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2003 Health Care Survey of DoD Beneficiaries:

Quarters 1 and 2 2003 Adult Sampling Report

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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 has been fielded quarterly since the first quarter of 2001. The 2003 Adult HCSDB sample design is similar to the 2001 and 2002 designs. The 2003 HCSDB has the same sample size as the 2002 HCSDB, and we continued to use a permanent random number sample selection method. The only difference between this year's design and the 2002 design is that historically small cells that were previously collapsed in weighting are now collapsed in sampling. Otherwise the quarter 1 and quarter 2 designs are identical to those implemented last year. This report documents the procedures used to design and select the sample of adult beneficiaries for the 2003 Adult HCSDB.

The 2003 Adult HCSDB has a complex stratified sample design with 45,000 adult beneficiaries selected each quarter. The sample selection process involved five steps: (1) construction of the sampling frame and definition of sampling strata; (2) assignment of the sample to strata to satisfy the study's precision goals; (3) selection of the sample for the survey 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 2003 Adult HCSDB sample design's major features are:

- The sampling frame consisted of the roughly 6.8 million beneficiaries 18 or older who were eligible for military health care benefits as of July 31, 2002 for quarter 1 and October 31, 2002 for quarter 2. The sampling frame consists of beneficiaries living both in the US and abroad.

- The adult strata were based on the cross of six types of TRICARE Prime enrollment status and beneficiary groups by geographic area. Types of TRICARE Prime enrollment status and beneficiary groups include (1) active duty, (2) active duty family members enrolled in Prime, (3) active duty family members not enrolled in Prime, (4) retirees and their family members younger than 65 enrolled in Prime, (5) retirees and their family members younger than 65 not enrolled in Prime, and (6) retirees and their family members age 65 or older. The geographic areas include military treatment facilities (MTFs) for enrollees with a military primary care manager (PCM), catchment areas for enrollees with a civilian PCM, and service areas for nonenrollees.

- The goal for the precision of the adult survey estimates was expressed in terms of half-lengths of 95 percent confidence intervals for a percentage of size 50. Combining four quarters of the Quarterly Beneficiary Surveys should yield catchment-area-level estimates with precision levels of 5 percentage points. That is, out-of-catchment areas may not achieve this level of precision.

- Stratification based on a simple combination of the two stratifying variables produces too many strata because of the large number of geographic sites defined by catchment areas, service areas, and MTFs depending on the enrollment status. Because the population in many of these sites is small, we collapsed them to reduce the total number of strata for the 2003 survey to 464 for quarter 1 and 462 for quarter 2.

- Based on 2002 results, response rates for the 2003 survey are expected to be 21 percent for active duty beneficiaries; 32 percent for active duty family members enrolled in Prime; 21 percent for active duty family members not enrolled in Prime; 57 percent for retirees and their

family members younger than 65 enrolled in Prime; 48 percent for retirees and family members younger than 65 not enrolled in Prime; and 74 percent for retirees and their family members age 65 or older.

- Given the 2002 HCSDB response rates, we expect to attain the precision requirements under the budgetary sample size of 45,000.

- A permanent random number sample selection algorithm was used to ensure that a beneficiary would not be selected for more than one quarterly survey in 2003. As a result of the selection algorithm, no beneficiaries were selected two years in a row.

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 HCDSB measures the health care 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 on, the HCSDB has consisted of four independent, cross-sectional quarterly surveys, which are combined into an annual dataset at the end of the calendar year. The 2003 HCSDB is similar in design to the 2002 survey, and continues to use a permanent random number sample selection method to minimize overlap among the samples (for further discussion, please see chapter 5). We continue to refer to the quarterly surveys as the Quarterly Beneficiary Surveys (QBSs).

This report documents the procedures Mathematica Policy Research, Inc. (MPR) used to design and select the sample of adult beneficiaries for the first and second QBSs of 2003. Subsequent QBSs in 2003 essentially will follow the same design. Chapter II explains how MPR used a population data file of all MHS beneficiaries to develop the sampling frame. Chapter III explains how the sampling frame was stratified before the sample was selected. Chapter IV describes how the sample sizes were derived to meet the precision requirements specified for the survey estimates. In Chapter V, 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 quarterly Adult HCSDB sample selection. All tables and programs are from the quarter 2 sampling process. Appendix A lists Defense Enrollment Eligibility Reporting System (DEERS) variables provided by TRICARE Management Activity (TMA). Appendix B contains a detailed table of facilities for which beneficiaries with a military primary care manager (PCM) were assigned a catchment area as the geographic area. Appendix C contains detailed tables summarizing the counts of beneficiaries by collapsed strata and by strata that have not been collapsed so that readers can understand the collapsing rules. Appendix D includes population, sample, and weighted sample counts tabulated for all sampling strata as part of the sample verification process. Appendix D also includes population, sample, and weighted sample counts for two analytic domains, service and sex. Appendix E includes all variables delivered to National Research Corporation (NRC), the data collection contractor, after the sample was selected. Appendix F contains all SAS programs used for the 2003 quarterly sample design and sample selection. Appendix G includes all technical arguments and related formula in determining the sample sizes.

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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 QBS sampling frame was based on a population data file provided by TMA and constructed as follows:

- A data file was requested for sampling and data collection purposes.
- The sampling frame was constructed from the data file for the reference date of July 31, 2002 and October 31, 2002 for quarter 1 and quarter 2 respectively.
- The variables required for sampling were constructed.
- Population counts were calculated for potential stratification cells defined by the cross-classification of geographic area, beneficiary type, and enrollment status.

A. Requesting the Deers Extract File

The first step in building the frame was to prepare specifications that TMA 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. For both quarters 1 and 2, the file contained data for more than 8 million DoD health care beneficiaries (adults and children) as of July 31, 2002 for quarter 1 and October 31, 2002 for quarter 2, 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 Statistical Analysis Software (SAS) programs for sampling, we converted the extract file to a SAS data set. Beneficiaries in the population data file can be uniquely identified by a constructed variable SSNSMPL, which contains confidential data.[1] We created a nonconfidential identification variable (MPRID) by randomly and uniquely assigning values from 1 to 6,811,284 for quarter 1 and 1 to 6,808,162 for quarter 2 to all adult beneficiaries in the extract file. The SAS-converted extract data file incorporates MPRID as the identification variable and excludes SSNSMPL. For historical purposes, we retained a crosswalk file that includes SSNSMPL and MPRID. The crosswalk file allows us to link frame records to the DEERS database to get address information after sample selection. Appendix F includes the SAS programs we used to check the DEERS variables we requested, to create the crosswalk file, and to 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

[1] 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).

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 TMA four weeks after we received the data.

B. Determining Eligibles for the Sampling Frame

The quarter 1 and quarter 2 QBS sampling frames included beneficiaries listed in the population data file if they were:

- 18 years of age or older on July 31, 2002 for quarter 1 and October 31, 2002 for quarter 2, and living in the United States or abroad
- Eligible for military health care benefits

We received from TMA a data set that includes all eligible beneficiaries.

Beneficiaries whose ages were missing from the DEERS file were included in the adult sampling frame if LEGDDSCD = 20, that is, if the beneficiary was not a dependent child of a sponsor. Such cases are less than 1.0 percent of the more than 8 million (adult and child) records in the sampling frame. They are all classified as sponsors, spouses of a sponsor, parents of a sponsor, or in-laws of a sponsor, which suggests that they were 18 or older at the time of sampling.

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

C. Constructing the Variables Required for Sampling

Because the QBS used a stratified sample design, variables for stratification had to be included in the sampling frame. Beneficiaries for the QBS were stratified by combinations of enrollment status, geographic area, and beneficiary group. (The stratification procedure is described in Chapter III.) For sampling purposes, some 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 SSNSMPL so that units in the frame can be linked back to information from the extract file.
- **ENBGSMPL (enrollment status and beneficiary group of a beneficiary).** This variable was defined as a combination of beneficiary and enrollment groups. This variable carries an extension of 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 which denotes 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. Retirees with missing ages were classified as not enrolled in TRICARE Prime. DEERS variables = PATCAT, PNTYPCD, PNLCATCD, PCM, and DAGEQY.
- **EBG_COM (enrollment status and beneficiary group of a beneficiary with enrollment status as either enrolled or not enrolled).** This variable was constructed from ENBGSMPL. This variable carries an extension of 1, 2, 3, 4, 5, or 6, which denotes the following groups: 1 =

active duty; 2 = active duty family member enrolled in Prime; 3 = active duty family member not enrolled in Prime; 4 = retirees and their family members who are younger than 65 and enrolled in Prime; 5 = retirees and their family members who are younger than 65 and not enrolled in Prime; and 6 = retirees and their family members age 65 and over.

- **GEOCELL (geographic area).** For military PCM enrollees, MTF identification numbers were used to assign the beneficiaries to geographic areas. However, in three situations the geographic area for military PCM enrollees was **set** to the catchment area identification number: (1) MTF used for administration purposes only, (2) MTF assigned to beneficiaries at sea, and (3) MTF is an inactive facility (see Appendix B). For civilian PCM and not-enrolled groups, catchment area identification numbers were used to assign beneficiaries to geographic areas. DEERS variables = ENRID, DCATCH, and PCM.

- **CACSMPL (geographic area variable**). This variable was constructed from GEOCELL according to the collapsing rules described in Chapter III.

Once the sampling frame was created, we developed a file containing population counts for uncollapsed strata. This file was used to determine collapsing rules with minimum sampling stratum sizes.

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Chapter
3

Construction of Sampling Strata

The QBS sample was independently selected within strata defined by a combination of enrollment status and beneficiary type within a geographic area. This chapter describes the initial construction of sampling strata for the QBS, the collapsing of initial strata to form larger strata (as necessary), and results of the stratification. One difference between this year's design and the 2002 design is that historically small cells that were previously collapsed in weighting are now being collapsed in sampling. Otherwise the quarter 1 and quarter 2 designs are identical to those implemented last year.

A. Stratification Variables

The QBS sampling frame was stratified by two variables: (1) TRICARE Prime enrollment status combined with beneficiary group and (2) geographic area defined according to the beneficiary's address or the location of the military health care facility where the beneficiary was enrolled.

1. TRICARE Prime Enrollment Status and Beneficiary Type

We determined enrollment status by first dividing the target population into two enrollment groups: (1) enrolled in TRICARE Prime and (2) not enrolled in TRICARE Prime. Enrollment status was determined using the DEERS variable for the primary care manager code (PCM). Following the definition of PCM values, all beneficiaries with PCM = MTF or PCM = CIV are enrolled in Prime. All beneficiaries with PCM = blank are not enrolled in Prime.

Beneficiaries were separated into four groups: (1) active duty, (2) active duty family members, (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. Ninety-seven beneficiaries in quarter 1 and eighty-eight in quarter 2 were missing beneficiary group assignment (PATCAT). For such cases, we used the specifications used in previous surveys. Details are in Appendix F.

The combined enrollment status and beneficiary type variable EBG_COM has six groups: (1) active duty, (2) active duty family members enrolled in Prime, (3) active duty family members not enrolled in Prime, (4) retirees and their family members younger than 65 enrolled in Prime, (5) retirees and their family members younger than 65 not enrolled in Prime, and (6) retirees and their family members age 65 or older.

All active duty and retirees and their family members age 65 or older are in their own enrollment and beneficiary group. Active duty beneficiaries are grouped together because they are regarded as being enrolled in TRICARE Prime. Retirees and their family members age 65 and over are grouped together because they are regarded as not being enrolled in TRICARE Prime.

2. Geographic Area

The definition of geographic area depends on the beneficiary's enrollment status. For beneficiaries enrolled in TRICARE Prime with a military PCM, the geographic area was defined as the Military Treatment Facility (MTF) with financial responsibility for the beneficiary. For beneficiaries enrolled in TRICARE Prime with a civilian PCM, the geographic area was defined as the catchment area where the beneficiary lived. For nonenrolled beneficiaries, the geographic area was defined as the service area where the beneficiary lived.

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, and for enrollees with a civilian PCM and nonenrollees, we used the derived geographic catchment area (DCATCH).

B. COLLAPSING STRATA

We developed a collapsing scheme to combine geographic areas beginning with the 1998 HCSDB sample design and improved the scheme in the 1999 HCSDB (Cox et al. 1998; Jang and Satake 1999). The 1999 collapsing rule made the geographic areas more compatible with catchment areas on which we are reporting. We further refined the collapsing scheme for the 2003 HCSDB. These revisions reduced the number of final strata to 464 for quarter one and 462 for quarter 2. In the QBS, we collapsed the initial geographic areas to get 118 final “collapsed” catchment areas for the first two quarters of 2003. The collapsing rules were determined in collaboration with TMA’s staff. In general, the collapsing rules were as follows:

- With the exception of 12 large clinics, all "child" clinic Defense Medical Information System (DMIS) identifications were combined with their "parent" DMIS.
- Noncatchment areas were combined within regions to create a combined noncatchment area for each of the 12 regions (CACSMPL= 9901–9911 and 9915).[2]
- Most stand-alone clinics with few beneficiaries were combined with a nearby MTF using the list of MTFs within 200 miles. A few were combined with a MTF within 750 miles
- All clinics for beneficiaries serving in the Coast Guard were combined with a MTF within the same state or neighboring state.

Appendix C shows the collapsed catchment areas and the population size in each.

After collapsing geographic areas, the populations of some strata were still too small. Therefore, we collapsed across EBG_COM, the variable that defines enrollment and beneficiary group, to create strata with at least 1,000 beneficiaries. We first collapsed across enrollment group combining Prime enrollees with nonenrollees. If the stratum was still too small, we collapsed across beneficiary group combining retirees younger than 65 with retirees age 65 or older or combining retirees younger than 65 with active duty family members

For out-of-catchment areas (CACSMPL= 9901–9911 and 9915) we consolidated within regions for the purposes of sampling. We created four groups, which parallel super regions used in sampling for the Child HCSDB (see *2002 Health Care Survey of DoD Beneficiaries: Child Sample Report*). The four groups were formed as follows:

[2] CACSMPL is a geographic stratification variable. See Chapter II for a detailed definition.

- Group 1 consists of noncatchment areas from regions 1 (Northeast), 2 (Mid-Atlantic), and 5 (Heartland)

- Group 2 consists of noncatchment areas from regions 6 (Southwest), 9 (Southern California), 10 (Golden Gate), 11 (Northwest), 12 (Hawaii), and 16 (Alaska)

- Group 3 consists of noncatchment areas from regions 3 (Southeast), 4 (Gulf South), 7 (Central), and 8 (Central)

- Group 4 consists of noncatchment areas from regions 13 (Europe), 14 (Western Pacific), 15 (Latin America and Canada), and all unknown region.

After grouping the noncatchment areas, we had a total of 106 geographic areas used in sample allocation.

C. Stratification Results

The collapsing rules resulted in 464 strata for quarter 1 and 462 sampling strata for quarter 2 (STRATUM), and can be uniquely specified using two variables: EBSMPL, the collapsed version of EBG_COM (enrollment status and beneficiary group), and GEOSMPL, the collapsed version of CACSMPL (geographic area). 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.

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Chapter 4

Sample Sizes

The total sample size for the QBS was determined based on the sample size appropriate for each stratum. Because the strata are also important analytic domains, this strategy ensures that samples drawn from each stratum will be large enough to meet our precision requirements. In addition, stratification with approximately optimum allocation to strata can be effective in reducing sampling errors of survey estimates. In this chapter, we present the procedures used for sample size allocation for the QBS, including the requirements, response rates, and how the sample sizes were finally determined.

A. Precision Requirements

Precision requirements and expected response rates were the basis for determining stratum-level sample sizes. These requirements were defined to ensure adequate precision for constructing 95 percent confidence intervals. The QBS estimates the proportion of beneficiaries with certain attributes for particular domains of interest. When the sample size is large enough, we can assume that estimated proportions will follow approximate normal distributions according to the Central Limit Theorem (Skinner, Holt, and Smith 1989). The resulting 100(1-a) confidence interval for a proportion of interest P is based on the standard formula:

$$p \pm z_{1-\alpha/2}\sqrt{V(p)} = p \pm HL \quad \text{(IV.1)}$$

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 standard deviation one and HL is the half-length of the two-sided 95 percent confidence interval, or $HL = z_{0.975}\sqrt{V(p)}$.

For the QBS, precision requirements specified that the *HL* of the 95 percent confidence interval in (IV.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. This helped to ensure that *HLs* for all estimates would be less than or equal to the specified values. Combining four quarters of the QBS should yield catchment-area-level estimates with precision levels of 5 percentage points. However, as response is not constant among catchment areas, final precision levels may vary among catchment areas. Moreover, these precision requirements do not apply to noncatchment areas.

B. Response Rates

After calculating the number of eligible respondents needed to achieve the precision requirements, we inflated the resulting sample sizes to account for survey nonresponse. Average response rates from the Q1 2001 Adult HCSDB were used to approximate the expected QBS rates. Because response rates vary substantially across enrollment and beneficiary groups, we set different response rates for each group: 21 percent for active duty beneficiaries; 32 percent for active duty

family members enrolled in Prime; 21 percent for active duty family members not enrolled in Prime; 57 percent for retirees and their family members younger than 65 enrolled in Prime; 48 percent for retirees and family members younger than 65 not enrolled in Prime; and 74 percent for retirees and their family members age 65 or older. To calculate final sample size, we adjusted the sample allocation by the inverse of the anticipated response rate.

C. 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 G is the basis for the sample sizes we developed to meet the QBS precision requirements. Appendix F includes the in-house SAS programs we used in determining sample sizes.

The first step was allocating 20 eligible respondents to each stratum, which corresponds to a precision level of 22 percentage points. Next, we allocated the initial sample sizes needed to achieve the precision requirements for each catchment area. The precision levels for catchment areas are 10 percentage points for quarterly level estimates and 5 percentage points for annual estimates. Therefore, 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* geographic areas. Input values for (G.7) in Appendix G were:

- N_h : POPSIZE
- $N_d = \sum_{h \in d} N_h$: DSUM1
- $V_{d,o} = B_d^2 / 3.8416$ for all geographic areas
- B = 0.10 for all catchment areas

The optimal geographic-area-level sample sizes were calculated using (G.9) in Appendix G for all geographic areas. 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 geographic-area-level sample sizes, n_d, stratum-level sample sizes were also optimally allocated for all strata. Input values for (G.11) in Appendix G are the same as defined for (G.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 response rates to obtain the final sample sizes. We used the 2001 HCSDB response rates for beneficiary groups as the expected response rates *R; R* = 0.21, 0.32, 0.21, 0.57, 0.48, and 0.74 for enrollment and beneficiary group 1 (AD), 2 (ADFM-ENR), 3 (ADFM-NE), 4 (RET<65-ENR), 5 (RET<65-NE), and 6 (RET65+), respectively. The final sample sizes were then calculated as:

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

Once we attained the required precision goals, we optimally allocated the overall sample of 45,000 beneficiaries.

Chapter
5

Selecting the Sample

The QBS sampling was independently performed within the strata (see Chapter III) based on the sample size allocation (see Chapter IV). Within each stratum, beneficiaries were sorted by a random number. 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 used to draw the sample automatically selected beneficiaries to yield the predetermined stratum sample size. Here, we describe the PRN selection procedure, and how we checked the sample to evaluate the selection procedure. Appendix F contains the SAS program for the QBS 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 two stratifying variables; small cells were collapsed as discussed in Chapter III. 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 2000 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 will be assigned a PRN. Before sample selection for the 2003 HCSDB, the newly eligible beneficiaries were added to the ordered list of PRNs. The frame of beneficiaries was then sorted in descending order of the PRN—that is, from largest to smallest PRN.

2. Partitioning the Frame into the Four Zones

For the quarterly surveys in 2003, overlap among the four quarterly samples, as well as overlap with the 2002 HCSDB, had to be kept to a minimum. This can be achieved by partitioning the sampling frame into four zones before drawing the first quarterly sample:

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

- Zone 4 for all beneficiaries with $0.75 \leq PRN < 1$.

Zone 1 was used for the sample for the first QBS and Zone 2 was used for the second QBS. Before the selection, we checked that this zone had enough beneficiaries to meet the sample size for the survey.

Using the stratum sample size n_h for each stratum (h = 1,…, 464 for quarter 1 and 1,…, 462 for quarter 2), we used a PRN sample selection method. Sample selection was independent and essentially identical across sampling strata. Therefore, this section describes the sample selection procedure for one stratum.

Recall that each zone was stratified according to the procedures outlined in Chapter III and that within each stratum, the PRNs are arranged in descending order. The starting point for Zone 1, a_h, was equal to 0.125 for quarter 1 and the starting point for Zone 2 was equal to 0.375 for quarter 2. Therefore, for stratum h, the sample consists of the n_h beneficiaries with a random number less than 0.125 for quarter 1 and a random number less than 0.375 for quarter 2, 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 F).

3. Overlap Between the 2001 and 2002 QBS Samples and the 2003 QBS Samples

The PRN method provides the means to reduce overlap between year one and year two of the quarterly survey. By selecting varying starting points for the different quarters we minimized the potential overlap. In fact, we did not have any overlap between any of PRNs in the 2003 and 2002 datasets. We did, however, have an overlap of 21 cases in quarter 1, 2003 and quarter 1, 2001 and an overlap of 81 cases in quarter 2, 2003 and quarter 2, 2001. That overlap is due, in part, to beneficiaries from subvention demonstration areas. All of the respondents in quarter 1 and many of the respondents in quarter 2 who were sampled in both 2001 and 2003 were oversampled in 2001 as part of a subvention demonstration area.

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 and selected the sample with differential probabilities of selection across strata. 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 for quarter 2, we evaluated the selection procedure by checking sample sizes for all strata. Appendix D contains these frequency tables:

- The number of sampled records for each stratum (STRATUM)
- The weighted count of sampled records for STRATUM
- The number of frame records for each stratum
- The number of sampled records for service (SVCCD) by sex (PNSEXCD)

- The weighted count of sampled records for service (SVCCD) by sex (PNSEXCD), where the weight is equal to BWT_h, where h = stratum.
- The number of frame records for SVCCD by PNSEXCD
- The frequency of sampled records for each enrollment beneficiary group (EBG_COM)
- The weighted count of sampled records for EBG_COM
- The number of frame records for EBG_COM

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 analytic domains such as SVCCD * PNSEXCD and EBG_COM, 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 NRC. All variables in the sample extract file are specified in Appendix E.

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APPENDIX A

DEERS VARIABLES REQUESTED BY MPR

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DEERS VARIABLES

Variables	Explanation
PATCAT	Aggregated code based on Derived Beneficiary Category and Person Age Years Quantity.
ACV	Value that identifies TRICARE Prime enrollment type and USFHP enrollment. As identified on DEERS enrollment file, matched to DEERS PITE based on sponsor SSN and DEERS Dependent Suffix. 'D' was derived from same match of DEERS PITE to Iowa Foundation TRICARE Senior Prime enrollment file
LEGDDSCD	The code that represents the dependent of a sponsor.
DBENCAT	Derived codes based on family relationships and Member Category Code.
DCATCH	The code that represents a geographical catchment/non-catchment area. Assigned based on the Derived Location ZIP Code (which represents the residence ZIP code for non-sponsors and unit location of sponsor) and the Catchment Area Directory (CAD) in effect at the time of the extract.
DHSRGN	The code that represents a geographical region (Health Service Region) of the military health system. Assigned based on the Derived Location Catchment Area DMIS Code and the Catchment Area Directory in effect at the time of the extract.
DPRISM	The code that 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. Assigned based on the Derived Location ZIP Code (which represents the residence ZIP code for non-sponsor and unit ZIP location of sponsor) and the PRISM service area directory in effect at the time of the extract.
DMEDELG	Derived field that describes a person's entitlement to receive MHS benefits.
DSPONSVC	The code that represents an aggregated sponsor branch of service based on Service Branch Classification Code, General Location Code, and Derived Beneficiary Category. General Location Code and Derived Beneficiary Category are only used to distinguish between Navy and Navy Afloat.
MRTLSTAT	The code that represents the marital status of the sponsor.
MDCABRSN	The code that represents the reason that the person's period of Medicare Part A eligibility began.
MDCAEFDT	The date when the person's Medicare Part A became effective.
MDCAEXDT	The date when the person's Medicare Part A expired or is expected to expire.
MEDTYPE	A derived code that represents a person's Medicare Eligibility based on the Medicare A & B fields found on the DEERS PITE.
MBRRELCD	The code that represents how DoDI 1000.13 views relationships between a person and another person in a family. For example, a person is a child or stepchild of another person. (This attribute is similar to person association reason code.)
PGCD	The code that represents the level of pay. (The combination of pay plan code and pay grade code represents the sponsor's pay category.)
PAYPLNCD	The code that represents the type of pay category. (The combination of pay plan code and pay grade code represents the sponsor's pay category.)
DAGEQY	The age of the person in years, calculated based on person birth date and the extract date. If birth date is blank, age value is blank.
PNARSNCD	The code that represents the underlying basis of an association of one person to another person. For example, a person is a child of another

Variables	Explanation
	person. (This attribute is similar to member relationship code.)
PNBRTHDT	The date when a human being was born.
PNCDNCY	The cadency name (e.g., Sr, Jr, III) of the person.
PN1STNM	The first name of the person.
PNID	The identifier that represents a human being. This attribute will usually contain the person's Social Security Number.
PNLSTNM	The last name of the person.
PNMIDNM	The middle name of the person.
PNSEXCD	The code that represents a classification of a person according to the reproductive functions.
PNTYPCD	The code that represents a specific kind of person.
PNLCATCD	The code that represents how the DoD personnel and/or finance center views the sponsor based on accountability and reporting strengths. (This attribute is similar to member category code.)
PCM	The code represents whether the beneficiary is enrolled to a Military or Civilian PCM, based on the TRICARE Prime & USFHP Enrollment DMIS Code.
RACEETHN	The code represents a nonscientific division of the population based on assumed primordial biological properties combined with a segment population that possesses common characteristics and/or cultural heritage.
RANKCD	The code that represents the sponsor's rank.
MACITYNM	The name of the city of the person's residential address.
MACTRYCD	The code that represents the country of the person's residential address. The valid values also include dependencies and areas of special sovereignty.
HADDFLG	Flag that indicates presence of a residential address.
MALN1TX	The number and street of the person's residential address.
MALN2TX	The text that is supplemental to the number and street of the person's residential address–for example, the apartment number.
MASTCD	The code that represents the state of the person's residential address. Note: The values also include the District of Columbia and outlying areas of the United States.
MAPRZIP	The ZIP identifier of the person's residential address.
MAPRZIPX	The extension to the residential address postal region ZIP identifier.
SVCCD	The code that represents the branch classification of Service with which the sponsor is affiliated. As coded on the DEERS PITE.
SPCITYNM	The name of the city of the sponsor's residential address.
SPCTRYCD	The code that represents the country of the sponsor's residential address. The valid values also include dependencies and areas of special sovereignty.
SADDFLG	Flag that indicates presence of a sponsor's residential address.
SPLN1TX	The number and street of the sponsor's residential address.
SPLN2TX	The text that is supplemental to the number and street of the sponsor's residential address–for example, the apartment number.
SPSTCD	The code that represents the state of the sponsor's residential address. Note: The values also include the District of Columbia and outlying areas of the United States.
SPPRZIP	The ZIP identifier of the sponsor's residential address.

SPPRZIPX	The extension to the sponsor's residential address postal region ZIP identifier.
SPDUPID	The code that represents whether this is the first, second, third (and so on) occurrence of this sponsor person identifier in DEERS.
SPONSSN	The identifier that represents a person who is a sponsor. This attribute will usually contain the sponsor's Social Security Number.
SPTNUMCD	The telephone number of the person's sponsor.
TNUMCD	The telephone number of the person.
ENRID	The code that represents the DMIS ID a person is enrolled to. For all ACV values except 'D', this is from DEERS enrollment file. 'D' is from the Iowa Foundation TRICARE Senior Prime enrollment file. Both files were matched to the DEERS PITE based on sponsor SSN and DEERS Dependent Suffix.
UICCITY	The name of the city of the sponsor's unit address.
UADDFLG	Flag that indicates presence of a sponsor's unit address.
UICADD1	The number and street of the sponsor's unit address.
UICADD2	The text that is supplemental to the number and street of the sponsor's unit address.
UICST	The code that represents the state of the sponsor's unit address.
UICZIP	The ZIP identifier of the sponsor's unit address.
ULOCDMIS	The code that represents the DMIS code of the person's unit location.
ULOCRGN	The code that represents a geographical region (Health Service Region) of the military health system for this unit location.

APPENDIX B

Q2 2003 TABLES FOR ENROLLEES WITH A MILITARY PCM AND GEOGRAPHIC AREA EQUAL TO CATCHMENT AREA

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Table B.1: Enrollees With a Military PCM and Geographic Area Equal to Catchment Area

	DMIS ID	DMIS FACILITY NAME
INACTIVE	0002	NOBLE AHC-FT. MCCLELLAN
	0250	77th MED GRP-MCCLELLAN
	0449	24th MED GRP-HOWARD
	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 CLEVELAMD (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
	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-NACC 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

	DMIS ID	DMIS FACILITY NAME
ADMINISTRATIVE PURPOSES, CONT.	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-NACC 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
	6512	CALIFORNIA/HAWAII ENROLLMENT
	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
	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

	DMIS ID	DMIS FACILITY NAME
ADMINISTRATIVE PURPOSES, CONT.	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

APPENDIX C

Q2 2003 TABLE FOR COLLAPSING RULES

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Table C: Collapsing Rules for Geographic Areas (GEOCELL) for the 2003 HCSDB

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
0001	0001	REDSTONE ARSENAL	1,508	1,253	0	4,741	0	54	7,556
	0074	COLUMBUS AFB	1,552	797	0	1,401	0	69	3,819
	0416	MOBILE	530	1	0	1	0	0	532
0003	0003	FT. RUCKER	4,530	2,950	805	3,441	6,781	5,941	24,448
0004	0004	MAXWELL AFB	3,958	3,224	0	4,071	0	158	11,411
0005	0005	FT. WAINWRIGHT	4,943	2,523	432	1,306	1,337	482	11,023
	0130	KODIAK	1,019	0	0	1	0	0	1,020
	0203	EIELSON AFB	2,979	1,599	0	586	0	0	5,164
	0204	FT. RICHARDSON	2,280	0	0	13	0	1	2,294
	0417	KETCHIKAN	341	0	0	0	0	0	341
	7044	JUNEAU	264	0	0	1	0	0	265
	7047	SITKA	211	0	0	0	0	0	211
0006	0006	ELMENDORF AFB	7,711	5,688	670	5,880	4,385	2,730	27,064
0008	0008	FT. HUACHUCA	4,051	2,528	0	3,902	0	346	10,827
0009	0009	LUKE AFB	7,613	4,698	1,272	13,630	17,014	24,058	68,285
0010	0010	DAVIS MONTHAN AFB	6,783	3,924	0	6,196	0	753	17,656
0013	0013	LITTLE ROCK AFB	5,402	2,820	0	3,294	0	73	11,589
0014	0014	TRAVIS AFB	10,288	6,308	1,307	16,709	15,285	26,469	76,366
	0015	BEALE AFB	3,278	1,548	0	1,148	0	125	6,099
	0418	ALAMEDA	1,166	0	0	2	0	1	1,169
	0419	PETALUMA	657	0	0	1	0	0	658
	7083	HUMBOLDT BAY	141	0	0	0	0	0	141
0019	0018	VANDENBERG AFB	3,178	1,706	0	1,603	0	379	6,866
	0019	EDWARDS AFB	3,234	1,858	0	1,584	0	149	6,825
	0248	LOS ANGELES AFS	2,750	1,390	0	1,416	0	31	5,587
0024	0024	CAMP PENDLETON	26,169	10,527	2,913	8,608	12,979	20,411	81,607
	0026	PORT HUENEME	2,748	2,636	0	1,736	0	9	7,129
	0208	CAMP PENDLETON	4,040	0	0	11	0	0	4,051
	0209	BARSTOW	263	41	0	76	0	2	382
	0210	CAMP PENDLETON	987	631	0	152	0	0	1,770
	0217	POINT MUGU	0	0	0	1	0	0	1
	0269	YUMA	857	1,675	0	988	0	7	3,527

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	1657	CAMP PENDLETON	1,877	0	0	3	0	0	1,880
	1659	CAMP PENDLETON	556	184	0	15	0	0	755
	6216	CAMP PENDLETON	33	2,752	0	2,224	0	136	5,145
0028	0028	LEMOORE	5,854	3,305	527	3,243	3,352	3,668	19,949
	0319	FALLON	1,173	535	0	732	0	5	2,445
0029	0029	SAN DIEGO	46,798	13,149	6,521	16,011	30,271	34,662	147,412
	0230	SAN DIEGO	1,738	0	0	0	0	0	1,738
	0231	CORONADO	5,648	933	0	295	0	312	7,188
	0232	SAN DIEGO	4,978	1,330	0	553	0	1	6,862
	0233	CORONADO	3,608	4	0	17	0	0	3,629
	0234	SAN DIEGO	2	0	0	1	0	0	3
	0239	EL CENTRO	419	108	0	140	0	2	669
	0407	SAN DIEGO	2,886	1,493	0	1,187	0	1,038	6,604
	0414	SAN DIEGO	145	2	0	1	0	0	148
	0701	SAN DIEGO	7,281	6	0	59	0	0	7,346
	6207	SAN DIEGO	16	4,849	0	3,751	0	21	8,637
	6215	SAN DIEGO	31	4,230	0	5,292	0	33	9,586
0030	0030	TWENTYNINE PALMS	11,145	2,934	347	1,659	1,256	2,715	20,056
	0212	CHINA LAKE	582	381	0	452	0	5	1,420
0032	0032	FT. CARSON	2,497	7,964	996	9,015	5,794	7,437	33,703
	1526	PUEBLO	239	0	0	1	0	0	240
	7293	FT. CARSON	9,572	0	0	28	0	0	9,600
	7300	FT. CARSON	2,915	0	0	7	0	0	2,922
0033	0033	USAF ACADEMY	7,555	3,170	855	9,197	10,103	8,846	39,726
	0252	PETERSON AFB	6,297	3,406	0	4,828	0	300	14,831
0035	0034	NEW LONDON	1,389	4	0	2	0	0	1,395
	0035	GROTON	3,819	3,120	0	2,029	0	9	8,977
	0100	NEWPORT	3,794	1,818	0	1,901	0	13	7,526
	0328	BALLSTON SPA	3,052	0	0	8	0	0	3,060
	5401	NEWPORT HOSPITAL (CIVILIAN HOSP)	1	0	0	2	0	0	3
0036	0036	DOVER AFB	3,992	2,253	0	3,083	0	1,170	10,498
0037	0037	WASHINGTON DC	5,750	2,088	2,184	6,047	12,676	15,459	44,204
	0256	PENTAGON	8,684	11	0	81	0	0	8,776
	0420	WASHINGTON DC	1,008	1	0	10	0	0	1,019

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	7298	ARLINGTON ANNEX	1,754	1	0	18	0	0	1,773
0038	0038	PENSACOLA	11,876	4,767	1,145	10,091	12,352	13,398	53,629
	0107	MILLINGTON	2,255	1,120	0	215	0	0	3,590
	0260	PENSACOLA	1,889	0	0	17	0	0	1,906
	0261	MILTON	1,861	529	0	505	0	1	2,896
	0262	PENSACOLA	1,255	0	0	1	0	0	1,256
	0265	PANAMA CITY	423	223	0	180	0	0	826
	0297	NEW ORLEANS	654	859	0	698	0	1	2,212
	0316	GULFPORT	2,177	313	0	210	0	0	2,700
	0317	MERIDIAN	1,096	343	0	304	0	1	1,744
	0422	CLEARWATER	1,150	0	0	3	0	0	1,153
	0436	NEW ORLEANS	1,076	45	0	27	0	0	1,148
	0513	PENSACOLA	613	1	0	5	0	0	619
	0654	PASCAGOULA	577	375	0	88	0	0	1,040
	1990	NEW ORLEANS	1,481	2	0	8	0	0	1,491
0039	0039	JACKSONVILLE	17,816	8,809	3,205	16,231	25,460	18,463	89,984
	0050	MOODY AFB	3,916	1,870	0	2,007	0	65	7,858
	0266	JACKSONVILLE	4,263	7	0	19	0	0	4,289
	0275	ALBANY	618	341	0	485	0	2	1,446
	0276	ATHENS	575	58	0	53	0	0	686
	0277	ATLANTA	1,007	1	0	11	0	0	1,019
	0337	KINGS BAY	2,238	2,162	0	1,556	0	3	5,959
	0405	MAYPORT	2,866	3,729	0	1,957	0	10	8,562
	0421	AIR STATION MIAMI	463	0	0	1	0	0	464
	0517	KEY WEST	1,486	673	0	524	0	1	2,684
	7048	MIAMI BEACH	478	0	0	1	0	0	479
0042	0042	EGLIN AFB	9,905	6,293	1,291	9,981	13,085	12,376	52,931
0043	0043	TYNDALL AFB	3,711	2,314	0	4,438	0	405	10,868
0045	0045	MACDILL AFB	8,252	5,519	1,392	17,717	20,905	32,491	86,276
0046	0046	PATRICK AFB	2,678	1,954	0	6,393	0	1,987	13,012
0047	0047	FT. GORDON	7,010	4,720	719	10,914	7,911	8,974	40,248
	0273	FT. MCPHERSON	3,327	1,593	0	3,919	0	49	8,888
	1550	FT. GORDON	1,156	3	0	0	0	0	1,159
	7197	FT. GORDON	3,833	3	0	5	0	0	3,841

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	7239	FT GORDON	1,270	495	0	12	0	0	1,777
	8924	FT. BUCHANAN	1,303	1,315	0	25	0	0	2,643
0048	0048	FT. BENNING	11,843	5,507	1,109	8,502	7,898	9,696	44,555
	1316	FT. BENNING	4,982	992	0	609	0	38	6,621
	1551	FT. BENNING	4,313	0	0	15	0	0	4,328
	1552	FT. BENNING	1,478	0	0	2	0	0	1,480
	1560	LAWSON AFB	293	526	0	413	0	72	1,304
	1939	FT. BENNING	15	0	0	0	0	0	15
0049	0049	FT. STEWART	4,442	6,512	1,753	4,853	6,470	3,819	27,849
	0272	HUNTER AB	4,583	2,363	0	1,924	0	320	9,190
	1562	FT. STEWART	3,625	183	0	115	0	25	3,948
	1563	FT. STEWART	3,245	157	0	71	0	7	3,480
	1564	FT. STEWART	3,943	143	0	105	0	11	4,202
0051	0051	ROBINS AFB	5,575	3,317	0	4,432	0	83	13,407
0052	0052	FT. SHAFTER	16,304	5,815	3,002	3,956	9,563	11,269	49,909
	0437	SCHOFIELD BARRACKS	1,997	5,401	0	689	0	247	8,334
	0534	SCHOFIELD BARRACKS	10,901	0	0	18	0	0	10,919
	7043	HONOLULU	919	0	0	2	0	1	922
0053	0053	MOUNTAIN HOME AFB	4,177	2,149	161	2,280	875	856	10,498
0055	0055	SCOTT AFB	8,437	5,252	998	9,232	11,789	9,063	44,771
0056	0056	GREAT LAKES	21,167	4,106	1,462	3,499	10,048	7,978	48,260
	1660	GREAT LAKES	940	1	0	2	0	0	943
	1959	GREAT LAKES	2,380	1	0	20	0	0	2,401
0057	0057	FT. RILEY	3,260	5,191	608	3,469	2,481	2,116	17,125
	7289	FORT RILEY	7,332	3	0	24	0	0	7,359
0058	0058	FT. LEAVENWORTH	3,553	2,709	0	3,036	0	17	9,315
	0076	WHITEMAN AFB	3,557	1,965	0	2,132	0	139	7,793
	7297	KANSAS CITY	604	378	0	491	0	1	1,474
0059	0059	MCCONNELL AFB	3,335	1,945	0	2,257	0	241	7,778
	0338	VANCE AFB	1,244	706	0	735	0	4	2,689
0060	0060	FT. CAMPBELL	2,815	13,148	1,637	7,762	8,351	4,929	38,642
	1504	FT. CAMPBELL	0	0	0	1	0	0	1
	1505	FT. CAMPBELL	1	0	0	0	0	0	1

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	1506	FT. CAMPBELL	5,983	0	0	11	0	0	5,994
	1508	FT. CAMPBELL	2	0	0	0	0	0	2
	7307	FT CAMPBELL	16,541	0	0	27	0	0	16,568
0061	0061	FT. KNOX	13,518	4,859	895	7,216	10,428	8,350	45,266
	0290	ROCK ISLAND ARSENAL	120	0	0	3	0	0	123
	0313	SELFRIDGE AB	1,010	1	0	23	0	0	1,034
	1237	FT. MCCOY	279	0	0	1	0	0	280
0062	0062	BARKSDALE AFB	5,701	2,861	0	3,373	0	111	12,046
0064	0064	FT. POLK	8,815	4,074	496	3,306	1,682	2,047	20,420
	0423	NEW ORLEANS	495	1	0	1	0	0	497
0066	0066	ANDREWS AFB	8,775	5,982	1,680	10,071	13,938	10,742	51,188
	0068	PATUXENT RIVER	3,217	1,950	0	2,735	0	29	7,931
	0413	BOLLING AFB	5,032	1,601	0	849	0	53	7,535
0067	0067	BETHESDA	15,647	5,400	2,741	9,258	18,284	17,113	68,443
	0301	INDIAN HEAD	558	264	0	362	0	3	1,187
	0322	COLTS NECK	647	244	0	35	0	0	926
	0347	HATBORO	1,761	0	0	6	0	0	1,767
	0348	MECHANICSBURG	261	1	0	2	0	0	264
	0384	ARLINGTON	2	0	0	0	0	0	2
	0386	DAHLGREN	1,500	358	0	518	0	4	2,380
	0401	LAKEHURST	329	155	0	157	0	0	641
	0404	BMC SUGAR GROVE	194	0	0	2	0	0	196
	0424	BALTIMORE	538	1	0	1	0	0	540
	0522	ANDREWS AFB	860	0	0	9	0	0	869
	0703	WASHINGTON DC	2,815	0	0	16	0	0	2,831
	7278	SOUTH COLTS NECK	1	0	0	0	0	0	1
0069	0069	FT. MEADE	7,554	3,900	0	3,384	0	1,279	16,117
	0306	ANNAPOLIS	4,547	1,261	0	1,569	0	16	7,393
	0308	ABERDEEN PROVING GROUND	1,802	1,409	0	1,205	0	6	4,422
	0309	FT. DETRICK	1,657	942	0	969	0	3	3,571
	0352	CARLISLE BARRACKS	1,732	1,216	0	2,375	0	1,299	6,622
	0545	EDGEWOOD	226	0	0	7	0	0	233
0073	0073	KEESLER AFB	12,254	4,940	801	8,363	5,767	9,071	41,196
0075	0075	FT. LEONARD WOOD	11,487	3,556	359	4,981	2,055	2,746	25,184

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
0078	0078	OFFUTT AFB	8,238	4,673	809	7,320	7,931	5,942	34,913
0079	0079	NELLIS AFB	8,149	4,920	799	11,546	16,119	14,479	56,012
0083	0083	KIRTLAND AFB	4,300	2,895	0	5,977	0	30	13,202
	0085	CANNON AFB	3,252	1,716	0	1,485	0	177	6,630
0086	0081	FT. MONMOUTH	1,108	620	0	980	0	787	3,495
	0086	WEST POINT	3,204	1,875	1,133	1,863	5,731	7,396	21,202
	0325	PICATINNY ARSENAL	1	0	0	0	0	0	1
	1815	WEST POINT	3,938	0	0	0	0	0	3,938
	8544	HANSCOM AFB	1	0	0	2	0	0	3
0089	0089	FT. BRAGG	14,408	5,497	3,359	9,117	19,557	9,811	61,749
	0335	POPE AFB	4,996	2,213	0	931	0	149	8,289
	0430	ELIZABETH CITY	596	2	0	2	0	0	600
	6208	FT. BRAGG	0	0	0	1	0	0	1
	7143	FT. BRAGG	9,228	5,340	0	71	0	0	14,639
	7286	FT. BRAGG-NC	6,686	3,083	0	2,139	0	632	12,540
	7294	FORT BRAGG	11,628	7,047	0	2,816	0	2,722	24,213
0090	0090	SEYMOUR JOHNSON AFB	4,347	2,405	0	3,183	0	147	10,082
0091	0091	CAMP LEJEUNE	29,614	12,673	2,358	5,790	6,881	4,047	61,363
	0333	CAMP LEJEUNE	137	0	0	0	0	0	137
	1662	CAMP LEJEUNE	287	1	0	2	0	0	290
	1663	CAMP LEJEUNE	505	0	0	1	0	0	506
	1664	CAMP LEJEUNE	203	0	0	0	0	0	203
	1992	CAMP LEJEUNE	1,171	0	0	8	0	0	1,179
	1994	CAMP LEJEUNE	2	0	0	0	0	0	2
	1995	CAMP LEJEUNE	3	0	0	0	0	0	3
	6205	CAMP LEJEUNE	1	0	0	0	0	0	1
0092	0092	CHERRY POINT	8,782	4,154	664	3,129	3,834	3,343	23,906
0095	0095	WRIGHT-PATTERSON AFB	6,587	4,471	688	11,915	9,108	10,239	43,008
0096	0093	GRAND FORKS AFB	2,798	1,383	0	1,004	0	45	5,230
	0094	MINOT AFB	4,761	2,200	0	954	0	126	8,041
	0096	TINKER AFB	7,767	4,308	0	5,924	0	102	18,101
0098	0097	ALTUS AFB	1,500	988	0	1,473	0	103	4,064
	0098	FT. SILL	14,126	6,060	749	5,837	4,376	5,223	36,371

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
0101	0101	SHAW AFB	5,953	2,776	337	3,493	3,604	3,552	19,715
0103	0103	CHARLESTON	2,300	835	1,148	3,528	12,701	9,653	30,165
	0356	CHARLESTON AFB	3,903	2,143	0	2,837	0	118	9,001
	0511	GOOSE CREEK	7,219	1,843	0	2,506	0	12	11,580
0104	0104	BEAUFORT	9,615	3,149	494	2,473	2,176	3,363	21,270
	0358	PARRIS ISLAND	1,930	2	0	3	0	0	1,935
	0360	BEAUFORT	636	1	0	2	0	0	639
0105	0105	FT. JACKSON	14,767	3,542	858	8,239	8,595	9,886	45,887
	1567	FT. JACKSON	2	0	0	0	0	0	2
0108	0084	HOLLOMAN AFB	3,370	1,824	0	2,390	0	616	8,200
	0108	FT. BLISS	3,493	1,621	1,092	8,648	6,772	10,256	31,882
	0327	WHITE SANDS MISSILE RANGE	430	221	0	285	0	0	936
	1617	FT. BLISS	7,588	4,582	0	83	0	0	12,253
0109	0109	FT. SAM HOUSTON	7,744	4,909	1,586	15,295	12,725	21,737	63,996
	0363	BROOKS AFB	1,098	365	0	1,118	0	78	2,659
	1587	FT. SAM HOUSTON	0	0	0	1	0	0	1
	7082	GALVESTON	6	0	0	0	0	0	6
0110	0110	FT. HOOD	5,200	7,685	3,121	11,759	12,706	8,933	49,404
	1592	FT. HOOD	14,506	102	0	47	0	0	14,655
	1596	FT. HOOD	0	1	0	0	0	0	1
	1597	FT. HOOD	2,877	1	0	5	0	0	2,883
	1599	FT. HOOD	2,586	0	0	6	0	0	2,592
	1601	FT. HOOD	533	0	0	1	0	0	534
	6014	FT HOOD	7,173	8,058	0	1,619	0	4	16,854
	6209	FT. HOOD	0	1	0	2	0	0	3
	6210	FT. HOOD	0	2	0	1	0	0	3
	7236	FORT HOOD	11,085	3,926	0	1,312	0	3	16,326
0112	0112	DYESS AFB	5,097	2,659	0	2,559	0	279	10,594
	0364	GOODFELLOW AFB	2,675	1,226	0	1,185	0	132	5,218
0113	0113	SHEPPARD AFB	9,466	2,627	330	3,100	2,098	3,231	20,852
0117	0114	LAUGHLIN AFB	1,411	612	0	947	0	8	2,978
	0117	LACKLAND AFB	25,655	6,886	1,060	17,939	9,120	17,185	77,845
	0365	KELLY AFB	1	0	0	1	0	0	2
0118	0118	CORPUS CHRISTI	2,098	2,122	0	2,841	0	14	7,075

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	0369	KINGSVILLE	721	305	0	618	0	3	1,647
	0370	FORT WORTH	2,255	2	0	10	0	0	2,267
	0656	INGLESIDE	992	883	0	399	0	1	2,275
0119	0077	MALMSTROM AFB	3,371	1,770	0	1,581	0	82	6,804
	0119	HILL AFB	5,502	3,248	0	3,454	0	318	12,522
0120	0120	LANGLEY AFB	12,455	7,784	1,107	5,682	9,398	5,790	42,216
	0432	PORTSMOUTH	1,092	0	0	7	0	0	1,099
	0433	YORKTOWN	393	1	0	2	0	0	396
0121	0121	FT. EUSTIS	7,610	5,356	1,583	6,576	10,641	7,603	39,369
	0122	FT. LEE	3,558	2,464	0	3,371	0	91	9,484
	0372	FT. MONROE	738	393	0	598	0	20	1,749
	0464	FT. STORY	521	0	0	0	0	0	521
0123	0123	FT. BELVOIR	10,402	6,036	3,443	6,607	30,706	12,007	69,201
	0390	FT. MYER	3,122	1,324	0	2,197	0	3,352	9,995
	6200	FAIRFAX	1,064	2,794	0	6,578	0	2,447	12,883
	6201	WOODBRIDGE	1,721	4,031	0	8,399	0	1,792	15,943
0124	0124	PORTSMOUTH	51,455	7,856	12,280	5,512	44,419	23,872	145,394
	0378	NORFOLK	5,183	6,619	0	4,021	0	22	15,845
	0380	PORTSMOUTH	885	0	0	5	0	0	890
	0381	YORKTOWN	583	80	0	13	0	0	676
	0382	VIRGINIA BEACH	1,658	1	0	6	0	0	1,665
	0387	VIRGINIA BEACH	8,562	3,991	0	2,308	0	11	14,872
	0508	NORFOLK	12,717	1,931	0	623	0	2	15,273
	0519	CHESAPEAKE	801	393	0	368	0	0	1,562
	6214	NORFOLK	0	4,769	0	3,456	0	10	8,235
	6221	TRICARE OUTPATIENT CHESAPEAKE	2	3,993	0	3,430	0	6	7,431
0125	0125	FT. LEWIS	13,611	11,740	2,201	18,937	20,458	23,991	90,938
	0247	MONTEREY	5,198	33	0	58	0	0	5,289
	0395	MCCHORD AFB	3,473	1,983	0	3,167	0	367	8,990
	0431	ASTORIA	463	0	0	0	0	0	463
	0434	PORT ANGELES	157	0	0	1	0	0	158
	1646	FT. LEWIS	5,599	1	0	13	0	0	5,613
	1649	FT. LEWIS	3,342	282	0	13	0	0	3,637
0126	0126	BREMERTON	9,990	5,719	967	8,497	6,227	5,120	36,520

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	0397	KEYPORT	1	0	0	0	0	0	1
	0398	BREMERTON	346	0	0	11	0	0	357
	0435	SEATTLE	1,208	1	0	3	0	0	1,212
	1307	INDIAN ISLAND	23	0	0	0	0	0	23
	1656	SILVERDALE	2,430	1,251	0	19	0	0	3,700
	7138	EVERETT	930	1,713	0	90	0	0	2,733
0127	0127	OAK HARBOR	8,441	3,788	428	3,310	2,451	2,570	20,988
0128	0128	FAIRCHILD AFB	3,501	1,989	0	4,145	0	523	10,158
	7045	NORTH BEND	304	1	0	0	0	0	305
0129	0106	ELLSWORTH AFB	3,414	1,857	0	2,429	0	14	7,714
	0129	F.E. WARREN AFB	3,307	1,832	0	1,421	0	109	6,669
	7200	BUCKLEY AFB	2,986	1	0	11	0	0	2,998
0131	0131	FT. IRWIN	4,526	2,245	305	779	624	503	8,982
	0206	YUMA PROVING GROUND	149	48	0	61	0	0	258
0280	0280	PEARL HARBOR	4,825	5,400	0	1,749	0	7	11,981
	0281	BARBERS POINT	0	3	0	6	0	1	10
	0284	WAHIAWA	380	0	0	3	0	0	383
	0285	KANEOHE	2,423	2,648	0	476	0	2	5,549
	1987	CAMP H.M. SMITH	306	0	0	1	0	0	307
0287	0287	HICKAM AFB	4,812	2,935	0	1,274	0	54	9,075
0321	0299	BRUNSWICK	3,975	841	0	405	0	0	5,221
	0310	HANSCOM AFB	2,831	1,502	0	1,169	0	133	5,635
	0321	PORTSMOUTH	1,296	338	0	373	0	0	2,007
	0425	CAPE COD	866	0	0	5	0	1	872
	0426	BOSTON	822	0	0	2	0	0	824
0326	0326	MCGUIRE AFB	10,047	3,060	0	1,758	0	258	15,123
	0428	CAPE MAY	615	0	0	2	0	0	617
0330	0330	FT. DRUM	252	4,832	0	993	0	100	6,177
	7113	FT. DRUM	11,286	1	0	30	0	0	11,317
0366	0366	RANDOLPH AFB	4,226	3,237	0	7,760	0	184	15,407
0385	0385	QUANTICO	5,376	4,733	0	4,500	0	7	14,616
	1670	QUANTICO	647	0	0	1	0	0	648
	1671	QUANTICO	1,823	0	0	5	0	0	1,828

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
0606	0606	HEIDELBERG	4,445	2,017	883	868	2,306	497	11,016
	1003	MANNHEIM	2,851	1,710	0	229	0	34	4,824
	1135	FRIEDBERG	2,059	425	0	29	0	8	2,521
	1144	BABENHAUSEN	922	388	0	24	0	13	1,347
	1145	BUEDINGEN	718	334	0	23	0	10	1,085
	7152	SANDHOFEN	1,172	0	0	1	0	0	1,173
	8987	HEIDELBERG	2,380	1,337	0	341	0	59	4,117
	8995	HANAU	3,407	1,502	0	154	0	45	5,108
	8996	BUTZBACH	1,316	1,026	0	65	0	29	2,436
	8998	DARMSTADT	2,370	884	0	214	0	49	3,517
0607	0607	LANDSTUHL	3,555	1,997	700	1,100	1,415	446	9,213
	0611	VICENZA	2,791	1,021	0	110	0	29	3,951
	0614	SHAPE	1,163	729	0	42	0	11	1,945
	1126	LUDWIGSBURG	4,778	1,925	0	75	0	9	6,787
	1128	KAISERSLAUTERN	1,610	282	0	89	0	9	1,990
	1147	WIESBADEN	3,296	1,565	0	296	0	84	5,241
	1154	LIVORNO	307	152	0	130	0	69	658
	8977	BRUSSELS	253	166	0	22	0	9	450
	8992	DEXHEIM	875	231	0	37	0	4	1,147
0609	0609	WUERZBURG	2,695	1,573	857	143	1,123	224	6,615
	0808	AVIANO AB	4,219	1,723	81	152	171	60	6,406
	1013	BAMBERG	2,838	1,269	0	23	0	10	4,140
	1014	ILLESHEIM	879	432	0	6	0	0	1,317
	1015	KATTERBACH	2,203	907	0	7	0	6	3,123
	1016	GRAFENWOEHR	984	471	0	37	0	9	1,501
	1017	VILSECK	3,469	1,349	0	62	0	1	4,881
	1019	HOHENFELS/AMBERG	1,414	788	0	57	0	1	2,260
	1124	SCHWEINFURT	4,554	1,643	0	47	0	6	6,250
	1127	KITZINGEN	2,922	902	0	19	0	2	3,845
	1235	GIEBELSTADT	1,377	425	0	10	0	0	1,812
	8982	BAD AIBLING	340	121	0	0	0	1	462
0612	0612	SEOUL	1,888	1,112	449	121	1,764	173	5,507
	1156	CAMP STANLEY	2,782	81	0	2	0	0	2,865
	1157	TONGDUCHON	9,233	218	0	18	0	1	9,470

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	1158	MUNSAN	2,705	24	0	4	0	0	2,733
	8903	PYONGTAEK	4,003	119	0	19	0	0	4,141
	8907	TAEGU	1,235	187	0	81	0	4	1,507
	8910	PUSAN	395	36	0	4	0	1	436
	8912	UIJONGBU	2,438	48	0	12	0	0	2,498
	8913	KOREA	1,052	48	0	10	0	1	1,111
	8916	SEOUL	5,961	5	0	13	0	0	5,979
	8917	WONGJU	672	13	0	0	0	0	685
	8921	CHUN CHON	598	7	0	1	0	0	606
0616	0615	GUANTANAMO BAY	654	185	19	3	49	3	913
	0616	CEIBA	2,435	1,098	486	11	1,867	1,300	7,197
	0851	SAN JUAN	93	13	0	0	0	0	106
	5197	BASE SAN JUAN	222	0	0	0	0	0	222
	7042	BORINQUEN	224	0	0	1	0	0	225
0617	0617	NAPLES	1,414	990	195	5	412	88	3,104
	0618	ROTA	2,591	1,165	117	9	378	118	4,378
	0623	KEFLAVIK	1,882	654	60	4	59	6	2,665
	0624	NAS SIGONELLA	3,087	1,175	132	7	117	12	4,530
	0629	LAJES FLD	978	424	19	12	59	12	1,504
	0635	INCIRLIK AB	1,733	648	59	92	124	22	2,678
	0825	IZMIR	208	64	0	46	0	10	328
	0855	LA MADDALENA	701	395	0	2	0	0	1,098
	0858	SOUDA BAY	462	3	0	2	0	0	467
	0874	GAETA	885	312	0	3	0	0	1,200
	1153	CAPODICHINO	1,906	392	0	4	0	0	2,302
	1170	BAHRAIN	2,297	283	0	10	0	0	2,590
0620	0620	AGANA	2,030	746	570	32	2,936	795	7,109
	0802	ANDERSEN AFB	2,305	1,034	0	145	0	28	3,512
	0871	NAVSTA	1,222	495	0	7	0	0	1,724
	0872	NAVCAMS WESTPAC	275	152	0	2	0	0	429
0621	0621	OKINAWA	4,637	1,658	779	11	732	118	7,935
	0861	FUTENMA	2,944	0	0	1	0	0	2,945
	0862	CAMP FOSTER	4,654	631	0	19	0	0	5,304
	1269	OKINAWA	2,001	708	0	2	0	0	2,711

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	7032	OKINAWA	1,688	1,081	0	3	0	0	2,772
	7033	OKINAWA	2,516	0	0	3	0	0	2,519
	7107	OKINAWA	802	0	0	0	0	0	802
0622	0622	YOKOSUKA	11,410	2,474	945	45	774	104	15,752
	0625	MCAS IWAKUNI	2,598	654	0	1	0	0	3,253
	0852	SASEBO	3,261	678	0	4	0	0	3,943
	0853	ATSUGI	3,054	1,074	0	7	0	0	4,135
	7288	BRANCH MEDICAL ANNEX HARIO SASEBO J	0	284	0	0	0	0	284
	8938	YOKOHAMA	49	128	0	0	0	0	177
	8939	CHINHAE	182	27	0	1	0	0	210
0633	0633	RAF LAKENHEATH	8,482	3,983	203	821	935	424	14,848
	0653	RAF CROUGHTON	458	256	0	196	0	78	988
	0814	RAF UPWOOD	905	480	0	216	0	29	1,630
	1179	RAF ST MAWGAN NEWQUA	334	127	0	1	0	0	462
	7234	MENWITH HILL MEDICAL CENTER	493	227	0	8	0	0	728
	7235	426ST ABS MED AID STATION	87	53	0	0	0	0	140
	8931	LONDON	797	482	0	16	0	11	1,306
0638	0637	KUNSAN AB	2,783	23	28	6	73	6	2,919
	0638	OSAN AB	7,332	592	162	283	692	86	9,147
0640	0610	CAMP ZAMA	943	506	0	219	0	61	1,729
	0639	MISAWA	4,450	1,927	224	77	151	32	6,861
	0640	YOKOTA AB	3,859	1,899	259	263	480	149	6,909
0804	0804	KADENA AB	7,546	3,788	0	285	0	32	11,651
0805	0799	GEILENKIRCHEN AB	1,165	746	0	116	0	4	2,031
	0805	SPANGDAHLEM AB	4,834	2,260	131	430	193	126	7,974
0806	0800	RHEIN MAIN AB	729	407	0	120	0	40	1,296
	0806	RAMSTEIN AB	9,425	4,501	0	477	0	33	14,436
7139	7139	HURLBURT FIELD	7,389	2,668	0	1,385	0	94	11,536
9901	0781	NORTHEAST WEST VIRGINIA	336	125	233	274	2,007	1,385	4,360
	0907	CONNECTICUT	5,878	300	1,642	244	10,021	9,279	27,364
	0908	DELAWARE	715	180	655	328	6,681	4,851	13,410
	0920	MAINE	2,189	1,511	885	6,849	8,929	10,213	30,576
	0921	MARYLAND	1,835	377	997	2,332	8,337	7,117	20,995
	0922	MASSACHUSETTS	2,860	1,110	2,441	3,291	16,669	23,501	49,872

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	0930	NEW HAMPSHIRE	488	321	595	2,701	8,141	8,789	21,035
	0931	NEW JERSEY	5,585	1,101	2,527	3,000	17,287	20,548	50,048
	0933	NEW YORK	8,114	3,450	5,504	2,368	32,902	26,954	79,292
	0939	PENNSYLVANIA	6,135	3,184	5,890	3,562	45,513	39,683	103,967
	0940	RHODE ISLAND	1,248	106	762	201	4,405	6,333	13,055
	0946	VERMONT	758	279	370	297	3,539	3,191	8,434
	0995	NORTHERN VIRGINIA	477	223	399	247	5,475	4,483	11,304
9902	0934	NORTH CAROLINA	5,554	2,376	2,828	5,901	42,765	35,390	94,814
	0996	SOUTHERN VIRGINIA	4,584	1,014	1,816	1,910	20,402	17,866	47,592
9903	0911	GEORGIA	8,004	4,780	4,735	11,418	52,569	39,858	121,364
	0941	SOUTH CAROLINA	1,099	734	1,065	3,155	14,849	16,096	36,998
	0987	EASTERN FLORIDA	3,668	4,224	3,694	19,377	62,580	86,498	180,041
9904	0787	GEORGIA-FORMER NOBLE CATCHMENT	10	17	27	98	441	504	1,097
	0901	ALABAMA	5,572	1,885	3,176	6,775	37,180	33,509	88,097
	0925	MISSISSIPPI	3,496	1,430	1,809	3,196	13,322	14,274	37,527
	0943	TENNESSEE	4,196	2,535	2,617	10,532	36,637	32,756	89,273
	0988	WESTERN FLORIDA	925	536	593	1,478	8,015	8,043	19,590
	0989	EASTERN LOUISIANA	3,578	2,006	1,513	3,588	8,759	8,663	28,107
9905	0782	WESTERN WEST VIRGINIA	1,240	622	870	909	8,407	6,709	18,757
	0783	EASTERN MISSOURI-ST LOUIS AREA	114	225	149	485	2,623	1,382	4,978
	0789	IOWA-QUAD CITIES AREA	128	56	142	6	1,308	756	2,396
	0914	ILLINOIS	1,897	1,154	1,525	1,466	16,621	12,640	35,303
	0915	INDIANA	3,403	1,951	1,877	2,956	24,242	15,416	49,845
	0918	KENTUCKY	1,274	994	1,165	2,283	13,107	9,943	28,766
	0923	MICHIGAN	4,025	2,419	2,716	3,188	30,114	18,725	61,187
	0936	OHIO	4,679	2,755	2,581	6,070	28,171	21,542	65,798
	0950	WISCONSIN	3,450	1,493	1,359	1,493	16,615	13,704	38,114
9906	0904	ARKANSAS	2,254	1,195	1,700	5,050	20,720	23,617	54,536
	0937	OKLAHOMA	4,094	1,443	2,504	4,644	22,249	23,358	58,292
	0990	WESTERN LOUISIANA	1,482	622	1,252	2,431	11,417	14,104	31,308
	0993	EASTERN TEXAS	11,128	7,555	7,379	28,879	83,397	91,062	229,400
9907	0785	ARIZONA-EXCLUDING YUMA AREA	1,981	315	1,423	1,545	17,076	21,621	43,961
	0929	NEVADA	567	358	353	1,201	5,791	6,242	14,512
	0932	NEW MEXICO	1,617	191	1,381	893	14,583	15,663	34,328

CACSMPL	GEOCELL		Active Duty	Active Duty Family Member		Retiree & Family Member <65		Retiree & Family Member ≥ 65	TOTAL
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE		
	0994	WESTERN TEXAS	3	2	5	2	103	72	187
9908	0784	WESTERN MISSOURI	2,487	744	1,758	1,706	22,915	19,376	48,986
	0788	IOWA-EXCLUDING QUAD CITIES AREA	1,976	750	1,025	172	9,640	7,091	20,654
	0906	COLORADO	1,532	1,994	1,242	6,248	19,042	19,786	49,844
	0917	KANSAS	2,169	611	1,759	884	15,474	13,514	34,411
	0924	MINNESOTA	3,650	1,200	1,415	68	17,822	13,339	37,494
	0927	MONTANA	1,210	309	860	28	8,253	5,391	16,051
	0928	NEBRASKA	917	233	509	92	4,186	3,722	9,659
	0935	NORTH DAKOTA	878	394	509	382	4,033	2,041	8,237
	0942	SOUTH DAKOTA	846	305	561	42	5,615	3,934	11,303
	0945	UTAH	2,800	1,073	1,713	1,201	12,401	10,054	29,242
	0951	WYOMING	572	131	425	299	4,329	2,970	8,726
	0974	SOUTHERN IDAHO	1,007	631	649	987	8,068	6,173	17,515
9909	0786	YUMA ARIZONA AREA	3,066	138	295	338	1,666	1,852	7,355
	0986	SOUTHERN CALIFORNIA	7,722	4,274	4,571	12,577	36,505	52,861	118,510
9910	0985	NORTHERN CALIFORNIA	4,273	4,157	2,588	11,692	31,613	56,659	110,982
9911	0938	OREGON	3,377	1,907	1,334	5,434	18,266	21,141	51,459
	0948	WASHINGTON	5,934	2,056	1,732	8,040	22,557	24,807	65,126
	0973	NORTHERN IDAHO	73	95	74	322	1,769	1,653	3,986
9912	0902	ALASKA	669	959	403	6	2,403	928	5,368
	0912	HAWAII	283	212	92	657	1,612	1,907	4,763
9913	0957	GERMANY	1,017	71	966	21	2,616	448	5,139
	0958	GREECE	41	3	18	0	144	66	272
	0960	ITALY	811	11	141	7	523	115	1,608
	0964	PORTUGAL	5	1	3	0	8	4	21
	0966	SPAIN	21	1	13	0	188	117	340
	0967	TURKEY	24	0	15	2	127	24	192
	0968	UNITED KINGDOM	169	13	224	14	806	102	1,328
	0976	AFRICA	186	0	9	2	116	6	319
	0977	MIDEAST	283	3	65	7	517	25	900
	0979	BELGIUM	57	9	68	0	364	27	525
	0982	OTHER EUROPE	158	5	42	5	295	54	559
9914	0952	GUAM	0	0	0	0	15	2	17
	0961	JAPAN	457	17	298	6	607	68	1,453

CACSMPL	GEOCELL			Active Duty Family Member		Retiree & Family Member <65			
			Active Duty	PRIME	NON-ENROLLEE	PRIME	NON-ENROLLEE	Retiree & Family Member ≥ 65	TOTAL
	0963	PHILIPPINES	2	1	7	2	355	66	433
	0965	KOREA	162	10	71	10	553	44	850
	0978	SOUTHEAST ASIA	226	0	20	1	307	80	634
	0983	OTHER PACIFIC	1,324	520	50	4	819	166	2,883
9915	0953	PUERTO RICO	1,094	759	1,480	48	7,542	8,581	19,504
	0969	CANADA	163	106	4	0	2	0	275
	0970	OTHER CARIBBEAN	132	42	2	3	46	10	235
	0971	CENTRAL AMERICA	610	128	36	10	897	328	2,009
	0972	SOUTH AMERICA	372	171	13	1	134	34	725
	0975	U.S. VIRGIN ISLANDS	172	72	41	4	286	186	761
9999	0999	UNKNOWN LOCATION	31,782	151	3,171	494	21,626	16,863	74,087
	6700	SEMBACH AB	1	0	0	0	0	0	1
	6706	ISTRES AB	1	0	0	0	0	0	1

APPENDIX D

Q2 2003 TABLES FOR SAMPLING CHECK

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Table D.1: Selected Sample Dataset by Zone and
Minimum Permanent Random Number Selected

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
133	913	865	926	886	0.339042
62	516	548	506	481	0.352144
86	1,601	1,499	1,552	1,614	0.361231
95	1,115	1,111	1,107	1,197	0.354863
62	944	962	888	961	0.356681
35	862	849	867	863	0.365471
46	1,718	1,698	1,677	1,688	0.367361
27	1,471	1,391	1,543	1,536	0.371398
158	1,012	963	986	997	0.332195
85	770	816	804	834	0.347724
62	1,092	1,075	1,008	1,054	0.361935
237	2,992	3,041	3,080	2,924	0.356390
62	1,155	1,128	1,114	1,157	0.363101
35	517	438	463	489	0.351086
41	477	461	433	449	0.350418
151	1,862	2,007	1,890	1,952	0.354967
82	1,575	1,601	1,628	1,554	0.359597
43	1,530	1,443	1,417	1,490	0.370259
42	1,096	1,122	1,076	1,091	0.364547
27	704	681	669	676	0.366386
170	994	1,044	1,037	976	0.337162
70	633	628	652	615	0.346038
66	1,044	1,039	1,088	1,077	0.362194
95	1,845	1,888	1,934	1,946	0.361515
62	1,158	1,204	1,149	1,187	0.360068
94	315	309	308	340	0.290609
43	3,386	3,461	3,440	3,343	0.371983
63	4,204	4,269	4,304	4,237	0.371330
58	6,058	5,989	5,923	6,088	0.372721
175	1,716	1,712	1,684	1,671	0.350684
67	979	1,016	973	956	0.356599
66	1,732	1,717	1,729	1,771	0.366787
212	1,436	1,301	1,339	1,326	0.335532
73	699	713	713	695	0.351568
49	835	853	849	830	0.359855
157	3,927	4,004	3,694	3,905	0.364709
62	1,895	1,847	2,068	2,046	0.366589
94	340	314	321	332	0.298261
67	4,469	4,473	4,429	4,489	0.371189
68	3,850	3,814	3,789	3,832	0.371202
77	6,645	6,569	6,719	6,662	0.371956
217	2,276	2,300	2,308	2,278	0.351228
77	1,314	1,233	1,223	1,184	0.358978
45	1,261	1,361	1,277	1,263	0.366568

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
304	9,327	9,387	9,483	9,333	0.367034
98	4,590	4,627	4,680	4,549	0.369596
94	706	755	741	711	0.346473
42	3,455	3,484	3,429	3,446	0.372813
46	3,250	3,168	3,258	3,303	0.371134
48	5,079	5,062	5,267	5,157	0.372665
106	1,787	1,767	1,672	1,801	0.360391
62	1,103	1,085	1,112	1,067	0.363875
35	959	1,038	967	1,011	0.365579
42	874	854	796	828	0.363454
27	872	951	902	948	0.368543
316	18,546	18,215	18,412	18,377	0.371008
74	6,432	6,430	6,582	6,660	0.371970
95	1,643	1,587	1,626	1,665	0.360667
44	6,780	6,782	6,766	6,979	0.373260
57	7,528	7,668	7,483	7,592	0.373437
44	9,055	8,986	9,031	8,997	0.373624
190	3,000	2,945	2,874	2,908	0.360092
62	907	904	926	925	0.358919
35	565	520	534	492	0.358911
41	297	309	332	318	0.341116
27	684	681	696	659	0.361528
168	3,757	3,868	3,830	3,768	0.363273
62	1,979	1,968	2,026	1,991	0.366392
93	232	245	248	271	0.279461
37	2,250	2,208	2,276	2,317	0.370213
42	1,450	1,477	1,409	1,458	0.366537
27	1,789	1,922	1,862	1,864	0.371941
159	3,489	3,512	3,449	3,402	0.362510
62	1,895	1,827	1,829	1,880	0.366485
59	3,576	3,613	3,374	3,462	0.371065
51	2,519	2,473	2,559	2,552	0.369626
30	2,319	2,267	2,260	2,300	0.371925
257	3,097	2,965	2,943	3,050	0.352986
70	1,222	1,180	1,275	1,265	0.361293
35	1,021	1,027	926	990	0.365056
163	1,005	1,018	960	1,009	0.332319
62	594	555	523	581	0.348697
47	782	804	752	745	0.357334
27	287	297	312	274	0.355502
177	4,290	4,334	4,354	4,218	0.364992
62	520	523	518	540	0.349853
94	552	544	576	512	0.332178
35	1,495	1,545	1,536	1,580	0.369748
57	3,132	3,169	3,232	3,143	0.370923
45	3,903	3,841	3,808	3,907	0.370865
225	7,109	6,994	7,245	7,035	0.366305
62	2,232	2,096	2,111	2,138	0.366468

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
93	302	302	259	282	0.291706
37	3,095	3,107	3,160	2,990	0.372182
43	2,961	3,083	3,129	3,179	0.371524
31	3,453	3,303	3,319	3,326	0.372856
249	8,855	8,818	8,973	9,080	0.368676
81	4,377	4,381	4,378	4,514	0.370515
94	815	781	808	801	0.344540
59	5,691	5,659	5,726	5,769	0.372687
78	6,408	6,425	6,331	6,296	0.371917
37	4,573	4,724	4,672	4,575	0.373670
100	2,477	2,459	2,502	2,467	0.365146
62	1,539	1,624	1,554	1,576	0.365002
94	319	325	310	337	0.297703
37	2,551	2,522	2,483	2,425	0.371789
58	3,291	3,264	3,220	3,310	0.369480
36	3,113	3,054	3,077	3,132	0.370816
155	946	927	911	927	0.334374
64	604	569	580	561	0.347689
75	1,220	1,221	1,205	1,197	0.361570
95	2,034	2,070	2,089	2,059	0.364200
62	1,408	1,433	1,363	1,315	0.364263
94	332	378	340	342	0.305787
63	4,459	4,494	4,462	4,302	0.371896
88	5,347	5,289	5,118	5,151	0.369876
89	8,149	8,097	8,193	8,052	0.372720
94	625	700	692	661	0.342411
62	487	485	500	482	0.346464
102	2,107	2,038	2,101	2,134	0.362139
191	4,443	4,448	4,473	4,535	0.364551
62	2,200	2,237	2,265	2,146	0.368004
59	3,692	3,733	3,741	3,709	0.371382
42	1,989	2,006	1,898	2,018	0.369294
28	2,303	2,228	2,211	2,281	0.371916
232	5,689	5,700	5,755	5,780	0.365807
62	1,767	1,778	1,753	1,727	0.365501
93	264	281	270	294	0.293340
36	2,352	2,368	2,426	2,395	0.369695
42	2,025	1,978	1,977	1,918	0.370399
29	2,499	2,408	2,456	2,443	0.372268
189	4,997	5,029	4,853	4,959	0.365198
62	2,308	2,297	2,365	2,388	0.368354
94	429	433	483	408	0.315417
35	1,742	1,845	1,730	1,751	0.371474
42	1,581	1,670	1,620	1,599	0.368080
27	1,031	1,063	1,059	1,029	0.369535
189	1,355	1,437	1,426	1,357	0.340606
74	858	820	826	813	0.354505
57	1,192	1,163	1,081	1,079	0.363483

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
243	7,591	7,476	7,479	7,575	0.366784
62	2,763	2,812	2,802	2,839	0.369357
94	763	762	740	737	0.346780
35	1,171	1,168	1,168	1,158	0.367005
42	2,439	2,341	2,350	2,433	0.369487
27	2,844	2,909	2,886	2,878	0.372974
174	1,054	1,028	1,038	1,057	0.329494
63	570	541	586	613	0.348977
35	552	567	618	543	0.357938
41	409	438	471	413	0.347786
100	2,101	2,102	2,118	2,116	0.363999
62	1,327	1,306	1,334	1,285	0.363635
93	225	229	273	271	0.275644
41	2,333	2,273	2,282	2,344	0.370987
62	2,935	2,949	2,897	3,008	0.370001
31	2,257	2,256	2,302	2,248	0.372284
227	6,237	6,039	6,122	6,089	0.365211
62	1,029	1,010	1,065	1,004	0.358719
94	396	370	358	338	0.316242
35	891	896	885	849	0.365120
42	2,522	2,467	2,477	2,582	0.369426
27	2,005	1,923	2,080	1,970	0.369558
157	2,642	2,709	2,682	2,559	0.361488
62	1,393	1,433	1,489	1,487	0.363515
35	861	881	919	832	0.364792
42	630	593	648	610	0.349768
27	497	511	544	564	0.363395
189	1,895	1,930	1,958	1,931	0.353752
82	1,258	1,295	1,215	1,284	0.361609
53	1,415	1,427	1,464	1,510	0.365096
199	1,159	1,155	1,105	1,160	0.329373
76	668	681	679	623	0.342292
52	797	822	816	802	0.360037
230	6,390	6,351	6,248	6,353	0.366590
78	3,263	3,216	3,336	3,333	0.368722
94	423	387	414	413	0.318634
35	1,964	1,995	1,922	1,920	0.371099
42	2,095	2,061	2,093	2,102	0.369507
27	1,294	1,215	1,242	1,178	0.369986
170	3,710	3,693	3,773	3,751	0.364191
95	1,400	1,450	1,443	1,462	0.356829
35	1,853	1,809	1,765	1,816	0.370570
52	2,594	2,616	2,572	2,646	0.369017
27	2,127	2,128	1,994	2,101	0.371064
215	1,437	1,425	1,435	1,404	0.337124
71	698	685	761	717	0.352803
49	930	882	866	806	0.360928
159	2,293	2,383	2,351	2,283	0.358511

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
62	1,197	1,139	1,110	1,125	0.362561
35	849	818	783	857	0.364116
41	423	439	390	430	0.349344
27	533	472	532	510	0.357935
157	4,290	4,293	4,184	4,257	0.365039
62	2,373	2,447	2,319	2,394	0.369732
94	430	412	395	443	0.311773
47	3,423	3,378	3,353	3,501	0.371060
56	3,451	3,556	3,508	3,423	0.370874
29	2,576	2,730	2,759	2,759	0.372460
180	6,302	6,239	6,251	6,321	0.367604
62	1,702	1,551	1,609	1,561	0.365047
94	724	675	683	659	0.344259
35	2,540	2,588	2,635	2,603	0.371124
58	4,643	4,565	4,543	4,533	0.371631
35	4,262	4,273	4,251	4,334	0.372925
258	4,309	4,420	4,364	4,425	0.360578
85	2,134	2,196	2,223	2,175	0.365890
66	3,072	2,998	3,091	2,951	0.370915
158	3,023	3,018	3,157	3,056	0.363483
62	1,426	1,416	1,484	1,415	0.364609
40	2,067	2,075	2,090	2,131	0.371727
42	1,447	1,479	1,408	1,433	0.368073
34	2,283	2,223	2,318	2,247	0.370744
226	2,919	2,871	2,843	2,854	0.356358
62	1,002	975	952	986	0.362522
36	1,269	1,263	1,201	1,248	0.368020
41	522	504	510	519	0.356980
27	661	759	650	676	0.366185
132	2,104	1,988	2,081	2,065	0.356935
62	1,354	1,361	1,386	1,381	0.364205
43	1,810	1,814	1,835	1,861	0.367460
56	2,019	1,928	2,010	1,974	0.367387
27	1,504	1,496	1,477	1,465	0.371817
95	2,035	2,002	2,063	2,049	0.362084
62	1,435	1,413	1,399	1,472	0.364611
46	2,857	2,899	2,995	2,795	0.369988
76	4,039	4,011	4,008	4,061	0.371027
45	3,631	3,671	3,586	3,591	0.372240
174	1,918	1,880	1,834	1,920	0.353283
70	1,130	1,142	1,127	1,212	0.361819
65	1,912	1,857	1,915	1,985	0.367048
142	1,992	1,982	2,075	2,203	0.358245
62	604	658	643	590	0.351166
93	285	252	308	288	0.283737
35	698	711	742	694	0.362554
44	1,442	1,404	1,378	1,507	0.366409
40	2,035	2,029	2,030	2,089	0.371237

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
335	11,751	11,920	11,904	11,967	0.368245
108	5,762	5,765	5,781	5,874	0.369817
94	834	829	845	851	0.347240
40	3,775	3,758	3,732	3,812	0.372495
61	4,917	4,904	4,916	4,820	0.371890
27	3,137	3,370	3,403	3,404	0.372694
196	1,058	1,079	1,094	1,116	0.328443
71	589	577	584	655	0.344649
56	851	872	775	832	0.356151
268	7,848	8,104	8,081	7,890	0.366483
70	3,190	3,179	3,163	3,142	0.369763
94	588	607	584	579	0.339314
35	1,426	1,428	1,476	1,471	0.368162
42	1,735	1,718	1,713	1,715	0.368748
27	1,028	1,065	981	973	0.368169
123	2,228	2,209	2,158	2,187	0.361651
62	1,179	1,240	1,199	1,200	0.364298
35	786	726	826	791	0.362406
42	980	929	971	954	0.364059
27	809	856	823	855	0.367051
95	1,653	1,627	1,683	1,624	0.359353
62	1,298	1,296	1,284	1,281	0.365181
54	2,986	2,953	2,964	3,012	0.370495
50	2,246	2,302	2,320	2,240	0.369457
36	2,581	2,644	2,497	2,517	0.371295
275	3,841	3,825	3,892	3,768	0.356816
93	1,991	2,023	1,948	1,929	0.363012
54	2,071	2,015	2,024	2,045	0.369169
200	3,939	3,952	3,858	3,877	0.362477
66	1,880	1,979	1,929	2,009	0.365671
35	1,758	1,789	1,863	1,900	0.370940
42	1,125	1,114	1,057	1,080	0.363701
27	1,313	1,321	1,359	1,333	0.370855
102	1,487	1,461	1,490	1,515	0.358607
62	782	798	796	737	0.361405
35	899	834	870	890	0.363415
42	857	904	887	956	0.365334
27	849	892	901	910	0.367495
139	3,400	3,358	3,373	3,291	0.366195
62	1,221	1,204	1,180	1,216	0.363020
93	296	303	286	263	0.296741
35	2,238	2,216	2,254	2,163	0.370868
58	3,117	3,130	3,167	3,287	0.371651
29	2,421	2,431	2,472	2,459	0.371330
171	3,085	3,011	3,065	3,020	0.360554
62	895	948	903	900	0.359987
35	634	602	634	608	0.360703
41	572	548	502	554	0.354818

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
27	814	830	854	865	0.368795
174	3,685	3,576	3,716	3,792	0.361177
62	1,112	1,082	1,115	1,091	0.360066
36	2,016	2,097	2,052	2,074	0.369590
45	2,154	2,158	2,139	2,144	0.369708
33	2,458	2,465	2,485	2,478	0.372069
169	3,647	3,871	3,685	3,678	0.363980
62	2,041	1,984	2,084	2,139	0.365268
93	284	278	272	258	0.289884
48	2,858	2,852	2,848	2,848	0.371272
42	1,687	1,718	1,700	1,667	0.369125
36	2,729	2,721	2,717	2,705	0.371637
95	2,257	2,179	2,194	2,218	0.362179
62	1,291	1,344	1,333	1,306	0.362568
94	396	388	414	388	0.315540
53	4,041	4,153	4,158	4,062	0.371433
49	3,114	3,196	3,192	3,223	0.370500
54	5,392	5,568	5,437	5,418	0.372637
358	10,999	10,916	11,085	10,960	0.366826
106	5,019	4,934	4,909	4,914	0.369531
94	765	829	782	745	0.348135
45	3,639	3,699	3,739	3,675	0.371810
46	3,250	3,152	3,204	3,100	0.370595
27	2,253	2,209	2,243	2,235	0.371679
224	1,924	1,961	1,971	1,916	0.349397
74	949	972	941	1,023	0.354861
45	1,005	1,059	1,043	1,048	0.364401
150	2,350	2,395	2,366	2,355	0.361113
62	763	726	695	773	0.358037
35	706	775	833	786	0.364165
41	493	513	530	562	0.358599
27	830	774	780	847	0.361246
197	6,833	6,833	6,827	6,574	0.368512
62	2,149	2,145	2,161	2,103	0.367104
51	4,694	4,816	4,713	4,664	0.371867
42	2,337	2,263	2,232	2,288	0.369182
36	4,231	4,328	4,249	4,385	0.373019
208	1,473	1,553	1,502	1,538	0.343569
75	759	870	850	833	0.351882
50	961	957	960	1,008	0.363928
209	2,302	2,204	2,206	2,161	0.351773
78	1,296	1,212	1,235	1,275	0.358582
48	1,329	1,332	1,365	1,409	0.365988
160	3,482	3,458	3,539	3,461	0.363914
62	1,924	1,946	1,996	1,919	0.366800
93	290	275	265	277	0.286130
35	1,436	1,431	1,412	1,412	0.369630
48	2,380	2,293	2,341	2,384	0.370014

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
27	1,463	1,421	1,451	1,455	0.369545
128	3,073	3,136	3,081	3,137	0.364039
62	2,055	2,089	2,045	2,024	0.367101
94	399	406	391	387	0.322755
40	2,640	2,676	2,617	2,612	0.370798
48	2,644	2,678	2,623	2,696	0.369442
27	1,882	1,866	1,998	1,968	0.371792
130	4,099	4,042	4,024	4,144	0.368033
74	3,621	3,553	3,467	3,544	0.370817
94	857	835	883	868	0.346598
70	5,867	5,942	6,033	5,939	0.372025
107	7,529	7,697	7,729	7,751	0.371628
45	5,014	4,889	4,836	4,859	0.373138
325	20,519	20,513	20,385	20,429	0.370901
78	7,456	7,393	7,403	7,381	0.372265
95	3,111	3,073	3,016	3,080	0.367140
35	5,008	4,911	4,902	4,921	0.373027
77	11,114	11,127	11,129	11,049	0.373335
27	6,007	5,866	5,986	6,064	0.374058
239	7,860	8,002	8,033	7,948	0.367136
70	3,468	3,520	3,524	3,527	0.370249
94	506	581	561	553	0.337883
62	5,564	5,643	5,516	5,466	0.372726
68	5,195	5,128	5,075	5,060	0.372075
52	6,023	6,010	6,052	6,273	0.372802
175	3,792	3,654	3,749	3,733	0.361964
75	2,329	2,412	2,438	2,472	0.367300
38	2,209	2,180	2,161	2,070	0.370437
42	1,505	1,559	1,558	1,605	0.367768
27	1,254	1,238	1,296	1,332	0.369897
136	2,122	2,073	2,109	2,137	0.359740
62	1,071	1,020	1,037	1,088	0.363226
35	765	828	868	849	0.364416
42	595	638	601	617	0.358685
27	685	627	590	668	0.367452
162	1,010	944	918	933	0.335961
62	454	522	505	509	0.339491
74	1,166	1,166	1,145	1,191	0.358409
255	2,387	2,492	2,433	2,395	0.346888
64	926	925	951	888	0.355002
39	1,053	982	1,005	944	0.364347
230	1,193	1,174	1,137	1,171	0.328149
84	670	626	653	649	0.338776
43	435	495	479	558	0.352035
188	1,978	2,023	1,943	1,990	0.353662
125	2,051	2,017	2,007	1,976	0.357649
35	565	547	578	555	0.362274
229	1,250	1,239	1,146	1,177	0.330832

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
92	713	728	777	717	0.343803
35	339	372	298	319	0.351519
280	2,480	2,394	2,444	2,472	0.343107
62	668	642	676	695	0.354453
35	495	546	499	548	0.358460
283	2,707	2,695	2,722	2,538	0.347613
62	756	748	787	769	0.352953
35	499	493	544	482	0.360151
301	2,884	2,898	2,925	2,831	0.351286
102	1,523	1,401	1,503	1,529	0.357057
125	1,050	1,091	1,067	1,018	0.349568
63	805	823	809	800	0.353888
87	1,984	1,993	2,035	1,932	0.364610
209	2,031	1,897	1,936	1,982	0.348805
83	1,221	1,149	1,145	1,218	0.358640
45	1,107	1,149	1,074	1,183	0.365859
319	5,435	5,310	5,520	5,375	0.359746
102	2,558	2,656	2,666	2,626	0.364734
42	1,255	1,230	1,245	1,268	0.366430
323	4,703	4,673	4,667	4,585	0.358743
100	2,180	2,167	2,192	2,229	0.363901
42	1,004	1,024	1,003	955	0.361281
356	6,989	6,879	7,012	7,014	0.361017
105	3,205	3,172	3,055	3,109	0.365382
41	571	535	541	530	0.351997
455	8,228	8,350	8,072	8,312	0.362281
62	583	593	573	598	0.346671
41	581	528	570	550	0.355107
179	891	916	919	902	0.328899
62	449	459	425	468	0.336670
42	518	456	480	477	0.352151
27	318	327	321	337	0.356824
366	4,462	4,553	4,594	4,535	0.353665
94	1,836	1,794	1,691	1,766	0.363143
41	407	410	397	399	0.343752
208	1,426	1,464	1,467	1,475	0.337186
70	737	732	778	750	0.350049
62	944	989	989	1,023	0.358490
351	4,760	4,792	4,833	4,857	0.357388
69	1,412	1,420	1,477	1,437	0.364378
400	5,260	5,068	5,053	5,173	0.354528
68	1,328	1,356	1,329	1,306	0.363851
94	476	478	477	450	0.331118
249	2,899	2,883	2,861	2,913	0.349922
82	1,432	1,427	1,484	1,468	0.359335
42	702	677	669	687	0.361779
366	2,552	2,526	2,533	2,504	0.336857
41	520	476	471	484	0.352419

SAMPLE SIZE	FRAME				MINIMUM PRN (Zone 2 only)
	ZONE1	ZONE2	ZONE3	ZONE4	
257	2,282	2,336	2,329	2,305	0.349115
88	1,226	1,213	1,203	1,173	0.354500
41	328	366	385	353	0.341086
294	1,898	1,825	1,905	1,918	0.333618
105	1,064	1,007	1,028	1,006	0.350307
272	1,526	1,477	1,486	1,510	0.324994
120	1,003	1,049	973	981	0.345843
294	2,513	2,559	2,553	2,529	0.345945
106	1,381	1,413	1,361	1,423	0.357047
291	1,893	1,906	1,790	1,800	0.335758
108	1,032	995	1,051	1,069	0.343654
147	9,915	9,702	9,839	9,814	0.371079
62	536	529	527	502	0.345752
95	1,653	1,744	1,733	1,627	0.361881
65	9,931	9,787	9,956	9,860	0.373492
30	6,776	6,872	6,833	6,935	0.373949
217	16,739	16,817	16,645	16,765	0.371897
62	6,790	6,778	6,918	6,840	0.372629
274	10,070	10,005	9,910	9,943	0.368071
63	12,923	13,144	13,111	13,183	0.373737
530	93,269	93,625	93,143	94,244	0.373534
295	79,833	80,177	80,008	80,382	0.374078
171	11,186	10,960	11,132	11,077	0.371904
63	6,255	6,182	6,152	6,024	0.372773
164	6,026	5,983	6,083	5,832	0.368504
114	19,983	19,918	19,986	20,183	0.373743
429	63,600	63,454	63,632	63,488	0.373389
344	78,476	78,460	78,452	78,561	0.373950
158	13,656	13,764	13,761	13,579	0.371837
62	6,834	6,781	6,737	7,036	0.373040
239	8,661	8,710	8,854	8,591	0.367112
80	18,908	18,936	18,777	18,746	0.373868
509	100,687	100,979	100,944	101,073	0.373786
320	97,759	97,635	98,018	97,778	0.374138

Table D.2: Unweighted Sample Counts, Weighted Sample Counts, and Frame Counts by Stratum

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0000101	133	3,590	3,590
0000102	62	2,051	2,051
0000104	86	6,266	6,266
0000301	95	4,530	4,530
0000302	62	3,755	3,755
0000304	35	3,441	3,441
0000305	46	6,781	6,781
0000306	27	5,941	5,941
0000401	158	3,958	3,958
0000402	85	3,224	3,224
0000404	62	4,229	4,229
0000501	237	12,037	12,037
0000502	62	4,554	4,554
0000504	35	1,907	1,907
0000505	41	1,820	1,820
0000601	151	7,711	7,711
0000602	82	6,358	6,358
0000604	43	5,880	5,880
0000605	42	4,385	4,385
0000606	27	2,730	2,730
0000801	170	4,051	4,051
0000802	70	2,528	2,528
0000804	66	4,248	4,248
0000901	95	7,613	7,613
0000902	62	4,698	4,698
0000903	94	1,272	1,272
0000904	43	13,630	13,630
0000905	63	17,014	17,014
0000906	58	24,058	24,058
0001001	175	6,783	6,783
0001002	67	3,924	3,924
0001004	66	6,949	6,949
0001301	212	5,402	5,402
0001302	73	2,820	2,820
0001304	49	3,367	3,367
0001401	157	15,530	15,530
0001402	62	7,856	7,856
0001403	94	1,307	1,307
0001404	67	17,860	17,860
0001405	68	15,285	15,285
0001406	77	26,595	26,595
0001901	217	9,162	9,162
0001902	77	4,954	4,954
0001904	45	5,162	5,162
0002401	304	37,530	37,530
0002402	98	18,446	18,446
0002403	94	2,913	2,913
0002404	42	13,814	13,814

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0002405	46	12,979	12,979
0002406	48	20,565	20,565
0002801	106	7,027	7,027
0002802	62	4,367	4,367
0002804	35	3,975	3,975
0002805	42	3,352	3,352
0002806	27	3,673	3,673
0002901	316	73,550	73,550
0002902	74	26,104	26,104
0002903	95	6,521	6,521
0002904	44	27,307	27,307
0002905	57	30,271	30,271
0002906	44	36,069	36,069
0003001	190	11,727	11,727
0003002	62	3,662	3,662
0003004	35	2,111	2,111
0003005	41	1,256	1,256
0003006	27	2,720	2,720
0003201	168	15,223	15,223
0003202	62	7,964	7,964
0003203	93	996	996
0003204	37	9,051	9,051
0003205	42	5,794	5,794
0003206	27	7,437	7,437
0003301	159	13,852	13,852
0003302	62	7,431	7,431
0003304	59	14,025	14,025
0003305	51	10,103	10,103
0003306	30	9,146	9,146
0003501	257	12,055	12,055
0003502	70	4,942	4,942
0003504	35	3,964	3,964
0003601	163	3,992	3,992
0003602	62	2,253	2,253
0003604	47	3,083	3,083
0003606	27	1,170	1,170
0003701	177	17,196	17,196
0003702	62	2,101	2,101
0003703	94	2,184	2,184
0003704	35	6,156	6,156
0003705	57	12,676	12,676
0003706	45	15,459	15,459
0003801	225	28,383	28,383
0003802	62	8,577	8,577
0003803	93	1,145	1,145
0003804	37	12,352	12,352
0003805	43	12,352	12,352
0003806	31	13,401	13,401
0003901	249	35,726	35,726
0003902	81	17,650	17,650
0003903	94	3,205	3,205

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0003904	59	22,845	22,845
0003905	78	25,460	25,460
0003906	37	18,544	18,544
0004201	100	9,905	9,905
0004202	62	6,293	6,293
0004203	94	1,291	1,291
0004204	37	9,981	9,981
0004205	58	13,085	13,085
0004206	36	12,376	12,376
0004301	155	3,711	3,711
0004302	64	2,314	2,314
0004304	75	4,843	4,843
0004501	95	8,252	8,252
0004502	62	5,519	5,519
0004503	94	1,392	1,392
0004504	63	17,717	17,717
0004505	88	20,905	20,905
0004506	89	32,491	32,491
0004601	94	2,678	2,678
0004602	62	1,954	1,954
0004604	102	8,380	8,380
0004701	191	17,899	17,899
0004702	62	8,848	8,848
0004704	59	14,875	14,875
0004705	42	7,911	7,911
0004706	28	9,023	9,023
0004801	232	22,924	22,924
0004802	62	7,025	7,025
0004803	93	1,109	1,109
0004804	36	9,541	9,541
0004805	42	7,898	7,898
0004806	29	9,806	9,806
0004901	189	19,838	19,838
0004902	62	9,358	9,358
0004903	94	1,753	1,753
0004904	35	7,068	7,068
0004905	42	6,470	6,470
0004906	27	4,182	4,182
0005101	189	5,575	5,575
0005102	74	3,317	3,317
0005104	57	4,515	4,515
0005201	243	30,121	30,121
0005202	62	11,216	11,216
0005203	94	3,002	3,002
0005204	35	4,665	4,665
0005205	42	9,563	9,563
0005206	27	11,517	11,517
0005301	174	4,177	4,177
0005302	63	2,310	2,310
0005304	35	2,280	2,280
0005305	41	1,731	1,731

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0005501	100	8,437	8,437
0005502	62	5,252	5,252
0005503	93	998	998
0005504	41	9,232	9,232
0005505	62	11,789	11,789
0005506	31	9,063	9,063
0005601	227	24,487	24,487
0005602	62	4,108	4,108
0005603	94	1,462	1,462
0005604	35	3,521	3,521
0005605	42	10,048	10,048
0005606	27	7,978	7,978
0005701	157	10,592	10,592
0005702	62	5,802	5,802
0005704	35	3,493	3,493
0005705	42	2,481	2,481
0005706	27	2,116	2,116
0005801	189	7,714	7,714
0005802	82	5,052	5,052
0005804	53	5,816	5,816
0005901	199	4,579	4,579
0005902	76	2,651	2,651
0005904	52	3,237	3,237
0006001	230	25,342	25,342
0006002	78	13,148	13,148
0006003	94	1,637	1,637
0006004	35	7,801	7,801
0006005	42	8,351	8,351
0006006	27	4,929	4,929
0006101	170	14,927	14,927
0006103	95	5,755	5,755
0006104	35	7,243	7,243
0006105	52	10,428	10,428
0006106	27	8,350	8,350
0006201	215	5,701	5,701
0006202	71	2,861	2,861
0006204	49	3,484	3,484
0006401	159	9,310	9,310
0006402	62	4,571	4,571
0006404	35	3,307	3,307
0006405	41	1,682	1,682
0006406	27	2,047	2,047
0006601	157	17,024	17,024
0006602	62	9,533	9,533
0006603	94	1,680	1,680
0006604	47	13,655	13,655
0006605	56	13,938	13,938
0006606	29	10,824	10,824
0006701	180	25,113	25,113
0006702	62	6,423	6,423
0006703	94	2,741	2,741

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0006704	35	10,366	10,366
0006705	58	18,284	18,284
0006706	35	17,120	17,120
0006901	258	17,518	17,518
0006902	85	8,728	8,728
0006904	66	12,112	12,112
0007301	158	12,254	12,254
0007302	62	5,741	5,741
0007304	40	8,363	8,363
0007305	42	5,767	5,767
0007306	34	9,071	9,071
0007501	226	11,487	11,487
0007502	62	3,915	3,915
0007504	36	4,981	4,981
0007505	41	2,055	2,055
0007506	27	2,746	2,746
0007801	132	8,238	8,238
0007802	62	5,482	5,482
0007804	43	7,320	7,320
0007805	56	7,931	7,931
0007806	27	5,942	5,942
0007901	95	8,149	8,149
0007902	62	5,719	5,719
0007904	46	11,546	11,546
0007905	76	16,119	16,119
0007906	45	14,479	14,479
0008301	174	7,552	7,552
0008302	70	4,611	4,611
0008304	65	7,669	7,669
0008601	142	8,252	8,252
0008602	62	2,495	2,495
0008603	93	1,133	1,133
0008604	35	2,845	2,845
0008605	44	5,731	5,731
0008606	40	8,183	8,183
0008901	335	47,542	47,542
0008902	108	23,182	23,182
0008903	94	3,359	3,359
0008904	40	15,077	15,077
0008905	61	19,557	19,557
0008906	27	13,314	13,314
0009001	196	4,347	4,347
0009002	71	2,405	2,405
0009004	56	3,330	3,330
0009101	268	31,923	31,923
0009102	70	12,674	12,674
0009103	94	2,358	2,358
0009104	35	5,801	5,801
0009105	42	6,881	6,881
0009106	27	4,047	4,047
0009201	123	8,782	8,782

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0009202	62	4,818	4,818
0009204	35	3,129	3,129
0009205	42	3,834	3,834
0009206	27	3,343	3,343
0009501	95	6,587	6,587
0009502	62	5,159	5,159
0009504	54	11,915	11,915
0009505	50	9,108	9,108
0009506	36	10,239	10,239
0009601	275	15,326	15,326
0009602	93	7,891	7,891
0009604	54	8,155	8,155
0009801	200	15,626	15,626
0009802	66	7,797	7,797
0009804	35	7,310	7,310
0009805	42	4,376	4,376
0009806	27	5,326	5,326
0010101	102	5,953	5,953
0010102	62	3,113	3,113
0010104	35	3,493	3,493
0010105	42	3,604	3,604
0010106	27	3,552	3,552
0010301	139	13,422	13,422
0010302	62	4,821	4,821
0010303	93	1,148	1,148
0010304	35	8,871	8,871
0010305	58	12,701	12,701
0010306	29	9,783	9,783
0010401	171	12,181	12,181
0010402	62	3,646	3,646
0010404	35	2,478	2,478
0010405	41	2,176	2,176
0010406	27	3,363	3,363
0010501	174	14,769	14,769
0010502	62	4,400	4,400
0010504	36	8,239	8,239
0010505	45	8,595	8,595
0010506	33	9,886	9,886
0010801	169	14,881	14,881
0010802	62	8,248	8,248
0010803	93	1,092	1,092
0010804	48	11,406	11,406
0010805	42	6,772	6,772
0010806	36	10,872	10,872
0010901	95	8,848	8,848
0010902	62	5,274	5,274
0010903	94	1,586	1,586
0010904	53	16,414	16,414
0010905	49	12,725	12,725
0010906	54	21,815	21,815
0011001	358	43,960	43,960

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0011002	106	19,776	19,776
0011003	94	3,121	3,121
0011004	45	14,752	14,752
0011005	46	12,706	12,706
0011006	27	8,940	8,940
0011201	224	7,772	7,772
0011202	74	3,885	3,885
0011204	45	4,155	4,155
0011301	150	9,466	9,466
0011302	62	2,957	2,957
0011304	35	3,100	3,100
0011305	41	2,098	2,098
0011306	27	3,231	3,231
0011701	197	27,067	27,067
0011702	62	8,558	8,558
0011704	51	18,887	18,887
0011705	42	9,120	9,120
0011706	36	17,193	17,193
0011801	208	6,066	6,066
0011802	75	3,312	3,312
0011804	50	3,886	3,886
0011901	209	8,873	8,873
0011902	78	5,018	5,018
0011904	48	5,435	5,435
0012001	160	13,940	13,940
0012002	62	7,785	7,785
0012003	93	1,107	1,107
0012004	35	5,691	5,691
0012005	48	9,398	9,398
0012006	27	5,790	5,790
0012101	128	12,427	12,427
0012102	62	8,213	8,213
0012103	94	1,583	1,583
0012104	40	10,545	10,545
0012105	48	10,641	10,641
0012106	27	7,714	7,714
0012301	130	16,309	16,309
0012302	74	14,185	14,185
0012303	94	3,443	3,443
0012304	70	23,781	23,781
0012305	107	30,706	30,706
0012306	45	19,598	19,598
0012401	325	81,846	81,846
0012402	78	29,633	29,633
0012403	95	12,280	12,280
0012404	35	19,742	19,742
0012405	77	44,419	44,419
0012406	27	23,923	23,923
0012501	239	31,843	31,843
0012502	70	14,039	14,039
0012503	94	2,201	2,201

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0012504	62	22,189	22,189
0012505	68	20,458	20,458
0012506	52	24,358	24,358
0012601	175	14,928	14,928
0012602	75	9,651	9,651
0012604	38	8,620	8,620
0012605	42	6,227	6,227
0012606	27	5,120	5,120
0012701	136	8,441	8,441
0012702	62	4,216	4,216
0012704	35	3,310	3,310
0012705	42	2,451	2,451
0012706	27	2,570	2,570
0012801	162	3,805	3,805
0012802	62	1,990	1,990
0012804	74	4,668	4,668
0012901	255	9,707	9,707
0012902	64	3,690	3,690
0012904	39	3,984	3,984
0013101	230	4,675	4,675
0013102	84	2,598	2,598
0013105	43	1,967	1,967
0028001	188	7,934	7,934
0028002	125	8,051	8,051
0028004	35	2,245	2,245
0028701	229	4,812	4,812
0028702	92	2,935	2,935
0028704	35	1,328	1,328
0032101	280	9,790	9,790
0032102	62	2,681	2,681
0032104	35	2,088	2,088
0032601	283	10,662	10,662
0032602	62	3,060	3,060
0032604	35	2,018	2,018
0033001	301	11,538	11,538
0033002	102	5,956	5,956
0036601	125	4,226	4,226
0036602	63	3,237	3,237
0036604	87	7,944	7,944
0038501	209	7,846	7,846
0038502	83	4,733	4,733
0038504	45	4,513	4,513
0060601	319	21,640	21,640
0060602	102	10,506	10,506
0060605	42	4,998	4,998
0060701	323	18,628	18,628
0060702	100	8,768	8,768
0060705	42	3,986	3,986
0060901	356	27,894	27,894
0060902	105	12,541	12,541
0060905	41	2,177	2,177

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0061201	455	32,962	32,962
0061202	62	2,347	2,347
0061205	41	2,229	2,229
0061601	179	3,628	3,628
0061602	62	1,801	1,801
0061605	42	1,931	1,931
0061606	27	1,303	1,303
0061701	366	18,144	18,144
0061702	94	7,087	7,087
0061705	41	1,613	1,613
0062001	208	5,832	5,832
0062002	70	2,997	2,997
0062005	62	3,945	3,945
0062101	351	19,242	19,242
0062102	69	5,746	5,746
0062201	400	20,554	20,554
0062202	68	5,319	5,319
0062203	94	1,881	1,881
0063301	249	11,556	11,556
0063302	82	5,811	5,811
0063305	42	2,735	2,735
0063801	366	10,115	10,115
0063805	41	1,951	1,951
0064001	257	9,252	9,252
0064002	88	4,815	4,815
0064005	41	1,432	1,432
0080401	294	7,546	7,546
0080402	105	4,105	4,105
0080501	272	5,999	5,999
0080502	120	4,006	4,006
0080601	294	10,154	10,154
0080602	106	5,578	5,578
0713901	291	7,389	7,389
0713902	108	4,147	4,147
0999001	147	39,270	39,270
0999002	62	2,094	2,094
0999003	95	6,757	6,757
0999005	65	39,534	39,534
0999006	30	27,416	27,416
0999101	217	66,966	66,966
0999102	62	27,326	27,326
0999103	274	39,928	39,928
0999104	63	52,361	52,361
0999105	530	374,281	374,281
0999106	295	320,400	320,400
0999201	171	44,355	44,355
0999202	63	24,613	24,613
0999203	164	23,924	23,924
0999204	114	80,070	80,070
0999205	429	254,174	254,174
0999206	344	313,949	313,949

STRATUM	UNWEIGHTED SAMPLE COUNT	WEIGHTED SAMPLE COUNT	FRAME COUNT
0999301	158	54,760	54,760
0999302	62	27,388	27,388
0999303	239	34,816	34,816
0999304	80	75,367	75,367
0999305	509	403,683	403,683
0999306	320	391,190	391,190

Table D.3: Unweighted Sample Counts, Weighted Sample Counts, and Frame Counts for Branch of Service by Sex

Sex	Branch of Service	Unweighted Sample Count	Weighted Sample Count	Frame Count
MALE	Blank	0	0.0	3
	1=Foreign Army	0	0.0	3
	4=Foreign Air Force	0	0.0	12
	A=Army	8,524	1,271,134.4	1,245,361
	C=Coast Guard	483	72,083.6	73,357
	F=Air Force	9,247	1,064,168.9	1,051,218
	H=Commissioned Corps of the PHS	53	7,589.0	9,377
	M=Marines	2,311	308,211.0	302,503
	N=Navy	4,977	896,379.8	880,245
	O=Commissioned Corps of the NOAA	2	355.6	559
FEMALE	Blank	0	0.0	9
	4=Foreign Air Force	0	0.0	2
	A=Army	6,771	1,132,791.1	1,155,143
	C=Coast Guard	338	52,758.9	61,993
	F=Air Force	6,810	974,227.0	1,024,435
	H=Commissioned Corps of the PHS	72	10,892.3	10,220
	M=Marines	1,424	211,753.0	205,511
	N=Navy	3,961	795,582.3	781,632
	O=Commissioned Corps of the NOAA	2	418.8	522
UNKNOWN	A=Army	15	5,077.4	3,595
	C=Coast Guard	4	3,014.4	1,120
	F=Air Force	1	22.1	532
	H=Commissioned Corps of the PHS	1	267.1	36
	M=Marines	2	534.3	252
	N=Navy	2	901.0	521
	O=Commissioned Corps of the NOAA	0	0.0	1
TOTAL		45,000	6,808,162	6,808,162

Table D.4: Unweighted Sample Counts, Weighted Sample Counts, and Frame Counts for Enrollee/Beneficiary Group (EBG_COM)

Enrollment/Beneficiary Group	Unweighted Sample Count	Weighted Sample Count	Frame Count
Active Duty	21,860	1,682,390	1,682,390
Active Duty Family Member Enrolled	7,225	714,427	713,684
Active Duty Family Member, Not Enrolled	3,939	199,423	199,965
Retirees and Family Members younger than 65, Enrolled	4,238	887,829	890,015
Retirees and Family Members younger than 65, Not Enrolled	4,630	1,667,801	1,667,374
Retirees and Family Members age 65 and over	3,108	1,656,291	1,654,734
TOTAL	45,000	6,808,162	6,808,162

APPENDIX E

Q2 2003 VARIABLES DELIVERED TO NRC

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APPENDIX E: LIST OF VARIABLES IN THE DATA SET DELIVERED TO NRC (FORM A - SAMPLA02.DBF)

#	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 U = Enrolled to Uniformed Services Family Health Plan (formerly USTFs) Blank = Not enrolled in TRICARE Prime or USFHP	DEERS
2	CACSMPL	Char	4	Catchment Area Sampling Variable		MPR
3	DAGEQY	Char	3	Beneficiary Age at time of Deers Extract	18 or older, Blank as missing	DEERS
4	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
5	DCATCH	Char	4	Catchment Area at Time of Extract		DEERS
6	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
7	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	DPRISM	Char	4	PRISM (20 mile) clinic service area		DEERS

#	Variable	Type	Length	Label	Values	Source
9	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
10	E1	Char	1	Eligibility Indicator - Period 1	Y = Yes, DEERS Eligible Period 1 N = No, Not DEERS Eligible Period 1	MPR
11	E2	Char	1	Eligibility Indicator - Period 2	Y = Yes, DEERS Eligible Period 2 N = No, Not DEERS Eligible Period 2	MPR
12	E3	Char	1	Eligibility Indicator - Period 3	Y = Yes, DEERS Eligible Period 3 N = No, Not DEERS Eligible Period 3	MPR
13	E4	Char	1	Eligibility Indicator - Period 4	Y = Yes, DEERS Eligible Period 4 N = No, Not DEERS Eligible Period 4	MPR
14	E5	Char	1	Eligibility Indicator - Period 5	Y = Yes, DEERS Eligible Period 5 N = No, Not DEERS Eligible Period 5	MPR
15	E6	Char	1	Eligibility Indicator - Period 6	Y = Yes, DEERS Eligible Period 6 N = No, Not DEERS Eligible Period 6	MPR
16	E7	Char	1	Eligibility Indicator - Period 7	Y = Yes, DEERS Eligible Period 7 N = No, Not DEERS Eligible Period 7	MPR
17	E8	Char	1	Eligibility Indicator - Period 8	Y = Yes, DEERS Eligible Period 8 N = No, Not DEERS Eligible Period 8	MPR
18	E9	Char	1	Eligibility Indicator - Period 9	Y = Yes, DEERS Eligible Period 9 N = No, Not DEERS Eligible Period 9	MPR
19	E10	Char	1	Eligibility Indicator - Period 10	Y = Yes, DEERS Eligible Period 10 N = No, Not DEERS Eligible Period 10	MPR
20	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	MPR
21	EBG_COM	Num	2	Enrollee/Beneficiary Group Prime Combine	01-Active Duty (AD) 02-AD family member, prime enrollee 03-AD family member, nonenrollee 04-Ret/fam. mem. retiree, <65, prime enrollee 05-Ret/fam. mem. retiree, <65, nonenrollee 06-Ret/fam. Mem. retiree, >65	MPR

#	Variable	Type	Length	Label	Values	Source
22	ENRID	Char	4	Enrollment DMISID		DEERS
23	HADDFLG	Num	1	Residential Address - FLAG	0 = No address line1 1 = Address line1 present	DEERS
24	LEGDDSCD	Char	2	DEERS Dependent Suffix	01-19 = Dependent child 20 = Sponsor 30-39 = Spouse of sponsor 40-44 = Mother of sponsor 45-49 = Father of sponsor 50-54 = Mother-in-law of sponsor 55-59 = Father-in-law of sponsor 60 = Other dependents	DEERS
25	MACITYNM	Char	20	Residential Address - City		DEERS
26	MACTRYCD	Char	2	Residential Address, Country		DEERS
27	MALN1TX	Char	40	Residential Address - Line1		DEERS
28	MALN2TX	Char	40	Residential Address - Line2		DEERS
29	MAPRZIP	Char	5	Residential Address - ZIP		DEERS
30	MAPRZIPX	Char	4	Residential Address - ZIPX		DEERS
31	MASTCD	Char	2	Residential Address - State		DEERS
32	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
33	MEDTYPE	Char	1	Medicare Eligibility	A - Medicare A B - Medicare B Blank - Neither Apply	
34	MPRID	Char	8	Unique MPR Identifier		MPR

#	Variable	Type	Length	Label	Values	Source
35	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
36	NHFF	Num	8	NHFF - Stratum Sample Size		MPR
37	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
38	PAYPLNCD	Char	5	Pay Plan Code		DEERS
39	PCM	Char	3	Enrolled to a Military or Civilian PCM	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
40	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
41	PN1STNM	Char	20	Beneficiary First Name		DEERS
42	PNBRTHDT	Char	8	Beneficiary Date of Birth		DEERS
43	PNCDNCY	Char	4	Beneficiary Generation		DEERS
44	PNID	Char	9	Beneficiary/Dependent SSN		DEERS

#	Variable	Type	Length	Label	Values	Source
45	PNLCATCD	Char	5	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 L = Lighthouse service M = Non-government Agency Personnel N = National Guard O = Other Government Agency Contractor Q = Reserve retiree R = Retired T = Foreign military U = Foreign national employee V = Reserve	DEERS
46	PNLSTNM	Char	26	Beneficiary Last Name		DEERS
47	PNMIDNM	Char	20	Beneficiary Middle Name		DEERS
48	PNSEXCD	Char	1	Beneficiary Sex	F = Female M = Male Z = Unknown	DEERS
49	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
50	PRN	Num	8	Permanent Random Number		MPR
51	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
52	RANKCD	Char	6	Rank Code	See RANKCD.DOC for list of values	DEERS
53	SADDFLG	Num	1	Sponsor Address - FLAG	0 = No address line1 1 = Address line1 present	DEERS
54	SPCITYNM	Char	20	Sponsor Address - City		DEERS
55	SPCTRYCD	Char	2	Sponsor Address, Country		DEERS
56	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

#	Variable	Type	Length	Label	Values	Source
57	SPLN1TX	Char	40	Sponsor Address - Line1		DEERS
58	SPLN2TX	Char	40	Sponsor Address - Line2		DEERS
59	SPONSSN	Char	9	Sponsor Social Security Number		DEERS
60	SPPRZIP	Char	5	Sponsor Residential Address - ZIP		DEERS
61	SPPRZIPX	Char	4	Sponsor Address - ZIPX		DEERS
62	SPSTCD	Char	2	Sponsor Residential Address - State		DEERS
63	SPTNUMCD	Char	14	Sponsor Phone Number		DEERS
64	SSNSMPL	Char	12	SPONSSN || SPDUPID || LEGDDSCD SSN Sampling Variable		MPR
65	STRATUM	Char	7	Stratum		MPR
66	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
67	TNUMCD	Char	14	Residence Telephone Number		DEERS
68	UADDFLG	Num	1	Unit Address - FLAG	0 = No address line1 1 = Address line1 present	DEERS
69	UICADD1	Char	30	Unit Address - Line1		DEERS
70	UICADD2	Char	30	Unit Address - Line2		DEERS
71	UICCITY	Char	30	Unit Address - City		DEERS
72	UICST	Char	2	Unit Address - State		DEERS
73	UICZIP	Char	5	Unit Address - ZIP		DEERS
74	ULOCDMIS	Char	4	Unit Address - DMIS Code		DEERS
75	ULOCGRN	Char	2	Unit Address - Region		DEERS

APPENDIX F

Q2 2003 SAS CODE FOR SAMPLE FRAME CONSTRUCTION AND SAMPLE SELECTION

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STI.SAS

```
*********************************************************************
* PROGRAM: STI.SAS
* TASK:    DOD Health Care Survey, Sampling (8860-210/220)
* PURPOSE: Split STI2003 raw datasets into smaller parts for CDs and
*          convert entire dataset into SAS/SD2 format.
*
* WRITTEN: 10/18/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 04/22/2002 BY KEITH RATHBUN, Removed TSPSITE from FREQs.
*
* INPUTS:
*
* 1) STI2003.001 - RAW 2003 Q2 DEERS Population Extract File (Tape Part 1)
* 2) STI2003.002 - RAW 2003 Q2 DEERS Population Extract File (Tape Part 2)
*
* OUTPUTS:
*
* 1) STI001.SD2 - 2003 Q2 DEERS Population Extract File (CD Part 1)
* 2) STI002.SD2 - 2003 Q2 DEERS Population Extract File (CD Part 2)
* 3) STI003.SD2 - 2003 Q2 DEERS Population Extract File (CD Part 3)
* 4) STI004.SD2 - 2003 Q2 DEERS Population Extract File (CD Part 4)
*
* INCLUDES:
*
* 1) LAYOUT.SAS - Input STEP For Raw Data From STI
*
* NOTES:
*
* 1) The tape file sent by STI exceeded 4 GB in size.  The tape software
*    crashed the computer at the 4 GB unload point.  In order to successfully
*    unload this file, I split the tape file into two parts (STI2003.001
*    and STI2003.002).
* 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)].
*
*********************************************************************
*;
LIBNAME OUT V612 "D:\KEITH\DOD\Q2_2003\DATA";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

*********************************************************************
* PROCESS - MACRO PARAMETERS:
* 1) INUM  = Raw Input file extension
* 2) ONUM1 = SAS Output file 1 suffix
* 3) ONUM2 = SAS Output file 2 suffix
*********************************************************************;
%MACRO PROCESS(INUM=,ONUM1=,ONUM2=);

FILENAME  IN  "D:\KEITH\DOD\Q2_2003\DATA\STI2003.&INUM";

DATA OUT.STI&ONUM1 OUT.STI&ONUM2;
   INFILE IN LRECL=99999 RECFM=V MISSOVER;
```

```
   %INCLUDE "D:\KEITH\DOD\Q2_2003\SAMPLING\LAYOUT.SAS";
   IF _N_ LE 2500000 THEN OUTPUT OUT.STI&ONUM1;
   ELSE OUTPUT OUT.STI&ONUM2;
RUN;

%MEND PROCESS;
*********************************************************************
* END PROCESS MACRO
*********************************************************************;

%PROCESS(INUM=001,ONUM1=001,ONUM2=002);
%PROCESS(INUM=002,ONUM1=003,ONUM2=004);

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

TITLE1 "DOD Health Care Survey, Sampling (8860-210/220)";
TITLE2 "PROGRAM: STI.SAS,WRITTEN BY: KEITH RATHBUN, October 2002";
TITLE3 "OUTPUT: STI&PNUM..SD2";

PROC CONTENTS DATA=OUT.STI&PNUM; RUN;

PROC FREQ DATA=OUT.STI&PNUM;
   TABLES
      PNTYPCD
      MRTLSTAT
      PNSEXCD
      PNARSNCD
      MDCABRSN
      LEGDDSCD
      PNLCATCD
      SVCCD
      PAYPLNCD
      PGCD
      MBRRELCD
      RANKCD
      ULOCGRN
      ULOCDMIS
      RACEETHN
      DCATCH
      DMEDELG
      DAGEQY
      DBENCAT
      DPRISM
      DHSRGN
      DSPONSVC
      MEDTYPE
      ENRID
      ACV
      PCM
      PATCAT
   /MISSING LIST;
RUN;
%MEND PRINTIT;
```

```
*************************************************************************
* END PRINTIT MACRO
*************************************************************************;

%PRINTIT(PNUM=001);
%PRINTIT(PNUM=002);
%PRINTIT(PNUM=003);
%PRINTIT(PNUM=004);
```

LAYOUT.SAS

```
*********************************************************************
* PROGRAM:  LAYOUT.SAS
* TASK:     DOD Health Care Survey, Sampling (8860-210/220)
* PURPOSE:  INPUT step for the 2000 DEERS Extract file from STI
*
* WRITTEN:  10/18/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 04/22/2002 BY KEITH RATHBUN, Removed TSPSITE from layout.
*
*********************************************************************
* 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     PNARSNCD   $CHAR2.
   @41     MDCABRSN   $CHAR1.
   @43     MDCAEFDT   $CHAR8.
   @52     MDCAEXDT   $CHAR8.
   @61     LEGDDSCD   $CHAR2.
   @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.
   @216    PNLSTNM    $CHAR26.
   @243    PN1STNM    $CHAR20.
   @264    PNMIDNM    $CHAR20.
   @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.
   @575    ENRID      $CHAR4.
   @580    ACV        $CHAR1.
   @582    PCM        $CHAR3.
   @586    PATCAT     $CHAR7.
 ;
*************************************************************************
* Construct SSNSMPL as SPONSSN & SPDUPID & LEGDDSCD
*************************************************************************;
LENGTH SSNSMPL $12;
SSNSMPL = SPONSSN || SPDUPID || LEGDDSCD ;

*************************************************************************
* LABEL variables
*************************************************************************;
LABEL
    SSNSMPL  =   "SSNSMPL - SPONSSN & SPDUPID & LEGDDSCD"
    SPONSSN  =   "Sponsor SSN"
    SPDUPID  =   "Family Sequence Number"
    PNTYPCD  =   "Person Type Code"
    PNID     =   "Person SSN"
    PNBRTHDT =   "Person Birth Date"
    MRTLSTAT =   "Marital Status"
    PNSEXCD  =   "Person Gender"
    PNARSNCD =   "Person Association Reason Code"
    MDCABRSN =   "Medicare A Begin Reason Code"
    MDCAEFDT =   "Medicare A Effective Date"
    MDCAEXDT =   "Medicare A Expiration Date"
    LEGDDSCD =   "DDS Code"
    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"
   PNMIDNM  =   "Person Middle 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 30 November 2002)"
   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"
;
```

XWALK.SAS

```
*********************************************************************
PROGRAM:  XWALK.SAS
* TASK:     DOD Health Care Survey, Adult Sampling (8860-210)
* 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) 10/09/2001 BY KEITH RATHBUN for Q1 2002 processing.
* 4) 01/22/2002 BY KEITH RATHBUN for Q2 2002 processing.
* 5) 04/10/2002 BY KEITH RATHBUN for Q3 2002 processing.
* 6) 07/03/2002 BY KEITH RATHBUN for Q4 2002 processing.
* 7) 10/14/2002 BY KEITH RATHBUN for Q1 2003 processing.
* 8) 10/14/2002 BY KEITH RATHBUN for Q2 2003 processing.
*
* INPUTS:
* 1) STI001.SD2 - 2003 Q2 DEERS Population SSN SAS data set (Part 1)
* 2) STI002.SD2 - 2003 Q2 DEERS Population SSN SAS data set (Part 2)
* 3) STI003.SD2 - 2003 Q2 DEERS Population SSN SAS data set (Part 3)
* 4) STI004.SD2 - 2003 Q2 DEERS Population SSN SAS data set (Part 4)
* 5) XWALK.SD2  - 2003 Q1 DEERS Population XWALK SAS data set
*
* OUTPUTS:
* 1) XWALK.SD2 - 2003 Q2 DEERS Population XWALK SAS data set
* 2) SEED.SD2  - 2003 Q2 DEERS Random SEED SAS data set
*
* INCLUDES:
* 1) EXCLUDE.SAS - Exclude specific family by SPONSSN.
*
* 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)].
*
*********************************************************************;
LIBNAME  IN1 V612  'D:\KEITH\DOD\Q1_2003\DATA'; * Previous XWALK;
LIBNAME  IN2 V612  'D:\KEITH\DOD\Q2_2003\DATA'; * Current STI Tape Files;
LIBNAME  OUT V612  'D:\KEITH\DOD\Q2_2003\DATA'; * Current Output;
OPTIONS PS=79 LS=132 COMPRESS=NO NOCENTER;

*********************************************************************
* Set period number as global variable.
*********************************************************************;
%LET PD = 10;

*********************************************************************
* Set up MACRO to exclude specific families from survey.
```

```
*************************************************************************;
%INCLUDE "D:\KEITH\DOD\Q2_2003\SAMPLING\EXCLUDE.SAS";

TITLE1 "Generate XWALK file from 2003 Q2 DOD DEERS Population Extract File";
TITLE2 "Program Name: XWALK.SAS, Written by Keith Rathbun, October 2002";

*************************************************************************
* Assign random SEED as global variable.  This will later be used as the
* starting point for random numbering.
*************************************************************************;
DATA OUT.SEED;
   SEED = INT(RANUNI(0)*1000000+1);
   CALL SYMPUT("SEED",SEED);
   PUT "Random SEED assigned for generating the permanent radom numbers: "
SEED;
RUN;

TITLE3 "Random SEED assigned for generating the permanent radom numbers:
SEED.SD2";
PROC PRINT; 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 SSNSMPLs from current quarter tape file.
*************************************************************************;
%MACRO SORTIT(NUM=);
   PROC SORT DATA=IN2.STI&NUM (KEEP=SSNSMPL LEGDDSCD DAGEQY) OUT=STI&NUM;
       BY SSNSMPL;
   RUN;
%MEND SORTIT;

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

*************************************************************************
* Remove children (<18) prior to assigning permanent random number (PRN).
*************************************************************************;
DATA SSN_Q(KEEP=SSNSMPL);
   SET STI001
       STI002
       STI003
       STI004
      ;
   BY SSNSMPL;
   IF DAGEQY GE "018" OR (DAGEQY = " " AND LEGDDSCD GE "20");
```

```
   ***************************************************************************
   * STI sent duplicates SSNSMPLs.  So, we let SAS remove them here.
   ***************************************************************************;
   IF FIRST.SSNSMPL;
   ***************************************************************************
   * Exclude specific families from survey.
   ***************************************************************************;
   &EXCLUDE;
RUN;

*****************************************************************************
* Combine Qn SSNSMPLs with previous XWALK (SSN_OLD) keeping only the
* new eligibles (SSN_NEW).
*****************************************************************************;
DATA SSN_NEW OLDXWALK;
   MERGE SSN_Q(IN=IN1 KEEP=SSNSMPL) IN1.XWALK(IN=IN2);
   BY SSNSMPL;

   ***************************************************************************
   * Assign eligibility indicator for new eligibles.
   ***************************************************************************;
   LENGTH E&PD $1;
   IF IN1 AND IN2 THEN E&PD = "Y";
   ELSE IF IN1    THEN E&PD = "Y";
   ELSE IF IN2    THEN E&PD = "N";
   LABEL E&PD = "Eligibility indicator for period = &PD";

   IF IN1 AND NOT IN2 THEN OUTPUT SSN_NEW;
   IF IN2 THEN OUTPUT OLDXWALK;
RUN;

*****************************************************************************
* Assign PRN for all new eligibles.
*****************************************************************************;
DATA NEWXWALK (KEEP=MPRID SSNSMPL PRN E&PD);
   SET SSN_NEW;
   LENGTH MPRID  $8;
   ***************************************************************************
   * Assign eligibility indicator for new eligibles.
   ***************************************************************************;
   LENGTH E&PD   $1;
   E&PD = "Y";
   LABEL E&PD = "Eligibility indicator for period = &PD";
   ***************************************************************************
   * Assign PRN for new eligibles.
   ***************************************************************************;
   PRN = RANUNI(&SEED);
   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;
   BY SSNSMPL;
   ***************************************************************************
   * Recode missing values to Not eligible.
   ***************************************************************************;
   %DO I = 1 %TO &PD;
       IF E&I = " " THEN E&I = "N";
   %END;
RUN;
%MEND XWALK;
%XWALK;

TITLE3 "XWALK file: XWALK.SD2";
PROC CONTENTS; RUN;

PROC FREQ;
   TABLES E1-E&PD E1*E2*E3*E4*E5*E6*E7*E8*E9*E10 /MISSING LIST;
RUN;
```

DUPCHECK.SAS

```
*********************************************************************
* PROGRAM:  DUPCHECK.SAS
* TASK:     DOD Health Care Survey, Sampling (8860-210/220)
* 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.
*
* INPUTS:
* 1) XWALK.SD2  - DEERS Adult Population XWALK SAS data set
* 2) XWALKC.SD2 - 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.SD2, 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.SD2, 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.
*
*********************************************************************;

LIBNAME  IN V612 "D:\KEITH\DOD\Q2_2003\DATA";
OPTIONS PS=79 LS=132 COMPRESS=NO NOCENTER;

TITLE1 "Check cross-walk file for duplicate permanent random numbers (PRN).";
TITLE2 "Program Name: DUPCHECK.SAS, Written by Keith Rathbun, January 2001";

*********************************************************************
* 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;
```

EXTRACT.SAS

```
*********************************************************************
* PROGRAM:  EXTRACT.SAS
* TASK:     DOD Health Care Survey, Sampling (8860-210)
* 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) 07/09/2001 BY KEITH RATHBUN for Q4 processing.
* 4) 10/09/2001 BY KEITH RATHBUN for Q1 2002 processing.
* 5) 01/22/2002 BY KEITH RATHBUN for Q2 2002 processing.
* 6) 04/23/2002 BY KEITH RATHBUN for Q3 2002 processing and removed TSPSITE.
* 7) 07/22/2002 BY KEITH RATHBUN for Q4 2002 processing.
* 8) 10/14/2002 BY KEITH RATHBUN for Q1 2003 processing.
* 9) 10/14/2002 BY KEITH RATHBUN for Q2 2003 processing.  Added address
*    flags (SADDFLG, HADDFLG, UADDFLG) and zip code (MAPRZIP) to
*    the extract file.
*
* INPUTS:
* 1) STI001.SD2 - 2003 Q2 DEERS Population SSN SAS data set (Part 1)
* 2) STI002.SD2 - 2003 Q2 DEERS Population SSN SAS data set (Part 2)
* 3) STI003.SD2 - 2003 Q2 DEERS Population SSN SAS data set (Part 3)
* 4) STI004.SD2 - 2003 Q2 DEERS Population SSN SAS data set (Part 4)
* 5) XWALK.SD2  - DEERS Population XWALK SAS data set (sorted by SSNSMPL)
*
* OUTPUTS:
* 1) EXTRACT.SD2 - DEERS Population EXTRACT SAS data set (complete - sorted
by SSNSMPL)
*
* INCLUDES:
* 1) EXCLUDE.SAS - Exclude specific family by SPONSSN.
*
* 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)].
*
*********************************************************************
*;
LIBNAME  IN  V612 "D:\KEITH\DOD\Q2_2003\DATA";
LIBNAME  OUT v612 "D:\KEITH\DOD\Q2_2003\DATA";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

*********************************************************************
* Set up MACRO to exclude specific families from survey.
*********************************************************************;
%INCLUDE "D:\KEITH\DOD\Q2_2003\SAMPLING\EXCLUDE.SAS";

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

```
* Extract key sampling variables.
*************************************************************************;
%MACRO SORTIT(NUM=);
   PROC SORT DATA=IN.STI&NUM
             (KEEP=SSNSMPL  PNTYPCD  MRTLSTAT  PNSEXCD
                   PNARSNCD MDCABRSN MDCAEFDT  MDCAEXDT
                   LEGDDSCD 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)
              OUT=STI&NUM;
        BY SSNSMPL;
   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 STI001
       STI002
       STI003
       STI004
   ;
   BY SSNSMPL;
   IF DAGEQY GE "018" OR (DAGEQY = " " AND LEGDDSCD GE "20");
   ************************************************************************
   * STI sent duplicates SSNSMPLs.  So, we let SAS remove them here.
   ************************************************************************;
   IF FIRST.SSNSMPL;
   ************************************************************************
   * Exclude specific families from survey.
   ************************************************************************;
   &EXCLUDE;
RUN;

DATA OUT.EXTRACT;
   MERGE IN.XWALK(IN=IN1) EXTRACT(IN=IN2);
   BY SSNSMPL;
   IF IN1 AND IN2;
   DROP SSNSMPL;
RUN;

TITLE1 "Build SAS EXTRACT file for the DOD sample";
TITLE2 "Program Name: EXTRACT.SAS, Written by Keith Rathbun, October 2002";

TITLE3 "CONTENTS of extract file";
PROC CONTENTS DATA=OUT.EXTRACT; RUN;
```

```
TITLE3 "FREQS of key variables - 2003 Q2 DEERS adult population extract:
EXTRACT.SD2";
PROC FREQ DATA=OUT.EXTRACT;
   TABLES
      E1 E2 E3 E4 E5 E6 E7 E8 E9 E10 E1*E2*E3*E4*E5*E6*E7*E8*E9*E10
      PNTYPCD
      MRTLSTAT
      PNSEXCD
      PNARSNCD
      MDCABRSN
      LEGDDSCD
      PNLCATCD
      SVCCD
      PAYPLNCD
      PGCD
      MBRRELCD
      RANKCD
      ULOCGRN
      ULOCDMIS
      RACEETHN
      DCATCH
      DMEDELG
      DAGEQY
      DBENCAT
      DPRISM
      DHSRGN
      DSPONSVC
      MEDTYPE
      ENRID
      ACV
      PCM
      PATCAT
      SADDFLG
      HADDFLG
      UADDFLG
  /MISSING LIST;
RUN;
```

FRAMEA.SAS

```
*********************************************************************
*** Project: 2003 Health Care Survey of DoD Beneficiaries - Adult
*** Purpose: Create the frame for the adult survey.
*** Updated: Esther M Friedman 01/23/03
***
*** Program: D:\projects\y2003\y2003q2\programs\framea01.sas,
***          Creates the adult sampling frame.
***
*** Inputs:  \\DOD\Q1_2003\Data\Afinal\extract.sd2
***          Extracted DoD data set used to create the adult sampling frame.
***
***          D:\projects\y2003\y2003q2\data\y200301.sd2
***          DMIS information
***
*** Outputs: D:\projects\y2003\y2003q2\data\framea.sd2
***          Adult sampling frame created from the extracted DoD data set.
*********************************************************************;

*** Set up options. ***;
options ls=132 ps=79 compress=yes nocenter nonumber;

*** Set up the titles. ***;
title1 'Construct Adult Sampling Frame, FRAMEA.SD2';
title2 'from the 2003 Quarterly DOD Extract File, EXTRACT.SD2';
title3 'Program: FRAMEA.SAS by Esther M Friedman';

*** Set up the input and output paths. ***;
libname in       'F:\DOD\Q2_2003\Data\Afinal';
libname inv6 v6  'D:\projects\y2003\y2003q2\data';
libname out  v6  'D:\projects\y2003\y2003q2\data';

%MACRO PROCESS(TMA,outdata);

*************************************************.
***** Start the data step to create the frame ********;
*************************************************;

data frame;
  set in.extract;
run;

*************************************************************************
*****
* Added q2 2003, Don and Keith created a template to be used each quarter;
* The code below and the include file construct cacsmpl
* and collapse historically small catchment areas;
*************************************************************************
******;
data &TMA. (keep = geocell d_par d_fac d_instal d_health d_dmis);
   set inv6.&TMA.;
   rename facilit1=d_fac installa=d_instal dmis_fac=d_dmis;
   length d_par $4.;
   d_par = DMIS_PAR;
   length geocell $4.;
   geocell = DMIS_ID;
```

```
   length d_health $2.;
   d_health = HEALTH_S;
run;

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

%include "F:\DOD\Q2_2003\Programs\frame.inc";

*********************************************************************;
*** Construct the enrollment crossed with beneficiary category variable
***    '01' - active duty
***    '02' - active duty family member, prime, civilian pcm
***    '03' - active duty family member, prime, military pcm
***    '04' - active duty family member, nonenrollee
***    '05' - retired or family member of retiree, less than 65, civilian pcm
***;
***    '06' - retired or family member of retiree, less than 65, military pcm
***;
***    '07' - retired or family member of retiree, less than 65, nonenrollee
***;
***    '08' - retired or family member of retiree, 65 or older, civilian pcm
***;
***    '09' - retired or family member of retiree, 65 or older, military pcm
***;
***    '10' - retired or family member of retiree, 65 or older, nonenrollee
*********************************************************************;
data &outdata;
  set &outdata;
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+')enbgsmpl = '10';
   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 enbgsmpl='10';
         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='h';
            end;
            end;
            else if dageqy = ' ' then enbgsmpl='i';
            else if dageqy <= '064' then
               do;
               select (pcm);
                  when ('CIV') enbgsmpl='05';
                  when ('MTF') enbgsmpl='06';
                  when (' ')   enbgsmpl='07';
                  otherwise    enbgsmpl='j';
               end;
               end;
            else if dageqy > '064' then enbgsmpl='10';
         end;
       else enbgsmpl='e';
   end;
   otherwise enbgsmpl='b';
end;

*********************************************************************
***    Create enrollment and beneficiary groups with Prime enrollees with
***    military PCM and civilian PCM combined into one group
***;
***    Also, one enrollment and benficiary group for beneficiaries 65 or
older ***    This variable will have 6 levels
***    '01' - active duty
***;
***    '02' - active duty family member, prime enrollee
***    '03' - active duty family member, nonenrollee
***    '04' - retired or family member of retiree, less than 65, prime
enrollee***;
***    '05' - retired or family member of retiree, less than 65, nonenrollee
***;
***    '06' - retired or family member of retiree, 65 or older
*********************************************************************;

SELECT (enbgsmpl);
```

```
   WHEN ('01') EBG_COM = '01';
   WHEN ('02') EBG_COM = '02';
   WHEN ('03') EBG_COM = '02';
   WHEN ('04') EBG_COM = '03';
   WHEN ('05') EBG_COM = '04';
   WHEN ('06') EBG_COM = '04';
   WHEN ('07') EBG_COM = '05';
   WHEN ('08') EBG_COM = '06';
   WHEN ('09') EBG_COM = '06';
   WHEN ('10') EBG_COM = '06';
END;

*************************************************************;
*** Create stratification variable (pre_str), _not_ used for ***;
*** sampling, but rather used to further collapse strata     ***;
*** in enbgcoll.sas                                          ***;
*************************************************************;
pre_str='0'||cacsmpl||ebg_com;

*** Create the enbg variables used for checking. ***;
array ebgcom (7) ebgcom01 ebgcom02 ebgcom03 ebgcom04 ebgcom05 ebgcom06
ebgcom07;
do i = 1 to 7;
   ebgcom(i)=0;
end;
select (ebg_com);
   when ('01') ebgcom01=1;
   when ('02') ebgcom02=1;
   when ('03') ebgcom03=1;
   when ('04') ebgcom04=1;
   when ('05') ebgcom05=1;
   when ('06') ebgcom06=1;
   otherwise ebgcom07=1;
end;
array a_zone(5) zone1 zone2 zone3 zone4 zone5;
do j = 1 to 5;
   a_zone(j)=0;
end;
select;
   when (0.00 <= prn <= 0.25)
      do;
      zone1=1;
      zone=1;
      end;
   when (0.25 <  prn <= 0.50)
      do;
      zone2=1;
      zone=2;
      end;
   when (0.50 <  prn <= 0.75)
      do;
      zone3=1;
      zone=3;
      end;
   when (0.75 <  prn <= 1.00)
      do;
      zone4=1;
```

```
      zone=4;
      end;
   otherwise
      do;
      zone5=1;
      zone=5;
      end;
end;

data out.framea;
  set &outdata;
run;

data out.&TMA;
  set &TMA;
run;

title5 'Information for the Frame';
proc contents data = out.framea;
run;

%MEND process;
%PROCESS(y200301,t_framea);

* Note: checks were moved to framea01_chk.sas due to SAS memory constraints;
* Please run checks program right after this one.
```

FRAME.INC

```
*********************************************************************
*** Project:         Health Care Survey of DoD Beneficiaries -
Quarterly/Annual Adult Dataset
*** Program:         Frame.inc -- include file used in adjwt.sas and
cacsmpl.sas
*** Purpose:         Geographic collapsements from q4 framea to be run on all
quarters
***
*** Modified:        1) 01/07/2003 by Esther M Friedman
***                  2) 01/15/2003 by Keith Rathbun:  Moved collapsement
parts of the
***                     CACSMPL.SAS program into this include file.
***                  3) 01/28/03 by Esther Friedman: additional collapsements
for q2 2003
*** Notes:
*** 1) Com_geo = Cacsmpl
*** 2) This include file was originally used in adjwt.sas.  It was adapted
with macro
***    to accomodate the reprocessing of the 2000.
*** 3) Beginning with q2 2003, this include file has been run in framea.sas
*********************************************************************;

DATA FRAME;
   SET FRAME;
   if pcm='MTF' then do;
      if ('1976' <= enrid <= '1980' ) or ( '6301' <= enrid <= '6323' ) or
         ('6991' <= enrid <= '6994')   or ('6501' <=enrid <='6512') or
         ('7166' <= enrid <= '7195')
         then geocell=dcatch; *Administrative assignment--1976-1980 added q4
2002*;
      else if ('3031' <= enrid <= '3057')
         then geocell = dcatch; ***On the Ship***;
      else if enrid in ('0002', '5208', '0250', '0449', '0626') /* '0626'
added q2 2003*/
         then geocell = dcatch; ***Inactive***;
      ****************************************************************;
      else if ('0190' <= enrid <='0199') then geocell = dcatch;**BYDON;
      ****************************************************************;
      else geocell = enrid;
   end;
   else geocell=dcatch;
RUN;


/* commented out 01/23/03 by emf, since we want ALL IDS
proc sort data=frame;
   by mprid;
run;

data frame;
     merge frame(in=in1) &idfile(in=in2);
     by mprid;
     if in1 and in2; *Keep only eligible respondents;
run; */

proc sort data=frame;
```

```
   by geocell;
run;

data frame2 fr_only fy_only; /* fr_only fy_only added by emf 01/23/03 to
check nonmerging cacsmpls */;
   merge frame (in=infr) &TMA (in=infy) /* TMA spreadsheet changed to Macro
Variable by emf 1/23/03*/;
   by geocell;
/*   if a; */;
/* Code below added 01/23/03 by emf */;
if infr=1 and infy=1 then
   output frame2;
else if infr=1 and infy=0 then
   output fr_only;
else if infr=0 and infy=1 then
   output fy_only;
run;

data &outdata /*(keep=mprid cacsmpl)commented out by emf 01/23/03 */ ;
   set frame2;
   **************************;
   com_geo=geocell; **BY DON**;
   **************************;
   if pcm='MTF' then do;
      if ( '1976' <= enrid <= '1980' ) or ( '6301' <= enrid <= '6323' ) or
('6991' <= enrid <= '6994') or ('6501' <=enrid <='6512') or ('7166' <= enrid
<= '7195')
         then com_geo = geocell; ***Administrative assignment--1976-1980
added q4 2002***;
      else if ('3031' <= enrid <= '3057')
         then com_geo = geocell; ***On board ship***;
      else if enrid in ('0002', '5208', '0250', '0449', '0626')  /* '0626'
added q2 2003*/
         then com_geo = geocell; ***Inactive***;
      ***Clinics large enough-stand on their own***;
      ***else if enrid in ('7293','0252','0534','7286','7294','0511','1592',
                           '7236','6201','0378','0387','0508')
         then com_geo = geocell;  ***By Don;
      else com_geo = d_par;
   end;


   ************************************************;
   *** Collapsing small areas with nearest facility ***;
   ************************************************;
   if      com_geo in ('0074','0416')        then com_geo='0001';
   else if com_geo in ('0203','0130','0417',
                       '7044','7047')        then com_geo='0005';
   else if com_geo in ('0418','0419','7083',
                       '0015')               then com_geo='0014';
   else if com_geo in ('0018','0248')        then com_geo='0019';
   else if com_geo in ('0034','0100')        then com_geo='0035';
   else if com_geo in ('0420')               then com_geo='0037';
   else if com_geo in ('0422')               then com_geo='0038';
   else if com_geo in ('0421','7048','0050') then com_geo='0039';
   else if com_geo in ('7043')               then com_geo='0052';
   else if com_geo in ('0076')               then com_geo='0058';
```

```
else if com_geo in ('0338')              then com_geo='0059';
else if com_geo in ('0423')              then com_geo='0064';
else if com_geo in ('0068','0413')       then com_geo='0066';
else if com_geo in ('0424')              then com_geo='0067';
else if com_geo in ('0306')              then com_geo='0069';
else if com_geo in ('0085')              then com_geo='0083';
else if com_geo in ('0430','0335')       then com_geo='0089';
else if com_geo in ('0093','0094')       then com_geo='0096';
else if com_geo in ('0097')              then com_geo='0098';
else if com_geo in ('0356')              then com_geo='0103';
else if com_geo in ('0084')              then com_geo='0108';
else if com_geo in ('0363', '7082')      then com_geo='0109';
else if com_geo in ('0364')              then com_geo='0112';
else if com_geo in ('0114')              then com_geo='0117';
else if com_geo in ('0077')              then com_geo='0119';
else if com_geo in ('0432','0433')       then com_geo='0120';
else if com_geo in ('0122')              then com_geo='0121';
else if com_geo in ('0431','0434','0395') then com_geo='0125';
else if com_geo in ('0435')              then com_geo='0126';
else if com_geo in ('7045')              then com_geo='0128';
else if com_geo in ('0106','7200')       then com_geo='0129';
else if com_geo in ('0310','0425','0426') then com_geo='0321';
else if com_geo in ('0428')              then com_geo='0326';
else if com_geo in ('0808')              then com_geo='0609';
else if com_geo in ('0615','7042','5197') then com_geo='0616';
else if com_geo in ('0618','0623','0629',
      '0624','0635','0825')              then com_geo='0617';
else if com_geo in ('0802')              then com_geo='0620';
else if com_geo in ('8931')              then com_geo='0633';
else if com_geo in ('0637')              then com_geo='0638';
else if com_geo in ('0610','0639')       then com_geo='0640';
*****************************************************;
*BY DON; else if com_geo = '0041' then com_geo='0045';
*BY DON; else if com_geo = '0213' then com_geo='0019';
*BY DON; else if com_geo = '0235' then com_geo='0014';
*****************************************************;
select (com_geo);
     when ('0081') com_geo= '0086';  /* By emf; added q1 2003 */
   **when ('0252') com_geo= '0033'; *By Don;
   **when ('0378') com_geo= '0124'; *By Don;
   **when ('0387') com_geo= '0124'; *By Don;
   **when ('0508') com_geo= '0124'; *By Don;
   **when ('0511') com_geo= '0103'; *By Don;
   **when ('0534') com_geo= '0052'; *By Don;
   when ('1587') com_geo= '0109';
   **when ('1592') com_geo= '0110'; *By Don;
   when ('1646') com_geo= '0125';
   **when ('6201') com_geo= '0123'; *By Don;
   when ('7143') com_geo= '0089';
   **when ('7236') com_geo= '0110'; *By Don;
   **when ('7286') com_geo= '0089'; *By Don;
   **when ('7293') com_geo= '0032'; *By Don;
   **when ('7294') com_geo= '0089'; *By Don;
   otherwise;
end;

if d_fac='NONCAT' then com_geo='99'||d_health;
```

```
   *** If the facility is unknown then set com_geo indicates unknown facility
***;
   *** '0999' added 03/15 to account for id 6992;
   if com_geo in ('9900', '0999', '0998',' ') then com_geo='9999';
   rename com_geo = cacsmpl;
RUN;
```

FRAMEA01_CHK.SAS

```
*************************************************************************
Project:  2003 Health Care Survey of DoD Beneficiaries - Adult
***
*** Purpose: Checks for framea01 program
*** Program: D:\projects\y2003\y2003q2\programs\framea01_chk.sas,
***
*** Notes: None
*************************************************************************;

*** Set up options. ***;
options ls=132 ps=79 compress=yes nocenter nonumber;

*** Set up the titles. ***;
title1 'Adult Sampling Frame Checks';
title2 'Program: FRAMEA01_chk.SAS by Esther M Friedman';

*** Set up the input and output paths. ***;
libname in  v6 'D:\projects\y2003\y2003q2\data';
libname out v6 'D:\projects\y2003\y2003q2\data';


*Note:  This program contains the checks for the framea01.sas program.
*Checks were moved into a separate program due to SAS memory constraints.

************************************;
*** This section is for checking. ***;
*** Sum the enbgsampl categories. ***;
************************************;

data framea;
set in.framea;
run;

proc sort data=framea;
by cacsmpl;
run;

proc means data=framea noprint;
by cacsmpl;
var ebgcom01 ebgcom02 ebgcom03 ebgcom04 ebgcom05 ebgcom06 ebgcom07;
output out=out.s_framea
       sum(ebgcom01 ebgcom02 ebgcom03 ebgcom04 ebgcom05 ebgcom06 ebgcom07) =
       s_enbg01 s_enbg02 s_enbg03 s_enbg04 s_enbg05 s_enbg06 s_enbg07;
run;

data out.s_framea;
set in.s_framea;
str_cnt=s_enbg01+s_enbg02+s_enbg03+s_enbg04+s_enbg05+s_enbg06+s_enbg07;
run;

proc sort data=in.s_framea out=out.s_framea /*tagsort*/;
by descending str_cnt;
run;

data out.s_framea (keep=cacsmpl str_rnk);
set in.s_framea;
```

```
str_rnk=_n_;
run;

proc sort data=framea out=framea /*tagsort*/;
by cacsmpl d_par geocell;
run;

proc means data=framea noprint;
by cacsmpl d_par geocell;
var ebgcom01 ebgcom02 ebgcom03 ebgcom04 ebgcom05 ebgcom06 ebgcom07;
output out=out.c_framea
       sum(ebgcom01 ebgcom02 ebgcom03 ebgcom04 ebgcom05 ebgcom06 ebgcom07) =
       s_enbg01 s_enbg02 s_enbg03 s_enbg04 s_enbg05 s_enbg06 s_enbg07;
run;

data out.c_framea;
set in.c_framea;
dmis_cnt=s_enbg01+s_enbg02+s_enbg03+s_enbg04+s_enbg05+s_enbg06;
run;

proc sort data=in.s_framea out=out.s_framea /*tagsort*/;
by cacsmpl;
run;

proc sort data=in.c_framea out=out.c_framea /*tagsort*/;
by cacsmpl;
run;

data out.b_framea;
merge in.c_framea in.s_framea;
by cacsmpl;
run;

proc sort data=in.b_framea out=out.b_framea /*tagsort*/;
by cacsmpl d_par geocell;
run;

*** Excel spreadsheets for Don. ***;

proc sort data=in.y200301 /*tagsort*/;
by geocell;
run;

proc sort data=in.b_framea /*tagsort*/;
by geocell;
run;

data out.excel;
merge in.y200301(in=infy) in.b_framea (in=inb);
by geocell;
if infy=1 and inb=1;
run;

proc sort data=in.excel /*tagsort*/;
by cacsmpl;
run;
```

```
data in.excel01;
set in.excel;
by cacsmpl;
if first.cacsmpl then output in.excel01;
run;

proc means data=in.excel noprint;
by cacsmpl;
var s_enbg01 s_enbg02 s_enbg03 s_enbg04 s_enbg05 s_enbg06 s_enbg07;
output out=out.a_excel
       sum(s_enbg01 s_enbg02 s_enbg03 s_enbg04 s_enbg05 s_enbg06 s_enbg07) =
       smenbg01 smenbg02 smenbg03 smenbg04 smenbg05 smenbg06 smenbg07;
run;

data out.a_excel;
set in.a_excel;
dmis_cnt=smenbg01+smenbg02+smenbg03+smenbg04+smenbg05+smenbg06;
run;

proc sort data=in.a_excel out=in.a_excel /*tagsort*/;
by cacsmpl;
run;

proc sort data=in.excel;
by cacsmpl;
run;

data out.excel2 (drop = s_enbg01 s_enbg02 s_enbg03 s_enbg04 s_enbg05 s_enbg06
s_enbg07);
merge in.excel01 (in=inex1) in.a_excel (in=inex2);
by cacsmpl;
run;

proc sort data = in.excel2 out = out.excel2 /*tagsort*/;
by cacsmpl;
run;

proc freq data=framea;
tables ebg_com*enbgsmpl*patcat*pcm pre_str*zone cacsmpl*geocell / list
missing;
run;

***Freq to find small strata***;
proc freq data=framea;
tables cacsmpl;
run;
```

EBCOLL01.SAS

```
*********************************************************************
*** Project:        2003 Health Care Survey of DoD Beneficiaries - Adult
*** Purpose: Enrollee-Beneficiary Group Collapsing
***
*** Client: Donsig Jang
***
*** Programmer: Esther M Friedman
***
*** Program: D:\projects\y2003\y2003q2\sampling\programs\ebcoll01.sas,
***          Collapses the strata on the frame.
***
*** Inputs:  D:\projects\y2003\y2003q2\data\framea.sd2
***          The adult sampling frame.
***
*** Outputs: D:\projects\y2003\y2003q2\data\framea.sd2
***          The collapsed adult sampling frame.
*********************************************************************;

*** Set up the options. ***;
options ls=132 ps=79 compress=yes nocenter nonumber;

*** Set up the titles. ***;
title1 'Modify Sampling Frame, FRAMEA.SD2';
title2 'from the 2003 Quarterly DOD FRAMEA File, FRAMEA.SD2';
title3 'Program: ebcoll01.SAS';

*** Set up the input and output paths. ***;

libname in  v6  'D:\projects\y2003\y2003q2\data';
libname out v6  'D:\projects\y2003\y2003q2\data';

data framea;
set in.framea ( keep = pre_str prn cacsmpl ebg_com enbgsmpl zone dageqy
                       mprid zone1 zone2 zone3 zone4 zone5 geocell pnsexcd
svccd
                       geocell d_par d_fac d_instal d_health);

if cacsmpl in ('0534','7293','6992') then ebsmpl = '01';

else if cacsmpl = '0638' then do;
      if ebg_com in ('02','03','04','05','06') then ebsmpl = '05';
      else ebsmpl = ebg_com;
end;

else if cacsmpl in ('0330','0508','0804','0806','1592','7139','0805') then
do;
      if ebg_com in ('02','03','04','05','06') then ebsmpl = '02';
      else ebsmpl = ebg_com;
end;

else if
      cacsmpl in ('0131','0606','0607','0609','0612','0616','0617',
                  '0620','0624','0633','0640','0808')
      and ebg_com = '04' then ebsmpl = '05';
```

```
* added q2 2003;
else if
      cacsmpl in ('0061')
      and ebg_com= '02' then ebsmpl = '03';


else if
      cacsmpl in ('0003','0005','0006','0028','0030','0033','0047','0053',
                  '0057','0064','0073','0075','0078','0079','0092','0095',

'0098','0101','0104','0105','0113','0114','0117','0126','0127',
                  '0131','0607','0612','0616','0617','0620','0621',
'0624','0633',
                  '0640','0808','0606','0609') and ebg_com = '03' then ebsmpl
= '02';
else if
      cacsmpl = '0622' and ebg_com in ('04','05') then ebsmpl = '03';

* added q2 2003;
else if
      cacsmpl = '0621' and ebg_com in ('04', '05')  then ebsmpl = '02';
else ebsmpl = ebg_com;

if ebg_com = '06' then do;
   if cacsmpl in ('0001','0004','0008','0010','0013','0019','0035','0043',
                  '0046','0051','0058','0059','0062','0069',
                  '0083','0090','0096','0112','0118',
                  '0119','0128','0129','0252','0280','0287',
                  '0321','0326','0366','0378','0385',
                  '0387','0511','6201','7236',
                  '7286','7294') then ebsmpl = '04';
   else if
      cacsmpl in ('0005','0053','0131','0606','0607','0609','0612',
                  '0617','0620','0624','0633','0640','0808') then ebsmpl =
'05';
   else if
      cacsmpl = '0621' then ebsmpl = '02';
else if
      cacsmpl = '0622' then ebsmpl = '03';
   else if
      cacsmpl = '0638' then ebsmpl = '05';
   else if
      cacsmpl in ('0330','0508','0804','0806','1592','7139','0805') then
ebsmpl = '02';
   else ebsmpl = ebg_com;
end;

stratum = '0'||cacsmpl||ebsmpl;

***added q2 2002;
***collapse out of catchment areas into super regions;

if substr(stratum,2,4)='9901' or substr(stratum,2,4)='9902' or
substr(stratum,2,4)='9905' then do;
        c = stratum;
        substr(c,2,4)='9991';
        put c;
```

```
        stratum = c;
end;

else if substr(stratum,2,4)='9906' or substr(stratum,2,4)='9909' or
substr(stratum,2,4)='9910' or
        substr(stratum,2,4)='9911' or substr(stratum,2,4)='9912' or
substr(stratum,2,4)='9916' then do;
        d = stratum;
        substr(d,2,4)= '9992';
        put d;
        stratum = d;
end;

else if substr(stratum,2,4)='9903' or substr(stratum,2,4)='9904' or
substr(stratum,2,4)='9907' or
        substr(stratum,2,4)='9908' then do;
        e = stratum;
        substr(e,2,4)='9993';
        put e;
        stratum = e;
end;

else if substr(stratum,2,4)='9913' or substr(stratum,2,4)='9914'or
substr(stratum,2,4)='9915' or substr(stratum,2,4)='9999' then do;
        f = stratum;
        substr(f,2,4)='9990';
        put f;
        stratum = f;
end;

if substr(stratum,2,4)='9990' and ebg_com = '04' then do; ebsmpl = '05';
stratum = '0999005'; end;

drop c d e f;

*** Create the enbg variables used for checking. ***;

array enbgs (7) enbgs01 enbgs02 enbgs03 enbgs04 enbgs05 enbgs06 enbgs07;
do i = 1 to 7;
   enbgs(i)=0;
end;
select (ebsmpl);
   when ('01') enbgs01=1;
   when ('02') enbgs02=1;
   when ('03') enbgs03=1;
   when ('04') enbgs04=1;
   when ('05') enbgs05=1;
   when ('06') enbgs06=1;
   otherwise enbgs07=1;
end;

run;

title5 'Information for the Frame';

********create substr variable for checking;
data framea;
```

```
set framea;
geosmpl=substr(stratum,2,4);
run;

proc contents data = framea;
run;

**********************************;
***                            ***;
*** This section is for checking. ***;
***                            ***;
*** Sum the enbgsampl categories. ***;
***                            ***;
**********************************;

proc sort data=framea ;
by geosmpl;
run;

proc means data=framea noprint;
by geosmpl;
var enbgs01 enbgs02 enbgs03 enbgs04 enbgs05 enbgs06 enbgs07;
output out=out.s_framea
       sum(enbgs01 enbgs02 enbgs03 enbgs04 enbgs05 enbgs06 enbgs07) =
       s_enbg01 s_enbg02 s_enbg03 s_enbg04 s_enbg05 s_enbg06 s_enbg07;
run;

data s_framea;
set out.s_framea;
str_cnt=s_enbg01+s_enbg02+s_enbg03+s_enbg04+s_enbg05+s_enbg06;
run;

proc sort data=s_framea ;
by descending str_cnt;
run;

data s_framea (keep=geosmpl str_rnk );
set s_framea;
str_rnk=_n_;
run;

proc sort data=framea ;
by geosmpl;
run;

proc means data=framea noprint;
by geosmpl;
var enbgs01 enbgs02 enbgs03 enbgs04 enbgs05 enbgs06 enbgs07;
output out=out.c_framea
       sum(enbgs01 enbgs02 enbgs03 enbgs04 enbgs05 enbgs06 enbgs07) =
       s_enbg01 s_enbg02 s_enbg03 s_enbg04 s_enbg05 s_enbg06 s_enbg07;
run;

data c_framea;
set out.c_framea;
dmis_cnt=s_enbg01+s_enbg02+s_enbg03+s_enbg04+s_enbg05+s_enbg06;
run;
```

```
proc sort data=s_framea ;
by geosmpl;
run;

proc sort data=c_framea ;
by geosmpl;
run;

data out.excel3;
merge c_framea s_framea;
by geosmpl;
run;

proc freq data=framea;
tables ebsmpl*ebg_com stratum*zone cacsmpl*geosmpl / list missing;
run;

**check stratum changes for out of catchment areas;

proc freq data=framea;
tables geosmpl*cacsmpl*stratum /list missing;
run;


**CREATE OUTPUT DATASETS;

data out.framea;
set framea;
run;

data out.s_framea;
set s_framea;
run;

data out.c_framea;
set c_framea;
run;
```

COUNTA.SAS

```
*********************************************************************
*** Project:        2003 Health Care Survey of DoD Beneficiaries - Adult
*** Purpose: Produce population cell counts by STRATUM, STRSMPL, new_enbg,
***          and TOTAL for 2003 DOD Quarterly survey Form A Sampling Frame.
***          STRATUM, STRSMPL, new_enbg, TOTAL counts for 2003 DOD Quarterly
***           survey (Form A Sampling frame)
***           Where PSUM0 = STRATUM Count
***                 PSUM1 = GEOSMPL Count
***                 PSUM2 = EBSMPL Count
***                 TOTAL = Total Population
***
*** Programmer: Darryl V. Creel
*** Updated: Esther M Friedman
***
*** Program: D:\projects\y2003\y2003q2\sampling\programs\counta.sas,
***          Produces the population cell counts.
***
*** Inputs:  D:\projects\y2003\y2003q2\data\framea.sd2
***          Extracted DoD data set used to create the adult sampling frame.
***
*** Outputs: D:\projects\y2003\y2003q2\data\counta.sd2
***          Adult sampling frame created from the extracted DoD data set.
*** Notes: None
*********************************************************************;

*** Set up the path names. ***;
libname in  v6 'D:\projects\y2003\y2003q2\data';
libname out v6 'D:\projects\y2003\y2003q2\data';

*** Set up the options. ***;
OPTIONS PS = 79 LS = 132 COMPRESS = YES NOCENTER ;

*** Set up the titles. ***;
TITLE1 "Produce cell counts - Form A";
TITLE2 "Program Name: COUNTA.SAS, Written by Darryl V. Creel, rev. Esther
Friedman";

*** Create a couple of macro variables for the program. ***;

%let dsn = framea;
%let by_vars = stratum geosmpl ebsmpl;

data framea;
set out.framea (keep = stratum geosmpl ebsmpl ebg_com prn dageqy);
run;

TITLE3 "FREQS of sample FRAMEA.SD2";

PROC FREQ DATA=&dsn.;
   TABLES &by_vars.
  /MISSING LIST;
RUN;

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

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 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 geosmpl
  /MISSING LIST OUT=T2(RENAME=(COUNT=PSUM1)
                KEEP=COUNT geosmpl) NOPERCENT NOCUM NOPRINT;
RUN;

PROC FREQ DATA=&dsn. NOPRINT;
   TABLES ebsmpl
  /MISSING LIST OUT=T3(RENAME=(COUNT=PSUM2)
                KEEP=COUNT ebsmpl) 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 geosmpl; RUN;
DATA T0;
   MERGE T0 T2;
   BY geosmpl;
RUN;

PROC SORT DATA=T0; BY ebsmpl; RUN;
```

```
DATA T0;
   MERGE T0 T3;
   BY ebsmpl;
   LABEL PSUM0 = 'PSUM0 - Stratum Count'
         PSUM1 = 'PSUM1 - geosmpl Count'
         PSUM2 = 'PSUM2 - ebsmpl 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 geosmpl ebsmpl stratum;
run;

TITLE3 "CONTENTS of COUNTA.SD2";
PROC CONTENTS; RUN;

PROC PRINT data=t0;;
var stratum geosmpl ebsmpl psum0-psum2 total;
RUN;

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

data out.counta;
set T0;
run;
```

SAMSIZEA.SAS

```
*********************************************************************
* Project:        2003 Health Care Survey of DoD Beneficiaries - Adult
* Project Number: 8860
* Task Number:    210
*
* PROGRAM:    SAMSIZEA.SAS
* Purpose:    Sample size determination for the 2003 Quarterly HCSDB
*
* Programmer: Don Jang
* Updated:    Nancy Clusen
* INPUTS:     POPULATION COUNTS (COUNTA.SD2)
* OUTPUTS:    FINAL SAMPLE SIZES (SAMSIZEA.SD2)
*********************************************************************;

libname in  'C:\MyFiles\HCSDB 2003\Q2 2003\Sampling';
libname out  'C:\MyFiles\HCSDB 2003\Q2 2003\Sampling';

OPTIONS PS=79 LS=132 NOCENTER mlogic symbolgen;

%LET P = 0.5;   ***PRODUCE THE MOST CONSERVATIVE SAMPLE SIZES****;
%LET Z = 1.96;  ***97.5TH PERCENTILE FOR Z-DIST*****************;
%LET HLA0 = .22; ***HALF LENGTH = 22 PERCENT FOR EACH STRATUM*****;
%LET SSQUARE = &P*(1-&P); ***FORMULA FOR VARIANCE OF P***********;

/*-------------------------------------------------------------------
  MACRO:  CALCULATE NUMERICAL PORTIONS OF VARIANCES GIVEN SAMPLE SIZES
-------------------------------------------------------------------*/
%MACRO VAR(DAT,DOMAIN,POPSIZE,NH,ODAT);
DATA VARA;
        SET &DAT;BY &DOMAIN;
        VH=&POPSIZE**2*((&POPSIZE-&NH)/(&POPSIZE-1))*&SSQUARE/&NH;
RUN;

PROC MEANS DATA=VARA NOPRINT;
        VAR VH;BY &DOMAIN;
        OUTPUT OUT=&ODAT SUM=VSUM;
RUN;
%MEND VAR;

*********************************************************************
*       TO DETERMINE OPTIMAL STRATUM SIZES GIVEN PREDETERMINED VARIANCE
*********************************************************************;
%MACRO OPTALLO(DAT,DOMAIN,POPSIZE,V0,ODAT);
/*-----------------------------------------------------------
        TO CALCULATE PARTIAL SUMS OF REMAINING DOMAIN SIZES
        NOTE:  THIS SUM can be DIFFERENT FROM THE DOMAIN TOTAL !!!
-----------------------------------------------------------*/
DATA &DAT;SET &DAT;
        DEN = (&POPSIZE/DSUM&ITE)**2/(&POPSIZE-1);
        COM = &POPSIZE*SQRT(&POPSIZE/(&POPSIZE-1));
        NUM = COM/DSUM&ITE;
RUN;
PROC MEANS DATA=&DAT NOPRINT;
        VAR NUM DEN COM;BY &DOMAIN;
        OUTPUT OUT=DSIZEA SUM=NUMS DENS COMS;
RUN;
```

```
DATA &ODAT;
        MERGE &DAT DSIZEA;BY &DOMAIN;
        ND=(&SSQUARE*NUMS**2)/(&V0+&SSQUARE*DENS);
        NHO=ND*COM/COMS;
        DROP ND NUM DEN COM NUMS DENS COMS;
RUN;
%MEND OPTALLO;
/*-----------------------------------------------------------------
        TO RETREIVE THE NUMBER OF OBSERVATIONS IN A SAS DATA SET
-----------------------------------------------------------------*/
%MACRO NUMOBS(DSN);
        %GLOBAL NUM;/* THIS MACRO CONTAINS THE NUMBER OF OBS IN THE DATA*/
        DATA _NULL_;
                IF 0 THEN SET &DSN NOBS=COUNT;
                CALL SYMPUT('NUM',LEFT(PUT(COUNT,8.)));
                STOP;
        RUN;
%MEND NUMOBS;

/*-----------------------------------------------------------------
        ITERATE UNTIL THE REMAINING DOMAINS HAVE NHO GREATER THAN
        THE PREVIOUS SAMPLE SIZES
-----------------------------------------------------------------*/
%MACRO ITERATE;
%OPTALLO(STE,DOM&ITE,POPSIZE,VSTAR,OSTAT);

DATA FIN&I STE;
        SET OSTAT;
        IF NHF < NHO THEN FIN = FIN +1;
IF FIN=&I then output FIN&I;
IF FIN = &I + 1 then output STE;
RUN;

%VAR(FIN&I,DOM&ITE,POPSIZE,NHF,SUMMARY);

DATA STE;
        MERGE STE (IN=A) SUMMARY ;BY DOM&ITE;
        IF A;
        IF VSUM=. THEN VSUM=0;****SHOULD EXIST!!!;
        VSTAR= VSTAR - VSUM/DSUM&ITE**2;
        DROP VSUM;
RUN;
%MEND ITERATE;

/*-----------------------------------------------------------------
        MAIN PART OF THE PROGRAM:  'ITE' INDICATES THE LEVEL OF DOMAINS
-----------------------------------------------------------------*/
%MACRO MPART(ITE);
PROC SORT data=indata;BY DOM&ITE;RUN;

%VAR(INDATA,DOM&ITE,POPSIZE,NHF,SUMMARY);

DATA CHKVAR;***TO COMPARE THE VARIANCE TO THE PRECISION REQUIREMENT;
        MERGE SUMMARY INDATA;BY DOM&ITE;
        FIN=1;
        MARGIN=SQRT((VSUM/DSUM&ITE**2)*1.96**2)/HL&ITE;
```

```
        IF MARGIN > 1 THEN FIN=FIN+1;
        DROP VSUM MARGIN; /* SHOULD DROP 'VSUM'VARIABLE HERE !!! */
RUN;

***DATA SET INCLUDING STRATA HAVING FINAL SAMPLE SIZE AT THIS STEP***;

DATA FIN1 STE;
        SET CHKVAR;BY DOM&ITE;
        VSTAR=(HL&ITE/1.96)**2;
IF FIN=1 then output FIN1;
IF FIN=2 then output STE;
RUN;

%NUMOBS(STE);

%LET I = 1;
%IF &NUM=0 %THEN %GOTO FDSN;
/*-------------------------------------------------------------------------
--
        ITERATE MACRO TO UPDATE SAMPLE SIZES TO MEET THE PRECISION
REQUIREMENTS
        THIS PART NEEDS TO BE REFINED TO ALLOW TO STOP THE PROGRAM WHENEVER
NEEDED
-------------------------------------------------------------------------
---*/
%DO %UNTIL(&NUM = 0);
        %LET I = %EVAL(&I +1);
        %ITERATE;
        %NUMOBS(FIN&I);
%END;
/*-------------------------------------------------------------------------
        GIVE THE REMAINING DOMAINS OPTIMAL SAMPLE SIZES
-------------------------------------------------------------------------
*/
%LET I = %EVAL(&I +1);
DATA FIN&I;SET STE;
        NHF = NHO;
RUN;
/*-------------------------------------------------------------------------
        COMBINE THE DATASETS INTO ONE
-------------------------------------------------------------------------
*/
%FDSN:
DATA STEP9;
        SET FIN1;

%DO J=2 %TO &I;
        DATA STEP9;
                SET STEP9 FIN&J;
        RUN;
%END;
%MEND MPART;

************************************************************************
*       START THE MAIN PROGRAM:
------------------------------------------------------------------------;
```

```
DATA INDATA;
        SET IN.counta;
TITLE1 "SAMPLE SIZE DETERMINATION FOR THE 2001 DOD Quarterly FORM A SURVEY OF
HEALTH BENES";
TITLE2 "PROGRAM: samsizea.SAS, INPUT: counta.SD2";
        DOM0 = STRATUM;
        DOM1 = geosmpl;
        DOM2 = ebsmpl;
        DOM3 = 1;
        POPSIZE = PSUM0;
        DSUM1 = PSUM1;
        DSUM2 = PSUM2;
        DSUM3 = TOTAL;
*********************************************
*       SET INITIAL SAMPLE SIZES
*********************************************;
        NUM=&Z**2*&SSQUARE/&HLA0**2;
        NHZERO=NUM/(1+(NUM-1)/POPSIZE);
        NHF = NHZERO;
*************************************************************************
***
*       PRECISION REQUIREMENTS FOR SITE-LEVEL ESTIMATES W.R.T. THE NUMBER OF
BGs
-------------------------------------------------------
*************************;
        if dom1 in ('9991', '9992', '9993') then HL1 = 0.04;
                **greater precision for out-of-catchment areas;
        else if dom1 not in ('9990', '9991', '9992', '9993') then do;
           if psum1<=25086 then HL1 = 0.10;  **50th percentile or less;
           else if psum1<=52931 then HL1 = 0.09;  **between 50th and 75th
percentile;
           else if psum1<=80825 then HL1 = 0.085;  **between 75th and 90th
percentile;
           else if psum1 >80825 then HL1 = 0.07215;  **greater than 90th
percentile;
        end;
        else HL1 = 0.10;
                **greater precision for large catchment areas, excluding out-
of-catchment areas;
        HL2 = 0.05;  ** FOR ebsmpl   ***********;
        HL3 = 0.02;  ** FOR AS A WHOLE *****;
        DROP NUM PSUM0 PSUM1 PSUM2 TOTAL;
RUN;

*-------------------------------------------------------------------------
***
*       ADJUST INITIAL SAMPLE SIZE TO SATISFY THE DOM&ITE PRECISION
REQUIREMENT
-------------------------------------------------------------------------
*;

%MPART(1);

**-------------------------------------------------------------------------
*       CTEATE STATUS&ITE SO THAT FIN VALUES CAN REFLECT ITE TOO
-------------------------------------------------------------------------
*;
```

```
DATA INDATA;SET STEP9;
        STATUS1=10+FIN;
        NHF1=NHF;
DROP FIN;
RUN;

************************************************************
*       ACCOUNT FOR enbgsmpl PRECISION REQUIREMENT
************************************************************;

%MPART(2)
DATA INDATA;SET STEP9;
        STATUS2=20+FIN;
        NHF2=NHF;
DROP FIN;
RUN;

************************************************************
*       ACCOUNT FOR OVERALL PRECISION REQUIREMENT
************************************************************;

%mpart(3)
DATA FINAL;SET STEP9;
        STATUS3=30+FIN;
        NHF3=NHF;
        VH=POPSIZE**2*((POPSIZE-NHF)/(POPSIZE-1))*&SSQUARE/NHF;
RUN;

*-------------------------------------------------------------------------
        CHECK IF THE FINAL SAMPLE SIZES MEET ALL PRECISION REQUIREMENTS
-------------------------------------------------------------------------;

PROC SORT DATA=FINAL;BY DOM1;RUN;
PROC MEANS NOPRINT DATA=FINAL;VAR VH;BY DOM1;
        OUTPUT OUT=FDATA1 SUM=V1;
RUN;
DATA FINAL;MERGE FINAL FDATA1;BY DOM1;run;

PROC SORT DATA=FINAL;BY DOM2;RUN;
PROC MEANS DATA=FINAL NOPRINT;VAR VH;BY DOM2;
        OUTPUT OUT=FDATA2 SUM=V2;
RUN;
DATA FINAL;MERGE FINAL FDATA2;BY DOM2;run;

PROC SORT data=final;BY DOM3;RUN;
PROC MEANS DATA=FINAL NOPRINT;VAR VH;BY DOM3;
        OUTPUT OUT=FDATA3 SUM=V3;
RUN;
DATA FINAL;MERGE FINAL FDATA3;BY DOM3;run;

DATA FINAL;IF _N_ = 1 THEN SET FDATA3;
        SET FINAL;
        P0=SQRT(((POPSIZE-NHF)/(POPSIZE-1))*&SSQUARE/NHF)*1.96;
        P1=SQRT((V1/DSUM1**2)*1.96**2);
        P2=SQRT((V2/DSUM2**2)*1.96**2);
        P3=SQRT((V3/DSUM3**2)*1.96**2);
```

```
RUN;

*******************************************************
*       ACCOUNT FOR EXPECTED RESPONSE RATES
*******************************************************;
DATA RESP;
        SET FINAL;
                IF DOM2=1 THEN NHFF=INT(NHF/0.21)+1;
                IF DOM2=2 THEN NHFF=INT(NHF/0.32)+1;
                IF DOM2=3 THEN NHFF=INT(NHF/0.21)+1;
                IF DOM2=4 THEN NHFF=INT(NHF/0.57)+1;
                IF DOM2=5 THEN NHFF=INT(NHF/0.48)+1;
                IF DOM2=6 THEN NHFF=INT(NHF/0.74)+1;
RUN;

DATA LAST;SET RESP;
        nhf = int(nhf)+1;
        nhff = min(nhff, popsize);
        nhzero = int(nhzero)+1;
        BWT00 = POPSIZE/NHFF;
PROC SORT data=LAST;BY DOM0;run;
PROC MEANS DATA=LAST;VAR NHZERO nhf NHFF BWT00;RUN;

PROC PRINT DATA=LAST;VAR DOM0 P0 DOM1 P1 DOM2 P2 DOM3 P3 POPSIZE NHFF bwt00;
sum nhff bwt00;
RUN;

proc means sum;
class dom1;
var popsize nhff;

proc means sum;
class dom2;
var popsize nhff;

proc sort data=last;by stratum;run;

*************************************************************
*       CREATE THE DATA SET CONTAINING THE FINAL SAMPLE SIZES
*************************************************************;
DATA out.samsizea;
        SET LAST;
        KEEP STRATUM POPSIZE NHFF BWT00 dom2;
run;
```

SAMPLA01.SAS

```
*********************************************************************
* PROGRAM: SAMPLA01.SAS
*
* TASK:    2003 DOD Health Care Survey, Quarterly Sampling                *
* PURPOSE: Draw Sampling Frame for 2003 Quarterly DOD Survey Form A
* PROGRAMMER: Darryl V. Creel
*
* UPDATED: Esther Friedman                                               *
*
*
* INPUTS:  FRAMEA.SD2 - Frame for 2003 Quarterly DOD Survey
* SAMSIZEA.SD2 - Sample Sizes by Stratum for 2003 Quarterly DOD Survey *
* OUTPUTS: SAMPLA01.SD2 - Sampling Frame for 2003 Quarterly DOD Survey Form A
*
*
*********************************************************************;

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


title1 'Construct the Sample, SAMPLA01.SD2';
title2 'from the 2003 Quarterly DOD Files, FRAMEA.SD2 and SAMSIZEA.SD2';
title3 'Program: SAMPLA01.SAS';

*** Set up the input and output paths. ***;

libname in  v6 'D:\projects\y2003\y2003q2\data';
libname out v6 'D:\projects\y2003\y2003q2\data';

*** Sort the data sets by stratum. ***;

data framea;
set in.framea;
run;

proc sort data=framea;
by stratum;
run;

proc sort data=in.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 in.f_framea in.fr_only in.s_only;
merge framea (in=infr) in.samsizea (in=ins);
by stratum;
if infr=1 and ins=1 then output in.f_framea;
else if infr=1 and ins=0 then output in.fr_only;
else if infr=0 and ins=1 then output in.s_only;
run;

*** Sort f_framea by stratum and permanent random number, prn. ***;
```

```
proc sort data=in.f_framea out=in.r_framea;
where zone2=1 and prn<=0.375;
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.                                ***;

*** Create the sample data set. ***;

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

***** Check the distribution of permanent random numbers. *****;


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

proc means data=in.sample noprint;
by stratum;
var prn;
output out=m_prn min=min_prn;
run;

data m_prn;
set m_prn (keep=stratum min_prn);
run;

proc means data=in.sample noprint;
by stratum;
id popsize nhff;
var zone1 zone2 zone3 zone4 zone5;
output out=sampdiag
       sum(zone1 zone2 zone3 zone4 zone5)=
       s_zone1 s_zone2 s_zone3 s_zone4 s_zone5;
run;

data sampdiag;
set sampdiag (drop=_type_ _freq_);
run;

proc sort data=m_prn out=m_prn;
by stratum;
run;
```

```
proc sort data=sampdiag out=sampdiag;
by stratum;
run;

data in.zone_tab;
merge sampdiag m_prn;
by stratum;
run;

title5 'Information for the Zones';
proc print data=in.zone_tab;
sum popsize nhff s_zone1 s_zone2 s_zone3 s_zone4 s_zone5;
run;

title5 'Potential Problem Strata, POPSIZE < 1000';
proc print data=in.zone_tab noobs;
where popsize < 1000;
sum popsize nhff s_zone1 s_zone2 s_zone3 s_zone4 s_zone5;
run;

title5 'Original ebsmpl Variable: Frame';
proc freq data=in.framea;
table ebg_com / list missing out=denom;
run;

data denom (rename=(count=denom));
set denom (drop=percent);
run;

title5 'Original ebg_com Variable: Sample';
proc freq data=in.sample;
table ebg_com / list missing out=numer;
run;

data numer (rename=(count=numer));
set numer (drop=percent);
run;

proc sort data=denom;
by ebg_com;
run;

proc sort data=numer;
by ebg_com;
run;

data in.rat_enbg;
merge numer denom;
by ebg_com;
sam_rat=numer/denom;
run;

title5 'Sampling Ratio for Original EBG_COM';
proc print data=in.rat_enbg;
run;
```

```
title5 'Information about Collapsing: Sample';
proc freq data = in.sample;
table stratum * cacsmpl * ebg_com / list missing;
run;

title5 'Information about Collapsing: Frame';
proc freq data = in.framea;
table stratum * cacsmpl * ebg_com / list missing;
run;

title5 'Information about PRNs';
proc univariate data = in.sample;
var prn;
run;

*********************************************;
***** Create the *internal* sampling file. *****;
*********************************************;

data in.sampla;
set in.sample (drop = bwt00 count dom2 enbgs01-enbgs07 I popsize pre_str zone
zone1-zone5);
label cacsmpl  = 'Catchment Area'
      geosmpl  = 'Geographic Area'
      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 in.sampla01 (keep = mprid stratum cacsmpl enbgsmpl ebg_com nhff );
set in.sampla;

proc contents data=in.sampla01;
run;
```

BWT.SAS

```
*********************************************************************
PROGRAM: BWT.SAS
*
* TASK:    2003 DoD Health Care Survey, Quarterly Sampling
*
* PURPOSE: Construct Sampling Weight for 2003 Quarterly DoD Survey Form *
* INPUTS:  FRAMEA.SD2 - Frame for 2003 Quarterly DoD Survey
*
* SAMPLA.SD2 - Internal Sample file for 2003 Quarterly DoD Survey      *
* OUTPUTS: BWT.SD2 - Sampling Weight for 2001 Quarterly DOD Survey Form
*********************************************************************;

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


title1 'Construct the Sampling Weight, BWT.SD2';
title2 'from the 2003 Quarterly DoD Files, FRAMEA.SD2 and SAMPLA.SD2';
title3 'Program: BWT.SAS by Esther Friedman';


***** Set up the input and output paths. *****;

libname in   v6 'D:\projects\y2003\y2003q2\data';
libname out  v6 'D:\projects\y2003\y2003q2\data';
libname inv8 v8 'D:\projects\y2003\y2003q2\data';

*** include the design effects macro.;

%include "c:\myfiles\macros\design_effects_unequal_weights.sas";

***** Add Xregion to sampla01--added as per Nancy october 31, 2002  *****;

data sampla;
set out.sampla;

IF      CACSMPL IN (0035, 0036, 0037, 0066, 0067,
                    0068, 0069, 0081, 0086, 0100,
                    0123, 0306, 0310, 0321, 0326,
                    0330, 0385, 0413, 6201, 9901       ) THEN XREGION= '01';
ELSE IF CACSMPL IN (0089, 0090, 0091, 0092, 0120,
                    0121, 0122, 0124, 0335, 0378, 0387, 0432,
                    0433, 0508, 7143, 7286, 7294, 9902                  )
THEN XREGION= '02';
ELSE IF CACSMPL IN (0039, 0041, 0045, 0046, 0047,
                    0048, 0049, 0050, 0051, 0101,
                    0103, 0104, 0105, 0337, 0356,
                    0422, 0511, 9903                   ) THEN XREGION= '03';
ELSE IF CACSMPL IN (0001, 0002, 0003, 0004, 0038,
                    0042, 0043, 0073, 0074, 0107,
                    0297, 7139, 9904             ) THEN XREGION= '04';
ELSE IF CACSMPL IN (0055, 0056, 0060, 0061, 0095,
                    9905                         ) THEN XREGION= '05';
ELSE IF CACSMPL IN (0013, 0062, 0064, 0096, 0097,
                    0098, 0109, 0110, 0112, 0113,
                    0114, 0117, 0118, 0338, 0363,
```

```
                    0364, 0365, 0366, 1587, 1592, 7236, 9906       ) THEN
XREGION= '06';
ELSE IF CACSMPL IN (0008, 0009, 0010, 0079, 0083,
                    0084, 0085, 0108, 9907       ) THEN XREGION= '07';
ELSE IF CACSMPL IN (0031, 0032, 0033, 0053, 0057,
                    0058, 0059, 0075, 0076, 0077,
                    0078, 0093, 0094, 0106, 0119,
                    0129, 0252, 7200, 7293, 9908             ) THEN XREGION=
'08';
ELSE IF CACSMPL IN (0018, 0019, 0024, 0026, 0029, 0030,
                    0131, 0213, 0248, 5205, 9909 ) THEN XREGION= '09';
ELSE IF CACSMPL IN (0014, 0015, 0028, 0235, 0250,
                    9910                         ) THEN XREGION='10';
ELSE IF CACSMPL IN (0125, 0126, 0127, 0128, 0395, 1646,
                    9911                         ) THEN XREGION='11';
ELSE IF CACSMPL IN (0052, 0280, 0287, 0534, 7043, 9912 ) THEN XREGION='12';
ELSE IF CACSMPL IN (0606, 0607, 0609, 0617, 0618,
                    0623, 0624, 0629, 0633, 0635,
                    0653, 0805, 0806, 0808, 0814,
                    8931, 8982, 9913             ) THEN XREGION='13';
ELSE IF CACSMPL IN (0610, 0612, 0620, 0621, 0622,
                    0637, 0638, 0639, 0640, 0802,
                    0804, 0853, 0862, 9914       ) THEN XREGION='14';
ELSE IF CACSMPL IN (0449, 0613, 0615, 0616, 9915 ) THEN XREGION='15';
ELSE IF CACSMPL IN (0005, 0006, 0203, 9916       ) THEN XREGION='16';
ELSE IF CACSMPL = 9999                             THEN XREGION='99';
run;


***** Create the numerator and denominator for the sampling weight. *****;

title5 'Information from the Frame';
proc freq data=in.framea noprint;
table stratum / list missing out=frame;
run;

data frame (rename = (count = numer));
set frame (keep = stratum count);
run;

title5 'Information from the Sample';
proc freq data=sampla noprint;
table stratum / list missing out=sample;
run;

data sample (rename = (count = denom));
set sample (keep = stratum count);
run;

***** Merge the data sets and construct the sampling weight. *****;

proc sort data=frame;
by stratum;
run;

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

```
run;

data weight;
merge frame sample;
by stratum;
bwt = numer / denom;
run;

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

***** Append the sampling weight to the SAMPLA.SD2 file. *****;

data wt;
set weight (keep = stratum bwt);
run;

proc sort data=wt out=wt;
by stratum;
run;

proc sort data=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;

data inv8.bwt;
set bwt;
label bwt = 'Sampling Weight';
run;

title5 'Checks for BWT Data Set';

proc means data=inv8.bwt n sum;
var bwt;
run;

proc means data=inv8.bwt n sum noprint;
class stratum;
var bwt;
output out=bwtchk  n = sampcnt sum = bwtsum;
run;

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

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

proc sort data=bwtchk;
by stratum;
run;

proc sort data=frame;
by stratum;
run;

data finalchk;
merge bwtchk frame(rename = (numer = pop));
by stratum;
diff = pop - bwtsum;
run;
```

```
title 'Final Checks for the Sampling Weight';
proc print data=finalchk;
var stratum sampcnt bwtsum pop diff;
sum sampcnt bwtsum pop diff;
run;

**********************************;
*** Calculate the Design Effects ***;
*** added 04/15/02               ***;
**********************************;

%design_effects_unequal_weights ( inv8.bwt, cacsmpl, bwt, deff_overall,
deff_cac );
%design_effects_unequal_weights ( inv8.bwt, enbgsmpl, bwt, deff_overall,
deff_enbg );
%design_effects_unequal_weights ( inv8.bwt, ebg_com, bwt, deff_overall,
deff_ebg );
%design_effects_unequal_weights ( inv8.bwt, xregion, bwt, deff_overall,
deff_reg );

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

proc print data= deff_cac;
title5 "design effect by cacsmpl";
run;

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

proc print data= deff_ebg;
title5 "design effect by ebg_com";
run;

proc print data= deff_reg;
title5 "design effect by xregion";
run;
```

DESIGN_EFFECTS_UNEQUAL_WEIGHTS.INC

```
************************************************************************
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;
```

APPENDIX G

TECHNICAL BACKGROUND IN DETERMINING THE SAMPLE SIZES

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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 that the geographic areas and beneficiary and enrollment groups had quite variable population sizes.

For simple random samples (SRS) of size *n* from finite populations of size *N*, the variance of *p* is:

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

Because the expected sample sizes for all strata for the 2001 HCSDB survey are sufficiently large, the standard formula (IV.1) in Chapter IV can be used in constructing the confidence interval of *P*. Let *B* denote the required half length interval for *P*. With the variance of *P*, we can determine the sample size to attain the precision requirement *B* by solving the following equation with respect to *n*:

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

implies

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

This formula was used as the first step in determining initial sample sizes for all strata in the 2003 HCSDB.

Note from formula (G.3), sample sizes vary according to values of the proportion *P*. As *P* becomes closer to 0.5, *n* becomes larger. Because characteristics of interest of 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 *P* value of 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:

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

where .9604 was obtained from $z_{.975}\,P\,(1-P)$ with $P = 0.5$. The formula (G.4) can then be applied to determine the sample size to achieve B in estimating stratum-level estimates.

Recall that the 2003 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:

(G.5)
$$p_d = \sum_{h=1}^{H} \sum_{i \in d} \frac{N_d(h)}{N_d(+)}\ p_h\,,$$

where N_h is the population size for stratum h, $N_{\overset{+}{d}}$ is the sum of N_h over domain d, and p_h 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:

(G.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 (G.6) can be reduced to the following:

(G.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:

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

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

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

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

The domain sample size n_d in (G.9) is based on the following optimal stratum sample sizes:

(G.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

(G.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:

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

We used the 2001 HCSDB response rates for beneficiary groups as the expected response rates R; R = 0.21, 0.32, 0.21, 0.57, 0.48, and 0.74 for enrollment and beneficiary group 1 (AD), 2 (ADFM-ENR), 3 (ADFM-NE), 4 (RET<65-ENR), 5 (RET<65-NE), and 6 (RET65+), respectively.