ;
```

RECODER.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*********************************************************************
* PROGRAM     :  RECODER.SAS
* TASK        :  DOD Health Care Survey, Sampling (40309.H20)
* PURPOSE     :  Randomly/Proportionally Assign Missing Region
* WRITTEN     :  SKY A.
* INPUT       :  DEERS001-DEERS004
* OUTPUT      :  DEERS001-DEERS004
* LAST UPDATED:  10/11/2013 for Q1FY2014 HCSDB Adult Sampling
* NOTE        :  Background of the Recorder SAS (an old email) in:
*                L:\Q1FY2010\Programs\Sampling\INFO_FOR_RECORDER_SAS
*********************************************************************;

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

%LET QUARTER=Q1FY2014;

LIBNAME IN   "K:\&QUARTER.";
LIBNAME OUT  "K:\&QUARTER.";

TITLE1 "DOD Health Care Survey, Sampling (40309.H20)    ";
TITLE2 "PROGRAM: RECODER.SAS (&QUARTER.)                ";
TITLE3 "Randomly/Proportionally Assign Missing Region   ";
TITLE4 "OUTPUT: DEERS001-DEERS004                       ";
TITLE5 "------------------------------------------------";

PROC FORMAT;
  VALUE $FDAGEQY ' '  = ' '
                '000'-'017' = '<18'
                '018' - HIGH = '18 and older';
  VALUE $FRSVCC 'FX','MA','S9','SA','SB','SC','SD','SG','SM','ST',
                'TA','TB','TC','TD','TR','TW',
                'UA','UF','UL','UP','UQ','US','UT','UU','UX' = "Checked SR
values"
                ' '=' '
                Other="Other";
RUN;

DATA deers;
      SET IN.deers001 IN.deers002 IN.deers003 IN.deers004;
Run;

DATA deers;
SET deers;
TNEXREG_OLD=TNEXREG;

/*Re-assigning TNEXREG*/
    IF DHSRGN='16' and MASTCD IN ('CA','OR','WA','ID','MT','CO','ND','SD'
    'MN','IA','MO','NE','KS','WY','AZ','NM','UT','NV','HI','AK') then
TNEXREG='W';
    ELSE IF DHSRGN='16' and MASTCD IN
('TX','OK','AR','LA','TN','AL','MS','GA','SC','FL') then TNEXREG='S';
    ELSE IF DHSRGN='16' and MASTCD IN
('WI','IL','MI','IN','KY','OH','WV','PA','VA','NC'
    'DC','MD','DE','NJ','NY','CT','RI','MA','VT','NH','ME') then TNEXREG='N';
    ELSE IF DHSRGN='16' and MASTCD NOT IN ('99','XX','US',' ') THEN
TNEXREG='O';
    ELSE IF DHSRGN='16' and MACTRYCD NOT IN (' ','US','XX') then TNEXREG='O';
```

```
    ELSE IF DHSRGN='16' then TNEXREG=' ';      *go for random assignment;

/*moves those in western Texas to West region*/
    ZIP_TEMP=MAPRZIP;
    if ZIP_TEMP>'79770' AND MASTCD='TX' and DHSRGN='16' then TNEXREG='W';

/*Random number to be used in Random Assignment*/
    randomnum=uniform(4353623);

/*Creating grp_temp for Rendom Assignment*/
    if ACV='R' then grp_temp=0;
    else if DELGIND = '0' then grp_temp=6;/*Changed for q2fy2011 by H.Xu*/
    else if PATCAT='ACTDTY' or (dageqy<65 and PCM='MTF') then grp_temp=1;
    else if dageqy<65 and pcm='CIV' then grp_temp=2;
    else if dageqy<65 and pcm=' ' then grp_temp=3;
    else if dageqy>=65 and ACV in ('L', 'G') then grp_temp=4;
    else grp_temp=5;
run;

TITLE6 "Check the construction of grp_temp";
PROC FREQ DATA=DEERS;
   TABLES GRP_TEMP*ACV*DELGIND*PATCAT*DAGEQY*PCM/MISSING LIST;
   FORMAT DAGEQY $FDAGEQY.;
RUN;

Title6 " Proc Freq of DEERS Data (where DHSRGN='16')";
Title7 "      (before the Random Assignment)        ";
Proc Freq data=deers;
      tables TNEXREG*TNEXREG_OLD*MASTCD*DHSRGN/LIST MISSING;
      tables TNEXREG*TNEXREG_OLD*DHSRGN*ACV*PCM/LIST MISSING;
    where DHSRGN='16';
RUN;

/*Check Texas Recode */
Title4 "Checks Texas Recode (where, MASTCD=TX and DHSRGN=16):";
proc freq data=deers;
table ZIP_TEMP*TNEXREG_OLD*TNEXREG/list missing;
where MASTCD='TX' and DHSRGN='16';
run;

%macro docount;
%do group = 0 %to 6;
Title4 "Freq of TNEXREG where grp_temp=&group. and tnexreg~=' '";
proc freq data=deers;
table tnexreg/ out=counts&group.;
where grp_temp=&group. and tnexreg~=' ';
run;

proc transpose data=counts&group. out=counts&group.;
id tnexreg;
run;

data counts&group.;
set counts&group.;
if _name_='COUNT' then delete;
grp_temp=&group.;
north=N/100;
```

```
oconus=(N+O)/100;
south=(N+O+S)/100;
run;
%end;
%mend docount;
%docount;

data counts (keep=grp_temp north oconus south);
set counts0 counts1 counts2 counts3 counts4 counts5 counts6;
run;

Title4 "Proc Print of Data=Counts";
proc print data=counts;
run;

data deers1;
set deers;
where tnexreg=' ';
run;

data deers2;
set deers;
where tnexreg~=' ';
run;

proc sort data=deers1;
by grp_temp;
where tnexreg=' ';
run;

proc sort data=counts;
by grp_temp;
run;

/*Random Assignment of TNEXREG*/
data deers1;
merge deers1 (in=A) counts (in=B);
by grp_temp;
if A and B;
if randomnum<north then tnexreg='N';
else if randomnum<oconus then tnexreg='O';
else if randomnum<south then tnexreg='S';
else tnexreg='W';
run;

title4 "Proc Freq of those Records where,TNEXREG were Missing";
proc freq data=deers1;
table mastcd*mactrycd*tnexreg /list missing;
run;

data deers;
set deers1 deers2;
run;

proc sort data=deers;
by ptnt_id;
run;
```

```
data OUT.DEERS001 OUT.DEERS002 OUT.DEERS003 OUT.DEERS004;
set deers;
    IF      _N_ LE 2500000 THEN OUTPUT OUT.DEERS001;
    ELSE IF _N_ LE 5000000 THEN OUTPUT OUT.DEERS002;
    ELSE IF _N_ LE 7500000 THEN OUTPUT OUT.DEERS003;
    ELSE OUTPUT OUT.DEERS004;
run;

title4 'FREQ of FINAL DEERS 001-004';
title5 "    where DHSRGN = '16'    ";
proc freq data=deers;
table mastcd*mactrycd*tnexreg/list missing;
where dhsrgn='16';
run;

/*Check Overall Recode */
title4 'Cross Freq of OLD and NEW TNEXREG:';
proc freq data=deers;
table tnexreg_old * tnexreg /list missing;
run;


*************** End **********************;
```

XWALK.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
dm 'clear output;clear log';
*************************************************************************
* PROGRAM:  XWALK.SAS
* TASK:     DOD Health Care Survey, Adult Sampling (40309.H20)
* PURPOSE:  Build SAS Extract/Cross-walk file for the DOD sample
*           and assign permanent random numbers (PRN).
* WRITTEN:  01/17/2001 BY KEITH RATHBUN
*
* MODIFIED:
* 1)  02/08/2001 BY KEITH RATHBUN for Q3 processing.  Also, added
*     specific family exclusion criteria as include file.
* 2)  07/09/2001 BY KEITH RATHBUN for Q4 processing.  Removed Q3-specific
*     processing.
* 3)  10/10/2003 BY DAWN FERRAGAMO for Q1 2004 processing.
* 4)  06/29/2004 BY KEITH RATHBUN for q4 2004 processing.
*     Added PTNT_ID to XWALK file.
* 5)  07/13/2005 BY REGINA GRAMSS for Q4 2005 processing: point to use
*     STI files (1-4) from Q3 that was used for Child resampling.
* 6)  07/19/2005 BY REGINA GRAMSS for Q4 2005 processing: exclude ptnt_id
*     that are in death file (received from STI 7/19/2005).
* 7)  10/14/2005 BY KEITH RATHBUN for Q1 2006 processing: Removed code
*     relating to death file provided in previous quarter.
* 8)  11/09/2005 BY REGINA GRAMSS for Q1 2006 - needed to add in KATRINA hit
*     areas that was left out of the original frame file sent in Oct 2005.
*     KATRINA file was created in LAYOUT_KATRINA.SAS, producing STI005.SD2
file.
* 9)  04/14/2006 BY KEITH RATHBUN for Q4FY2006 processing.
*     Added COMPRESS=YES option.
* 10) 10/18/2006 BY SKY ANDRECHECK for Q2 2007 processing.
*     Changed input files to DEERS instead of old contractor name (STI).
* 11) 05/04/2007 By H Xu for Q4FY2007 sampling.
*     Since legddscd is no longer available, we will use PTNT_ID alone as
*     merging ID in xwalk. Q3 xwalk will be deduped by ptnt_id, and
eligibility
*     indicators E1-E26 will be consolidated.
* 12) 07/23/2007 for q1fy2008 sampling.
*     From q1FY2008, put all active duty in the adult sample regardless of
their age.
* 13) 12/06/2007 By Keith Rathbun for Collateral Access Analysis project.
*     Added survey to keep track of which new records are added for which
survey.
* 14) 10/27/2009 by H. Xu for Q2FY2010 Adult sampling
*     Removed outputting of permanent dataset containing the random number
*     seed (seed.sas7bdat). From now on the period no.(PD macro variable)
will be
*     used to seed the random no. generator. This will prevent different
results
*     from being generated if the program is accidentally rerun and it will
also
*     make it easier to replicate results if output files are lost/corrupted.
* 15) 11/16/2009 By Keith Rathbun, added EXCLUDE_FtHood.SAS.
* 16) The following changes have been made for Q2FY2011 on 10/21/2010 by
H.Xu:
*     a)Removed EXCLUDE_FtHood.SAS
*     b)Changed the value of SURVEY from HCSDB to HCSDB/SR
*     c)Xwalk.sas7bdat file now includes eligible adult beneficiaries as
usual
```

```
*       plus the eligible select reserve
*     d)ESR&PD. is created to indicate the TRS study population
*     e)All Adults with checked values of RSVCC are eligible Select Reserve,
*       but The TRS study population just includes Select Reserve not in the
HCSDB
*       population (DELGIND =0) plus those enrolled in TRS (ACV=R).
* 17) On 1/21/2011, add a part to populate delgind, rsvcc, acv for PID_NEW
for
*     q2fy2011 xwalk.
*
* LAST UPDATED: 11/01/2012 Sabrina R. for HCSDB Adult Sampling
*
* INPUTS:
* 1) DEERS001.sas7bdat - DEERS Population SAS data set (Part 1)
* 2) DEERS002.sas7bdat - DEERS Population SAS data set (Part 2)
* 3) DEERS003.sas7bdat - DEERS Population SAS data set (Part 3)
* 4) DEERS004.sas7bdat - DEERS Population SAS data set (Part 4)
* 5) XWALK.sas7bdat    - Previous DEERS Population XWALK SAS data set
*
* OUTPUTS:
* 1) XWALK.sas7bdat - Current DEERS Population XWALK SAS data set
*
* INCLUDES:
* 1) EXCLUDE.SAS - Exclude specific family by SPONSSN and PTNT_ID.
*
* NOTES:
* 1) Under the new contract (8860), the suvey year was changed
*    to be based on the year the survey is administered (2002)
*    as opposed to the questioning reference frame (2001).  This program
*    references folders named according to the new convention [i.e.
*    the survey administration year (2002 for project 8860)].
* 2) Q4FY2011: For Q4FY2011 HCSDB, we will need to point to the XWALK file
*    we create for TSS bene in the K:\TSS\DEERS_mmdd2011_for711_2011 area.
* 3) Q1FY2014: For Q1FY2014 HCSDB, we will need to point to the XWALK file
*    we create for TSS bene in the K:\TSS\DEERS_mmdd2013_for711_2013 area.
*********************************************************************;
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER OBS=MAX;

%LET QUARTER=Q1FY2014;

LIBNAME  IN1  "K:\TSS\DEERS_08312013_for711_2013";      * Previous Xwalk for
Q1FY2011;
LIBNAME  IN2  "K:\&QUARTER.";  * Current Contractor DEERS Files;
LIBNAME  OUT  "K:\&QUARTER.";  * Current Output;

%INCLUDE "L:\&QUARTER.\Programs\Sampling\F2RSVCC.INC";

TITLE1 "DOD Health Care Survey, Sampling (40309.H20)";
TITLE2 "Program Name: XWALK.SAS (&QUARTER.)";
TITLE3 "Generate XWALK from DOD DEERS Pop/Assign PRN, MPRID to Newly Added";

*********************************************************************
* Set period number as global variable.
*********************************************************************;
%LET PD = 51; *  Q1FY2014 <Increase by 1 every quarter> ;

*********************************************************************
```

```
* Set survey as global variable.
* Change to HCSDB or CollateralAccess.
*************************************************************************;
* Starting from Q2fy2011, changed from HCSDB to HCSDB/SR (SR stands for
Select Reserve);
%LET SURVEY = HCSDB/SR;

*************************************************************************
* Formats
*************************************************************************;
PROC FORMAT;
  VALUE $FDAGEQY ' '  = ' '
                '000'-'017' = '<18'
                '018' - HIGH = '18 and older';
  VALUE $FRSVCC 'FX','MA','S9','SA','SB','SC','SD','SG','SM','ST',
                'TA','TB','TC','TD','TR','TW',
                'UA','UF','UL','UP','UQ','US','UT','UU','UX' = "Checked SR
values"
                ' '=' '
                Other="Other";
RUN;
*************************************************************************
* Assign LASTID from previous XWALK file as global variable. This will later
* be used as the starting point for assigning new MPRIDs.
*************************************************************************;
DATA _NULL_;
   SET IN1.XWALK END=FINISHED;
   LENGTH MPRIDX 8; RETAIN MPRIDX;
   IF MPRID > MPRIDX THEN MPRIDX = MPRID;
   IF FINISHED THEN CALL SYMPUT("LASTID",MPRIDX);
RUN;

*************************************************************************
* Get PTNT_ID from current quarter file.
*************************************************************************;
%MACRO SORTIT(NUM=);
  PROC SORT DATA=IN2.DEERS&NUM
   (KEEP=SPONSSN RSVCC DELGIND ACV PNTYPCD PATCAT DBENCAT MBRRELCD DAGEQY
PNBRTHDT PTNT_ID)
   OUT=DEERS&NUM;
   BY PTNT_ID;
  RUN;
%MEND SORTIT;

%SORTIT(NUM=001);
%SORTIT(NUM=002);
%SORTIT(NUM=003);
%SORTIT(NUM=004);

*************************************************************************
*********
* Since Q2FY2011, DEERS file contains HCSDB population and Select Reserve
population
* Include all the active duty regardless of age for HCSDB Adult Population
* Remove children (<18) prior to assigning permanent random number (PRN).
*************************************************************************
********;
```

```
DATA PID_Q;
   SET DEERS001
       DEERS002
       DEERS003
       DEERS004
      ;
   BY PTNT_ID;
RUN;

TITLE4 "Check the variables before excluding anything";
PROC FREQ DATA=PID_Q;
   TABLES DELGIND*PATCAT*DAGEQY*PNTYPCD*MBRRELCD*RSVCC*ACV/MISSING LIST;
          FORMAT DAGEQY $FDAGEQY. RSVCC $FRSVCC.;
RUN;

DATA PID_Q;
   SET PID_Q;
   IF (DELGIND = '1' AND PATCAT = 'ACTDTY') OR
      (DAGEQY GE "018" OR (DAGEQY = " " AND NOT (PNTYPCD ='D' AND MBRRELCD in
('C','D','E'))));
   ************************************************************************
   * Update EXCLUDE.SAS if contractor failed to remove all duplicates.
   * Exclude specific families from survey.
   ************************************************************************;
   %INCLUDE "L:\&QUARTER.\Programs\Sampling\EXCLUDE.SAS";
RUN;

TITLE4 "Check the criteria after excluding the duplicates and non-eligible
cases";
PROC FREQ DATA=PID_Q;
   TABLES DELGIND*PATCAT*DAGEQY*PNTYPCD*MBRRELCD/MISSING LIST;
   FORMAT DAGEQY $FDAGEQY.;
RUN;

PROC SORT DATA=IN1.XWALK OUT=XWALK; BY PTNT_ID;RUN;

************************************************************************
* Combine Qn PTNT_ID with previous XWALK, keeping only the
* new eligibles (PID_NEW).
************************************************************************;
DATA PID_NEW OLDXWALK;
   MERGE XWALK(IN=IN2) PID_Q(IN=IN1 KEEP=PTNT_ID ACV DELGIND RSVCC);
   BY PTNT_ID;

   ************************************************************************
   * Assign eligibility indicator for new eligibles.
   ************************************************************************;
   /*This part below is changed by H Xu for q2fy2011 to take ESR&PD. into
account*/
   LENGTH E&PD $1 ESR&PD. $1;

   FLAG_NEWDEERS=0;
   FLAG_OLDXWALK=0;
   IF IN1 THEN FLAG_NEWDEERS=1;
   IF IN2 THEN FLAG_OLDXWALK=1;

   IF IN1 THEN DO;
```

```
      IF DELGIND = '1' THEN DO;
         E&PD = "Y";
         ESR&PD. = "N";
         IF ACV = "R" THEN ESR&PD. = "Y";
      END;
      ELSE IF DELGIND = '0' THEN DO;
         E&PD. = "N";
         ESR&PD. ="Y";
      END;
   END;
   ELSE IF IN2 THEN DO;
      E&PD = "N";
      ESR&PD. = "N";
   END;

   LENGTH SURVEY $25; * KRR Added SURVEY 12/06/2007;
   IF IN1 AND NOT IN2 THEN DO;
      SURVEY = "&SURVEY";
      OUTPUT PID_NEW;
   END;

   IF IN2 THEN OUTPUT OLDXWALK;
RUN;

title4 "PID_NEW";
PROC FREQ DATA=PID_NEW;
   TABLES FLAG_NEWDEERS*FLAG_OLDXWALK*DELGIND*E&PD.*ESR&PD.*ACV
SURVEY/MISSING LIST;
RUN;
title4 "OLDXWALK";
PROC FREQ DATA=OLDXWALK;
   TABLES FLAG_NEWDEERS*FLAG_OLDXWALK*DELGIND*E&PD.*ESR&PD.*ACV
SURVEY/MISSING LIST;
RUN;


*************************************************************************
* Assign PRN for all new eligibles.
*************************************************************************;
DATA NEWXWALK (KEEP=MPRID PRN PTNT_ID E&PD ESR&PD. SURVEY DELGIND RSVCC ACV);
   SET PID_NEW;
   LENGTH MPRID  $8;
   ************************************************************************
   * Assign PRN for new eligibles.
   * 10/27/2009: Using PD as the seed for generating PRN;
   ************************************************************************;
   PRN = RANUNI(&PD.);
   LABEL PRN = "Permanent Random Number";
   ************************************************************************
   * Assign MPRID starting with previous XWALKs LASTID+1.
   ************************************************************************;
   IF _N_ = 1 THEN MPRIDX = %EVAL(&LASTID+1);
   ELSE MPRIDX + 1; RETAIN MPRIDX;
   MPRID  = PUT(MPRIDX,Z8.);
RUN;

%MACRO XWALK;
```

```
DATA OUT.XWALK;
   SET NEWXWALK OLDXWALK(DROP=FLAG_NEWDEERS FLAG_OLDXWALK);
   BY PTNT_ID;
   ************************************************************************
   * Recode missing values to Not eligible.
   ************************************************************************;
   %DO I = 1 %TO &PD;
       IF E&I = " " THEN E&I = "N";
       IF ESR&I = " " THEN ESR&I = "N";
       LABEL E&I = "Eligibility indicator for period = &I"
             ESR&I. = "TRS Study Population indicator for period = &I";
   %END;
RUN;
%MEND XWALK;
%XWALK;

TITLE3 "Proc Contents of XWALK.sas7bdat";
PROC CONTENTS; RUN;

Title3 "Proc freq of Xwalk data";
PROC FREQ;   *PD=E51, Q1FY2014;
   TABLES SURVEY
          E1-E&PD
          ESR&PD.
          E&PD.*ESR&PD.
          E45*E46*E47*E48*E49*E50*E&PD.*ESR&PD.
   /MISSING LIST;
RUN;


************************  End ****************************;
```

DUPCHECK.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************
* PROGRAM:  DUPCHECK.SAS
* TASK:     DOD Health Care Survey, Sampling (40309.H20)
*  PURPOSE:   Check cross-walk file for duplicate permanent random numbers
(PRN).
*
* WRITTEN:  01/19/2001 BY KEITH RATHBUN
*
* MODIFIED: 1) 04/10/2002 BY KEITH RATHBUN, Added duplicate checking and
*              notes for Child Population XWALK checking.
*           2) 01/29/2008 BY KEITH RATHBUN, Removed printing of duplicates.
            3) 04/30/2008 bY SABRINA RAHMAN, duplicate checking in PRN
*          4) 10/31/2008 By S. Rahman for Q2FY2009 Sampling (Adult) (6401-
902)
*          4) 07/15/2009 By S. Rahman for Q1FY2010 Sampling (Adult)
*
* INPUTS:
* 1) XWALK.sas7bdat  - DEERS Adult Population XWALK SAS data set
* 2) XWALKC.sas7bdat - DEERS Child Population XWALK SAS data set
*
* OUTPUTS: None
*
* NOTES:
* 1) Since the XWALK.SAS program is run each quarter to append new eligibles
*     to the previous quarters XWALK.sas7bdat, this program needs to be run
just
*    to be sure that duplicate PRNs have not been created.  It is highly
*    unlikely that the XWALK.SAS program will generate duplicate PRNs;
*    however, we must be sure that there are in fact no duplicates.
* 2) Since the XWALKC.SAS program is run each year to append new eligibles
*    to the previous years XWALKC.sas7bdat, this program needs to be run just
*    to be sure that duplicate PRNs have not been created.  It is highly
*    unlikely that the XWALKC.SAS program will generate duplicate PRNs;
*    however, we must be sure that there are in fact no duplicates.
*
*************************************************************************;

%LET QUARTER=Q1FY2014;

LIBNAME  IN "K:\&QUARTER.";

OPTIONS PS=79 LS=132 COMPRESS=NO NOCENTER;

TITLE1 "Check cross-walk file for duplicate permanent random numbers (PRN).";
TITLE2 "Program Name: DUPCHECK.SAS (&QUARTER.)";

************************************************************************
* Check for duplicate PRNs.  If duplicates are found, then the XWALK.SAS
* and/or XWALKC.SAS programs will need to be rerun until this program
* detects no duplicates.
************************************************************************;
PROC SORT DATA=IN.XWALK  OUT=DUPCHECK NODUPKEY; BY PRN; RUN;
/* PROC SORT DATA=IN.XWALKC OUT=DUPCHECK NODUPKEY; BY PRN; RUN; */
```

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

EXTRACT.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************
* PROGRAM:  EXTRACT.SAS
* TASK:     DOD HEALTH CARE SURVEY, SAMPLING (40309.H20)
* PURPOSE:  BUILD SAS EXTRACT FILE FOR THE DOD SAMPLE
*
* WRITTEN:  10/19/2000 BY KEITH RATHBUN
*
* MODIFIED:
* 1)  01/18/2001 BY KEITH RATHBUN - SMALL CHANGES FOR Q2 PROCESSING.
*     REMOVED SORTING OF XWALK AND EXTRACT FILES BY MPRID.
* 2)  02/08/2001 BY KEITH RATHBUN - SMALL CHANGES FOR Q3 PROCESSING.
*     ADDED SPECIFIC FAMILY EXCLUSION CRITERIA AS INCLUDE FILE.
  3)  04/23/2002 BY KEITH RATHBUN FOR Q3 2002 PROCESSING AND REMOVED TSPSITE.
* 4)  01/14/2003 BY KEITH RATHBUN FOR Q2 2003 PROCESSING.  ADDED ADDRESS
*     FLAGS (SADDFLG, HADDFLG, UADDFLG) AND ZIP CODE (MAPRZIP) TO
*     THE EXTRACT FILE.
* 5)  10/10/2003 BY DAWN FERRAGAMO ADDED TNEXREG FOR Q1 2004.
* 6)  06/29/2004 BY KEITH RATHBUN FOR Q4 2004 PROCESSING.
*     ADDED PTNT_ID, PRRECFLG, PNBRTHDT, PN1STNM, PNLSTNM, AND PNID
*     TO EXTRACT FILE.  REMOVED PNARSNCD FROM EXTRACT
*     FILE SINCE IT IS NO LONGER BEING PROVIDED BY STI.
* 7)  01/13/2005 BY REGINA GRAMSS ADD CODES TO CONSTRUCT PATCAT VALUES FOR
*     INACTIVE GUARD DBENCAT VALUES.  THIS SHOULD BE REMOVED FOR NEXT
*     QUARTER SINCE STI WILL TAKE CARE OF IT FOR Q3 2005.
* 8)  01/19/2005 BY REGINA GRAMSS ADDED CODES TO REPLACE ENRID AND ACV
*     FIELD WITH NEW VALUES SENT BY STI.  THIS WAS DONE TO REMEDY
*     SEVERAL THOUSAND MISSING VALUES FOUND IN ENRID.  THIS CODE SHOULD
*     ONLY BE DONE THIS QUARTER AND SHOULD NOT HAVE TO BE RUN IN Q3.
* 9)  07/12/2005 BY REGINA GRAMSS USED STI FILES FROM Q3 2005 CHILD RESAMPLING.
* 10) 07/21/2005 BY REGINA GRAMSS SAVED ORIGINAL PCM VALUE AS PCM_OLD, THEN
*     REASSIGN PCM ACCORDING TO ACV AND ENRID.
* 11) 10/17/2005 BY REGINA GRAMSS CHANGED CIVILIAN ENRID CODES ACCORDING TO
*     DEERS DICTIONARY.
* 12) 11/09/2005 BY REGINA GRAMSS, ADDED IN KATRINA SUPPLEMENT FILE (STI005.SD2)
*     AND ALSO CREATE FLAG TO INDICATE WHICH RECORDS WERE FROM THE SUPPLEMENT FILE.
*     THIS SHOULD ONLY BE DONE FOR THIS QUARTER.  ADDITIONALLY, USE ORIGINAL FRAME
*     FILE WITH EXTENSION "A" IN THE NAME - THESE ARE FILES WHERE THE DUPLICATES/OVERLAP
*     RECORDS (RECORDS IN BOTH ORIGINAL FRAME AND KATRINA FILES) WERE ELIMINATED.
*     AGAIN, THIS SHOULD ONLY BE DONE FOR THIS QUARTER.
* 13) 01/23/2006 BY KEITH RATHBUN FOR Q2 2006 PROCESSING: REMOVED KATRINA-RELATED
*     CODE AND PCM RECODE.  PCM WAS CORRECTED BY STI FOR Q2 2006.
* 14) 10/18/2006 BY SKY ANDRECHECK FOR Q2 2007 PROCESSING.  CHANGED INPUT FILES TO
*     DEERS INSTEAD OF OLD CONTRACTOR NAME (STI).
* 15) 05/07/2007 BY H XU FOR Q4FY2007 SAMPLING.
*     USED PTNT_ID AS MERGING ID. ALSO OUTPUT EXTRACT FILE TO THE RESTIRCITED FOLDER
* 16) 07/23/2007 FOR Q1FY2008 SAMPLING.
*     FROM Q1FY2008, PUT ALL ACTIVE DUTY IN THE ADULT SAMPLE REGARDLESS OF THEIR AGE.
* 17) 12/06/2007 BY KEITH RATHBUN FOR COLLATERAL ANALYSIS TASK (6401): ADDED
*     DPRISM AND MAPRZIPX VARIABLES TO THE EXTRACT.
* 18) 12/10/2007 BY KEITH RATHBUN FOR Q3FY2008.  MOVED IFS FOR PTNT_ID DELETIONS
*     INTO THE EXCLUDE.SAS PROGRAM.
* 19) THE FOLLOWING CHANGES HAVE BEEN MADE FOR Q2FY2011 ON 10/21/2010 BY H.XU:
*     A)REMOVED EXCLUDE_FTHOOD.SAS
*     B)EXTRACT.SAS7BDAT FILE NOW INCLUDES ELIGIBLE ADULT BENEFICIARIES AS USUAL
*       PLUS THE ELIGIBLE SELECT RESERVE
*
* LAST UPDATED:
```

```
*    11/06/2012 SABRINA R. FOR Q2FY2012 ADULT SAMPLING PROCESSING
*
* INPUTS:
* 1) DEERS001.SAS7BDAT - DEERS POPULATION SAS DATA SET (PART 1)
* 2) DEERS002.SAS7BDAT - DEERS POPULATION SAS DATA SET (PART 2)
* 3) DEERS003.SAS7BDAT - DEERS POPULATION SAS DATA SET (PART 3)
* 4) DEERS004.SAS7BDAT - DEERS POPULATION SAS DATA SET (PART 4)
* 5) XWALK.SAS7BDAT  - DEERS POPULATION XWALK SAS DATA SET (SORTED BY PTNT_ID)
*
* OUTPUTS:
* 1) EXTRACT.SAS7BDAT - DEERS POPULATION EXTRACT SAS DATA SET
*                   (COMPLETE - SORTED BY PTNT_ID)
*
* INCLUDES:
* 1) EXCLUDE.SAS - EXCLUDE SPECIFIC FAMILY BY SPONSSN AND PTNT_ID.
*
* NOTES:
* 1) UNDER THE NEW CONTRACT (8860), THE SUVEY YEAR WAS CHANGED
*    TO BE BASED ON THE YEAR THE SURVEY IS ADMINISTERED (2002)
*    AS OPPOSED TO THE QUESTIONING REFERENCE FRAME (2001).  THIS PROGRAM
*    REFERENCES FOLDERS NAMED ACCORDING TO THE NEW CONVENTION [I.E.
*    THE SURVEY ADMINISTRATION YEAR (2002 FOR PROJECT 8860)].
*
*************************************************************************;

OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER MERGENOBY=ERROR;

%LET QUARTER=Q1FY2014;

LIBNAME  IN  "K:\&QUARTER."; /*DEERS001-DEERS004, XWALK*/
LIBNAME  OUT "K:\&QUARTER."; /*EXTRACT*/

TITLE1 "BUILD SAS EXTRACT FILE FOR THE DOD SAMPLE";
TITLE2 "PROGRAM NAME: EXTRACT.SAS (&QUARTER.)";

%LET PD = 51; * <INCREMENT BY 1 EVERY QUARTER> 51 FOR Q1FY2014;

PROC FORMAT;
  VALUE $FDAGEQY ' '  = ' '
             '000'-'017' = '<18'
             '018' - HIGH = '18 AND OLDER';
  VALUE $FRSVCC 'FX','MA','S9','SA','SB','SC','SD','SG','SM','ST',
              'TA','TB','TC','TD','TR','TW',
              'UA','UF','UL','UP','UQ','US','UT','UU','UX' = "CHECKED SR VALUES"
              ' '='  '
              OTHER="OTHER";
RUN;

*INCLUDE FORMAT FOR RSVCC;
%INCLUDE "L:\&QUARTER.\PROGRAMS\SAMPLING\F2RSVCC.INC";
*************************************************************************
* EXTRACT KEY SAMPLING VARIABLES.
*************************************************************************;
%MACRO SORTIT(NUM=);
   PROC SORT DATA=IN.DEERS&NUM
          (KEEP=SPONSSN  PNTYPCD  MRTLSTAT  PNSEXCD
               MDCABRSN MDCAEFDT MDCAEXDT  DPRISM
```

```
               PNLCATCD SVCCD    PAYPLNCD
               PGCD     MBRRELCD RANKCD    ULOCGRN
               ULOCDMIS RACEETHN DCATCH    DMEDELG
               DAGEQY   DBENCAT  DPRISM    DHSRGN
               DSPONSVC MEDTYPE  ENRID     ACV
               PCM      PATCAT   SADDFLG   HADDFLG
               UADDFLG  MAPRZIP  MAPRZIPX  TNEXREG
               PTNT_ID  PNBRTHDT PN1STNM   PNLSTNM
               PNID     PRRECFLG MSA_ID    D_UPDT
               C_UPDT
               DELGIND  RSVCC
               HCDP DTYAFLAG)
            OUT=DEERS&NUM;
      BY PTNT_ID;
  RUN;
%MEND SORTIT;

%SORTIT(NUM=001);
%SORTIT(NUM=002);
%SORTIT(NUM=003);
%SORTIT(NUM=004);

*************************************************************************
* REMOVE CHILDREN (<18) AND EXCLUDE SPECIFIC FAMILIES.
*************************************************************************;
DATA EXTRACT;
  SET DEERS001
      DEERS002
      DEERS003
      DEERS004;
  BY PTNT_ID;

  IF (DELGIND = '1' AND PATCAT = 'ACTDTY') OR
     (DAGEQY GE "018" OR (DAGEQY = " " AND NOT (PNTYPCD ='D' AND MBRRELCD IN
('C','D','E'))))
  ;
  ************************************************************************
  * ADD CODE TO EXCLUDE.SAS IF CONTRACTOR FAILED TO REMOVE ALL DUPLICATES.
  ************************************************************************;
  %INCLUDE "L:\&QUARTER.\PROGRAMS\SAMPLING\EXCLUDE.SAS";
RUN;

DATA OUT.EXTRACT;
  MERGE IN.XWALK(IN=IN1) EXTRACT(IN=IN2);
  BY PTNT_ID;
  IF IN1 AND IN2;
  FORMAT RSVCC $F2RSVCC.;
RUN;

TITLE1 "BUILD SAS EXTRACT FILE FOR THE DOD SAMPLE";
TITLE2 "PROGRAM NAME: EXTRACT.SAS (&QUARTER.)";
TITLE3 "CONTENTS OF EXTRACT FILE";
PROC CONTENTS DATA=OUT.EXTRACT;
RUN;

TITLE3 " PROC FREQ OF KEY VARIABLES IN DATA=EXTRACT.SAS7BDAT";
PROC FREQ DATA=OUT.EXTRACT;
```

```
  TABLES
    E1-E&PD. ESR&PD. E&PD.*ESR&PD.
    E44*E45*E46*E47*E48*E49*E50*E&PD.*ESR&PD. /*E51 FOR Q1FY2014*/
    TNEXREG
    PRRECFLG
    PNTYPCD
    MRTLSTAT
    PNSEXCD
    MDCABRSN
    PNLCATCD
    SVCCD
    PAYPLNCD
    PGCD
    MBRRELCD
    RANKCD
    ULOCGRN
    ULOCDMIS
    RACEETHN
    DCATCH
    DMEDELG
    DAGEQY
    DBENCAT
    DPRISM
    DHSRGN
    DSPONSVC
    MEDTYPE
    ENRID
    ACV
    PCM
    PATCAT
    SADDFLG
    HADDFLG
    UADDFLG
    DPRISM
    PCM*ACV*ENRID
    MSA_ID
    RSVCC
    DELGIND
       HCDP
    DTYAFLAG
  /MISSING LIST;
RUN;

TITLE3 " CROSS TAB OF (DELGIND*RSVCC*ACV)";
PROC FREQ;
  TABLES DELGIND*RSVCC*ACV/MISSING LIST;
  FORMAT RSVCC $FRSVCC.;
RUN;


****************** END *********************************;
```

2. CONSTRUCT Q1 ADULT SAMPLE FRAME

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

FRAMEA_PRELIM.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************
*** Program: framea_prelim.sas
*** Project: Health Care Survey of DoD Beneficiaries - Adult (40309.H20)
*** Purpose: Create the Preliminary Sampling Frame for the Adult Survey.
***
*** Inputs:  extract.sas7bdat: Extracted DoD data set used to create the
                               adult sampling frame.
***          tma.sas7bdat    : DMIS information
***          frame.inc       : Include file

***  Outputs:  framea_Prelim.sas7bdat  :  Preliminary  adult  sampling  frame
created
***          from the extracted DoD data set.
***            TMA.sas7bdat (output a SAS data set from excel file downloaded
from TMA website)
***
*** Written: Haixia Xu on 08/15/2006
***
*** Last Updated: 10/14/2013 by Karlesha R. Q1FY2014 Adult Sampling
***
*** Note:  1)The stratification is changed in Q1FY2007.
***        2)LISTDMIS: Need to check if there is any updated file available
***          (Current ListDmis file using from Q3FY2009)
***         3)TMA.sas7bdat: We Download the latest excel from website for TMA
file
***        4)Starting from Q2FY2011, extract.sas7bdat includes both Adult
***            HCSDB Beneficiaries and TRS study population so make sure to
only
***          include HCSDB Adult Beneficiaries when reading extract.sas7bdat
*************************************************************************;

options ls=132 ps=79 compress=yes nocenter;* mprint mlogic symbolgen;

%LET QUARTER=Q1FY2014;

libname in1   "K:\&QUARTER.";             *Extract.sas7bdat;
libname in2   "L:\&QUARTER.\Data\Afinal"; *TMA.sas7bdat, Listdmis.sas7bdat;
libname     out                "L:\&QUARTER.\Data\Afinal";     *TMA.sas7bdat,
Framea_prelim.sas7bdat;

*Update the Macro Variables;
%let folder       = L:\&QUARTER.\Programs\Sampling; *reading framea.inc;
%Let TMAfolder    = L:\Q1FY2014\Data\AFInal\DMIS_201310;
%Let TMAfilename  = 201310_dmisid.xlsx;
%Let TMAsheetname = October 2013;


*Every    quarter,    we    need    to    download    TMA    spreadsheet    from
"http://www.tricare.mil/tma/gri/dmis/downloads.aspx"
 After unzip the zip file, reading the excel file and creating a TMA.sas7bdat
from it;
Proc import out= work.TMA
     datafile="&TMAfolder.\&TMAfilename."
     dbms=EXCEL replace;
     SHEET="&TMAsheetname.";
     GETNAMES=YES;
     MIXED=NO;
```

```
     SCANTEXT=YES;
     USEDATE=YES;
     SCANTIME=YES;
Run;

Title3 "Proc Contents of Downloaded TMA Excel to check the variable names:";
Proc Contents data=TMA;
Run;

*Dropping Additional Variables Created from Downloaded Excel file. We used to
have 26 variables in TMA Data;
Data TMA (Drop=F27 F28 F29 F30 F31 F32); *Q1FY2014: Update the List based on
proc contents;
Set TMA;
Run;


*****************************************
          output the TMA Data file
*****************************************;
Data Out.TMA;
Set TMA;
Run;

Title3 "Proc Contents of TMA Excel after dropping Additional variables:";
Proc Contents data=Out.TMA;
Run;



TITLE1 "DOD Health Care Survey, Sampling (40309.H20)";
title2 "Program: FRAMEA_PRELIM.SAS (&QUARTER.)";
title3 "Purpose: Construct the Preliminary Adult Sampling Frame";

proc format;
value $FMTage ' '='Missing'
              '001'-'064' ='<65'
              '065'-high  ='>=65'
              other='other';
value FMTprn  0    - 0.25  = '[0,0.25]'
              0.25 <- 0.50 = '(0.25-0.50]'
              0.50 <- 0.75 = '(0.50-0.75]'
              0.75 <- 1    = '(0.75-1.00]';
run;

*_____________________________________________________________________________
__
Check some variables in the Extract file
_____________________________________________________________________________
__;
data frame;
   set in1.extract(keep=mprid prn DELGIND enrid dcatch pcm patcat dageqy acv
                        pntypcd  MBRRELCD  pnlcatcd  pnsexcd  svccd  TNEXREG
PRRECFLG);
   /*This conditioned is added by H. Xu starting from Q2fy2011 to include
only HCSDB population*/
   if DELGIND='1';
```

```
run;

title4 "Freq of the variables in the frame";
proc freq data=frame;
   tables PRRECFLG PATCAT DAGEQY DAGEQY*PNTYPCD*MBRRELCD
          patcat*pcm               patcat*pcm*acv               patcat*dageqy
pcm*patcat*dageqy*acv/missing list;
   format dageqy $FMTage.;
run;

*_____________________________________________________________________________
__
Assign com_geo
_____________________________________________________________________________
__;

data TMA (keep = geocell d_par d_fac d_instal d_health d_dmis servaff);
   set in2.TMA;
   rename          facility_type_code=d_fac          installation_name=d_instal
dmis_facility_name=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;

title4 "Freq of servaff, d_fac in TMA Spreadsheet";
proc freq data=TMA;
tables servaff d_fac/missing list;
run;

proc sort nodupkey data=TMA;
   by geocell;
run;

%include "&folder.\frame.inc";  *Include file;

*_____________________________________________________________________________
__
Create the reporting MTFs
_____________________________________________________________________________
__;

*listdmis is from Eric. It contains the reporting MTFs;
title4 "Contents of Listdmis.sas7bdat";
proc contents data=in2.listdmis; run;

title4 "Freq of Dmis (Listdmis.sas7bdat)";
proc freq data=in2.listdmis;
tables dmis/missing list;
run;

data listdmis;
set in2.listdmis(keep=dmis);
com_geo=put(dmis, z4.);
```

```
run;

title4 "Freq of com_geo*dmis (Data=Listdmis)";
proc freq data=listdmis;
table com_geo*dmis/missing list;
run;

proc sort data=listdmis; by com_geo; run;
proc sort data=t_frame;  by com_geo; run;

data merged both only1 only2 problem;
merge t_frame(in=A) listdmis(in=B);
by com_geo;
R_MTF=0;
if A and B then R_MTF=1;     *Reporting MTF;
if A then output merged;
if A and B then output both;
else if A and not B then output only1;
else if B and not A then output only2;
else output problem;
run;

title4 "Dmis/Com_geo in 'Reporting MTF' list (Listdmis), but not in 'Frame'";
proc print data=only2;
var com_geo;
run;

title4 "List of Reporting MTFs (in Preliminary Adult Sampling Frame):";
title5 " (where R_MTF=1)";
proc freq data=merged;
tables com_geo/missing list;
where R_MTF=1;
run;

title4 "Checks R_MTF ";
title5 " (If, in both 't_frame' and 'listdmis' then R_MTF=1)";
proc freq data=merged;
tables R_MTF/missing list;
run;

*_____________________________________________________________________________
__
Create enbgsmpl
_____________________________________________________________________________
__;

data merged;
set merged;
select (patcat);
   when ('ACTDTY') enbgsmpl='01';
   when ('DEPACT') do;
       select (pcm);
         when ('CIV') enbgsmpl='02';
         when ('MTF') enbgsmpl='03';
         when (' ')   enbgsmpl='04';
         otherwise enbgsmpl='c';
      end;
```

```
end;
when ('NADD<65') do;
   select (pcm);
      when ('CIV') enbgsmpl='05';
      when ('MTF') enbgsmpl='06';
      when (' ')   enbgsmpl='07';
      otherwise enbgsmpl='d';
   end;
end;
when ('NADD65+') do;
   select (pcm);
      when ('CIV') enbgsmpl='08';
      when ('MTF') enbgsmpl='09';
      when (' ')   enbgsmpl='10';
      otherwise enbgsmpl='e';
   end;
end;
when ('UNKNOWN') do;
   if pntypcd='S' then do;
      if pnlcatcd in ('A','J','N','V') then enbgsmpl='01';
      else if dageqy = ' ' then enbgsmpl='f';
      else if dageqy <= '064' then do;
           select (pcm);
              when ('CIV') enbgsmpl='05';
              when ('MTF') enbgsmpl='06';
              when (' ')   enbgsmpl='07';
              otherwise    enbgsmpl='g';
           end;
    end;
      else if dageqy > '064' then do;
           select (pcm);
              when ('CIV') enbgsmpl='08';
              when ('MTF') enbgsmpl='09';
              when (' ')   enbgsmpl='10';
              otherwise    enbgsmpl='h';
           end;
      end;
  end;
   else if pntypcd='D' then do;
      if pnlcatcd in ('A','J','N','V') then do;
         select (pcm);
            when ('CIV') enbgsmpl='02';
            when ('MTF') enbgsmpl='03';
            when (' ')   enbgsmpl='04';
            otherwise    enbgsmpl='i';
         end;
      end;
      else if dageqy = ' ' then enbgsmpl='j';
      else if dageqy <= '064' then do;
            select (pcm);
               when ('CIV') enbgsmpl='05';
               when ('MTF') enbgsmpl='06';
               when (' ')   enbgsmpl='07';
               otherwise    enbgsmpl='k';
            end;
     end;
      else if dageqy > '064' then do;
```

```
               select (pcm);
                 when ('CIV') enbgsmpl='08';
                 when ('MTF') enbgsmpl='09';
                 when (' ')   enbgsmpl='10';
                 otherwise    enbgsmpl='l';
               end;
          end;
     end;
      else enbgsmpl='m';
   end;
   otherwise enbgsmpl='n';
end;

if acv ='R' then enbgsmpl='11';
run;

title4 "Checks the ENBGSMPL Construction:";
title5 "Proc Freq of Enbgsmpl:";
proc freq data=merged;
tables enbgsmpl/missing list;
run;

title4 "Checks the ENBGSMPL Construction:";
proc freq data=merged;
tables patcat enbgsmpl*patcat*pcm*acv /missing list;
run;

title4 "Checks the ENBGSMPL Construction:";
title5 " (where, PATCAT=UNKNOWN)";
proc freq data=merged;
tables enbgsmpl*patcat*pntypcd*pnlcatcd*dageqy*PCM/missing list;
where PATCAT='UNKNOWN';
run;

*_____________________________________________________________________________
__
Create Stratum
_____________________________________________________________________________
__;
data merged;
set merged;
length group $1 stratum $7;

if acv='R' or NOT ( (PATCAT='ACTDTY' or (dageqy<'065' and PCM='MTF')) and
R_MTF=1 ) then do;
   if TNEXREG='N' then com_geo='9001';
   else if TNEXREG='S' then com_geo='9002';
   else if TNEXREG='W' then com_geo='9003';
   else if TNEXREG='O' then com_geo='9004';
end;

if acv ='R' then do; /*TRICRAE Reserve Select*/
   group='0';
   stratum=group||com_geo||enbgsmpl;
end;
else if PATCAT='ACTDTY' or (dageqy<'065' and PCM='MTF') then do; /*MTF
enrolled, <65*/
```

```
   group='1';
   stratum=group||com_geo||enbgsmpl;
end;
else if dageqy<'065' and PCM='CIV' then do; /*CIV enrolled, <65*/
   group='2';
   stratum=group||com_geo||enbgsmpl;
end;
else if dageqy<'065' and PCM=' ' then do;  /*non-enrolled, <65*/
   group='3';
   stratum=group||com_geo||enbgsmpl;
end;
else if dageqy >='065' then do;
   if ACV in ('L', 'G') then do; /*TRICARE-plus, >65*/
   group='4';
   stratum=group||com_geo||'99';
   end;
   else do;  /*All other(Nonenrolled), >65*/
   group='5';
   stratum=group||com_geo||'99';
   end;
end;

run;

title4 "Check Com_geo";
proc freq data=merged;
tables com_geo*R_MTF*tnexreg*patcat*dageqy*pcm*ACV/missing list;
format dageqy $FMTage.;
run;

title4 "Proc Freq Checking";
proc freq data=merged;
tables  group
        group*enbgsmpl
        group*acv*patcat*dageqy*pcm
        stratum*group*com_geo*enbgsmpl/missing list;
format dageqy $FMTage.;
run;

title4 "TRICARE Reserve Select";
proc freq data=merged;
where group='0';
tables group*stratum*TNEXREG*enbgsmpl/missing list;
run;

title4 "MTF-enrolled, <65 ";
proc freq data=merged;
where group='1';
tables group*R_MTF*stratum*com_geo*enbgsmpl*TNEXREG/missing list;
run;

title4 "CIV-enrolled, <65 ";
proc freq data=merged;
where group='2';
tables group*stratum*TNEXREG*enbgsmpl/missing list;
run;
```

```
title4 "non-enrolled, <65 ";
proc freq data=merged;
where group='3' ;
tables group*stratum*TNEXREG*enbgsmpl/missing list;
run;

title4 "TRICARE-plus, >65 ";
proc freq data=merged;
where group='4' ;
tables group*stratum*acv*TNEXREG/missing list;
run;

title4 "The other(nonenrolled), >65 ";
proc freq data=merged;
where group='5' ;
tables group*stratum*acv*TNEXREG*enbgsmpl/missing list;
run;

*Switch the zone definition to be consisitent with the fiscal year;
data out.framea_prelim;
set merged;
if 0.75 < prn <= 1 then do;
   zone1=1;
   zone=1;
end;
else if 0.00 <= prn <= 0.25 then do;
   zone2=1;
   zone=2;
end;
else if 0.25 < prn <= 0.50 then do;
   zone3=1;
   zone=3;
end;
else if 0.50 < prn <= 0.75 then do;
   zone4=1;
   zone=4;
end;
run;

title4 "Checks Zone Assignment in Preliminary Adult Sampling Frame:";
proc freq data=out.framea_prelim;
tables zone*zone1*zone2*zone3*zone4*prn/missing list;
format prn FMTprn.;
run;

title4 "Contents for the Preliminary Adult Sampling Frame:";
proc contents data = out.framea_prelim;
run;


*************** The End ******************;
```

FRAME.INC

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*** Program : framea.sas
*** Project : Health Care Survey of DoD Beneficiaries - Adult (40309.H20)
*** Purpose : Collapse the small stratum, and finalize the frame
*** Input   : framea_prelim.sas7bdat
*** Output  : framea.sas7bdat
*** Notes   : Data quality issue with April 2011 enrollment counts reported in
***            DEERS Eligibility. There are smaller cell counts than usual
***           (see e-mail Impacts HCSDB,TSS,and other Surveys-DEERS Enrollment
Data)
***            Jul 27,2011 A.Borgen for Q1FY2012 Adult Sampling
***            - Walter Reed closing, merged to Bethesda Naval Hospital
*** Last
*** Updated : Karlesha R. 10/17/2013 Q1FY2014 Adult Sampling
*** Note    : From Q1FY2014, our sample size is 100,000 (webonly).
***            We decided to collapse all stratum <1900
***            For Strata <2000, please check teh excel file (Strata Less Than
2000.xlsx)
*************************************************************************
*;

*** Set up options. ***;
options ls=132 ps=79 compress=yes nocenter noxwait;
ods _ALL_ Close; ODS Listing;

%let quarter=Q1FY2014;

*** Set up the titles. ***;
title1 "Program: FRAMEA.sas (&QUARTER.)";
title2 "Collapse the small stratum, and finalize the frame";

*** Set up the input and output paths. ***;
libname in  "L:\&QUARTER.\Data\Afinal"; /*framea_prelim.sas7bdat*/
libname out "L:\&QUARTER.\Data\Afinal"; /*framea.sas7bdat*/

data framea;
set in.framea_prelim;
stratumo=stratum;

*_____________________________________________________________
                          COLLAPSE
_____________________________________________________________;

*FIX COLLAPSEMENT (THIS PART DO NOT CHANGE QUARTER TO QUATER ;

/*Note: Collapse these cells to attempt to raise sample size*/
/*Note: Tom indicated he wanted to drop TRS regional estimates -
so we could do one MHS-wide stratum for TRS,
instead of regional.*/

/*Note: Tom also said that he did not think we need to keep TRICARE Plus
separate from other 65+, so we could collapse all 65+ together,
with same objective as current nonenrolled 65+. */


/*Note: For the beneficiaries 65+, we don't separate sample TRICARE Plus
enrollees*/;
```

```
if stratumo in ('4900199','5900199') then stratum='6900199';
if stratumo in ('4900299','5900299') then stratum='6900299';
if stratumo in ('4900399','5900399') then stratum='6900399';
if stratumo in ('4900499','5900499') then stratum='6900299';

/*Note: We don't stratify TRICARE Reserve Select(TRS) enrollees by TNEX region,
        instead, we just had all TRS enrollees in one stratum.*/
if stratumo in ('0900111','0900211','0900311','0900411') then stratum='0999911';

/*Added in q3fy2009. AS per Nancy's email below:
From: Nancy Clusen
Sent: Thursday, November 13, 2008 12:46 PM
To: Eric Schone; Keith Rathbun
Cc: Amang Sukasih; Haixia Xu
Subject: FW: checking dmid=1350

Hello,
37th Medical Group Lackland Air Force Base DMIS ID 1350 first appears in the
frame in Q2.
The facility type is Clinic, but it also is its own Parent facility.
As you can from Haixia email below, most of the beneficiaries enrolled to 1350 in
Q2
were enrolled with the 59th Medical Wing-Lackland DMIS ID 117 in Q1.
Should we combine 117 and 1350 for the purposes of reporting?
*/
/*if substr(stratumo,2,4) = '0117' then substr(stratum,2,4)='1350';*/
if substr(stratumo,2,4) = '1350' then substr(stratum,2,4)='0117';


/*Q1FY2012 added Walter Reed closing, merged with Bethesda Naval Hospital*/
if substr(stratumo,2,4) = '0037' then substr(stratum,2,4)='0067';

run;

title3 "Check stratum after Permanent Cell Collapse";
proc freq data=framea;
tables stratum*stratumo /missing list;
run;

title3 "Check stratum";
proc freq data=framea noprint;
tables stratum*stratumo /missing list;
tables stratum/out=freqcnt missing list;
run;

title4 "Small stratum with count <2000";
proc print data=freqcnt noobs;
var stratum count;
where count<2000;
run;

title4 "Small stratum with count (where count>1900 and count<2000):";
proc print data=freqcnt noobs;
var stratum count;
where count>1900 and count<2000;
run;
```

```
data framea;
   set framea  /*(drop=stratumo)*/;
               /*stratumo=stratum;*/

* COLLAPSEMENT for Q1FY2014;
* ========================;
     if stratumo in ('1000101','1000103') then stratum='1000103';
else if stratumo in ('1001803','1001806') then stratum='1001803';
else if stratumo in ('1001903','1001906') then stratum='1001903';
else if stratumo in ('1002603','1002606') then stratum='1002603';
else if stratumo in ('1004303','1004306') then stratum='1004303';
else if stratumo in ('1004603','1004606') then stratum='1004603';
else if stratumo in ('1005303','1005306') then stratum='1005303';
else if stratumo in ('1007401','1007403','1007406') then stratum='1007403';
else if stratumo in ('1007703','1007706') then stratum='1007703';
else if stratumo in ('1008303','1008306') then stratum='1008303';
else if stratumo in ('1008603','1008606') then stratum='1008603';
else if stratumo in ('1009406','1009403') then stratum='1009403';
else if stratumo in ('1011203','1011206') then stratum='1011203';
else if stratumo in ('1011303','1011306') then stratum='1011303';
else if stratumo in ('1011803','1011806') then stratum='1011803';
else if stratumo in ('1012803','1012806') then stratum='1012803';
else if stratumo in ('1012903','1012906') then stratum='1012903';
else if stratumo in ('1013106','1013103') then stratum='1013103';
else if stratumo in ('1023103','1023106') then stratum='1023103';
else if stratumo in ('1024803','1024806') then stratum='1024803';
else if stratumo in ('1028006','1028003') then stratum='1028003';
else if stratumo in ('1030603','1030606') then stratum='1030603';
else if stratumo in ('1031003','1031006') then stratum='1031003';
else if stratumo in ('1033006','1033003') then stratum='1033003';
else if stratumo in ('1036403','1036406') then stratum='1036403';
else if stratumo in ('1050801','1050803','1050806') then stratum='1050803';
else if stratumo in ('1060906','1060903') then stratum='1060903';
else if stratumo in ('1062003','1062006') then stratum='1062003';
else if stratumo in ('1062106','1062103') then stratum='1062103';
else if stratumo in ('1062206','1062203') then stratum='1062203';
else if stratumo in ('1063306','1063303') then stratum='1063303';
else if stratumo in ('1080406','1080403') then stratum='1080403';
else if stratumo in ('1080501','1080503','1080506') then stratum='1080503';
else if stratumo in ('1080606','1080603') then stratum='1080603';
else if stratumo in ('1713906','1713903') then stratum='1713903';


*Note : Cell 1621501 is so small because it is a Special Clinic in California
*Located far away from the base used mostly by family members:;
else if stratumo in ('1621501','1621503','1621506') then stratum='1621503';

else if stratumo in ('2900402','2900405') then stratum='2900405';

/*Note Q2FY2013 & Q3FY2013: During sampling QA, it was decided that given the low
response rates
we will collapse the following strata and make the final part of the 04 ben
cat.;*/
else if stratumo in ('3900404','3900407') then stratum='3900404';
```

```
group=substr(stratum,1,1);
run;

*Checks the small stratum again after collapsements;
proc freq data=framea NOPRINT;
tables stratum /out=chksmallsize missing list;
run;

title3 "Checks the small Stratum again after Collapsements";
title4 " (note: we leave count>1900 As Is)";
title5 " (for count<1900 (if any),check for the reason for not collapsing)";
proc print data=chksmallsize NOOBS;
where count <2000;
var stratum count;
run;

/*
No strata with counts less than 1900.

No further action needed.
*/

title3 'Check the Stratum Collapsements';
proc freq data=framea;
tables stratum*stratumo/missing list;
run;

title3 'CROSS FREQ: Stratum*Group';
proc freq data=framea;
table stratum*group/list missing;
run;


*_____________________________________________________________
 Construction of Geosmpl, Ebsmpl and Grop_Geo from Stratum
_____________________________________________________________;

data out.framea;
set framea(drop=stratumo);
geosmpl=substr(stratum, 2, 4);
ebsmpl=substr(stratum, 6, 2);
grp_geo=substr(stratum, 1, 5);
run;

title3 "Check the Construction of geosmpl, ebsmpl, grp_geo";
proc freq data=out.framea;
tables stratum*geosmpl/missing list;
tables stratum*ebsmpl  /missing list;
tables stratum*grp_geo/missing list;
run;

TITLE3 "CROSS FREQ: Check the ebsmpl";
proc freq data=out.framea;
tables group*enbgsmpl*ebsmpl/missing list;
run;

Title3 "CROSS FREQ : (where, enbgsmpl ~= ebsmpl):                    ";
```

```
Title4 "    Note: the (ENBGSMPL ne EBSMPL) are because of two things";
Title5 "          - Collapsment of Strata,                           ";
Title6 "          - In Group 4 and 5 EBSMPL is always 99             ";
proc freq data=out.framea;
tables stratum*enbgsmpl*ebsmpl/missing list;
where enbgsmpl ne ebsmpl ;
run;

title3 'Freq of group grp_geo stratum in the Final Frame';
proc freq data=out.framea;
tables group  /missing list;
tables grp_geo/missing list;
tables stratum/missing list;
run;

title3 'Freq of Stratum*Zone in the Final Frame';
proc freq data=out.framea;
tables stratum*zone/missing list;
run;

title3 'Contents of the Final Frame (framea)';
proc contents data=out.framea;
run;



/****************The End ******************/
```

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

COUNTA.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************
*** Project: Health Care Survey of DoD Beneficiaries - Adult (40309.H20)
*** Purpose: Produce the population counts for different domains
*** Program: counta.sas
*** Input  : framea.sas7bdat
*** Output : counta.sas7bdat
*** Written: Haixia Xu on 8/17/2006
*** Notes  : None
*************************************************************************;

options ls=132 ps=79 compress=yes nocenter noxwait obs=max;

*Update Macro Variable Quarter with current Quarter;

%LET QUARTER=Q1FY2014;

libname in  "L:\&QUARTER.\Data\Afinal"; /*framea.sas7bdat*/
libname out "L:\&QUARTER.\Data\Afinal"; /*counta.sas7bdat*/

TITLE1 "Produce cell counts - Form A (&QUARTER.)";
TITLE2 "Program Name: COUNTA.SAS";

*** Create a couple of macro variables for the program. ***;
%let indata=in.framea;
%let dsn = framea;
%let by_vars = stratum grp_geo geosmpl ebsmpl group  ;

data &dsn.;
set &indata.(keep=&by_vars. prn);
run;

TITLE3 "FREQS of the frame";
PROC FREQ DATA=&dsn.;
TABLES &by_vars./MISSING LIST;
RUN;

*** Get the total number of observations. ***;

TItle3 "Proc Means of PRN";
proc means data=&dsn.;
  var prn;
  output out=total n=total;
run;

data total;
  set total (keep=total);
run;

*** Sort the frame. ***;

PROC SORT DATA=&dsn. OUT=&dsn.;
   BY &by_vars.;
RUN;

*** Set up the table for the counts that will follow. ***;

PROC MEANS DATA=&dsn. NOPRINT;
```

```
   BY &by_vars.;
   VAR prn;
   OUTPUT
   OUT=T0(KEEP=&by_vars.)
   N=DUMMY;
RUN;

proc print data=T0;run;

PROC FREQ DATA=&dsn. NOPRINT;
   TABLES stratum
  /MISSING LIST OUT=T1(RENAME=(COUNT=PSUM0)
                KEEP=COUNT stratum) NOPERCENT NOCUM NOPRINT;
RUN;

PROC FREQ DATA=&dsn. NOPRINT;
   TABLES grp_geo
  /MISSING LIST OUT=T2(RENAME=(COUNT=PSUM1)
                KEEP=COUNT grp_geo) NOPERCENT NOCUM NOPRINT;
RUN;

PROC FREQ DATA=&dsn. NOPRINT;
   TABLES geosmpl
  /MISSING LIST OUT=T3(RENAME=(COUNT=PSUM2)
                KEEP=COUNT geosmpl) NOPERCENT NOCUM NOPRINT;
RUN;

PROC FREQ DATA=&dsn. NOPRINT;
   TABLES ebsmpl
  /MISSING LIST OUT=T4(RENAME=(COUNT=PSUM3)
                KEEP=COUNT ebsmpl) NOPERCENT NOCUM NOPRINT;
RUN;

PROC FREQ DATA=&dsn. NOPRINT;
   TABLES group
  /MISSING LIST OUT=T5(RENAME=(COUNT=PSUM4)
                KEEP=COUNT group) NOPERCENT NOCUM NOPRINT;
RUN;

*** Merge the tables together. ***;

PROC SORT DATA=T0; BY stratum; RUN;

DATA T0;
   MERGE T0 T1;
   BY stratum;
RUN;

PROC SORT DATA=T0; BY grp_geo; RUN;
DATA T0;
   MERGE T0 T2;
   BY grp_geo;
RUN;

PROC SORT DATA=T0; BY geosmpl; RUN;
DATA T0;
   MERGE T0 T3;
```

```
   BY geosmpl;
RUN;

PROC SORT DATA=T0; BY ebsmpl; RUN;
DATA T0;
   MERGE T0 T4;
   BY ebsmpl;
RUN;

PROC SORT DATA=T0; BY group; RUN;
DATA T0;
   MERGE T0 T5;
   BY group;
  LABEL  PSUM0 = 'PSUM0 - Stratum Count'
         PSUM1 = 'PSUM1 - grp_geo Count'
         PSUM2 = 'PSUM2 - geosmpl Count'
         PSUM3 = 'PSUM3 - ebsmpl Count'
         PSUM4 = 'PSUM4 - group Count'
        ;
RUN;

data t0;
   if _n_=1 then set total;
   set t0;
   label total = 'TOTAL - Population';
run;

*** Section to do some checking. ***;

proc sort data=t0 out=t0;
by group grp_geo geosmpl ebsmpl stratum;
run;

PROC PRINT data=t0;
  var stratum grp_geo geosmpl ebsmpl group psum0-psum4 total;
  sum psum0;
RUN;

*** Write the count data set to a permanent SAS data set. ***;

data out.counta;
  set T0;
run;

TITLE3 "CONTENTS of COUNTA.sas7bdat";
PROC CONTENTS data=out.counta; RUN;


*_____________________________________________________________
Checking
_____________________________________________________________;
TITLE3 "Check grp_geo sum: psum1";
proc freq data=T0;
tables grp_geo*psum1/missing list;
run;

proc sort data=T0 out=cntgrp_geo nodupkey;
```

```
by grp_geo psum1;
run;

proc print data=cntgrp_geo;
var grp_geo psum1;
sum psum1;
run;

TITLE3 "Check geosmpl sum: psum2";
proc freq data=T0;
tables geosmpl*psum2/missing list;
run;

proc sort data=T0 out=cntgeosmpl nodupkey;
by geosmpl psum2;
run;

proc print data=cntgeosmpl;
var geosmpl psum2;
sum psum2;
run;

TITLE3 "Check ebsmpl sum: psum3";
proc freq data=T0;
tables ebsmpl*psum3/missing list;
run;

proc sort data=T0 out=cntebsmpl nodupkey;
by ebsmpl psum3;
run;

proc print data=cntebsmpl;
var ebsmpl psum3;
sum psum3;
run;

TITLE3 "Check group sum: psum4";
proc freq data=T0;
tables group*psum4/missing list;
run;

proc sort data=T0 out=cntgroup nodupkey;
by group psum4;
run;

proc print data=cntgroup;
var group psum4;
sum psum4;
run;


********************** The End ********************;
```

3. CONSTRUCT Q1 ADULT SAMPLE

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

SAMPLA01.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************
*********
* PROGRAM: SAMPLA01.SAS (40309.H20)
*
* TASK:    DOD ADULT Health Care Survey, Quarterly Sampling
*
* PURPOSE: Draw Sampling for DOD Quarterly Adult Survey Form A
*
*
*
* PROGRAMMER: Darryl V. Creel
*
* LAST MODIFIED:
*
*             2)11/15/2004  by Haixia Xu for q1,2005 sampling
*
*             3)05/12/2004  by Haixia Xu for q3,2005 sampling
*
*             4)01/23/2006  by X. Lin for q2 2006 sampling
*
*             5)04/18/2006  by H. Xu for Q4FY2006 sampling
*
*             6)08/17/2005  by H. Xu for q1fy2007 sampling
*
*             7)05/01/2008  by S. Rahman for Q4FY2008
*
*             8)08/06/2008  by S. Rahman for Q1FY2009 Adult Sampling
*
*             9)10/22/2008  by S. Rahman for Q2FY2009 sampling (Adult).
(6401-902)   *
*             10)04/30/2009 by S. Rahman for Q4FY2009 Sampling (Adult).
(6401-902)   *
*             11)11/16/2009 by S. Rahman for Q2FY2010 Sampling (Adult).
(6663-200)   *
*             12)01/22/2010 by S. Rahman for Q3FY2010 Sampling (Adult).
(6663-200)   *
*             13)02/01/2011 by S. Rahman for Q3FY2011 Sampling (Adult).
(6663-200)   *
*             14)02/01/2011 by K. Roland for Q1FY2014 Sampling (Adult).
(40309-H20)  *
*
*
* INPUTS:  FRAMEA.sas7bdat   - Frame for Quarterly DOD Survey
*
*          SAMSIZEA.sas7bdat - Sample Sizes by Stratum for Quarterly DOD
Survey      *
*
*
* OUTPUTS: SAMPLA01.sas7bdat - Sampling Frame for this Quarter DOD Survey
*
*          SAMPLA.sas7bdat   - Create the Internal Sampling File
*
*          SAMPLE.sas7bdat   - Sample Data Set
*
*************************************************************************
********;
```

```
options ls=132 ps=79 nocenter compress=yes;

*Update Marcro Variable Quarter with current Quarter;
%LET QUARTER=Q1FY2014;

*** Set up the input and output paths. ***;
libname in  "L:\&QUARTER.\Data\AFinal";
libname in1 "L:\&QUARTER.\Data\AFinal";
libname out "L:\&QUARTER.\Data\AFinal";


title1 "Program: SAMPLA01.SAS (&QUARTER.)";
title2 "Draw the Sample from Adult Frame";

proc contents data=in.samsizea;

*** Sort the data sets by stratum. ***;
proc sort data=in.framea out=framea;
   by stratum;
run;

proc sort data=in.samsizea(keep=stratum nhff popsize) out=samsizea;
   by stratum;
run;

*** Keep this in to check the match of the data sets. ***;
*** Create the f_framea data set to draw the sample. ***;

data both fr_only s_only problem;
   merge framea (in=infr) samsizea (in=ins);
   by stratum;
   if infr=1 and ins=1 then output both;
   else if infr=1 and ins=0 then output fr_only;
   else if infr=0 and ins=1 then output s_only;
   else output problem;
run;

*_____________________________________________________________________________
__
Update for ZONE/ PRN Info:
_____________________________________________________________________________
__;
*** Sort f_framea by stratum and permanent random number, prn. ***;

/*Q1FY2014*/
proc sort data=both out=r_framea;
where zone1=1 and prn<=1;    *Q1FY2014;
by stratum descending prn;
run;


*** Draw the sample from the r_framea file. ***;
*** Create a variable called count to keep track of the number       ***;
*** drawn is less than or equal to the sample size for each stratum. ***;
***;
*** Since the data set was sorted in descending order by permanent   ***;
*** random number, we have the sample size of the largest permanent  ***;
```

```
*** random numbers from each stratum.                                    ***;

data out.sample;
   set r_framea;
   by stratum;
   retain count;
   if first.stratum = 1 then count = 1;
   else count = count + 1;
   if count <= nhff then output out.sample;
run;


***** Check the distribution of permanent random numbers. *****;
proc sort data=out.sample out=sample;
by stratum;
run;

proc means data=sample noprint;
by stratum;
var prn;
output out=m_prn(keep=stratum min_prn max_prn) min=min_prn max=max_prn;
run;

proc means data=sample noprint;
by stratum;
id popsize nhff;
var zone1 zone2 zone3 zone4;
output out=sampdiag(drop=_type_ _freq_)
       sum(zone1 zone2 zone3 zone4 )=
       s_zone1 s_zone2 s_zone3 s_zone4;
run;

proc sort data=m_prn;
by stratum;
run;

proc sort data=sampdiag;
by stratum;
run;

data zone_tab;
merge sampdiag(in=A) m_prn(in=B);
by stratum;
if A and B;
diff =s_zone1-nhff;    *For Q1FY2014, Zone1=1;
run;

title3 'Information for the Zones';
title4 ' Checks if we have enough samples to draw';
proc print data=zone_tab;
sum popsize nhff s_zone1 s_zone2 s_zone3 s_zone4  diff;
run;

title3 'Univariate of the Difference';
title4 '(where, diff=zone*-nhff)';
proc univariate data=zone_tab;
var diff;
```

```
run;


* Added by Amang 2/6/07: comparing # cases, min and max prn, in the zone
(population) and in the sample ;
proc sort data=r_framea;
by stratum;
run;
proc sort data=out.sample out=sample;
by stratum;
run;
proc means data=r_framea noprint;
by stratum ;
var prn ;
output out=f n=size_pop min=min_prn_pop max=max_prn_pop ;
run ;
proc means data=sample noprint;
by stratum ;
var prn ;
output out=s n=size_samp min=min_prn_samp max=max_prn_samp ;
run ;
data fs ;
merge f s ;
by stratum ;
run ;

title3 'Proc Print: Stratum, Pop size, Sample size, Max-Min Prn:';
proc print data=fs ;
var stratum size_pop size_samp min_prn_pop min_prn_samp max_prn_pop
max_prn_samp;
sum size_pop size_samp;
run ;


***newly added in Q3fy2012 ****;

/*
*When choosing prn Ascending in sampling;
Proc sort data=fs; by min_prn_samp;
run;
*/

*When choosing prn descending in sampling (Q1FY2014);
Proc sort data=fs; by descending max_prn_samp;
run;

title3 'Proc Print: Stratum, Pop size, Sample size, Max-Min Prn:';
proc print data=fs ;
var stratum size_pop size_samp min_prn_pop min_prn_samp max_prn_pop
max_prn_samp;
sum size_pop size_samp;
run ;


title3 'Potential Problem Strata, POPSIZE < 1000';
proc print data=zone_tab noobs;
where popsize < 1000;
```

```
sum popsize nhff s_zone1 s_zone2 s_zone3 s_zone4;
run;

title3 'Information about PRNs';
proc univariate data = out.sample;
var prn;
run;


***** Create the *internal* sampling file. *****;
data out.sampla;
set in.sample (drop =count  popsize zone zone1-zone4);
label /*cacsmpl  = 'Catchment Area'*/
        geosmpl  = 'Geographic Area'
        group='Stratification group'
        grp_geo  = 'group||geosmpl'
      enbgsmpl = 'Enrollee/Beneficiary Group'
        /*ebg_com  = 'Enrollee/Beneficiary Group Prime Combined'*/
        ebsmpl   = 'Enrollee/Beneficiary Group Collapsed'
      nhff     = 'Stratum Sample Size'
      stratum  = 'Stratum';
run;

***** Create the *client* sampling file. *****;
data out.sampla01 (keep = mprid stratum /*cacsmpl*/ enbgsmpl /*ebg_com*/ nhff
PRRECFLG);
set in.sampla;
run;

Title3 'Proc Contents of Client Sampling File';
proc contents data=in.sampla01;
run;

*_____________________________________________________________
Checking the sample
_____________________________________________________________;
title3 'Freq of STRATUM in Frame';
proc freq data=in.framea noprint;
table STRATUM / list missing out=denom(rename=(count=frmcnt
percent=framepct));
run;

title3 'Freq of STRATUM in Sample';
proc freq data=in.sample noprint;
table STRATUM / list missing out=numer(rename=(count=samcnt
percent=samplpct));
run;

data bwt;
merge numer(in=A) denom(in=B);
by STRATUM;
if A and B;
sam_rat=samcnt/frmcnt;
bwt=frmcnt/samcnt;
run;

title5 'Sample count, Frame count, Sampling Ratio for STRATUM';
```

```
proc print data=bwt;
sum samcnt frmcnt framepct samplpct;
run;
* End of checking the sample ;


/*********The End*********/
```

BWT.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************
***
* PROGRAM: BWT.SAS (40309.H20)
* TASK:    DoD Health Care Survey, Quarterly Sampling
* PURPOSE: Construct Sampling Weight for DOD (HCSDB) Quarterly Survey
*
* INPUTS:  FRAMEA.sas7bdat - Frame for current quarter  DoD Survey
*             SAMPLA.sas7bdat  -  Internal  Sample  file  for  current  quarter  DoD
Survey
*
* OUTPUTS: BWT.sas7bdat - Sampling Weight  for current quarter DOD Survey
*
* LAST UPDATED:
*          Karlesha R. on 10/17/2013 for Q1FY2014 Adult Sampling
*************************************************************************
***;

options ls=132 ps=79 nocenter compress=yes ;

*Update Macro Variable Quarter with current Quarter;
%let quarter=Q1FY2014;

libname in   "L:\&quarter.\Data\AFinal";
libname out  "L:\&quarter.\Data\AFinal";
libname inv8 "L:\&quarter.\Data\AFinal";

%include "L:\&QUARTER.\Programs\Sampling\design_effects_unequal_weights.sas";


title1 "Program: BWT.SAS (&quarter.)";
title2 "Construct the Sampling Weight (BWT) from FRAMEA and SAMPLA";

*_____________________________________________________________
Calculate the bwt
_____________________________________________________________;

title5 'Information from the Frame';
proc freq data=in.framea noprint;
table stratum / list missing out=frame(keep = stratum count rename = (count =
Fcnt_str) );
run;

title5 'Information from the Sample';
proc freq data=in.sampla noprint;
table stratum / list missing out=sample(keep = stratum count rename = (count
= Scnt_str) );
run;

proc sort data=frame;
by stratum;
run;

proc sort data=sample;
by stratum;
run;
```

```
data weight;
merge frame sample;
by stratum;
bwt = Fcnt_str/ Scnt_str;
run;

title5 'Information for the Sampling Weight';
proc print data=weight;
var stratum Fcnt_str Scnt_str bwt;
sum Fcnt_str Scnt_str;
run;

***Append the bwt to the sample;
data wt;
set weight (keep = stratum bwt);
run;

proc sort data=wt;
by stratum;
run;

proc sort data=in.sampla out=sample;
by stratum;
run;

data bwt wonly sonly problem;
merge wt (in=inw) sample (in=ins);
by stratum;

if pnsexcd = "M" then sexsmpl = 1;
  else if pnsexcd = "F" then sexsmpl = 2;
  else if pnsexcd in ("Z"," ") then sexsmpl = 1;
  else sexsmpl = 3;

if svccd = "A" then svcsmpl = 1;
  else if svccd = "N" then svcsmpl = 2;
  else if svccd = "M" then svcsmpl = 3;
  else if svccd = "F" then svcsmpl = 4;
  else if svccd = "C" then svcsmpl = 5;
  else svcsmpl = 6;

if inw = 1 and ins = 1 then output bwt;
  else if inw = 1 and ins = 0 then output wonly;
  else if inw = 0 and ins = 1 then output sonly;
  else output problem;

run;

title5 'Check the Constructed Variables';
proc freq data=bwt;
tables pnsexcd*sexsmpl svccd*svcsmpl / list missing;
run;

title5 'Information for the Sampling Weight';
proc univariate data=bwt normal plot;
var bwt;
run;
```

```
* Added by Amang 2/6/07: comparing weights across strata ;
proc sort data=bwt ;
by stratum ;
run ;
proc means data=bwt noprint ;
by stratum ;
var bwt ;
output out=w n=sampsize min=min_bwt max=max_bwt mean=mean_bwt ;
run ;
proc print data=w ;
var stratum sampsize min_bwt max_bwt mean_bwt ;
run ;
******;

data inv8.bwt;
set bwt;
geosmpl=substr(stratum,2,4);
ebsmpl=substr(stratum,6,2);
label bwt = 'Sampling Weight';
run;

title5 'Checks for BWT Data Set';
proc means data=inv8.bwt n sum;
var bwt;
run;

title5 'Contents of the Sampling Weight Data Set';
proc contents data=inv8.bwt;
run;


*_____________________________________________________________
Check the bwt
_____________________________________________________________;

%macro checkvar(input_data, sorting_variable, weighting_variable);

data framea;
set in.framea;
geosmpl=substr(stratum,2,4);
ebsmpl=substr(stratum,6,2);
run;

title5 'Freq of &sorting_variable. from the Frame';
proc freq data=framea noprint;
table &sorting_variable.
/ list missing out=frame(keep = &sorting_variable. count rename = (count =
pop) );
run;

proc means data=&input_data. n sum noprint;
class &sorting_variable.;
var &weighting_variable.;
output out=bwtchk  n = sampcnt sum = bwtsum;
run;
```

```
data bwtchk;
set bwtchk;
where _type_ = 1;
run;

proc sort data=bwtchk;
by &sorting_variable.;
run;

data finalchk;
merge bwtchk frame;
by &sorting_variable.;
diff = pop - bwtsum;
run;

title5 "Final Checks for the Sampling Weight by &sorting_variable.";
proc print data=finalchk;
var &sorting_variable. sampcnt bwtsum pop diff;
sum sampcnt bwtsum pop diff;
run;

proc univariate data=finalchk;
var diff;
run;

%mend checkvar;

%checkvar(inv8.bwt, stratum, bwt);
%checkvar(inv8.bwt, group, bwt);
%checkvar(inv8.bwt, geosmpl, bwt);
%checkvar(inv8.bwt, ebsmpl, bwt);
%checkvar(inv8.bwt, enbgsmpl, bwt);
%checkvar(inv8.bwt, grp_geo, bwt);


**********************************;
*** Calculate the Design Effects ***;
**********************************;
%design_effects_unequal_weights  (  inv8.bwt,  stratum,  bwt,  deff_overall,
deff_stratum );
%design_effects_unequal_weights  (  inv8.bwt,  group,  bwt,  deff_overall,
deff_group );
%design_effects_unequal_weights  (  inv8.bwt,  geosmpl,  bwt,  deff_overall,
deff_geosmpl );
%design_effects_unequal_weights  (  inv8.bwt,  ebsmpl,  bwt,  deff_overall,
deff_ebsmpl);
%design_effects_unequal_weights  (  inv8.bwt,  enbgsmpl,  bwt,  deff_overall,
deff_enbgsmpl);
%design_effects_unequal_weights  (  inv8.bwt,  grp_geo,  bwt,  deff_overall,
deff_grp_geo );
%design_effects_unequal_weights  (  inv8.bwt,  tnexreg,  bwt,  deff_overall,
deff_tnexreg );
%design_effects_unequal_weights  (  inv8.bwt,  patcat,  bwt,  deff_overall,
deff_patcat );
%design_effects_unequal_weights  (  inv8.bwt,  servaff,  bwt,  deff_overall,
deff_servaff );
```

```
proc print data = deff_overall;
title5 "design effect overall";
run;

proc print data= deff_stratum;
title5 "design effect by stratum";
run;

proc print data= deff_group;
title5 "design effect by group";
run;

proc print data= deff_geosmpl;
title5 "design effect by geosmpl";
run;

proc print data= deff_ebsmpl;
title5 "design effect by ebsmpl";
run;

proc print data= deff_enbgsmpl;
title5 "design effect by enbgsmpl";
run;

proc print data= deff_grp_geo;
title5 "design effect by geosmpl";
run;

proc print data= deff_tnexreg;
title5 "design effect by TNEXREG";
run;

proc print data= deff_patcat;
title5 "design effect by PATCAT";
run;

proc print data= deff_servaff;
title5 "design effect by SERVAFF";
run;


************* The End *****************;
```

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

DESIGN_EFFECTS_UNEQUAL_WEIGHTS.INC

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************

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;
```

SAMPLA02.SAS

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

```
*************************************************************************
* PROGRAM:  SAMPLA02.SAS
* TASK:     DOD Health Care Survey, Sampling
* Task#:    40309.H20
* PURPOSE:  Attach DEERS variables to FORM A Sample, Step 2
*
* WRITTEN:  10/23/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 06/29/2004 BY KEITH RATHBUN, Removed references to PNARSNCD,
*              PNMIDNM, SPTNUMCD, and TNUMCD since they are no longer
*              available on the STI-provided DEERS extract.  Added
*              PTNT_ID to sorting and mergeing to utilize the revised
*              XWALK file.
*           2) 08/01/2005 BY REGINA GRAMSS, Reassigned PCM value based on
*              ACV code - to mimic what was done in EXTRACT.SAS.  This was
*              done specifically for Q4 2005, should check with STI to
*              see if this should be repeated for subsequent quarters.
*           3) 11/15/2005 BY REGINA GRAMSS, updated PCM value assignment
*              to reflect changes in EXTRACT.SAS.  Added STI005.SD2 (ONLY
*              FOR THIS QUARTER) to include the Katrina supplement file.
*            4) 10/18/2006 BY SKY ANDRECHECK for Q2 2007 processing.  Changed
input files to
*              DEERS instead of old contractor name (STI).
*               5) 02/18/2008 BY KEITH RATHBUN, dropped unnecessary sampling
variables.
*           6) 05/06/2008 by Sabrina Rahman for Q4FY2008 (Adult Sampling)
*           7) 08/07/2008 by Sabrina Rahman for Q1FY2009 (Adult Sampling)
*            8) 10/22/2008 By S. Rahman for Q2FY2009 sampling (Adult). (6401-
902)
*            9) 04/30/2009 By S. Rahman for Q4FY2009 sampling (Adult). (6401-
902)
*           10) 01/29/2010 By S. Rahman for Q3FY2010 Sampling (Adult). (6663-
200)
*           11) 07/29/2011 By A. Borgen for Q1FY2011 Adult Sampling - Removed
42 overlap cases with TSS2011.
*          12) 11/13/2012 By S. Rahman for Q2FY2013 Adult Sampling
*          12) 10/18/2013 By K. Roland for Q1FY2014 Adult Sampling
* INPUTS:
* 1) SAMPLA01.sas7bdat - DOD FORM A Sample from SIS
* 2) XWALK.sas7bdat
* 3) DOD DEERS Extract File
*    a) DEERS001.sas7bdat - DEERS Population Extract File (Part 1)
*    b) DEERS002.sas7bdat - DEERS Population Extract File (Part 2)
*    c) DEERS003.sas7bdat - DEERS Population Extract File (Part 3)
*    d) DEERS004.sas7bdat - DEERS Population Extract File (Part 4)
*
* OUTPUTS:
* 1) SAMPLA02.sas7bdat - DOD FORM A Sample combined with DEERS extract
* 2) Sampla02_AD_email.xls - All active duty file to be sent to DMDC by Rich
for email address
*
*************************************************************************
****************;

%LET QUARTER=Q1FY2014;
```

```
LIBNAME INr "K:\&QUARTER.";          /*            DEERS001-DEERS004.sas7bdat,
xwalk.sas7bdat */
LIBNAME IN  "L:\&QUARTER.\DATA\AFINAL";  /* sampla01.sas7dat */
LIBNAME OUT "K:\&QUARTER.";          /* sampla02.sas7dat */

OPTIONS     LS=132     PS=79     NOCENTER     COMPRESS=YES     MERGENOBY=ERROR
validvarname=upcase;

TITLE1 "DOD Health Care Survey Sampling (&QUARTER.)";
TITLE2 "PROGRAM: SAMPLA02.SAS";

*Update the path for the include file/Delete if not needed;
%LET pathlayout=L:\&QUARTER.\Programs\Sampling;

*************************************************************************
* Attach PTNT_ID variable and keep only the sampled records.
*************************************************************************;
PROC SORT DATA=INr.XWALK   OUT=XWALK;    BY MPRID; RUN;
PROC SORT DATA=IN.SAMPLA01 OUT=SAMPLA01; BY MPRID; RUN;

DATA SAMPLA02;
   MERGE XWALK(IN=IN1) SAMPLA01(IN=IN2);
   BY MPRID;
   IF IN1 AND IN2;
RUN;

PROC SORT DATA=SAMPLA02; BY PTNT_ID; RUN;

%MACRO PROCESS(DSN=);
*************************************************************************
* COMBINE each part (1-4) of the address/extract information file with
* sample file information.  DROP sampling variables (already on the file).
*************************************************************************;
PROC SORT DATA=INr.&DSN
    (DROP=MDCABRSN MDCAEFDT MDCAEXDT)
    OUT=TEMP;
    BY PTNT_ID;
RUN;

*************************************************************************
* MERGE the DEERS extract file information with the Form A Sample by PTNT_ID.
*************************************************************************;
DATA &DSN;
   MERGE TEMP(IN=IN1) SAMPLA02(IN=IN2);
   BY PTNT_ID;
   IF IN1 AND IN2;
RUN;

*************************************************************************
* DELETE temporary dataset to conserve disk space.
*************************************************************************;
PROC DATASETS; DELETE TEMP; RUN;

%MEND PROCESS;

%PROCESS(DSN=DEERS001);
%PROCESS(DSN=DEERS002);
```

```
%PROCESS(DSN=DEERS003);
%PROCESS(DSN=DEERS004);

*************************************************************************
* STACK the combined DEERS extract/sample file information into one dataset.
*************************************************************************;
DATA SAMPLA02;
   SET DEERS001 DEERS002 DEERS003 DEERS004;
   BY PTNT_ID;
   * 02/18/2008 - KRR added the following to clean up the file;
   DROP SURVEY TNEXREG_OLD ZIP_TEMP grp_temp north oconus randomnum south;
RUN;

*************************************************************************
* SORT the combined DEERS extract/sample file information by PTNT_ID
* to check for duplicates.
*************************************************************************;
PROC SORT DATA=SAMPLA02 NODUPKEY; by PTNT_ID;
RUN;


************************************************************************
                    :Q1FY2014: Overlap with TSS 2013 Survey:
*    Excluding 103 Overlap Cases between Q1FY2014 and TSS 2013 Samples   *
************************************************************************;
DATA SAMPLA02;
 SET SAMPLA02;
 %INCLUDE "&pathlayout.\OverlapTSSB2013.SAS"; *Q1FY2014;
RUN;


*************************************************************************
* SORT the combined DEERS extract/sample file information by MPRID.
*************************************************************************;
*note: need to update E* for each quarter, Q1FY2014=E51;
PROC SORT DATA=SAMPLA02 OUT=OUT.SAMPLA02 (DROP = E1-E51 ESR1-ESR51 DELGIND
RSVCC);
BY MPRID;
RUN;


PROC CONTENTS;
RUN;


PROC FREQ DATA=OUT.SAMPLA02
    (DROP=
       DMDCSPON
       PTNT_ID
       MALN1TX
       MALN2TX
       MACITYNM
       MAPRZIP
       MAPRZIPX
       TNUMCD
       MPRID
       PN1STNM
```

```
        PNBRTHDT
        PNID
        PNLSTNM
        PRN
        SPCITYNM
        SPLN1TX
        SPLN2TX
        SPONSSN
        SPPRZIP
        SPPRZIPX
        SPTNUMCD
        UICADD1
        UICADD2
        UICCITY
        UICZIP
        D_UPDT
        C_ADDR1
        C_ADDR2
        C_ADDR3
        C_CITY
        C_HMFON
        C_NAME1
        C_NAME2
        C_STATE
        C_UPDT
        C_ZIP
        );
   TABLES _ALL_ /MISSING LIST;
RUN;


/*Output all active duty to an excel with sponssn attached.
This will be sent to Rich, who will send it to DMDC for the email address*/
proc freq data=OUT.sampla02;
tables patcat/missing list;
run;

LIBNAME outxls excel "K:\&quarter.\Sampla02_AD_email.xls";
data outxls.hcsdb14q1(drop=patcat);  *<== Q1FY2014: File name Updated;
   set OUT.sampla02(keep=sponssn mprid patcat rename=sponssn=ID);
   where patcat='ACTDTY';
run;

libname outxls clear ;

********** End **********;
```

APPENDIX F

TECHNICAL BACKGROUND IN DETERMINING THE SAMPLE SIZES

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

Technical Background for the Algorithm

To attain the required half length *HL* for confidence intervals, the required sample size *n* was obtained while incorporating finite population correction factors that recognized variable sampling rates across sampling strata.

For a simple random sample (SRS) of size *n* from a finite population of size *N*, the variance of a sample proportion *p* is:

(F.1) $$V_{SRS}(p) = \frac{P(1-P)}{n}\left(\frac{N-n}{N-1}\right)$$

where *P* denotes the population proportion. Because the expected sample sizes for all strata for the FY2012 HCSDB survey are sufficiently large, the standard formula (4.1) in Chapter 4 can be used in constructing the confidence interval of *P*. Let *B* denote the required half-length interval for *P*. Using formula (F.1) for the simple random sample variance of *p*, the precision requirement *B* can be represented by the following equation:

(F.2) $$B = z_{1-\alpha/2}\sqrt{\frac{P(1-P)}{n}\left(\frac{N-n}{N-1}\right)}$$

Consequently, the sample size to attain the precision requirement *B* can be determined by solving equation F.2 with respect to *n* as follows:

(F.3) $$n = \frac{\frac{z^2_{1-\alpha/2}\ [P(1-P)]}{B^2}}{1+\frac{1}{N}\left(\frac{z^2_{1-\alpha/2}\ [P(1-P)]}{B^2}-1\right)}$$

This formula was used as the first step in determining initial sample sizes for all strata in the 2012 HCSDB.

Note from formula (F.3), sample sizes vary according to values of the proportion *P*. As the value of *P* becomes closer to 0.5, *n* becomes larger. Because proportions of interest for this survey could have values ranging from zero to one, the resulting sample sizes lie within a wide range of values with the largest value associated with *P*=0.5. For sample size determination, we used a proportion value of *P*=0.5, which ensures that the sample size will be large enough to meet or exceed the predetermined precision requirement for all proportions to be estimated.

Since the sample size is being defined to construct a 95 percent interval for P = 0.5 with a half-length interval less than or equal to B, $z_{1-\alpha/2}$ can be replaced with $z_{.975}$ which is 1.96. Formula (F.3) can then be specified as the following:

(F.4)
$$n = \frac{\frac{.9604}{B^2}}{1 + \frac{1}{N}\left(\frac{.9604}{B^2} - 1\right)}$$

where .9604 was obtained from $z^2_{0.975} P(1-P)$ with P = 0.5. The formula (F.4) can then be applied to determine the sample size to achieve B in estimating stratum-level estimates.

Recall that the 2014 HCSDB employs a stratified sample design. Since we wish to estimate the proportion of beneficiaries from domain d having a certain characteristic. An estimate of the proportion P_d can be obtained as the weighted sum of stratum-level proportion estimates:

(F.5)
$$p_d = \sum_{h=1}^{H} \frac{N_{dh}}{N_d} p_{dh},$$

where N_{dh} is the population size of domain d for stratum h, N_d is the sum of N_{dh} over all strata, and p_{dh} is the estimated proportion for the h-th stratum. Since the sampling is independent across strata, the variance of estimated proportion p_d is the sum of stratum-level variances:

(F.6)
$$V_d = \sum_{h \in d}\left(\frac{N_h}{N_d}\right)^2 \left(\frac{N_h - n_h}{N_h - 1}\right)\frac{P_h(1-P_h)}{n_h}$$

where n_h is the sample size in stratum h and P_h is the stratum-level proportion for stratum h. Like the single stratum case, all stratum-level proportions are assumed with 0.5, and thus the formula (F.6) can be reduced to the following:

(F.7)
$$V_d = \sum_{h \in d}\left(\frac{N_h}{N_d}\right)^2 \left(\frac{N_h - n_h}{N_h - 1}\right)\frac{.25}{n_h}$$

The minimum sample size satisfying the requirements for a predetermined half-length interval B_d is:

(F.8)
$$n_d = \frac{\left(\sum_{h \in d}\frac{N_h}{N_d}\sqrt{\frac{N_h}{N_h - 1}}\sqrt{P_h(1-P_h)}\right)^2}{\frac{B_d^2}{z^2_{1-\alpha/2}} + \sum_{h \in d}\frac{N_h^2}{N_d^2}\left(\frac{1}{N_h - 1}\right)P_h(1-P_h)}$$

With the same specifications above, formula (F.8) can be specified as:

(F.9)
$$n_d = \frac{.25\left(\sum_{h\in d}\frac{N_h}{N_d}\sqrt{\frac{N_h}{N_h-1}}\right)^2}{\frac{B_d^2}{3.8416}+.25\sum_{h\in d}\frac{N_h^2}{N_d^2}\frac{1}{N_h-1}},$$

where $P_h(1-P_h)$ = (.5)(.5) = 0.25 for all *h* and $z^2_{.975}$ = 3.8416.

The stratum sample size n_h is based on the following optimal stratum sample sizes:

(F.10)
$$n_h = n_d \frac{N_h\sqrt{\frac{N_h}{N_h-1}}\sqrt{P_h(1-P_h)}}{\sum_{h\in d}N_h\sqrt{\frac{N_h}{N_h-1}}\sqrt{P_h(1-P_h)}}$$

Likewise, this formula becomes

(F.11)
$$n_h = n_d \frac{N_h\sqrt{\frac{N_h}{N_h-1}}}{\sum_{h\in d}N_h\sqrt{\frac{N_h}{N_h-1}}}$$

After the stratum size for eligible respondents was finally determined, an anticipated response rate *R* was incorporated to get the final stratum sample size[14]:

(F.12)
$$n_{h,F} = \frac{n_h}{R}$$

We used the response rates are based on historical response rate by beneficiary group, American Community Survey estimates of internet coverage by age, and potential loss due to no longer offering a paper option. as the expected response rates R.

[14] For some strata we also inflated the sample size by the exptected proportion of valid respondents in certain analytic domains.

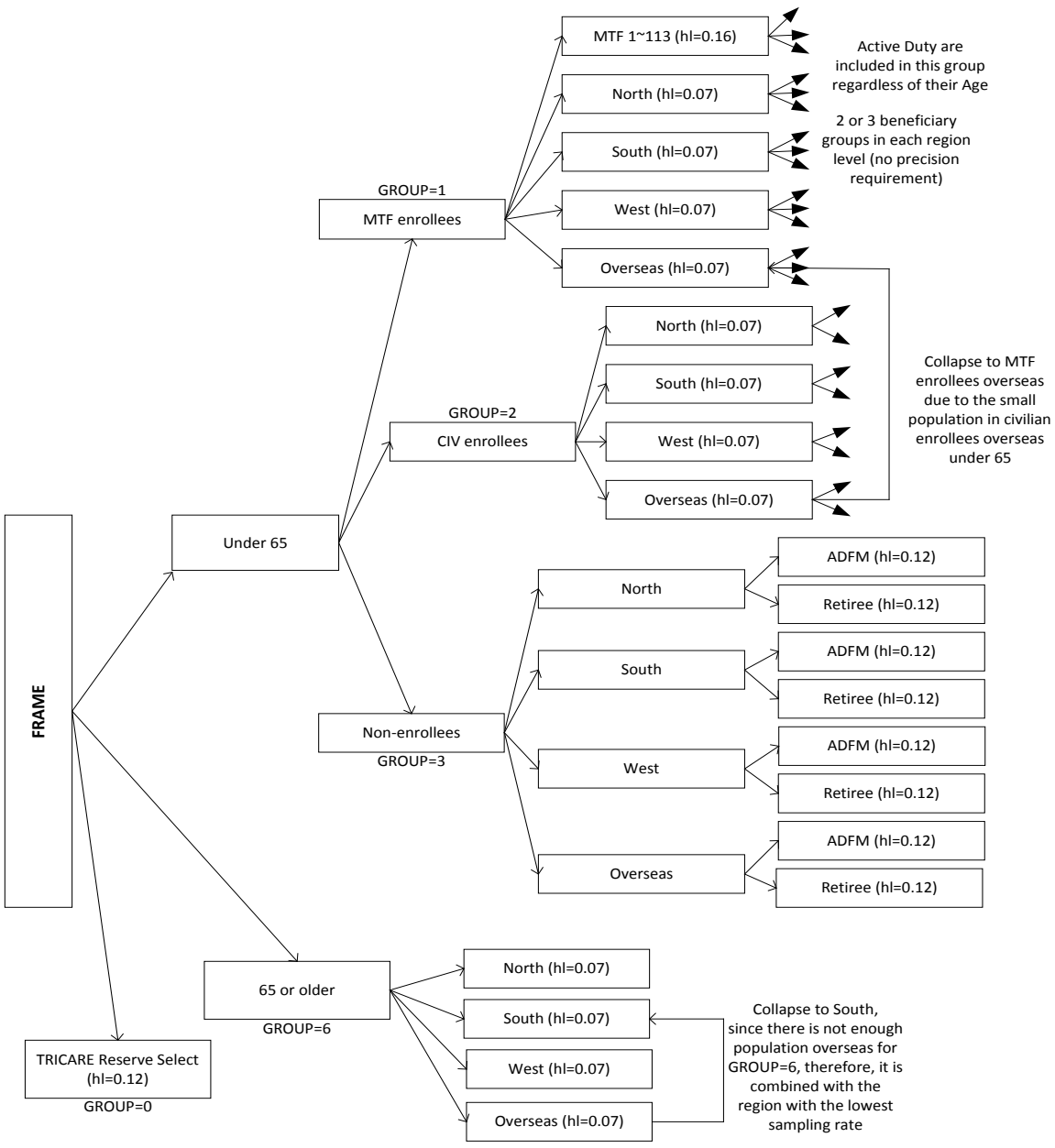
THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

APPENDIX G

STRATIFICATION SCHEME

THIS PAGE HAS BEEN LEFT BLANK FOR DOUBLE-SIDED COPYING.

HCSDB FY2014 Q1 SAMPLING SCHEME



NOTE:
1) Although hl=0.16 for the 113 MTFs is ideal, this value varies from quarter to quarter.
2) In GROUP=2, 79% of the sample is expected to be users of TRICARE Prime, 22.5% and 30% for ADFM and Retirees respectively.
3) In GROUP=3, 35% of the sample is expected to be Standard Extra Users, 15% and 31% for ADFM and Retirees respectively.