APPENDIX G

SAS CODE FOR STATISTICAL AND WEB SPECIFICATION FOR 2000 TRICARE CONSUMER REPORTS

1. COMBINE QUARTERLY DATASETS INTO ANNUAL FILE

```
***************************************************************************
*
*  PROGRAM:  COMB2000.SAS
*  TASK:     ANNUAL DOD HEALTH CARE SURVEY ANALYSIS (8687-100)
*  PURPOSE:  Combine quarterly datasets into one annual file.
*
*  WRITTEN:  12/18/2001 BY KEITH RATHBUN.
*
*   INPUTS:  1) MERGEQ.SD2 - Q1-Q4 DOD HCS ANALYSIS FILES
*            2) SAMPLA02.SD2 - Q1-Q4 Sample files
*
*   OUTPUT:  1) COMB2000.SD2 - Combined quarterly datasets in one annual file
*
*    NOTES:  1) The output dataset produced by this program contains all
*               of the original quarterly responses plus additional
*               responses that "trickled" in after the end of the
*               fielding period. The variable called QUARTER can be used
*               to identify which version of the quarterly survey is
*               applicable to the respondent.
*            2) FIELDAGE is calculated for Q1-Q4 using PNBRTHDT from the
*               SAMPLA02.SD2 files.
*
***************************************************************************
* Assign data libraries and options
***************************************************************************;
LIBNAME INQ1    "...\DATA\Q1_2000T";
LIBNAME INQ2    "...\DATA\Q2_2000T";
LIBNAME INQ3    "...\DATA\Q3_2000T";
LIBNAME INQ4    "....\Q4_2000\DATA\AFINAL";
LIBNAME OUT     "...\DATA";
LIBNAME LIBRARY "....\Q4_2000\DATA\AFINAL\FMTLIB";
OPTIONS COMPRESS=YES LS=132 PS=79 NOCENTER;

***************************************************************************
* Calculate FIELDAGE for Q1-Q4 using SAMPLA02.SD2 files.
***************************************************************************;
%MACRO PROCESS(QTR=);
LIBNAME IN "D:\KEITH\DOD\&QTR\DATA";
DATA &QTR;
   SET IN.SAMPLA02(KEEP=MPRID PNBRTHDT);
   ************************************************************************
   * Define fielding start date so AGE can be recalculated based on DOB.
   ************************************************************************;
   %IF      "&QTR" = "Q1_2000" %THEN %DO;
      %LET FIELDATE = 01012001; * mmddyyyy;
   %END;
   %ELSE %IF "&QTR" = "Q2_2000" %THEN %DO;
      %LET FIELDATE = 04012001; * mmddyyyy;
   %END;
   %ELSE %IF "&QTR" = "Q3_2000" %THEN %DO;
      %LET FIELDATE = 07012001; * mmddyyyy;
   %END;
   %ELSE %IF "&QTR" = "Q4_2000" %THEN %DO;
      %LET FIELDATE = 10012001; * mmddyyyy;
   %END;
   ************************************************************************
   * Calculate FIELDAGE based on PNBRTHDT using fielding period
   * starting date.
   ************************************************************************;
   FIELDATE = INPUT("&FIELDATE",mmddyy8.);
   DOB = SUBSTR(PNBRTHDT,5,2) || SUBSTR(PNBRTHDT,7,2) || SUBSTR(PNBRTHDT,1,4);
   BRTHDATE = INPUT(DOB,mmddyy8.);

   FIELDAGE = PUT(INT((FIELDATE - BRTHDATE)/365.25),Z3.);
   IF FIELDAGE = "  ." THEN FIELDAGE = " ";

   KEEP MPRID FIELDAGE;
RUN;
%MEND PROCESS;
```

```
%PROCESS(QTR=Q1_2000);
%PROCESS(QTR=Q2_2000);
%PROCESS(QTR=Q3_2000);
%PROCESS(QTR=Q4_2000);

DATA FIELDAGE;
   SET Q1_2000 Q2_2000 Q3_2000 Q4_2000;
RUN;
PROC SORT DATA=FIELDAGE; BY MPRID; RUN;

*************************************************************************
* Combine quartely datasets with all of the "trickle" data into one file.
*************************************************************************;
DATA COMB2000;
   SET INQ1.MERGEQ
       INQ2.MERGEQ
       INQ3.MERGEQ
       INQ4.MERGEQ
      ;
   LABEL FIELDAGE = "Age at start of fielding period"
         DAGEQY   = "Age at time of data collection"
        ;
   ***********************************************************************
   * Fix XINS_COV -- Insurance Coverage.
   ***********************************************************************;
   IF XENRLLMT = 1 THEN XINS_COV = 1;                                  /* Prime <65-
Active Duty */
   ELSE IF '018' <= FIELDAGE  < '065' AND H00001 IN (1,2) THEN XINS_COV = 2; /* Prime
<65-Non-active Duty */
   ELSE IF H00001 = 3 THEN XINS_COV = 3;                               /* Standard/Extra
*/
   ELSE IF H00001 = 4 THEN XINS_COV = 4;                               /* Medicare A or
B*/
   ELSE IF H00001 IN (5, 6, 7, 8, 9) THEN XINS_COV = 5;                /* Other civilian
health insurance*/
   ELSE IF FIELDAGE >= '065' THEN DO;
      IF XENRLLMT = 5 AND H00001 IN (1,2) THEN XINS_COV = 6;           /* Prime, >= 65 */
   END;
   ***********************************************************************
   * A new annual version of CACSMPL is provided in REPWT.SD2.  So, we
   * drop the quarterly version here.
   ***********************************************************************;
   DROP CACSMPL;
RUN;

*************************************************************************
* Sort by MPRID and check for duplicates.  There should not be duplicates.
*************************************************************************;
PROC SORT DATA=COMB2000 NODUPKEY; BY MPRID; RUN;

DATA OUT.COMB2000;
   MERGE COMB2000 FIELDAGE;
   BY MPRID;
RUN;

TITLE1 "Annual DOD Health Care Survey Database (8687-100)";
TITLE2 "Program Name: COMB2000.SAS By Keith Rathbun";
TITLE3 "Program Inputs: SAMPLA02.SD2, MERGEQ.SD2 - Q1-Q4 DOD HCS Sample and Analysis
files";
TITLE4 "Program Output: COMB2000.SD2 - Combined quarterly datasets in one annual file";

PROC CONTENTS; RUN;
*************************************************************************
*
*  PROGRAM:  CAC98_99.SAS
*  TASK:     ANNUAL DOD HEALTH CARE SURVEY ANALYSIS (8687-210)
*  PURPOSE:  GENERATE CACSMPL WITH A CONSISTENT DEFINITION FOR 1998
*            AND 1999 DATASETS.  ADD THIS REVISED CACSMPL TO THE
*            EXISTING SAS DATASETS FROM PREVIOUS DOD CONTRACTS.
*            THE 4TH QUARTER 2000 DEFINITION IS USED TO DEFINE THE
```

```
*            REVISED 1998-1999 CACSMPL VARIABLE.
*
*  WRITTEN:  01/10/2002 BY KEITH RATHBUN.
*
*   INPUTS:  1) HCS98A_5.SD2 - 1998 Final Analysis File (8574)
*            2) HCS99A_5.SD2 - 1999 Final Analysis File (8687)
*            2) FY2001Q4.SD2 - Catchment Area Information
*
*   OUTPUT:  1) CAC98REV.SD2 - 1998 Final Analysis File with revised CACSMPL
*            2) CAC99REV.SD2 - 1999 Final Analysis File with revised CACSMPL
*
*    NOTES:  1) This program is derived from the Q4 2000 FRAMEA.SAS
*               program.  The CACSMPL parts were copied directly.  Macros
*               are used to allow for consistent variable names.
*
*************************************************************************;
TITLE1 "Annual DOD Health Care Survey Database (8687-210)";
TITLE2 "Program Name: CAC98_00.SAS By Keith Rathbun";
TITLE3 "Program Inputs: HCS98A_5.SD2, HCS99A_5.SD2 - 1998 and 1999 Analysis files";
TITLE4 "Program Outputs: CAC98REV.SD2 and CAC99REV.SD2 - Revised CACSMPL files";
OPTIONS NOCENTER COMPRESS=YES LS=132 PS=79 NOFMTERR;

************************************************************************
* GET AND MODIFY THE DOWNLOADED CATCHMENT INFORMATION DATA.
*************************************************************************;
LIBNAME IN  "....\2000\DATA"; *Library containing catchment information;
DATA FY2001Q4(KEEP = CELLP D_PAR D_FAC D_INSTAL D_HEALTH);
   SET IN.FY2001Q4 (RENAME = (FACILIT1=D_FAC INSTALLA=D_INSTAL));

   LENGTH D_PAR $4.;
   D_PAR = DMIS_PAR;

   LENGTH CELLP 8;
   CELLP = DMIS_ID;

   LENGTH D_HEALTH $2.;
   D_HEALTH = HEALTH_S;
RUN;
PROC SORT DATA=FY2001Q4; BY CELLP; RUN;

************************************************************************
* MACRO PARAMETERS:
* 1)  ILIB     = Input library for original 1998 and 1999 datasets
* 2)  IDSN     = Input DSN
* 3)  OLIB     = Output library for revised CACSMPL files
* 4)  ODSN     = Output DSN
*************************************************************************;
%MACRO PROCESS(ILIB=,IDSN=,OLIB=,ODSN=);

LIBNAME IN  &ILIB;
LIBNAME OUT &OLIB;

DATA &ODSN;
   SET IN.&IDSN(KEEP=MPRID CELLP);
RUN;
PROC SORT DATA=&ODSN; BY CELLP; RUN;

************************************************************************
* MERGE THE DOWNLOADED CATCHMENT INFORMATION DATA WITH THE ANALYSIS FILE
* AND UTILIZE CELLP TO RECACULATE CACSMPL ACCORDING TO THE Q4 2000
* CATCHMENT DEFINITION.
*************************************************************************;
DATA &ODSN;
   MERGE &ODSN(IN=IN1) FY2001Q4(IN=IN2);
   BY CELLP;

   LENGTH CACSMPL 8;
   ***********************************************************************
   * Construct CACSMPL based on the geographic sampling cell (CELLP).
   ***********************************************************************;
   SELECT (CELLP);
```

```
*********************************************************************
* FIRST ROUND OF COLLAPSING.
*********************************************************************;
WHEN (0002,0074)          CACSMPL=0001;
WHEN (0203)               CACSMPL=0005;
WHEN (0235)               CACSMPL=0014;
WHEN (0250)               CACSMPL=0015;
WHEN (0248,0213)          CACSMPL=0019;
WHEN (0018)               CACSMPL=0026;
WHEN (0100,0328,5401)     CACSMPL=0035;
WHEN (0050)               CACSMPL=0039;
WHEN (6203)               CACSMPL=0049;
WHEN (0076)               CACSMPL=0058;
WHEN (0338)               CACSMPL=0059;
WHEN (0068,0413)          CACSMPL=0066;
WHEN (5208)               CACSMPL=0067;
WHEN (0111)               CACSMPL=0083;
WHEN (0335)               CACSMPL=0089;
WHEN (0094)               CACSMPL=0093;
WHEN (0097)               CACSMPL=0098;
WHEN (0363)               CACSMPL=0109;
WHEN (0364)               CACSMPL=0112;
WHEN (0114)               CACSMPL=0117;
WHEN (7200)               CACSMPL=0129;
WHEN (0814)               CACSMPL=0633;
WHEN (0637)               CACSMPL=0638;
WHEN (0610)               CACSMPL=0640;
WHEN (0802)               CACSMPL=0620;
*********************************************************************
* SECOND ROUND OF COLLAPSING.
*********************************************************************;
WHEN (5208)               CACSMPL=0067;
WHEN (0041)               CACSMPL=0045;
WHEN (0077)               CACSMPL=0119;
WHEN (0106)               CACSMPL=0129;
WHEN (0615)               CACSMPL=0616;
WHEN (0624,0858)          CACSMPL=0617;
WHEN (0639)               CACSMPL=0640;
WHEN (0808)               CACSMPL=0609;
WHEN (0310)               CACSMPL=0321;
WHEN (0085,0111)          CACSMPL=0083;
WHEN (0077)               CACSMPL=0125;
WHEN (0130,0417,7044,7047) CACSMPL = 0005;
*********************************************************************
* THIRD ROUND OF COLLAPSING.
*********************************************************************;
WHEN(0034)                CACSMPL=0035;
WHEN(0416)                CACSMPL=0001;
WHEN(0418,0419)           CACSMPL=0014;
WHEN(0420)                CACSMPL=0037;
WHEN(0422,0361)           CACSMPL=0038; *1/14/2002 - KRR Add 361;
WHEN(0423)                CACSMPL=0064;
WHEN(0424)                CACSMPL=0067;
WHEN(0425,0426)           CACSMPL=0321;
WHEN(0428)                CACSMPL=0326;
WHEN(0430)                CACSMPL=0089;
WHEN(0431,0434)           CACSMPL=0125;
WHEN(0432,0433)           CACSMPL=0120;
WHEN(0435)                CACSMPL=0126;
WHEN(0449)                CACSMPL=9915;
WHEN(0618,0623,0629,0635,0815,0825,1170) CACSMPL=9913;
WHEN(3031)                CACSMPL=9903;
WHEN(5208)                CACSMPL=0067;
WHEN(7042)                CACSMPL=0616;
WHEN(7043)                CACSMPL=0052;
WHEN(0825,0653,1179,8931) CACSMPL=9913;
WHEN(7045)                CACSMPL=9911;
*********************************************************************
* FOURTH ROUND OF COLLAPSING.
*********************************************************************;
WHEN(6303)                CACSMPL=0029;
```

```
      WHEN(6305)                CACSMPL=0035;
      WHEN(6307)                CACSMPL=0039;
      WHEN(6311)                CACSMPL=0091;
      WHEN(6312)                CACSMPL=0092;
      WHEN(6314)                CACSMPL=0103;
      WHEN(6315)                CACSMPL=0104;
      WHEN(6318)                CACSMPL=0126;
      WHEN(6319)                CACSMPL=0127;
      ********************************************************************
      * ADDED SECOND QUARTER GEOGRAPHIC COLLAPSING.
      ********************************************************************;
      WHEN(0017)                CACSMPL=0028;
      WHEN(0421,7048)           CACSMPL=0039;
      WHEN(7083)                CACSMPL=0014;
      WHEN(6301)                CACSMPL=0024;
      WHEN(0190,0191,0198)      CACSMPL=0069; *1/11/2002 - KRR Add 191,198;
      WHEN(0192)                CACSMPL=0064;
      WHEN(0193)                CACSMPL=0326;
      WHEN(0194)                CACSMPL=0125;
      WHEN(0196,0197)           CACSMPL=0064; *1/11/2002 - KRR Add 197;
      WHEN(0199)                CACSMPL=0095; *1/11/2002 - KRR Add;
      ********************************************************************
      * ADDED FOURTH QUARTER.
      ********************************************************************;
      WHEN (0810) CACSMPL = 0638;
      OTHERWISE CACSMPL = D_PAR;
   END;

   IF D_FAC = 'NONCAT' THEN CACSMPL = '99'||D_HEALTH;
   IF CELLP IN (0000,0998,0999) THEN CACSMPL = 9999;

   ***********************************************************************
   * THIS SECTION OF GENERAL COLLAPSING RULES WAS OBTAINED FROM Q3 2000.
   ***********************************************************************;
   SELECT (CACSMPL);
      WHEN (0252) CACSMPL = 0033;
      WHEN (0378) CACSMPL = 0124;
      WHEN (0387) CACSMPL = 0124;
      WHEN (0508) CACSMPL = 0124;
      WHEN (0511) CACSMPL = 0103;
      WHEN (0534) CACSMPL = 0052;
      WHEN (1587) CACSMPL = 0109;
      WHEN (1592) CACSMPL = 0110;
      WHEN (1646) CACSMPL = 0125;
      WHEN (6201) CACSMPL = 0123;
      WHEN (7143) CACSMPL = 0089;
      WHEN (7236) CACSMPL = 0110;
      WHEN (7286) CACSMPL = 0089;
      WHEN (7293) CACSMPL = 0032;
      WHEN (7294) CACSMPL = 0089;
      OTHERWISE;
   END;

   IF IN1; * Keep all records in the analysis file;

   LABEL CACSMPL = "CACSMPL - Catchment Area (Q4 2000 defn)";
   KEEP MPRID CACSMPL;
RUN;

PROC SORT DATA=&ODSN; BY MPRID; RUN;

***************************************************************************
* UPDATE THE FINAL ANALYSIS FILE WITH THE REVISED CACSMPL VARIABLE.
***************************************************************************;
DATA OUT.&ODSN;
   MERGE IN.&IDSN(DROP=CACSMPL) &ODSN;
   BY MPRID;
RUN;

TITLE5 "CACSMPL recaculated from &IDSN..SD2";
PROC FREQ;
```

```
   TABLES CACSMPL /MISSING LIST;
RUN;

%MEND PROCESS;

%PROCESS(ILIB="J:\8574\DATA1998\FINAL",   IDSN=HCS98A_5,
         OLIB="....\1998\DATA",           ODSN=CAC98REV);
%PROCESS(ILIB="J:\8687\DATA1999\AFINAL",  IDSN=HCS99A_5,
         OLIB="....\1999\DATA",           ODSN=CAC99REV);

*************************************************************************
*
* PROGRAM:  ADDWGTS.SAS
* TASK:     2000 DOD HEALTH CARE SURVEY ANALYSIS (8687-610)
* PURPOSE:  MERGE THE FINAL WEIGHTS FILE WITH THE FINAL
*           QUESTIONNAIRE/SAMPLE FILE
*
* WRITTEN:  02/02/2001 BY KEITH RATHBUN
*
* MODIFIED: 1) 01/15/2002 BY KEITH RATHBUN: Updated to combine all quarterly
*           datasets including trickles with the annual weights file.
*
* INPUTS:   1) REPWT.SD2  - Final/Replicated Weights file - FORM A
*           2) COMB2000.SD2 - Combined Q1-Q4 FORM A Questionnaire/Sample File
*
* OUTPUTS:  1) HCSyyA_n.SD2 - Final FORM A Questionnaire/Sample File
*              combined with Final/Replicated Weights file - FORM A
*              where  yy = Year
*                      A = Form A - Annual
*                      n = Final Dataset Suffix/Version Number
*
* NOTES:    1) This program combines all of the quarterly input datasets
*              including trickles with the annual weights file.
*
*************************************************************************;
LIBNAME IN      "...\DATA";
LIBNAME OUT     "...\DATA";
LIBNAME LIBRARY "...\DATA\FMTLIB";

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

%MACRO PROCESS(DSNI_1=,DSNI_2=,DSNO=);
************************************************************************
* Merge the final weights file with the final Questionnaire/Sample file
*************************************************************************;
PROC SORT DATA=IN.&DSNI_1 OUT=&DSNI_1; BY MPRID; RUN;
PROC SORT DATA=IN.&DSNI_2 OUT=&DSNI_2; BY MPRID; RUN;

DATA &DSNO;
   MERGE &DSNI_2(IN=IN2)
         &DSNI_1(IN=IN1 DROP=QUARTER RENAME=(CACSMPL=XCACSMPL));
   BY MPRID;
   IF FNSTATUS = 11;
   IF IN1 AND IN2;
   IF NOT (IN1 AND IN2) THEN PUT "ERROR: NO MATCHING MPRID WITH &DSNI_1..SD2 AND
&DSNI_2..SD2";
   LABEL KEYCOUNT = "# of Key Questions Answered";
   LABEL ADJ_CELL = "ADJ_CELL - Adjusted STRATUM cell";
   LABEL CWRWT    = "Combined Annual Weight";
   ***********************************************************************
   * Change CACSMPL to be numeric datatype for future use with SUDAAN.
   ***********************************************************************;
   LABEL CACSMPL = "CACSMPL - Catchment Area";
   LENGTH CACSMPL 8;
   CACSMPL = XCACSMPL; DROP XCACSMPL;
   FORMAT CACSMPL CAC.;
RUN;

DATA OUT.&DSNO;
   ***********************************************************************
   * Reorder file for documentation purposes.
```

```
*************************************************************************;
LENGTH
    MPRID       $ 8         /* ID                */
    SVCSMPL       8         /* sampling variable */
    SEXSMPL       8         /* sampling variable */
    STRATUM     $ 7         /* sampling variable */
    CACSMPL       8         /* sampling variable */
    ENBGSMPL    $ 2         /* sampling variable */
    STRSMPL     $ 7         /* sampling variable */
    MPCSMPL       8         /* sampling variable */
    NHFF          8         /* sampling variable */
    SUBDEMO     $ 3         /* sampling variable */
    SERVAREA    $ 2         /* sampling variable */
    BOTHSURV    $ 1         /* sampling variable */
    E1          $ 1         /* sampling variable */
    E2          $ 1         /* sampling variable */
    E3          $ 1         /* sampling variable */
    E4          $ 1         /* sampling variable */

    SERVAFF     $ 1         /* DEERS variable    */
    MRTLSTAT    $ 1         /* DEERS variable    */
    RACEETHN    $ 1         /* DEERS variable    */
    PNSEXCD     $ 1         /* DEERS variable    */
    LEGDDSCD    $ 2         /* DEERS variable    */
    DAGEQY      $ 3         /* DEERS variable    */
    PCM         $ 3         /* DEERS variable    */
    TSPSITE    $ 10         /* DEERS variable    */
    DBENCAT     $ 3         /* DEERS variable    */
    DMEDELG     $ 1         /* DEERS variable    */
    DSPONSVC    $ 1         /* DEERS variable    */
    MBRRELCD    $ 1         /* DEERS variable    */
    MEDTYPE     $ 1         /* DEERS variable    */
    PATCAT      $ 7         /* DEERS variable    */
    PNARSNCD    $ 2         /* DEERS variable    */
    PNLCATCD    $ 1         /* DEERS variable    */
    FIELDAGE    $ 3         /* DEERS variable    */

    FNSTATUS      8         /* Updated DEERS variable    */
    KEYCOUNT      8         /* Updated DEERS variable    */

    H00000        4         /* questionnaire     */
    H00001        4         /* questionnaire     */
    H00002        4         /* questionnaire     */
    H00003A       4         /* questionnaire     */
    H00003B       4         /* questionnaire     */
    H00003C       4         /* questionnaire     */
    H00003D       4         /* questionnaire     */
    H00003E       4         /* questionnaire     */
    H00003F       4         /* questionnaire     */
    H00003G       4         /* questionnaire     */
    H00003H       4         /* questionnaire     */
    H00003I       4         /* questionnaire     */
    H00003J       4         /* questionnaire     */
    H00003K       4         /* questionnaire     */
    H00003L       4         /* questionnaire     */
    H00003M       4         /* questionnaire     */
    H00004        4         /* questionnaire     */
    H00005        4         /* questionnaire     */
    H00006        4         /* questionnaire     */
    H00007        4         /* questionnaire     */
    H00008        4         /* questionnaire     */
    H00009        4         /* questionnaire     */
    H00010        4         /* questionnaire     */
    H00011        4         /* questionnaire     */
    H00012        4         /* questionnaire     */
    H00013        4         /* questionnaire     */
    H00014        4         /* questionnaire     */
    H00015        4         /* questionnaire     */
    H00016        4         /* questionnaire     */
    H00017        4         /* questionnaire     */
    H00018        4         /* questionnaire     */
```

```
H00019        4         /* questionnaire     */
H00020        4         /* questionnaire     */
H00021        4         /* questionnaire     */
H00022        4         /* questionnaire     */
H00023        4         /* questionnaire     */
H00024        4         /* questionnaire     */
H00025        4         /* questionnaire     */
H00026        4         /* questionnaire     */
H00027        4         /* questionnaire     */
H00028        4         /* questionnaire     */
H00029        4         /* questionnaire     */
H00030        4         /* questionnaire     */
H00031        4         /* questionnaire     */
H00032        4         /* questionnaire     */
H00033        4         /* questionnaire     */
H00034        4         /* questionnaire     */
H00035        4         /* questionnaire     */
H00036        4         /* questionnaire     */
H00037        4         /* questionnaire     */
H00038        4         /* questionnaire     */
H00039        4         /* questionnaire     */
H00040        4         /* questionnaire     */
H00041        4         /* questionnaire     */
H00042        4         /* questionnaire     */
H00043        4         /* questionnaire     */
H00044        4         /* questionnaire     */
H00045        4         /* questionnaire     */
H00046        4         /* questionnaire     */
H00047        4         /* questionnaire     */
H00048        4         /* questionnaire     */
H00049        4         /* questionnaire     */
H00050        4         /* questionnaire     */
H00051        4         /* questionnaire     */
H00052        4         /* questionnaire     */
H00053        4         /* questionnaire     */
H00054        4         /* questionnaire     */
H00055        4         /* questionnaire     */
H00056        4         /* questionnaire     */
H00057        4         /* questionnaire     */
H00058        4         /* questionnaire     */
H00059        4         /* questionnaire     */
H00060        4         /* questionnaire     */
H00061        4         /* questionnaire     */
H00062        4         /* questionnaire     */
H00063        4         /* questionnaire     */
H00064        4         /* questionnaire     */
H00065        4         /* questionnaire     */
H00066        4         /* questionnaire     */
H00067        4         /* questionnaire     */
H00068        4         /* questionnaire     */
H00069        4         /* questionnaire     */
H00070        4         /* questionnaire     */
H00071        4         /* questionnaire     */
H00072        4         /* questionnaire     */
H00073A       4         /* questionnaire     */
H00073B       4         /* questionnaire     */
H00074        4         /* questionnaire     */
H00075        4         /* questionnaire     */
H00076A       4         /* questionnaire     */
H00076B       4         /* questionnaire     */
H00077        4         /* recode of S00s01  */
SREDA         4         /* questionnaire     */
H00079        4         /* questionnaire     */
SRRACEA       4         /* questionnaire     */
SRRACEB       4         /* questionnaire     */
SRRACEC       4         /* questionnaire     */
SRRACED       4         /* questionnaire     */
SRRACEE       4         /* questionnaire     */
SRAGE         4         /* questionnaire     */
H00082A       4         /* questionnaire     */
H00082B       4         /* questionnaire     */
```

```
H00083A       4         /* questionnaire     */
H00083B       4         /* questionnaire     */
H00083C       4         /* questionnaire     */
H00083D       4         /* questionnaire     */
H00083E       4         /* questionnaire     */
H00083F       4         /* questionnaire     */
H00083G       4         /* questionnaire     */
H00083H       4         /* questionnaire     */
H00083I       4         /* questionnaire     */
H00084        4         /* questionnaire     */
H00085A       4         /* questionnaire     */
H00085B       4         /* questionnaire     */
H00085C       4         /* questionnaire     */
H00085D       4         /* questionnaire     */
H00085E       4         /* questionnaire     */
H00085F       4         /* questionnaire     */
H00085G       4         /* questionnaire     */
H00085H       4         /* questionnaire     */
H00085I       4         /* questionnaire     */
H00085J       4         /* questionnaire     */
S00C01        4         /* questionnaire     */
S00C02        4         /* questionnaire     */
S00C03        4         /* questionnaire     */
S00C04        4         /* questionnaire     */
S00C05        4         /* questionnaire     */
S00C06        4         /* questionnaire     */
S00C07        4         /* questionnaire     */
S00C08        4         /* questionnaire     */
S00C09        4         /* questionnaire     */
S00C10        4         /* questionnaire     */
S00C11        4         /* questionnaire     */
S00C12        4         /* questionnaire     */
S00C13        4         /* questionnaire     */
S00C14        4         /* questionnaire     */
S00C15        4         /* questionnaire     */
S00C16        4         /* questionnaire     */
S00C17        4         /* questionnaire     */
S00C18        4         /* questionnaire     */
S00C19        4         /* questionnaire     */
S00C20        4         /* questionnaire     */
S00C21        4         /* questionnaire     */
S00C22        4         /* questionnaire     */
S00M01        4         /* questionnaire     */
S00M02        4         /* questionnaire     */
S00M03        4         /* questionnaire     */
S00A01A       4         /* questionnaire     */
S00A01B       4         /* questionnaire     */
S00A01C       4         /* questionnaire     */
S00A01D       4         /* questionnaire     */
S00A01E       4         /* questionnaire     */
S00A01F       4         /* questionnaire     */
S00A01G       4         /* questionnaire     */
S00A01H       4         /* questionnaire     */
S00A01I       4         /* questionnaire     */
S00A01J       4         /* questionnaire     */
S00A01K       4         /* questionnaire     */
S00A01L       4         /* questionnaire     */
S00A01M       4         /* questionnaire     */
S00A01N       4         /* questionnaire     */
S00A01O       4         /* questionnaire     */
S00A01P       4         /* questionnaire     */
S00A01Q       4         /* questionnaire     */
S00A01R       4         /* questionnaire     */
S00A02        4         /* questionnaire     */
S00A03        4         /* questionnaire     */
S00A04        4         /* questionnaire     */
S00A05A       4         /* questionnaire     */
S00A05B       4         /* questionnaire     */
S00A05C       4         /* questionnaire     */
S00A05D       4         /* questionnaire     */
S00A05E       4         /* questionnaire     */
```

```
S00A05F       4         /* questionnaire     */
S00A05G       4         /* questionnaire     */
S00A05H       4         /* questionnaire     */
S00A06        4         /* questionnaire     */
S00A07        4         /* questionnaire     */
S00A08        4         /* questionnaire     */
S00A09        4         /* questionnaire     */
S00A10        4         /* questionnaire     */
S00A11A       4         /* questionnaire     */
S00A11B       4         /* questionnaire     */
S00A11C       4         /* questionnaire     */
S00A11D       4         /* questionnaire     */
S00A11E       4         /* questionnaire     */
S00A11F       4         /* questionnaire     */
S00A11G       4         /* questionnaire     */
S00A11H       4         /* questionnaire     */
S00A11I       4         /* questionnaire     */
S00A11J       4         /* questionnaire     */
S00A12        4         /* questionnaire     */
S00A13        4         /* questionnaire     */
S00H01        4         /* questionnaire     */
S00H02        4         /* questionnaire     */
S00H03        4         /* questionnaire     */
S00H04        4         /* questionnaire     */
S00H05        4         /* questionnaire     */
S00H06        4         /* questionnaire     */
S00H07        4         /* questionnaire     */
S00H08        4         /* questionnaire     */
S00H09A       4         /* questionnaire     */
S00H09B       4         /* questionnaire     */
S00H09C       4         /* questionnaire     */
S00H09D       4         /* questionnaire     */
S00H09E       4         /* questionnaire     */
S00H09F       4         /* questionnaire     */
S00H09G       4         /* questionnaire     */
S00H10        4         /* questionnaire     */
S00H11A       4         /* questionnaire     */
S00H11B       4         /* questionnaire     */
S00H11C       4         /* questionnaire     */
S00H11D       4         /* questionnaire     */
S00H11E       4         /* questionnaire     */
S00H11F       4         /* questionnaire     */
S00H11G       4         /* questionnaire     */
S00H11H       4         /* questionnaire     */
S00H11I       4         /* questionnaire     */
S00H11J       4         /* questionnaire     */
S00H11K       4         /* questionnaire     */
S00H11L       4         /* questionnaire     */
S00H12        4         /* questionnaire     */
S00H13        4         /* questionnaire     */
S00H14        4         /* questionnaire     */
S00H15        4         /* questionnaire     */
S00I01        4         /* questionnaire     */
S00I02        4         /* questionnaire     */
S00I03        4         /* questionnaire     */
S00S01        4         /* questionnaire     */
S00S02        4         /* questionnaire     */
S00S03        4         /* questionnaire     */
S00S04        4         /* questionnaire     */
S00S05        4         /* questionnaire     */
S00S06        4         /* questionnaire     */
S00S07        4         /* questionnaire     */
S00S08        4         /* questionnaire     */
S00S09        4         /* questionnaire     */

FLAG_FIN    $ 5         /* DRC variable      */
DUPFLAG     $ 3         /* DRC variable      */

N1            8         /* CS flag variable     */
N2            8         /* CS flag variable     */
N3            8         /* CS flag variable     */
```

```
N4            8         /* CS flag variable     */
N5            8         /* CS flag variable     */
N6            8         /* CS flag variable     */
N7            8         /* CS flag variable     */
N8            8         /* CS flag variable     */
N9            8         /* CS flag variable     */
N10           8         /* CS flag variable     */
N11           8         /* CS flag variable     */
N12           8         /* CS flag variable     */
N13           8         /* CS flag variable     */
N14           8         /* CS flag variable     */
N15           8         /* CS flag variable     */
N16           8         /* CS flag variable     */
N17           8         /* CS flag variable     */
N18           8         /* CS flag variable     */
N18A          8         /* CS flag variable     */
N18B          8         /* CS flag variable     */
N18C          8         /* CS flag variable     */
N19           8         /* CS flag variable     */
N20           8         /* CS flag variable     */
N21           8         /* CS flag variable     */
N22           8         /* CS flag variable     */
N23           8         /* CS flag variable     */
N23A          8         /* CS flag variable     */
N23B          8         /* CS flag variable     */
N23C          8         /* CS flag variable     */
N24           8         /* CS flag variable     */
N25           8         /* CS flag variable     */
N25A          8         /* CS flag variable     */
N25B          8         /* CS flag variable     */
N25C          8         /* CS flag variable     */
N26           8         /* CS flag variable     */
N27           8         /* CS flag variable     */
N28           8         /* CS flag variable     */

MISS_1        8         /* CS Count             */
MISS_4        8         /* CS Count             */
MISS_5        8         /* CS Count             */
MISS_6        8         /* CS Count             */
MISS_7        8         /* CS Count             */
MISS_8        8         /* CS Count             */
MISS_9        8         /* CS Count             */
MISS_TOT      8         /* CS Count             */

QUARTER     $ 7         /* constructed       */
XENRLLMT      8         /* constructed       */
XENR_PCM      8         /* constructed       */
XINS_COV      8         /* constructed       */
XQENROLL      8         /* constructed       */
XREGION       3         /* constructed       */
CONUS         3         /* constructed       */
OUTCATCH      8         /* constructed       */
XSEXA         8         /* constructed       */
XBNFGRP       8         /* constructed       */
KENRINTN      8         /* constructed       */
KDISENRL      8         /* constructed       */
KMILOFFC      8         /* constructed       */
KCIVOFFC      8         /* constructed       */
KBGPRB1       8         /* constructed       */
KBGPRB2       8         /* constructed       */
KMILOPQY      8         /* constructed       */
KCIVOPQY      8         /* constructed       */
KCIVINS       8         /* constructed       */
KCOST_2       8         /* constructed       */
KMEDIGAP      8         /* constructed       */
KPRSCPTN      8         /* constructed       */
KBRSTCR       8         /* constructed       */
HP_PRNTL      8         /* constructed       */
HP_MAMOG      8         /* constructed       */
HP_MAM50      8         /* constructed       */
HP_PAP        8         /* constructed       */
```

```
HP_BP          8          /* constructed       */
HP_FLU         8          /* constructed       */
HP_PROS        8          /* constructed       */
HP_GP          8          /* constructed       */
HP_BRST        8          /* constructed       */
HP_CHOL        8          /* constructed       */
HP_SMOKE       8          /* constructed       */
SF8PF          3          /* constructed       */
SF8RP          3          /* constructed       */
SF8BP          3          /* constructed       */
SF8GH          3          /* constructed       */
SF8VT          3          /* constructed       */
SF8SF          3          /* constructed       */
SF8RE          3          /* constructed       */
SF8MH          3          /* constructed       */
PCS_8          4          /* constructed       */
MCS_8          4          /* constructed       */
KMID_H         3          /* constructed       */
KMID_MH        3          /* constructed       */

BWT            8          /* weights           */
ADJ_CELL       8          /* weights           */
WRWT           8          /* weights           */
WRWT1          8          /* weights           */
WRWT2          8          /* weights           */
WRWT3          8          /* weights           */
WRWT4          8          /* weights           */
WRWT5          8          /* weights           */
WRWT6          8          /* weights           */
WRWT7          8         /* WEIGHTS          */

WRWT8          8          /* weights           */
WRWT9          8         /* WEIGHTS          */

WRWT10         8          /* weights           */
WRWT11         8          /* weights           */
WRWT12         8          /* weights           */
WRWT13         8          /* weights           */
WRWT14         8          /* weights           */
WRWT15         8          /* weights           */
WRWT16         8          /* weights           */
WRWT17         8          /* weights           */
WRWT18         8          /* weights           */
WRWT19         8          /* weights           */
WRWT20         8          /* weights           */
WRWT21         8          /* weights           */
WRWT22         8          /* weights           */
WRWT23         8          /* weights           */
WRWT24         8          /* weights           */
WRWT25         8          /* weights           */
WRWT26         8          /* weights           */
WRWT27         8          /* weights           */
WRWT28         8          /* weights           */
WRWT29         8          /* weights           */
WRWT30         8          /* weights           */
WRWT31         8          /* weights           */
WRWT32         8          /* weights           */
WRWT33         8          /* weights           */
WRWT34         8          /* weights           */
WRWT35         8          /* weights           */
WRWT36         8          /* weights           */
WRWT37         8          /* weights           */
WRWT38         8          /* weights           */
WRWT39         8          /* weights           */
WRWT40         8          /* weights           */
WRWT41         8          /* weights           */
WRWT42         8          /* weights           */
WRWT43         8          /* weights           */
WRWT44         8          /* weights           */
WRWT45         8          /* weights           */
WRWT46         8          /* weights           */
WRWT47         8          /* weights           */
```

```
WRWT48        8         /* weights          */
WRWT49        8         /* weights          */
WRWT50        8         /* weights          */
WRWT51        8         /* weights          */
WRWT52        8         /* weights          */
WRWT53        8         /* weights          */
WRWT54        8         /* weights          */
WRWT55        8         /* weights          */
WRWT56        8         /* weights          */
WRWT57        8         /* weights          */
WRWT58        8         /* weights          */
WRWT59        8         /* weights          */
WRWT60        8         /* weights          */
CWRWT         8         /* weights          */
CWRWT1        8         /* weights          */
CWRWT2        8         /* weights          */
CWRWT3        8         /* weights          */
CWRWT4        8         /* weights          */
CWRWT5        8         /* weights          */
CWRWT6        8         /* weights          */
CWRWT7        8         /* weights          */
CWRWT8        8         /* weights          */
CWRWT9        8         /* weights          */
CWRWT10       8         /* weights          */
CWRWT11       8         /* weights          */
CWRWT12       8         /* weights          */
CWRWT13       8         /* weights          */
CWRWT14       8         /* weights          */
CWRWT15       8         /* weights          */
CWRWT16       8         /* weights          */
CWRWT17       8         /* weights          */
CWRWT18       8         /* weights          */
CWRWT19       8         /* weights          */
CWRWT20       8         /* weights          */
CWRWT21       8         /* weights          */
CWRWT22       8         /* weights          */
CWRWT23       8         /* weights          */
CWRWT24       8         /* weights          */
CWRWT25       8         /* weights          */
CWRWT26       8         /* weights          */
CWRWT27       8         /* weights          */
CWRWT28       8         /* weights          */
CWRWT29       8         /* weights          */
CWRWT30       8         /* weights          */
CWRWT31       8         /* weights          */
CWRWT32       8         /* weights          */
CWRWT33       8         /* weights          */
CWRWT34       8         /* weights          */
CWRWT35       8         /* weights          */
CWRWT36       8         /* weights          */
CWRWT37       8         /* weights          */
CWRWT38       8         /* weights          */
CWRWT39       8         /* weights          */
CWRWT40       8         /* weights          */
CWRWT41       8         /* weights          */
CWRWT42       8         /* weights          */
CWRWT43       8         /* weights          */
CWRWT44       8         /* weights          */
CWRWT45       8         /* weights          */
CWRWT46       8         /* weights          */
CWRWT47       8         /* weights          */
CWRWT48       8         /* weights          */
CWRWT49       8         /* weights          */
CWRWT50       8         /* weights          */
CWRWT51       8         /* weights          */
CWRWT52       8         /* weights          */
CWRWT53       8         /* weights          */
CWRWT54       8         /* weights          */
CWRWT55       8         /* weights          */
CWRWT56       8         /* weights          */
CWRWT57       8         /* weights          */
```

```
       CWRWT58       8         /* weights           */
       CWRWT59       8         /* weights           */
       CWRWT60       8         /* weights           */
     ;
   SET &DSNO;
RUN;

TITLE1 "2000 DOD Quarterly Health Care Survey (8687-610)";
TITLE2 "Program Name: ADDWGTS.SAS By Keith Rathbun";
TITLE3 "Program Inputs: &DSNI_1..SD2 -- &DSNI_2..SD2";
TITLE4 "Program Outputs: &DSNO..SD2";
PROC CONTENTS; RUN;

%MEND PROCESS;

%PROCESS(DSNI_1=REPWT, DSNI_2=COMB2000, DSNO=HCS00A_1);
```

2. CALCULATE CAHPS ADJUSTED SCORES

```
*****************************************************************************
*
*  PROJECT:  DoD - Quarterly Adult Report Cards
*  PROGRAM:  STEP1Q.SAS
*  PURPOSE:  Create Dummy and Recode Variables used in Adult Report Card
*                  Create a Female dummy variable
*                  Create an Education dummy variable
*                  Create 15 region dummies combining regions.
*                         7 & 8 into region 8. That is, there
*                         isn't a region 7 dummy.
*                  Create 7 age dummy variables.
*
*            We require the most desired code to be the highest value.
*            Recode the dependent variables into:
*                  1 - the least desirable value
*                  2 - the 2nd least desirable value
*                  3 - the most desirable value
*                  . - missing
*
*            Create 7 variables GROUP1 - GROUP7
*                 IF (XINS_COV IN (1,2,6) AND H00002>=2) THEN GROUP1 = 1
*                 IF (XENR_PCM IN (1,2,6) AND H00002>=2) THEN GROUP2 = 1
*                 IF (XENR_PCM IN (3,7)   AND H00002>=2) THEN GROUP3 = 1
*                 IF XINS_COV IN (3,4,5)                 THEN GROUP4 = 1
*                 IF XBNFGRP = 1                         THEN GROUP5 = 1
*                 IF XBNFGRP = 2                         THEN GROUP6 = 1
*                 IF XBNFGRP IN (3,4)                    THEN GROUP7 = 1
*                 GROUP8 is output for all beneficiaries
*
*  MODIFIED: 1) February 2001 by Keith Rathbun: Update for quarterly
*               adult report cards.  Removed permanent dataset ENTIRE.SD2.
*            2) August 2001 By Keith Rathbun, Updated DSN and LIBNAME
*               for 3rd quarter adult report cards.
*            3) October 2001 by Daniele Beahm: Because there was no post-
*               stratification done in Q3, changed all references of the
*               POSTSTR variable to ADJ_CELL
*            4) December 2001 by Mike Scott: Added CACRPT.INC file, updated
*               PROLOG, and added Catchment level dummy variables.
*            5) 1/31/2002 by Mike Scott: Added condition XENR_PCM = 7 (now
*               XENR_PCM IN (3,7)) for GROUP3.
*
*  INPUTS:   1) HCS00A_1.SD2 - Combined DoD Quarterly 2000 Database
*
*  OUTPUTS:  1) GROUP1-8.SD2 - DoD Quarterly GROUP files as defined above
*
*  INCLUDES: 1) CONVERT.SAS - Convert item responses to proportional
*                               values for consistency w/ TOPS
*
*  NOTES:    1) Groups 1-3 modified 10/09/2000
*
*****************************************************************************;
OPTIONS NOCENTER LS=124 PS=74 SOURCE SOURCE2 NOFMTERR NOOVP COMPRESS=YES;
LIBNAME OUT "DATA";
LIBNAME IN1 "....\DATA";

TITLE1    'Program Saved as: STEP1Q.SAS';

PROC CONTENTS DATA=IN1.HCS00A_1;
RUN;

DATA ENTIRE;
   SET IN1.HCS00A_1(KEEP=
                 MPRID
                 DAGEQY
                 FIELDAGE
                 XREGION
                 CACSMPL
                 CONUS
                 ENBGSMPL
                 SREDA
```

```
                XSEXA
                XBNFGRP
                ADJ_CELL
                XINS_COV
                XENR_PCM
                cWRWT
                /* Getting Needed Care */
                H00007
                H00014
                H00028
                H00029
                /* Getting Care Quickly */
                H00019
                H00021
                H00024
                H00030
                /* How Well Doctors Communicate */
                H00033
                H00034
                H00035
                H00036
                /* Courteous and Helpful Office Staff */
                H00031
                H00032
                /* Customer Service */
                H00048
                H00050
                H00055
                /* Claims Processing */
                H00044
                H00045

                H00047 /*2000 only - revised trigger for h00048*/
                S00S01 /****************************/
                H00037 /* Health Care Rating        */
                H00056 /* Health Plan Rating        */
                H00009 /* Personal Doctor Rating    */
                H00016 /* Specialist Rating         */
                H00002 /* How Long in Health Plan   */
                H00077 /* Health Status             */
                       /****************************/
              );
    FORMAT _ALL_;
    ****************************************************************
    * Recode CACSMPL for WEB purposes.
    ****************************************************************;
    *%INCLUDE "J:\DOD\2000\PROGRAMS\LOADWEB\CACRPT.INC";  * Catchment Definitions;

    IF XREGION = .    THEN DELETE;
    IF XINS_COV NOT IN(1,2,3,6) THEN DELETE;
                      /* Note:  use tmp_cell in step2q.sas */
    LENGTH TMP_CELL 8;
    TMP_CELL = ADJ_CELL;
    wrwt=cwrwt;
RUN;

 *-------------------------------------------------;
 * create variable names for catchment area dummies ;
 *-------------------------------------------------;

 *  create a file of catchment areas (UNIQUE) using the sort to drop;
 *  all duplicate catchment areas leaving one record per;
 *  unique catctment area code;
 PROC SORT DATA=ENTIRE OUT=UNIQUE(KEEP=CACSMPL) NODUPKEY;
      BY CACSMPL;
 RUN;


 *  create a file (FILEA) with catchment areas codes and a catchment;
 *  name consisting of "CAT" concatenated with a 4 digit number;
 *  created by ting of "CAT" concatenated with a 4 digit number;
```

```
 DATA FILEA (RENAME=(CACSMPL=START SERIAL=LABEL));
      SET UNIQUE;
      SERIAL+1;
      LENGTH FMTNAME $7 DUMNAME $7;
      FMTNAME='CACLOOK';
      DUMNAME= 'CAT' || PUT(CACSMPL, Z4.);
 RUN;


PROC PRINT DATA=FILEA;
     TITLE2 '1 record per catchment area (use this file to create a format)';
RUN;


* create a format statement to be used to create CATINDX;
PROC FORMAT CNTLIN=FILEA;  RUN;


 * create an include file for a complete set of catchment areas.
 * Write out to a file (CDUMFILE.INC) of the catchment dummy variables;
 DATA _NULL_;
      SET FILEA END=EOF;
      FILE 'CDUMFILE.INC';
      IF _N_ = 1 THEN DO;
         PUT @10  "ARRAY CATDUMS(*) 4";
      END;
      PUT    @15   DUMNAME $7.;

      IF EOF  THEN  PUT @10 ";";
 RUN;

*************************************************************************
* Create AGE, FEMALE and GROUP (Beneficiary/Enrollment)
* subsets. Create the region dummies.  Recode region 7 to region 8.
*************************************************************************;
DATA ENTIRE;
   SET ENTIRE;
   LENGTH DEFAULT = 4;
   IF FIELDAGE NE "  " THEN DO;
      AGE1824=0;
      AGE2534=0;
      AGE3544=0;
      AGE4554=0;
      AGE5564=0;
      AGE6574=0;
      AGE75UP=0;
      IF      ( '018' <= FIELDAGE <= '024' ) THEN AGE1824=1;
      ELSE IF ( '025' <= FIELDAGE <= '034' ) THEN AGE2534=1;
      ELSE IF ( '035' <= FIELDAGE <= '044' ) THEN AGE3544=1;
      ELSE IF ( '045' <= FIELDAGE <= '054' ) THEN AGE4554=1;
      ELSE IF ( '055' <= FIELDAGE <= '064' ) THEN AGE5564=1;
      ELSE IF ( '065' <= FIELDAGE <= '074' ) THEN AGE6574=1;
      ELSE IF (          FIELDAGE  > '074' ) THEN AGE75UP=1;
   END;

   ************************************************************************
   * Create the FEMALE dummy variable.
   ************************************************************************;
   IF XSEXA = 2 THEN
      FEMALE = 1;
   ELSE
      FEMALE = 0;

   ************************************************************************
   * Create the beneficiary group/enrollment group subsets.
   ************************************************************************;
   GROUP1 = 0;
   GROUP2 = 0;
   GROUP3 = 0;
   GROUP4 = 0;
   GROUP5 = 0;
```

```
GROUP6 = 0;
GROUP7 = 0;
GROUP8 = 1;     * EVERYONE;

IF (XINS_COV IN (1,2,6)  AND H00002>=2) THEN GROUP1 = 1;
IF (XENR_PCM IN (1,2,6)  AND H00002>=2) THEN GROUP2 = 1;
IF (XENR_PCM IN (3,7)    AND H00002>=2) THEN GROUP3 = 1;
IF XINS_COV IN (3,4,5)   THEN GROUP4 = 1;
IF XBNFGRP = 1           THEN GROUP5 = 1;
IF XBNFGRP = 2           THEN GROUP6 = 1;
IF XBNFGRP IN (3,4)      THEN GROUP7 = 1;

************************************************************************
* Reorder the codes for H00030.  H00030 is in reverse order.
************************************************************************;
IF H00030 = 1      THEN R00030 = 4;
ELSE IF H00030 = 2 THEN R00030 = 3;
ELSE IF H00030 = 3 THEN R00030 = 2;
ELSE IF H00030 = 4 THEN R00030 = 1;
ELSE IF H00030 < 0 THEN R00030 = .;
   IF R00030 > 1   THEN R00030 = R00030 - 1;

***********************************************************************
* Recode variables with Never, Sometimes, Usually and Always:
*    Recode Never & Sometimes (1 & 2) to 1.
*    Recode Usually (3) to 2.
*    Recode Always (4) to 3.
************************************************************************;
IF H00019 = 1      THEN R00019 = 1;
ELSE IF H00019 = 2 THEN R00019 = 1;
ELSE IF H00019 = 3 THEN R00019 = 2;
ELSE IF H00019 = 4 THEN R00019 = 3;
ELSE IF H00019 < 0 THEN R00019 = .;

IF H00021 = 1      THEN R00021 = 1;
ELSE IF H00021 = 2 THEN R00021 = 1;
ELSE IF H00021 = 3 THEN R00021 = 2;
ELSE IF H00021 = 4 THEN R00021 = 3;
ELSE IF H00021 < 0 THEN R00021 = .;

IF H00024 = 1      THEN R00024 = 1;
ELSE IF H00024 = 2 THEN R00024 = 1;
ELSE IF H00024 = 3 THEN R00024 = 2;
ELSE IF H00024 = 4 THEN R00024 = 3;
ELSE IF H00024 < 0 THEN R00024 = .;

IF H00031 = 1      THEN R00031 = 1;
ELSE IF H00031 = 2 THEN R00031 = 1;
ELSE IF H00031 = 3 THEN R00031 = 2;
ELSE IF H00031 = 4 THEN R00031 = 3;
ELSE IF H00031 < 0 THEN R00031 = .;

IF H00032 = 1      THEN R00032 = 1;
ELSE IF H00032 = 2 THEN R00032 = 1;
ELSE IF H00032 = 3 THEN R00032 = 2;
ELSE IF H00032 = 4 THEN R00032 = 3;
ELSE IF H00032 < 0 THEN R00032 = .;

IF H00033 = 1      THEN R00033 = 1;
ELSE IF H00033 = 2 THEN R00033 = 1;
ELSE IF H00033 = 3 THEN R00033 = 2;
ELSE IF H00033 = 4 THEN R00033 = 3;
ELSE IF H00033 < 0 THEN R00033 = .;

IF H00034 = 1      THEN R00034 = 1;
ELSE IF H00034 = 2 THEN R00034 = 1;
ELSE IF H00034 = 3 THEN R00034 = 2;
ELSE IF H00034 = 4 THEN R00034 = 3;
ELSE IF H00034 < 0 THEN R00034 = .;

IF H00035 = 1      THEN R00035 = 1;
```

```
ELSE IF H00035 = 2 THEN R00035 = 1;
ELSE IF H00035 = 3 THEN R00035 = 2;
ELSE IF H00035 = 4 THEN R00035 = 3;
ELSE IF H00035 < 0 THEN R00035 = .;

IF H00036 = 1      THEN R00036 = 1;
ELSE IF H00036 = 2 THEN R00036 = 1;
ELSE IF H00036 = 3 THEN R00036 = 2;
ELSE IF H00036 = 4 THEN R00036 = 3;
ELSE IF H00036 < 0 THEN R00036 = .;

IF H00044 = 1      THEN R00044 = 1;
ELSE IF H00044 = 2 THEN R00044 = 1;
ELSE IF H00044 = 3 THEN R00044 = 2;
ELSE IF H00044 = 4 THEN R00044 = 3;
ELSE IF H00044 < 0 THEN R00044 = .;

IF H00045 = 1      THEN R00045 = 1;
ELSE IF H00045 = 2 THEN R00045 = 1;
ELSE IF H00045 = 3 THEN R00045 = 2;
ELSE IF H00045 = 4 THEN R00045 = 3;
ELSE IF H00045 < 0 THEN R00045 = .;

   /* 2000 only - change value for h00048 if trigger forces skip*/
IF h00047=2 then h00048=1;

************************************************************************
* Recode variables to one missing condition ".".
* This also renames all the "H000xx" to "R000xx".
************************************************************************;
R00007 = H00007;  IF R00007 < 0 THEN R00007 = .;
R00009 = H00009;  IF R00009 < 0 THEN R00009 = .;
R00014 = H00014;  IF R00014 < 0 THEN R00014 = .;
R00016 = H00016;  IF R00016 < 0 THEN R00016 = .;
R00028 = H00028;  IF R00028 < 0 THEN R00028 = .;
R00029 = H00029;  IF R00029 < 0 THEN R00029 = .;
R00037 = H00037;  IF R00037 < 0 THEN R00037 = .;
R00048 = H00048;  IF R00048 < 0 THEN R00048 = .;
R00050 = H00050;  IF R00050 < 0 THEN R00050 = .;
R00055 = H00055;  IF R00055 < 0 THEN R00055 = .;
R00056 = H00056;  IF R00056 < 0 THEN R00056 = .;
R00077 = H00077;  IF R00077 < 0 THEN R00077 = .;

***********************************************************************
* Recode H00077 because this is the Health Status Question which was
* changed in the 4th quarter of 2000 so have to recode to be consistent with
* previous quarters/years
***********************************************************************;
IF S00S01=6 then H00077=0;

**********************************************************************
* Create region dummies.
**********************************************************************;
IF XREGION NE . THEN DO;
   ARRAY REGDUMS (15) REG01 REG02 REG03 REG04 REG05 REG06 REG08
                      REG09 REG10 REG11 REG12 REG13 REG14 REG15 REG16;
   DO I = 1 TO 15;
      REGDUMS(I)=0;
   END;
   IF XREGION= 7  THEN XREGION = 8;  * Recode Region 7 into Region 8;
   IF       XREGION= 1  THEN REG01  =1;
   ELSE IF  XREGION= 2  THEN REG02  =1;
   ELSE IF  XREGION= 3  THEN REG03  =1;
   ELSE IF  XREGION= 4  THEN REG04  =1;
   ELSE IF  XREGION= 5  THEN REG05  =1;
   ELSE IF  XREGION= 6  THEN REG06  =1;
   ELSE IF  XREGION= 8  THEN REG08  =1;
   ELSE IF  XREGION= 9  THEN REG09  =1;
   ELSE IF  XREGION=10  THEN REG10  =1;
   ELSE IF  XREGION=11  THEN REG11  =1;
   ELSE IF  XREGION=12  THEN REG12  =1;
```

```
      ELSE IF  XREGION=13  THEN REG13  =1;
      ELSE IF  XREGION=14  THEN REG14  =1;
      ELSE IF  XREGION=15  THEN REG15  =1;
      ELSE IF  XREGION=16  THEN REG16  =1;
   END;

   *-------------------------;
   * Create catchment dummies;
   *-------------------------;
   %INCLUDE 'CDUMFILE.INC';   * this is array statement;
   CATINDX = INPUT(PUT(CACSMPL, CACLOOK.), 3.);
   DO I = 1 TO DIM(CATDUMS);
     CATDUMS(I) = 0;
   END;
   CATDUMS(CATINDX)=1;

RUN;

*****************************************************************************
* Recode item responses to proportional values using CONVERT.SAS.
*****************************************************************************;
%INCLUDE "......\8687\PROGRAMS\REPORTCARDS\CONVERT.SAS";

%CONT1(DSN=ENTIRE, NUM=7,  Y=R00007 R00014 R00028 R00029
                                R00048 R00050 R00055);
%CONT2(DSN=ENTIRE, NUM=4,  Y=R00037 R00056 R00009 R00016);
%CONT3(DSN=ENTIRE, NUM=12, Y=R00019 R00021 R00024 R00030
                               R00033 R00034 R00035 R00036
                               R00031 R00032 R00044 R00045);

*****************************************************************************
* Sort the main file to reorder it by MPRID.
*****************************************************************************;
PROC SORT DATA=ENTIRE; BY MPRID; RUN;

*****************************************************************************
* Print the contents of ENTIRE dataset.
*****************************************************************************;
PROC CONTENTS DATA=ENTIRE;
   TITLE2 'Contents of ENTIRE';
RUN;


*****************************************************************************
* Print some of the recoded records.
*****************************************************************************;
PROC PRINT DATA=ENTIRE(OBS=60);
   TITLE2 'Print of AGE and SEX dummies';
   VAR MPRID
       DAGEQY
       FIELDAGE
       XREGION
       CONUS
       ENBGSMPL
       XSEXA
       ADJ_CELL
       XINS_COV
       XENR_PCM
       WRWT
      ;
RUN;

*****************************************************************************
* Print some of the recoded records.
*****************************************************************************;
PROC PRINT DATA=ENTIRE(OBS=60);
   TITLE2 'Print of AGE and SEX dummies';
   VAR DAGEQY
       FIELDAGE
       AGE1824
       AGE2534
```

```
       AGE3544
       AGE4554
       AGE5564
       AGE6574
       AGE75UP

       XSEXA
       FEMALE

       ENBGSMPL
       XINS_COV
       XENR_PCM
       XBNFGRP
       GROUP1
       GROUP2
       GROUP3
       GROUP4
       GROUP5
       GROUP6
       GROUP7
      ;
RUN;

PROC PRINT DATA=ENTIRE(OBS=60);
   TITLE2 'Print of recoded question variables';
   VAR H00007  R00007
       H00009  R00009
       H00014  R00014
       H00016  R00016
       H00019  R00019
       H00021  R00021
       H00024  R00024
       H00028  R00028
       H00029  R00029
       H00030  R00030
       H00031  R00031
       H00032  R00032
       H00033  R00033
       H00034  R00034
      ;
RUN;


PROC PRINT DATA=ENTIRE(OBS=60);
   TITLE2 'Print of recoded question variables';
   VAR H00035  R00035
       H00036  R00036
       H00037  R00037
       H00044  R00044
       H00045  R00045
       H00048  R00048
       H00050  R00050
       H00055  R00055
       H00056  R00056
       H00077  R00077
      ;
RUN;

PROC PRINT DATA=ENTIRE(OBS=60);
   TITLE2 'Print of recoded REGION variables';
   VAR XREGION
       REG01
       REG02
       REG03
       REG04
       REG05
       REG06
       REG08
       REG09
       REG10
       REG11
```

```
       REG12
       REG13
       REG14
       REG15
      ;
RUN;

*************************************************************************
* Create the 7 subgroups for processing by STEP2.SAS.
*************************************************************************;
DATA OUT.GROUP1
     OUT.GROUP2
     OUT.GROUP3
     OUT.GROUP4
     OUT.GROUP5
     OUT.GROUP6
     OUT.GROUP7
     OUT.GROUP8;

     SET ENTIRE;

     DROP
        H00007
        H00009
        H00014
        H00016
        H00019
        H00021
        H00024
        H00028
        H00029
        H00030
        H00031
        H00032
        H00033
        H00034
        H00035
        H00036
        H00037
        H00044
        H00045
        H00048
        H00050
        H00055
        H00056
        H00077
        ;
      IF GROUP1 = 1 THEN OUTPUT OUT.GROUP1;
      IF GROUP2 = 1 THEN OUTPUT OUT.GROUP2;
      IF GROUP3 = 1 THEN OUTPUT OUT.GROUP3;
      IF GROUP4 = 1 THEN OUTPUT OUT.GROUP4;
      IF GROUP5 = 1 THEN OUTPUT OUT.GROUP5;
      IF GROUP6 = 1 THEN OUTPUT OUT.GROUP6;
      IF GROUP7 = 1 THEN OUTPUT OUT.GROUP7;
      OUTPUT OUT.GROUP8;
RUN;

/*****************************************************************************************
/*  Project:  DoD - 1999 Adult Report Cards
/*  Program:  STEP2.SAS
/*  Purpose:  Draft Adult Report Card
/*  Requires program STEP1.SAS to have been run
/*  Programming specifications for adult report card
/*  The adult report card contains a large number of
/*  risk-adjusted scores.  Some scores are
/*  calculated from responses to individual survey questions.
/*  Composite scores are calculated by
/*  combining scores from individual questions.
/*  The scores then are compared with external civilian
/*  benchmarks.  The programming tasks involved in building
/*  the report card are:
```

```
/*       1)   preparing data for analyses
/*       2)   estimating risk adjustment models
/*       3)   calculating risk-adjusted values and variances
/*       4)   calculating benchmarks
/*       5)   comparing risk-adjusted values to benchmarks
/*            and hypothesis testing
/*
/*  Modified: 1) December 2001 By Mike Scott: Updated parameters for 2000 survey,
/*               added V612 to support SUDAAN with Version 8 SAS, changed STRATUM to
/*               TMP_CELL, and changed INTERCEP to INTERCEPT to support Version 8 SAS.
/*
/* SUBGROUPS
/* ____________________________________________________________________________________
/*    Seven subgroups          Definitions                        Reg or Catch   Macro
/* ____________________________________________________________________________________
/* 1. Prime enrollees          XINS_COV IN(1,2,6) AND H00002>=4   Catchment      SCORE1
/* 2. Enrollees w/mil PCM      XENR_PCM IN(1,2,6) AND H00002>=4   Catchment      SCORE1
/* 3. Enrollees w/civ PCM      XENR_PCM = 3       AND H00002>=4   Region         SCORE2
/* 4. Nonenrollees             XINS_COV IN(3,4,5)                 Region         SCORE2
/* 5. Active duty              XBNFGRP=1                          Catchment      SCORE1
/* 6. Active duty dependents   XBNFGRP=2                          Region         SCORE2
/* 7. Retirees and dependents  XBNFGRP IN (3,4)                   Region         SCORE2
/*
/*  PREV PGM:  STEP1.SAS
/*  NEXT PGM:  COMPOSIT.SAS
/*************************************************************************************/
*OPTIONS NOCENTER LS=132 PS=78 SOURCE NOOVP COMPRESS=YES;
OPTIONS NOCENTER LS=132 PS=78 SOURCE NOOVP MPRINT MLOGIC SYMBOLGEN STIMER;
LIBNAME   IN1  V612    "DATA";
LIBNAME   IN2  V612    "....\DATA";
LIBNAME   OUT  V612    "DATA";
LIBNAME   OUT2 V612    "DATA\ADULTHATFILES";


*--------------------------------------;
*-       set the parameters here      -;
*--------------------------------------;

* set the number of Dependent variables to process;
* One does not need to start at 1, but the max must be >= min;
%LET MIN_VAR =  1;
%LET MAX_VAR =  23;

* set the number of subgroups to process;
%LET MIN_GRP = 1;
%LET MAX_GRP = 8;

*************************************************************************
* These are expected to remain the same for a particular dependent
* variable run.
*************************************************************************;
%LET WGT      = WRWT;
%LET IND_VAR1 = R00077;
%LET IND_VAR2 =  ;  * FEMALE;
%LET IND_VAR3 =  ;  * SREDHIGH;
%LET DEBUGFLG = 0;  * Set to 1 if you want extra printout;


%LET TITL1 = Prime Enrollees;
%LET TITL2 = Enrollees w/military PCM;
%LET TITL3 = Enrollees w/civilian PCM;
%LET TITL4 = Nonenrollees;
%LET TITL5 = Active Duty;
%LET TITL6 = Active Duty Dependents;
%LET TITL7 = Retirees and Dependents;
%LET TITL8 = All Beneficiaries;


*************************************************************************
* GETTING NEEDED CARE.
*************************************************************************;
```

```
%LET DEPVAR1 = R00007;
%LET DEPVAR2 = R00014;
%LET DEPVAR3 = R00028;
%LET DEPVAR4 = R00029;

*****************************************************************************
* GETTING NEEDED CARE QUICKLY.
*****************************************************************************;
%LET DEPVAR5 = R00019;
%LET DEPVAR6 = R00021;
%LET DEPVAR7 = R00024;
%LET DEPVAR8 = R00030;

*****************************************************************************
* HOW WELL DOCTORS COMMUNICATE.
*****************************************************************************;
%LET DEPVAR9  = R00033;
%LET DEPVAR10 = R00034;
%LET DEPVAR11 = R00035;
%LET DEPVAR12 = R00036;

*****************************************************************************
* COURTEOUS AND HELPFUL OFFICE STAFF.
*****************************************************************************;
%LET DEPVAR13 = R00031;
%LET DEPVAR14 = R00032;

*****************************************************************************
* CUSTOMER SERVICE.
*****************************************************************************;
%LET DEPVAR15 = R00048;
%LET DEPVAR16 = R00050;
%LET DEPVAR17 = R00055;

*****************************************************************************
* CLAIMS PROCESSING.
*****************************************************************************;
%LET DEPVAR18 = R00044;
%LET DEPVAR19 = R00045;

*****************************************************************************
* RATING ALL HEALTH CARE: 0 - 10.
*****************************************************************************;
%LET DEPVAR20 = R00037;

*****************************************************************************
* RATING OF HEALTH PLAN: 0 - 10.
*****************************************************************************;
%LET DEPVAR21 = R00056;

*****************************************************************************
* RATING OF PERSONAL DR: 0 - 10.
*****************************************************************************;
%LET DEPVAR22 = R00009;

*****************************************************************************
* SPECIALITY CARE: 0 - 10.
*****************************************************************************;
%LET DEPVAR23 = R00016;

 *
;
 %MACRO SCORE1;
 ********************************************,
 *     use this macro for groups 1, 2 & 5    *;
 *     catchment variables are to be used    *;
 ********************************************;
 %PUT ****************************************;
 %PUT STARTING MACRO SCORE1;
 %PUT "GROUP    = " GROUP&IGRP;
 %PUT "TITLE    = " &&DEPVAR&IVAR  &&TITL&IGRP;
```

```
 %PUT "DEP_VAR  = " &&DEPVAR&IVAR;
 %PUT "IND_VAR1 = " &IND_VAR1;
 %PUT "IND_VAR2 = " &IND_VAR2;
 %PUT "IND_VAR3 = " &IND_VAR3;
 %PUT "WGT      = " &WGT;
 %PUT ****************************************;

*---------------------------------------------------;
* If the current group is 1 use the skeleton files;
* else used the previous groups output file;
* The mrgfile is added to by each subgroup;
*---------------------------------------------------;
%LET RMRGFILE = OUT.R_&&DEPVAR&IVAR;
%IF "&IGRP" = "1" %THEN %LET RMRGFILE = IN2.SKELREG;
%LET CMRGFILE = OUT.C_&&DEPVAR&IVAR;
%IF "&IGRP" = "1" %THEN %LET CMRGFILE = IN2.SKELCAT;


* run regression using the catchment level variables;
* output a BETA file (1 record) and the subgroup;
* file with residuals attached (many records);
PROC REG DATA = GROUP&IGRP OUTEST=BETAS;
     TITLE2 "Regression Model on catchment areas";
     TITLE3 "Beneficiary group&igrp: &&TITL&IGRP";
     WEIGHT &WGT;
     %INCLUDE 'REGRSCAT.INC';
     OUTPUT OUT = OUT2.H&IGRP&&DEPVAR&IVAR(KEEP=MPRID &WGT TMP_CELL
                       PRED&IGRP RESID&IGRP CACSMPL XREGION &&DEPVAR&IVAR)
              P = PRED&IGRP
              R = RESID&IGRP;
RUN;


* print of HCSDB file with the residuals and predicted values;
%IF &DEBUGFLG > 0  %THEN %DO;
   PROC PRINT DATA=OUT2.H&IGRP&&DEPVAR&IVAR (OBS=70);
        TITLE2 "OUT2.H&IGRP&&DEPVAR&IVAR:  file with PRED&IGRP and RESID&IGRP";
        TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
        VAR MPRID XREGION CACSMPL &&DEPVAR&IVAR RESID&IGRP PRED&IGRP;
   RUN;

    PROC PRINT DATA=BETAS;
         TITLE2 "BETAS:  file with coefficients";
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;
%END;


*-----------------------------------;
*-- get the standard err/variance;
*-----------------------------------;
%LET DEP = &&DEPVAR&IVAR;
%R_SUDAAN(OUT2.H&IGRP&&DEPVAR&IVAR);
%C_SUDAAN(OUT2.H&IGRP&&DEPVAR&IVAR);


* calculate prelim adjusted scores for the risk-adjusters;
* merge adjuster means with the adjuster coefficients;
* then sum their products. Finally add in the intercept;
DATA ADJUST;
     SET MEANFILE;    * CREATED IN THE MACRO  MAKE_DAT;
     IF _N_ = 1 THEN SET BETAS(DROP = _TYPE_);
     %INCLUDE 'RISKARRY.INC';
     %INCLUDE 'RISKMEAN.INC';
     DO I = 1 TO DIM(COEFFS);
       IF COEFFS(I) = . THEN COEFFS(I) = 0;
       IF MEANS(I) = . THEN MEANS(I) = 0;
       ADJUST + ( COEFFS(I) * MEANS(I) );
     END;
     ADJUST = ADJUST + INTERCEPT;
 RUN;
```

```
%IF &DEBUGFLG > 0  %THEN %DO;
   PROC PRINT DATA=ADJUST;
        TITLE2 'Print of ADJUST';
        TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;


* add the catchment coefficients to the adjusted value from above;
* output one record per catchment area with the catchment;
* level adjusted scores;
DATA COEFFCAC(KEEP=CATAREA NEWADJST);
   SET ADJUST;
   %INCLUDE 'CATARRAY.INC';
   LENGTH NAME $8;
   DO I=1 TO DIM(CATRHS);
     CALL VNAME(CATRHS(I),NAME);
     CATAREA=INPUT(SUBSTR(NAME,4,4),4.);
     IF CATRHS(I) = . THEN CATRHS(I) = 0;
     NEWADJST=ADJUST + CATRHS(I);
     OUTPUT;
   END;
RUN;


%IF &DEBUGFLG > 0  %THEN %DO;
    PROC PRINT DATA=COEFFCAC;
         TITLE2 'COEFFCAC: Catchment Area Adjusted Scores';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;
%END;


 * sum of wgts per catchment areas;
 * attach the region id to the output file so;
 * so we can create wgts for each region later;
 PROC MEANS DATA=GROUP&IGRP NWAY NOPRINT ;
   ID    XREGION ;  * important ;
   CLASS CACSMPL ;
   VAR   &WGT;
   OUTPUT OUT=CAT_WGTS(RENAME=(CACSMPL=CATAREA)) N=CATCNT SUM=CATWGT;
 RUN;


* merge the Coeffcac file with the catchment;
* adjusted scores to the catchment level weight;
* merge by the catchment area. creates a;
* catchment level file with catchment weights;
 DATA COEFFCAC;
   MERGE COEFFCAC(IN=IN1)
         CAT_WGTS(IN=IN2 KEEP=CATAREA XREGION CATWGT CATCNT);
   BY CATAREA;
   IF IN1;
 RUN;



%IF &DEBUGFLG > 0  %THEN %DO;
    PROC PRINT DATA=CAT_WGTS(OBS=70);
         TITLE2 'CAT_WGTS: Catchment Area Sum of WGTS';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;

    PROC PRINT DATA=COEFFCAC(OBS=70);
         TITLE2 'Catchment Area Adjusted Scores - with sum of wgts and region';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;

%END;
```

```
* merge the previous groups catchment results (if any);
* with the catchment level std err and the catchment;
* level results from the current groups and dependent var;
%PUT "&CMRGFILE: " &CMRGFILE;
DATA OUT.C_&&DEPVAR&IVAR(RENAME=(NEWADJST=ADJ&IGRP));
     MERGE &CMRGFILE(IN=INS)
           C&IGRP&&DEPVAR&IVAR
           COEFFCAC(RENAME=(CATAREA=CACSMPL CATWGT=CATWGT&IGRP CATCNT=CATCNT&IGRP));
     BY CACSMPL;
     DEPENDNT = "&&DEPVAR&IVAR";
     IF INS;
RUN;

PROC PRINT DATA=OUT.C_&&DEPVAR&IVAR;
     TITLE2 "Print of Catchment variables in C_&&DEPVAR&IVAR";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
RUN;


 * Calculate region level adjusted scores from the;
 * catchment level adjusted scores;
 * this proc calculates the regional avg of the;
 * weighted catchment adjusted scores;
 PROC MEANS DATA=COEFFCAC NWAY NOPRINT;
   WEIGHT CATWGT;
   CLASS  XREGION;
   VAR    NEWADJST;
   OUTPUT OUT=REGFILE1 (DROP = _TYPE_ _FREQ_) MEAN=ADJ&IGRP;
 RUN;


* create a region level weight;
PROC MEANS DATA=GROUP&IGRP NWAY NOPRINT ;
  CLASS XREGION;
  VAR   &WGT;
  OUTPUT OUT=REG_WGTS (DROP = _TYPE_ _FREQ_) N=REGCNT&IGRP SUM=REGWGT&IGRP;
RUN;


%IF &DEBUGFLG > 0  %THEN %DO;
    PROC PRINT DATA=REGFILE1(OBS=70);
         TITLE2 'REGFILE1: Region level Sum of WGTS from Catchment sums';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;

    PROC PRINT DATA = REG_WGTS(OBS=70);
         TITLE2 'REG_WGTS: Region level Sum of WGTS from Group&igrp sums';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;
%END;


* merge the previous groups region results (if any);
* with the region level std errs and the region;
* level results from catchment results collapsed to region;
DATA OUT.R_&&DEPVAR&IVAR;
     MERGE &RMRGFILE(IN=INS)
           R&IGRP&&DEPVAR&IVAR
           REG_WGTS(KEEP = REGCNT&IGRP REGWGT&IGRP XREGION)
           REGFILE1(KEEP = ADJ&IGRP XREGION);
     BY XREGION;
     DEPENDNT = "&&DEPVAR&IVAR";
     IF INS;
RUN;


PROC PRINT DATA=OUT.C_&&DEPVAR&IVAR;
     TITLE2 "Print of Catchment variables in C_&&DEPVAR&IVAR";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
```

```
RUN;

PROC PRINT DATA=OUT.R_&&DEPVAR&IVAR;
     TITLE2 "Print of variables in R_&&DEPVAR&IVAR";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
RUN;

%MEND SCORE1;



 *
;
 %MACRO SCORE2;
 ************************************;
 * use this macro for groups 3, 4, 6, 7;
 * region variables are to be used     ;
 ************************************;
 %PUT ****************************************;
 %PUT STARTING MACRO SCORE2;
 %PUT "GROUP    = " GROUP&IGRP;
 %PUT "TITLE    = " &&DEPVAR&IVAR  &&TITL&IGRP;
 %PUT "DEP_VAR  = " &&DEPVAR&IVAR;
 %PUT "IND_VAR1 = " &IND_VAR1;
 %PUT "IND_VAR2 = " &IND_VAR2;
 %PUT "IND_VAR3 = " &IND_VAR3;
 %PUT "WGT      = " &WGT;
 %PUT ****************************************;


* run regression using the region level variables;
* output a BETA file (1 record) and the subgroup;
* file with residuals attached (many records);
PROC REG DATA = GROUP&IGRP OUTEST=BETAS;
     TITLE2 "Regression Model for GROUP&igrp for regions";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
     WEIGHT &WGT;
     %INCLUDE 'REGRSREG.INC';
     OUTPUT OUT = OUT2.H&IGRP&&DEPVAR&IVAR(KEEP=MPRID &WGT TMP_CELL
                        PRED&IGRP RESID&IGRP CACSMPL XREGION &&DEPVAR&IVAR)
              P = PRED&IGRP
              R = RESID&IGRP;

RUN;

* print of HCSDB file with the residuals and predicted values;
%IF &DEBUGFLG > 0  %THEN %DO;
    PROC PRINT DATA=OUT2.H&IGRP&&DEPVAR&IVAR (OBS=70);
         TITLE2 "OUT2.H&IGRP&&DEPVAR&IVAR:  file with predicted values and the
RESID&IGRP";
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
         VAR MPRID XREGION CACSMPL &&DEPVAR&IVAR RESID&IGRP PRED&IGRP;
    RUN;

    PROC PRINT DATA=BETAS;
         TITLE2 "BETAS:  file with coefficients";
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;
%END;


*-----------------------------------------;
*----- get the standard err/variance ----;
*-----------------------------------------;
%LET DEP = &&DEPVAR&IVAR;
%R_SUDAAN(OUT2.H&IGRP&&DEPVAR&IVAR);
%C_SUDAAN(OUT2.H&IGRP&&DEPVAR&IVAR);



* calculate prelim adjusted scores for the risk-adjusters;
```

```
* merge adjuster means with the adjuster coefficients;
* then sum their products. Finally add in the intercept;
 DATA ADJUST;
    SET MEANFILE;
    IF _N_ = 1 THEN SET BETAS(DROP = _TYPE_);
    %INCLUDE 'RISKARRY.INC';
    %INCLUDE 'RISKMEAN.INC';
    DO I = 1 TO DIM(COEFFS);
       IF COEFFS(I) = . THEN COEFFS(I) = 0;
       IF MEANS(I) = .  THEN MEANS(I)  = 0;
       ADJUST + ( COEFFS(I) * MEANS(I) );
    END;
    ADJUST = ADJUST + INTERCEPT;
 RUN;


* add the region coefficients to the adjusted value from above;
* output one record per region with the region;
* level adjusted scores;
 DATA COEFFREG(KEEP=XREGION NEWADJST);
    SET ADJUST;
    %INCLUDE 'REGARRAY.INC';
    LENGTH NAME $8;
    DO I=1 TO DIM(REGRHS);
       CALL VNAME(REGRHS(I),NAME);
       XREGION=INPUT(SUBSTR(NAME,4,2),2.);
       IF REGRHS(I) = . THEN REGRHS(I) = 0;
       NEWADJST=ADJUST + REGRHS(I);
       OUTPUT;
    END;
RUN;


* sum of wgts for each region;
PROC MEANS DATA=GROUP&IGRP NWAY NOPRINT ;
  CLASS XREGION;
  VAR   &WGT;
  OUTPUT OUT=REG_WGTS (DROP = _TYPE_ _FREQ_) N=REGCNT SUM=REGWGT;
RUN;


* merge the COEFFREG file with the region;
* adjusted scores to the region level total weight;
* merge by the region.  Creates a region level;
* file with the total sample weight of the region;
DATA COEFFREG;
      MERGE COEFFREG(IN=IN1)
            REG_WGTS(IN=IN2   KEEP=XREGION REGCNT REGWGT);
      BY XREGION;
      IF IN1;
RUN;


%IF &DEBUGFLG > 0  %THEN %DO;
    PROC PRINT DATA=MEANFILE;
         TITLE2 'Print of MEANFILE';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;

    PROC PRINT DATA=ADJUST;
         TITLE2 'Print of ADJUST';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;

    PROC PRINT DATA=COEFFREG;
         TITLE2 'Print of COEFFREG: Region Adjusted Scores';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;

    PROC PRINT DATA=REG_WGTS;
         TITLE2 'Print of REG_WGTS: Region Area Sum of WGTS';
```

```
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;

    PROC PRINT DATA=COEFFREG;
         TITLE2 'Print of COEFFREG: Regions Adjusted Scores - with sum of wgts and
region';
         TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
    RUN;
%END;


* Calculate region level adjusted scores from the;
* region level adjusted scores in COEFFREG;
/*PROC MEANS DATA=COEFFREG NWAY NOPRINT;
  WEIGHT REGWGT;
  CLASS  XREGION;
  VAR    NEWADJST;
  OUTPUT OUT=REGFILE1 (DROP = _TYPE_ _FREQ_) MEAN=ADJ&IGRP;
RUN;
*/

%IF &DEBUGFLG > 0  %THEN %DO;
   PROC PRINT DATA=REGFILE1;
        TITLE2 'Print of REGFILE1: Region Scores';
        TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;


* merge the previous groups regional results (if any);
* with the region level std err and the region;
* level results from the current group/dependent var;
DATA OUT.R_&&DEPVAR&IVAR;
    MERGE OUT.R_&&DEPVAR&IVAR(IN=INS)
          R&IGRP&&DEPVAR&IVAR    /*KRR - removed perm dataset ref to OUT2 */
          coeffreg(rename=(newadjst=adj&igrp));
    BY XREGION;
    RENAME REGCNT = REGCNT&IGRP;
    RENAME REGWGT = REGWGT&IGRP;
    DEPENDNT = "&&DEPVAR&IVAR";
    IF INS;
RUN;

PROC PRINT DATA=OUT.R_&&DEPVAR&IVAR;
     TITLE2 "Print of REGION variables in &&DEPVAR&IVAR";
     TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
RUN;


%IF &IGRP = 6 OR &IGRP = 7 %THEN %DO;
   * For active duty dependents(6) and retirees and dependents (7) calculate;
   * catchment level residuals from the enhanced HCSDB file;
   * here we sum the weights to the catchment level as well;
     PROC MEANS DATA = OUT2.H&IGRP&&DEPVAR&IVAR NOPRINT NWAY;
          ID XREGION;
          CLASS CACSMPL;
          weight &wgt;
          VAR RESID&IGRP;
          OUTPUT OUT=MEANRES MEAN= n=catcnt sumwgt=sumwgt;

     RUN;

     %IF &DEBUGFLG > 0  %THEN %DO;
          PROC PRINT DATA=MEANRES;
              TITLE2 "Print of MEANRES";
              TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
          RUN;
     %END;

     PROC SORT DATA=MEANRES;
          BY XREGION;
```

```
     RUN;


 * Merge the regional adjusted scores with the catchment;
 * level residual means.  Calculate the catchment level;
 * adjusted scores by adding the catchment mean residual;
 * to the region level adjusted score. Set the catchment;
 * level weight to 0.0 if the catchment adjusted score is;
 * missing;
     DATA MERGE&IGRP(KEEP=CACSMPL ADJ&IGRP CATCNT&IGRP CATWGT&IGRP);
          MERGE COEFFREG
                MEANRES(RENAME=(CATCNT=CATCNT&IGRP SUMWGT=CATWGT&IGRP));
           BY XREGION;
           ADJ&IGRP = RESID&IGRP+NEWADJST;
           IF ADJ&IGRP=. THEN CATWGT&IGRP=.;
     RUN;

     PROC SORT DATA=MERGE&IGRP;
          BY CACSMPL;
     RUN;


* merge the previous groups catchment results (if any);
* with the catchment level std and the current catchment;
* level results calculated above;
     DATA OUT.C_&&DEPVAR&IVAR;
           MERGE OUT.C_&&DEPVAR&IVAR(IN=INS)
                 C&IGRP&&DEPVAR&IVAR
                 MERGE&IGRP;
           BY CACSMPL;
           DEPENDNT = "&&DEPVAR&IVAR";
           IF INS;
     RUN;


     PROC PRINT DATA=OUT.C_&&DEPVAR&IVAR;
          TITLE2 "Print of variables in C_&&DEPVAR&IVAR";
          TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
     RUN;

 %END;

 %MEND SCORE2;


 *
;
 %MACRO MAKE_INC;
 ****************************************;
 * creates include files for later Procs;
 * Needs to be run each time.  Called   ;
 * in the outer (beneficiary loop).     ;
 * I chose this method because it was   ;
 * clearer(to me at least).             ;
 * This macro needs to be run once per  ;
 * Dep var per subgroup.                ;
 ****************************************;

* Drop records where the dependent var is missing;
* Drop records with missing catchment or region values;
  DATA GROUP&IGRP;
       SET IN1.GROUP&IGRP;
       IF &&DEPVAR&IVAR NOT = .;

  RUN;

 DATA _NULL_;
      SET GROUP&IGRP END = EOF;
      IF &&DEPVAR&IVAR NOT = .;

      ARRAY AGECNT(7) 8 aCNT1 - aCNT7;
```

```
      RETAIN AGECNT 0;
      RETAIN CNT 0;
      ARRAY AGENAM(7)  $8 AGENAM1 - AGENAM7;
      ARRAY AGENAMX(7) $8 AGENAMX1 - AGENAMX7;
      RETAIN AGENAM;
      RETAIN AGENAMX;
      ARRAY CATCNT(9998) 8 CCNT0001 - CCNT9998;
      ARRAY REGCNT(16)   8 REGCNT01 - REGCNT16;
      RETAIN CATCNT 0;
      RETAIN REGCNT 0;

      * create a name array for the age dummies;
      IF _N_ = 1 THEN DO;
         AGENAM(1) = "AGE1824";
         AGENAM(2) = "AGE2534";
         AGENAM(3) = "AGE3544";
         AGENAM(4) = "AGE4554";
         AGENAM(5) = "AGE5564";
         AGENAM(6) = "AGE6574";
         AGENAM(7) = "AGE75UP";
      END;

      * total record count;
      CNT + 1;

      * count records in each age group;
      * we will use only age groups with more;
      * than 2 obs;
      IF AGE1824 = 1 THEN AGECNT(1) + 1;
      IF AGE2534 = 1 THEN AGECNT(2) + 1;
      IF AGE3544 = 1 THEN AGECNT(3) + 1;
      IF AGE4554 = 1 THEN AGECNT(4) + 1;
      IF AGE5564 = 1 THEN AGECNT(5) + 1;
      IF AGE6574 = 1 THEN AGECNT(6) + 1;
      IF AGE75UP = 1 THEN AGECNT(7) + 1;

      * count records in each catchment group;
      * we will only use catchment areas ;
      * with more than than 2 obs;
      * I am using the catchment area as the subscript;
      * to make the code simpler and more readable;
      IF CACSMPL >= 1 AND CACSMPL <= 9998 THEN DO;
         CATCNT(CACSMPL) = CATCNT(CACSMPL) + 1;
      END;

      * count records in each REGION group;
      * we will only use REGIONS ;
      * with more than than 2 obs;
      * I am using the region value as the subscript;
      * to make the code simpler and more readable;
      IF XREGION >= 1 AND XREGION <=16  THEN DO;
         REGCNT(XREGION) = REGCNT(XREGION) + 1;
      END;

      IF EOF THEN GOTO ENDFILE;
      RETURN;


ENDFILE:
     * create a title common to all procs in the current group;
     TITLE  " &&DEPVAR&IVAR  &&TITL&IGRP";

     * display counts in the log;
     %IF &DEBUGFLG > 0  %THEN %DO;
        PUT ' ';
        PUT 'AT EOF:';
        PUT "TOTAL CNT = "    CNT;
        PUT AGENAM(1) "  " AGECNT(1)=;
        PUT AGENAM(2) "  " AGECNT(2)=;
        PUT AGENAM(3) "  " AGECNT(3)=;
        PUT AGENAM(4) "  " AGECNT(4)=;
```

```
   PUT AGENAM(5) "  " AGECNT(5)=;
   PUT AGENAM(6) "  " AGECNT(6)=;
   PUT AGENAM(7) "  " AGECNT(7)=;
   PUT " ";

   DO I = 1 TO 16;
      IF(REGCNT(I) > 0) THEN DO;
         PUT  'REG' I Z2. REGCNT(I) 6.;
      END;
   END;
   PUT ' ';

   DO I = 1 TO 9998;
      IF(CATCNT(I) > 0) THEN DO;
         PUT  'CAT' I Z4. CATCNT(I) 6.;
      END;
   END;
   PUT ' ';
%END;    *** of debug test;


*-------------------------------------------------------;
* create an include file for the regression model;
* it is inconvient, but SAS requires that the;
* include file start after a complete statement;
* i.e. after a semicolon;
* This include is for the regression using catchment areas;
FILE 'REGRSCAT.INC';
PUT @6  "MODEL &&DEPVAR&IVAR = ";
IF "&IND_VAR1" NE "" THEN PUT @12 "&IND_VAR1"; /* KRR - only output when present */
IF "&IND_VAR2" NE "" THEN PUT @12 "&IND_VAR2"; /* KRR - only output when present */
IF "&IND_VAR3" NE "" THEN PUT @12 "&IND_VAR3"; /* KRR - only output when present */

CNT2 = 0;
* setup an array of those age groups that have > 1 obs;
DO I = 1 TO 7;
   IF AGECNT(I) > 1 THEN DO;
      CNT2 +1;
      AGENAMX(CNT2) = AGENAM(I);
   END;
END;
* drop the last category to create;
* an omitted category which is required;
* to solve the regression properly;
DO I = 1 TO CNT2-1;
   PUT @12 AGENAMX(I);
END;


* ditto for the catchment areas with > 0 obs;
* in this case we drop the last non-zero cnt;
* this is not consistent with Portias code which;
* unintentionally omitted several catchment area codes;
LAST_REC = 0;
DO I = 1 TO 9998;
   IF CATCNT(I) > 0 THEN LAST_REC = I;
END;

* skip the last cacsmpl with > 1 obs;
DO I = 1 TO LAST_REC-1;
   IF CATCNT(I) > 0 THEN DO;
      PUT @12 'CAT' I Z4.;
   END;
END;
PUT @11 ';';


*-------------------------------------------------------;
* This include is for the regression using regions;
* in this case we drop the last REGION;
FILE 'REGRSREG.INC';
```

```
PUT @6  "MODEL  &&DEPVAR&IVAR = ";
IF "&IND_VAR1" NE "" THEN PUT @12 "&IND_VAR1"; /* KRR - only output when present */
IF "&IND_VAR2" NE "" THEN PUT @12 "&IND_VAR2"; /* KRR - only output when present */
IF "&IND_VAR3" NE "" THEN PUT @12 "&IND_VAR3"; /* KRR - only output when present */

CNT2 = 0;
* setup an array of those age groups that have > 1 obs;
DO I = 1 TO 7;
   IF AGECNT(I) > 1 THEN DO;
      CNT2 +1;
      AGENAMX(CNT2) = AGENAM(I);
   END;
END;

* now drop the last category to create;
* an omitted category which is required;
* to solve the regression properly;
DO I = 1 TO CNT2-1;
   PUT @12 AGENAMX(I);
END;

* ditto for the catchment areas with > 0 obs;
* in this case we drop the the first USABLE category;
* this is not consistent with the catchment area code;
* but this is the method that Portia used;
FIRST = 0;
DO I = 1 TO 16;   * skip the 1st region with 1+ obs;
   IF REGCNT(I) > 0 THEN DO;
      IF FIRST = 1 THEN PUT @12 'REG' I Z2.;
      FIRST = 1;
   END;
END;
PUT @11 ';';


*-------------------------------------------------------;
* now create the complete var statement;
* for the Proc MEANS used to replace the;
* independent variables missing values;
* we assume the age groups will always be used;
* These are also called the RISK FACTORS;
FILE 'RISKVARS.INC';
PUT @10  "VAR";
DO I = 1 TO CNT2;
   PUT @12 AGENAMX(I);
END;

* not all the other dependent variables will be used;
* only write them out if they are not null;
CNT3 = 0;
IF "&IND_VAR1" NE "" THEN DO;
    CNT3 + 1;
    PUT @12 "&IND_VAR1";
END;

IF "&IND_VAR2" NE "" THEN DO;
    CNT3 + 1;
    PUT @12 "&IND_VAR2";
END;

IF "&IND_VAR3" NE "" THEN DO;
    CNT3 + 1;
    PUT @12 "&IND_VAR3";
END;
PUT @11 ';';


*-------------------------------------------------------;
* create an ARRAY statement of the desired risk factors;
* called adjusters in the specs and in the code;
FILE 'RISKARRY.INC';
```

```
     PUT @10  "ARRAY COEFFS(*) $8";
     DO I = 1 TO CNT2;
        PUT @12 AGENAMX(I);
     END;

     CNT3 = 0;
     IF "&IND_VAR1" NE "" THEN DO;
         CNT3 + 1;
         PUT @12 "&IND_VAR1";
     END;

     IF "&IND_VAR2" NE "" THEN DO;
         CNT3 + 1;
         PUT @12 "&IND_VAR2";
     END;

     IF "&IND_VAR3" NE "" THEN DO;
         CNT3 + 1;
         PUT @12 "&IND_VAR3";
     END;
     PUT @11 ';';


     *-------------------------------------------------------;
     * create an ARRAY of mean names for the output;
     * from a proc MEANS of the Risk Factors in RISKARRY;
     FILE 'RISKMEAN.INC';
     IND_CNT = CNT2 + CNT3;
     PUT @6 "ARRAY MEANS(*) $8";
     DO I = 1 TO IND_CNT;
        PUT @12 "MEAN" I Z2.;
     END;
     PUT @11 ';';

*   ----------------------------------------------------;
*   create the equivalent of the following statement;
*   OUTPUT OUT=MEANFILE(DROP = _TYPE_) MEAN=MEAN1-MEAN&MEAN_CNT;
     FILE 'MEANFILE.INC';
     PUT @6 "OUTPUT OUT=MEANFILE(DROP = _TYPE_) MEAN = ";
     DO I = 1 TO IND_CNT;
        PUT @12 "MEAN" I Z2.;
     END;
     PUT @11 ';';

     *-------------------------------------------------------;
     * create a catchment area array for all catchment areas;
     * with 1+ obs.
     * the missing value = 9999 was dropped in STEP1;  ** rlc 4/29/00;
     FILE 'CATARRAY.INC';
     PUT @10  "ARRAY CATRHS(*) $8";
     DO I = 1 TO 9998;            *** rlc 4/29/00 changed "9999" to "9998";
        IF CATCNT(I) > 0 THEN DO; *** ems 7/12/00 changed "> 1" to "> 0";
           PUT  @16 'CAT' I Z4.;
        END;
     END;
     PUT @11 ';';

     *-------------------------------------------------------;
     * create a region area array;
     * with at least ONE obs;
     FILE 'REGARRAY.INC';
     PUT @10  "ARRAY REGRHS(*) $8";
     DO I = 1 TO 16;
        IF REGCNT(I) > 0 THEN DO; *** ems 7/12/00 changed "> 1" to "> 0";
           PUT  @16 'REG' I Z2.;
        END;
     END;
     PUT @11 ';';
 file print;
 RUN;
```

```
 * Create the means of the adjuster variables;
 * They will be used to replace missing adjuster variables;
 * calculate weighted means;
 PROC MEANS DATA=group&igrp;

   WEIGHT &WGT;
   %INCLUDE 'RISKVARS.INC';
   %INCLUDE 'MEANFILE.INC';
    RUN;

DATA GROUP&IGRP;
     SET GROUP&IGRP;
     IF _N_ = 1 THEN SET MEANFILE;
     %INCLUDE 'RISKARRY.INC';
     %INCLUDE 'RISKMEAN.INC';
     DO I = 1 TO DIM(COEFFS);
        IF COEFFS(I) = . THEN DO;
           COEFFS(I) = MEANS(I);
        END;
     END;
RUN;
 PROC MEANS DATA=in1.group8;
*   where &&depvar&ivar ne .;
   WEIGHT &WGT;
  %INCLUDE 'RISKVARS.INC';
   %INCLUDE 'MEANFILE.INC';
    RUN;

%IF &DEBUGFLG > 0  %THEN %DO;
   PROC PRINT DATA=MEANFILE;
        TITLE2 "Print of MEANFILE for Risk Adjuster variables";
        TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;




 %MEND MAKE_INC;



 *
;
 %MACRO R_SUDAAN(INFILE);
 ******************************************************;
 * use this macro to create standard err (variances);
 * FOR: REGIONS                                       ;
 ******************************************************;
 %PUT ****************************************;
 %PUT STARTING MACRO R_SUDAAN (REGIONS);
 %PUT ****************************************;



DATA &INFILE;
   SET &INFILE;
   IF XREGION > 0;
RUN;


* Sort data by TMP_CELL;
PROC SORT DATA=&INFILE;
   BY TMP_CELL;
RUN;

%IF &DEBUGFLG > 5  %THEN %DO;
   PROC PRINT DATA=&INFILE(OBS=5);
        TITLE2 'Print of the input file to SUDAAN (REGION)';
        TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
```

```
%END;


* Calculate values for regions;
PROC DESCRIPT DATA=&INFILE DESIGN=STRWR NOPRINT;
   WEIGHT &WGT;
   SETENV DECWIDTH=4;
   NEST TMP_CELL / missunit;
   VAR RESID&IGRP;
   TABLES XREGION;
   SUBGROUP XREGION;
   LEVELS 16;
   OUTPUT  SEMEAN
         / TABLECELL=DEFAULT
           FILENAME=RS&DEP;
   RUN;

   DATA R&IGRP&&DEPVAR&IVAR;
        SET RS&DEP;
        KEEP XREGION SEMEAN;
        IF SEMEAN NE .;
        RENAME SEMEAN = SEMEAN&IGRP;
   RUN;


   PROC PRINT DATA=R&IGRP&&DEPVAR&IVAR;
      TITLE2 "Print REGION DESCRIPT DATA=R&IGRP&&DEPVAR&IVAR";
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;

 %MEND  R_SUDAAN;


 %MACRO C_SUDAAN(INFILE);
 ******************************************************;
 * use this macro to create standard err (variances);
 * FOR: CATCHMENT AREAS                                ;
 ******************************************************;
 %PUT ****************************************;
 %PUT STARTING MACRO C_SUDAAN (CATCHMENT);
 %PUT ****************************************;

DATA &INFILE;
   SET &INFILE;
   IF CACSMPL > 0;
RUN;


* Sort data by TMP_CELL;
PROC SORT DATA=&INFILE;
   BY TMP_CELL;
RUN;

%IF &DEBUGFLG > 5  %THEN %DO;
   PROC PRINT DATA=&INFILE(OBS=5);
        TITLE2 'Print of the input file to SUDAAN for CATCHMENT';
        TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;
%END;


* Calculate values for regions;
PROC DESCRIPT DATA=&INFILE DESIGN=STRWR NOPRINT;
   WEIGHT &WGT;
   SETENV DECWIDTH=4;
   NEST TMP_CELL / missunit;
   VAR RESID&IGRP;
   TABLES CACSMPL;
   SUBGROUP CACSMPL;
   LEVELS 9998;
   OUTPUT  SEMEAN
```

```
         / TABLECELL=DEFAULT
           FILENAME=CS&DEP;
   RUN;

   DATA C&IGRP&&DEPVAR&IVAR;
        SET CS&DEP;
        IF SEMEAN NE .;
        KEEP CACSMPL SEMEAN;
        RENAME SEMEAN = SEMEAN&IGRP;
   RUN;


   PROC PRINT DATA=C&IGRP&&DEPVAR&IVAR;
      TITLE2 "Print CATCHMENT DESCRIPT DATA=C&IGRP&&DEPVAR&IVAR";
      TITLE3 "Beneficiary group&igrp:  &&TITL&IGRP";
   RUN;

 %MEND  C_SUDAAN;


 *
;
%***********************************;
%*  call the macros;
%***********************************;

%MACRO MAINLOOP(MIN_VAR,MAX_VAR,MIN_GRP,MAX_GRP);
    %* loop over the set of dependent variables;
       %DO IVAR = &MIN_VAR %TO &MAX_VAR;
          %DO IGRP = &MIN_GRP %TO &MAX_GRP;
             %MAKE_INC;
             %IF &IGRP = 1 OR &IGRP = 2 OR &IGRP = 5 or &igrp = 8 %THEN
                %SCORE1;
             %ELSE
                %SCORE2;
          %END;
       %END;

%MEND;

%MAINLOOP(&MIN_VAR,&MAX_VAR,&MIN_GRP,&MAX_GRP);

*ENDSAS;

*****************************************************************************
* Project:  DoD - Quarterly Adult Report Cards
* Program:  COMPOSIT.SAS
* Purpose:  Generate Quarterly Adult Report Card composite scores
* Requires: Programs STEP1Q.SAS and STEP2Q.SAS must be run prior
*           to this program.
*
* Modified: 1) 02/27/2001 By Keith Rathbun, Small changes to input DSNs to
*           accomodate the move of ALLSCORE.SAS functionality into the
*           STEP2Q.SAS program.
*
*****************************************************************************;
OPTIONS NOCENTER LS=132 PS=78 SOURCE SOURCE2 MLOGIC MPRINT NOOVP COMPRESS=YES;
libname in  "data";
libname in2 "data\adulthatfiles";
libname out "data";

 %MACRO COMPOSIT (TYPE=,COMPOS=,VAR1=,VAR2=,VAR3=,VAR4=,QCOUNT=);

  DATA _NULL_;
   %IF "&TYPE" = "R" %THEN %DO;
       CALL SYMPUT ('BYVAR','XREGION');
   %END; %ELSE
   %IF "&TYPE" = "C" %THEN %DO;
       CALL SYMPUT ('BYVAR','CACSMPL');
   %END;
```

```
****************************************;
*   Create a Composite Score            ;
****************************************;
DATA _NULL_;
    FILE 'FILES.INC';
    PUT @6 'SET';
    IF "&VAR1" NE '' THEN PUT @8 "IN.&TYPE._&VAR1";
    IF "&VAR2" NE '' THEN PUT @8 "IN.&TYPE._&VAR2";
    IF "&VAR3" NE '' THEN PUT @8 "IN.&TYPE._&VAR3";
    IF "&VAR4" NE '' THEN PUT @8 "IN.&TYPE._&VAR4";
    PUT @8 ';';
RUN;


DATA COMPOS&COMPOS;
     LENGTH DEPENDNT $ 8;
     %INCLUDE 'FILES.INC';
     DEPENDNT = "&TYPE.COMPOS&COMPOS";
RUN;

PROC SORT DATA=COMPOS&COMPOS;
     BY &BYVAR;
RUN;

PROC PRINT DATA=COMPOS&COMPOS(OBS=60);
     TITLE "Print of COMPOS&COMPOS after sort";
RUN;

DATA COMPOS&COMPOS;
     SET COMPOS&COMPOS;
     BY &BYVAR;
  %IF "&TYPE" = "R" %THEN %DO;
      ARRAY N(*) REGCNT1 - REGCNT8;
      ARRAY W(*) REGWGT1 - REGWGT8;
      ARRAY TN(*) TOTCNT1 - TOTCNT8;
      ARRAY TW(*) TOTWGT1 - TOTWGT8;
  %END; %ELSE
  %IF "&TYPE" = "C" %THEN %DO;
      ARRAY N(*) CATCNT1 - CATCNT8;
      ARRAY W(*) CATWGT1 - CATWGT8;
      ARRAY TN(*) TOTCNT1 - TOTCNT8;
      ARRAY TW(*) TOTWGT1 - TOTWGT8;
  %END;
     ARRAY ADJ(*)    ADJ1 - ADJ8;
     ARRAY TOTADJ(*) TOTADJ1 - TOTADJ8;
     ARRAY AVGADJ(*) AVJADJ1 - AVJADJ8;
     RETAIN TOTADJ TN TW;
     RETAIN AVGADJ;

     IF FIRST.&BYVAR THEN DO;
        DO I = 1 TO DIM(TOTADJ);
           TOTADJ(I) = 0; TN(I)=0; TW(I)=0;
        END;
     END; DROP I;

     PUT ' ';
     PUT ' --- STARTING LOOP1: ' &BYVAR=;
     DO I = 1 TO DIM(TOTADJ);
        PUT I= ADJ(I)=;
        IF ADJ(I) NE . THEN DO;
           TOTADJ(I) = TOTADJ(I) + ADJ(I);
           TN(I)=TN(I)+N(I);
           TW(I)=TW(I)+W(I);
        END;
        PUT I= ADJ(I)= TOTADJ(I)=;
     END;


     PUT ' ';
     PUT ' --- STARTING LOOP2: ' &BYVAR=;
     IF LAST.&BYVAR THEN DO;
```

```
         DO I = 1 TO DIM(TOTADJ);
            PUT I= ADJ(I)= TOTADJ(I)= AVGADJ(I)=;
            AVGADJ(I) = TOTADJ(I)/&QCOUNT;
            adj(i)=avgadj(i);
            N(I)=TN(I)/&QCOUNT;
            W(I)=TW(I)/&QCOUNT;
         END;
         OUTPUT;
      END;

 RUN;

%do i=1 %to 8;
/* Collect Standard Errors and residuals from variables in composite */
%if &type=R|(&i=1|&i=2|&i>4) %then %do;
%if &var1~= %then %do;
%let n=r_&var1;
%let m=s_&var1;

data s_&var1(rename=(semean&i=s_&var1));
set in.&type._&var1(keep=semean&i &byvar);
proc sort; by &byvar;
data r_&var1;

set in2.h&i.&var1(rename=(resid&i=r_&var1));

proc sort data=r_&var1; by mprid;
%end;
%if &var2~= %then %do;
%let n=%str(&n r_&var2);
%let m=%str(&m s_&var2);
data s_&var2(rename=(semean&i=s_&var2));
set in.&type._&var2(keep=semean&i &byvar);
proc sort; by &byvar;
data r_&var2;

set in2.h&i.&var2(rename=(resid&i=r_&var2));

proc sort data=r_&var2; by mprid;
%end;
%if &var3~= %then %do;
%let n=%str(&n r_&var3);
data s_&var3(rename=(semean&i=s_&var3));
set in.&type._&var3(keep=semean&i &byvar);
proc sort; by &byvar;
data r_&var3;

set in2.h&i.&var3(rename=(resid&i=r_&var3));

proc sort data=r_&var3; by mprid;
%let m=%str(&m s_&var3); %end;

%if &var4~= %then %do;
%let n=%str(&n r_&var4);
data s_&var4(rename=(semean&i=s_&var4));
set in.&type._&var4(keep=semean&i &byvar);
proc sort; by &byvar;
data r_&var4;

set in2.h&i.&var4(rename=(resid&i=r_&var4));


%let m=%str(&m s_&var4);
proc sort data=r_&var4; by mprid;
%end;
/* Merge residual files and estimate correlations */
data infile;
merge &n; by mprid;
proc sort; by &byvar;
proc corr  outp=outf noprint;
by &byvar;
```

```
var &n;
weight wrwt;
data outf;
set outf; by &byvar;
where _type_='CORR';
/*  sum standard error of a row variable times correlation times standard error of each
column variable, then sum sums and take square root, divide by number of variables */
data final;
merge &m outf; by &byvar;
data final;
set final; by &byvar;
array r_val &n;
array s_val &m;
sde=0;
do i=1 to dim(s_val);
%do j=1 %to &qcount;
if _name_="R_&&var&j" then
sde=sum(sde,r_val(i)*s_&&var&j*s_val(i));
%end;
end;
data sefin&compos._&i;
set final; by &byvar;
if first.&byvar then tv=0;
 tv+sde;
if last.&byvar then do;
sde&i=(tv**.5)/&qcount;
output;
end;
%if &i=1 %then %do;
data sefin&compos;
set sefin&compos._1(keep=&byvar sde&i); by &byvar;
rename sde&i=semean&i;
run;
%end;
%else %do;
data sefin&compos;
merge sefin&compos sefin&compos._&i(keep=&byvar sde&i); by &byvar;
rename sde&i=semean&i;
run;
%end;


%end;
%end;

data out.&type.compos&compos;
merge compos&compos sefin&compos; by &byvar;
run;
PROC PRINT DATA=OUT.&TYPE.COMPOS&COMPOS;
      TITLE1 COMPTITL;
 RUN;
%MEND COMPOSIT;

*-------------------------------------;
*-       set the parameters here      -;
*-------------------------------------;
************************************;
*  call the macro for each composite;
************************************;
%COMPOSIT (type=R,compos=1,var1=R00007,var2=R00014,var3=R00028,var4=R00029,qcount=4);
%COMPOSIT (type=R,compos=2,var1=R00019,var2=R00021,var3=R00024,var4=R00030,qcount=4);
%COMPOSIT (type=R,compos=3,var1=R00033,var2=R00034,var3=R00035,var4=R00036,qcount=4);
%COMPOSIT (type=R,compos=4,var1=R00031,var2=R00032,qcount=2);
%COMPOSIT (type=R,compos=5,var1=R00048,var2=R00050,var3=R00055,qcount=3);
%COMPOSIT (type=R,compos=6,var1=R00044,var2=R00045,qcount=2);

%COMPOSIT (type=C,compos=1,var1=R00007,var2=R00014,var3=R00028,var4=R00029,qcount=4);
%COMPOSIT (type=C,compos=2,var1=R00019,var2=R00021,var3=R00024,var4=R00030,qcount=4);
%COMPOSIT (type=C,compos=3,var1=R00033,var2=R00034,var3=R00035,var4=R00036,qcount=4);
%COMPOSIT (type=C,compos=4,var1=R00031,var2=R00032,qcount=2);
%COMPOSIT (type=C,compos=5,var1=R00048,var2=R00050,var3=R00055,qcount=3);
```

```
%COMPOSIT (type=C,compos=6,var1=R00044,var2=R00045,qcount=2);
```

3. CONVERT CAHPS SCORES INTO WEB LAYOUT

```
*****************************************************************************
*
* PROGRAM:  LOADCAHP.SAS
* TASK:     2000 DOD HEALTH CARE SURVEY ANALYSIS (8687-210)
* PURPOSE:  Convert the CAHPS Scores Database into the WEB layout
*
* WRITTEN:  06/01/2000 BY KEITH RATHBUN
*
* MODIFIED: 01/28/2002 BY KEITH RATHBUN, Updated to support the 2000 survey.
*
* INPUTS:   1) CAHPS Individual and Composite data sets with adjusted scores
*
* OUTPUT:   1) LOADCAHP.SD2 - Combined CAHPS Scores Database in WEB layout
*
* INCLUDES: 1) LOADCAHQ.INC - Format definitions for CAHPS Individual
*               and composite data sets
*           2) CATREP.INC - Catchment definitions for WEB
*
* NOTES:
*
* 1) The following steps need to be run prior to this program:
*    - STEP1.SAS - Recode questions and generate group files
*    - STEP2.SAS - Calculate individual adjusted scores for group 1-8
*    - COMPOSIT.SAS - Calculate composite adjusted scores for group 1-8
*
* 2) The output file (LOADCAHP.SD2) will be run through the
*    MAKEHTML.SAS program to generate the WEB pages.
*
*****************************************************************************
* Assign data libraries and options
*****************************************************************************;
LIBNAME IN  "....\2000\PROGRAMS\REPORTCARDS\CAHPS_ADULT2000\DATA";
LIBNAME OUT ".";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

*****************************************************************************
* Load Format definitions for CAHPS Individual and composite data sets.
*****************************************************************************;
%INCLUDE "LOADCAHQ.INC";
%INCLUDE "CATREP.INC";

*****************************************************************************
*****************************************************************************
*
* Process Macro Input Parameters:
*
* 1) QUESTION = Variable Question Name (DSN).
*    - For individual Questions it is the variable name
*    - For composite Questions it is called xCOMPOSn
*      where n = a predefined composite # and
*            x = R (Region) or C (Catchment)
* 2) TYPE = Type of Score (COMPOSITE or INDIVIDUAL)
* 3) REGCAT = Region/Catchment Area
*
*****************************************************************************
*****************************************************************************;
%MACRO PROCESS(QUESTION=,TYPE=,REGCAT=);
*****************************************************************************
* Assign value for BENTYPE composite year
*****************************************************************************;
%LET YEAR = "2000";

*****************************************************************************
* Assign prefix for weighted/unweighted count variables.
* Unweighted counts are REGCNTn or CATCNTn where n=group number.
* Weighted counts are REGWGTn or CATWGTn where n=group number.
*****************************************************************************;
%IF "&REGCAT" = "Region" %THEN %DO;
   %LET PREFIX = REG;
%END;
```

```
%ELSE %IF "&REGCAT" = "Catchment" %THEN %DO;
   %LET PREFIX = CAT;
%END;
%ELSE %DO;
   %PUT "ERROR: Invalid Type = &TYPE";
%END;

*****************************************************************************
*
* Convert the CAHPS individual Scores Record into WEB layout.
* There are 8 logical records (adjusted scores) per physical record:
*
* ____________________________________________________________
*    Adjusted Score           Definitions
*    Group Number
* ____________________________________________________________
* 1. Prime enrollees          XINS_COV IN (1,2,6) AND H99004=4
* 2. Enrollees w/mil PCM      XENR_PCM IN (1,2,6) AND H99004=4
* 3. Enrollees w/civ PCM      XENR_PCM = 3  AND H99004=4
* 4. Nonenrollees             XINS_COV IN (3,4,5)
* 5. Active duty              BFGROUPP=1
* 6. Active duty dependents   BFGROUPP=2
* 7. Retirees and dependents  BFGROUPP IN (3,4)
* 8. All beneficiaries        All beneficiaries
*
*****************************************************************************;
DATA &QUESTION;
   SET IN.&QUESTION;

   LENGTH MAJGRP  $30;
   LENGTH REGION  $15;
   LENGTH REGCAT  $26;
   LENGTH BENTYPE $50;
   LENGTH BENEFIT $34;

   ********************************************************************
   * Assign Region
   ********************************************************************;
   REGION  = PUT(XREGION,REGIONF.);
   ********************************************************************
   * Assign benefit and benefit type
   ********************************************************************;
   IF "&TYPE" = "INDIVIDUAL" THEN DO;
      IF DEPENDNT IN("R00037","R00056","R00009","R00016") THEN
         BENTYPE = PUT(&YEAR,$BENTYPF.);
      ELSE
         BENTYPE = PUT(DEPENDNT,$BENTYPF.);
      BENEFIT = PUT(DEPENDNT,$BENEF.);
   END;
   ELSE IF "&TYPE" = "COMPOSITE" THEN DO;
      BENTYPE = PUT(&YEAR,$BENTYPF.);
      BENEFIT = PUT(DEPENDNT,$BENEF.);
   END;
   ELSE PUT "ERROR: Invalid TYPE = &TYPE";

   ********************************************************************
   * For now, Initialize Significance test to zero.
   ********************************************************************;
   SIG = 0;
   ********************************************************************
   * Assign Region/Catchment Area
   ********************************************************************;
   IF "&REGCAT" = "Region" THEN
      REGCAT = PUT(XREGION,REGIONF.);
   ELSE IF "&REGCAT" = "Catchment" THEN
      REGCAT = PUT(CACSMPL,CATREP.);
   ELSE PUT "ERROR: Invalid REGCAT = &REGCAT";

   ********************************************************************
   * 1 = Prime Enrollees
   ********************************************************************;
```

```
MAJGRP = PUT(1,MAJGRPF.);
SCORE = ADJ1;
SEMEAN = SEMEAN1;
N_OBS = &PREFIX.CNT1;
N_WGT = &PREFIX.WGT1;
OUTPUT;

*********************************************************************
* 2 = Enrollees with military PCM
*********************************************************************;
MAJGRP = PUT(2,MAJGRPF.);
SCORE = ADJ2;
SEMEAN = SEMEAN2;
N_OBS = &PREFIX.CNT2;
N_WGT = &PREFIX.WGT2;
OUTPUT;

*********************************************************************
* 3 = Enrollees with civilian PCM
*********************************************************************;
IF "&REGCAT" = "Region" THEN DO;
   MAJGRP = PUT(3,MAJGRPF.);
   SCORE = ADJ3;
   SEMEAN = SEMEAN3;
   N_OBS = &PREFIX.CNT3;
   N_WGT = &PREFIX.WGT3;
   OUTPUT;
END;

*********************************************************************
* 4 = Non-enrolled beneficiaries
*********************************************************************;
IF "&REGCAT" = "Region" THEN DO;
   MAJGRP = PUT(4,MAJGRPF.);
   SCORE = ADJ4;
   SEMEAN = SEMEAN4;
   N_OBS = &PREFIX.CNT4;
   N_WGT = &PREFIX.WGT4;
   OUTPUT;
END;

*********************************************************************
* 5 = Active duty
*********************************************************************;
MAJGRP = PUT(5,MAJGRPF.);
SCORE = ADJ5;
SEMEAN = SEMEAN5;
N_OBS = &PREFIX.CNT5;
N_WGT = &PREFIX.WGT5;
OUTPUT;

*********************************************************************
* 6 = Active duty dependents
*********************************************************************;
IF "&REGCAT" = "Region" THEN DO;
   MAJGRP = PUT(6,MAJGRPF.);
   SCORE = ADJ6;
   SEMEAN = SEMEAN6;
   N_OBS = &PREFIX.CNT6;
   N_WGT = &PREFIX.WGT6;
   OUTPUT;
END;

*********************************************************************
* 7 = Retirees and dependents
*********************************************************************;
IF "&REGCAT" = "Region" THEN DO;
   MAJGRP = PUT(7,MAJGRPF.);
   SCORE = ADJ7;
   SEMEAN = SEMEAN7;
   N_OBS = &PREFIX.CNT7;
```

```
      N_WGT = &PREFIX.WGT7;
      OUTPUT;
   END;

   ********************************************************************
   * 8 = All Beneficiaries
   ********************************************************************;
   MAJGRP = PUT(8,MAJGRPF.);
   SCORE  = ADJ8;
   SEMEAN = SEMEAN8;
   N_OBS = &PREFIX.CNT8;
   N_WGT = &PREFIX.WGT8;
   OUTPUT;

KEEP MAJGRP
     REGION
     REGCAT
     BENTYPE
     BENEFIT
     SCORE
     SEMEAN
     N_OBS
     N_WGT
     SIG
   ;
RUN;

%MEND;

***************************************************************************
* COMPOSITE # 1.
* GETTING NEEDED CARE VARIABLES.
***************************************************************************;
%PROCESS(QUESTION=RCOMPOS1,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R00007,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00014,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00028,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00029,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS1,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R00007,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00014,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00028,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00029,TYPE=INDIVIDUAL,REGCAT=Catchment);

***************************************************************************
* COMPOSITE # 2.
* GETTING CARE QUICKLY VARIABLES.
***************************************************************************;
%PROCESS(QUESTION=RCOMPOS2,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R00019,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00021,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00024,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00030,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS2,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R00019,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00021,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00024,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00030,TYPE=INDIVIDUAL,REGCAT=Catchment);

***************************************************************************
* COMPOSITE # 3.
* HOW WELL DOCTORS COMMUNICATE.
***************************************************************************;
%PROCESS(QUESTION=RCOMPOS3,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R00033,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00034,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00035,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00036,TYPE=INDIVIDUAL,REGCAT=Region);
```

```
%PROCESS(QUESTION=CCOMPOS3,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R00033,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00034,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00035,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00036,TYPE=INDIVIDUAL,REGCAT=Catchment);

***************************************************************************
* COMPOSITE # 4.
* COURTEOUS AND HELPFUL OFFICE STAFF.
***************************************************************************;
%PROCESS(QUESTION=RCOMPOS4,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R00031,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00032,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS4,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R00031,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00032,TYPE=INDIVIDUAL,REGCAT=Catchment);

***************************************************************************
* COMPOSITE # 5.
* CUSTOMER SERVICE.
***************************************************************************;
%PROCESS(QUESTION=RCOMPOS5,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R00048,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00050,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00055,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS5,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R00048,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00050,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00055,TYPE=INDIVIDUAL,REGCAT=Catchment);

***************************************************************************
* COMPOSITE # 6.
* CLAIMS PROCESSING.
***************************************************************************;
%PROCESS(QUESTION=RCOMPOS6,TYPE=COMPOSITE, REGCAT=Region);
%PROCESS(QUESTION=R_R00044,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=R_R00045,TYPE=INDIVIDUAL,REGCAT=Region);

%PROCESS(QUESTION=CCOMPOS6,TYPE=COMPOSITE, REGCAT=Catchment);
%PROCESS(QUESTION=C_R00044,TYPE=INDIVIDUAL,REGCAT=Catchment);
%PROCESS(QUESTION=C_R00045,TYPE=INDIVIDUAL,REGCAT=Catchment);

***************************************************************************
* INDIVIDUAL # 1.
* RATING OF ALL HEALTH CARE: 0 - 10.
***************************************************************************;
%PROCESS(QUESTION=R_R00037,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=C_R00037,TYPE=INDIVIDUAL,REGCAT=Catchment);

***************************************************************************
* INDIVIDUAL # 2.
* RATING OF HEALTH PLAN: 0 - 10.
***************************************************************************;
%PROCESS(QUESTION=R_R00056,TYPE=INDIVIDUAL,REGCAT=Region)
%PROCESS(QUESTION=C_R00056,TYPE=INDIVIDUAL,REGCAT=Catchment)

***************************************************************************
* INDIVIDUAL # 3.
* RATING OF PERSONAL DOCTOR: 0 - 10.
***************************************************************************;
%PROCESS(QUESTION=R_R00009,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=C_R00009,TYPE=INDIVIDUAL,REGCAT=Catchment);

***************************************************************************
* INDIVIDUAL # 4.
* SPECIALTY CARE: 0 - 10.
***************************************************************************;
%PROCESS(QUESTION=R_R00016,TYPE=INDIVIDUAL,REGCAT=Region);
%PROCESS(QUESTION=C_R00016,TYPE=INDIVIDUAL,REGCAT=Catchment);
```

```
*****************************************************************************
*****************************************************************************
* STACK up all of the files into one final output dataset.
*****************************************************************************
*****************************************************************************;
DATA OUT.LOADCAHP;
   SET R_R00007  C_R00007
       R_R00014  C_R00014
       R_R00028  C_R00028
       R_R00029  C_R00029
       R_R00019  C_R00019
       R_R00021  C_R00021
       R_R00024  C_R00024
       R_R00030  C_R00030
       R_R00033  C_R00033
       R_R00034  C_R00034
       R_R00035  C_R00035
       R_R00036  C_R00036
       R_R00031  C_R00031
       R_R00032  C_R00032
       R_R00048  C_R00048
       R_R00050  C_R00050
       R_R00055  C_R00055
       R_R00044  C_R00044
       R_R00045  C_R00045
       R_R00037  C_R00037
       R_R00056  C_R00056
       R_R00009  C_R00009
       R_R00016  C_R00016
       RCOMPOS1  CCOMPOS1
       RCOMPOS2  CCOMPOS2
       RCOMPOS3  CCOMPOS3
       RCOMPOS4  CCOMPOS4
       RCOMPOS5  CCOMPOS5
       RCOMPOS6  CCOMPOS6
    ;
    IF SCORE = . THEN DELETE;
RUN;

TITLE1 "2000 DOD Health Survey Scores/Report Cards (8687-210)";
TITLE2 "Program Name: LOADCAHP.SAS By Keith Rathbun";
TITLE3 "Program Inputs: CAHPS Individual and Composite data sets with adjusted scores";
TITLE4 "Program Outputs: LOADCAHP.SD2 - Combined CAHPS Scores Database in WEB layout";

PROC FREQ;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT
       REGION*REGCAT
      /MISSING LIST;
RUN;
```

4. CALCULATE 2000 CAHPS BENCHMARK DATA FOR 2000 HCSDB

```
*****************************************************************************
*
* PROGRAM:  BENCHA03.SAS
* TASK:     2000 DOD HEALTH CARE SURVEY ANALYSIS (8687-430)
* PURPOSE:  Adjust 2000 Adult CAHPS Benchmarks
*
* WRITTEN:  June 2000 BY ERIC SCHONE
*
* INPUTS:   1) BENCHA02.SD2 - 2000 Adult CAHPS Questions Renamed to be
*              consistent with the 2000 MPR DOD Survey.
*           2) GROUP8.SD2 - CAHPS Group8 (all beneficiaries) Dataset
*
* OUTPUTS:  1) Benchmark Composite Scores Data Sets
*
* MODIFIED: 1) Nov 2000 BY ERIC SCHONE - Output permanent datasets with
*              scores and standard errors and process the rest of the
*              composites and ratings.
*           2) Dec 2000 BY KEITH RATHBUN - Update variable names for
*              Q1 2000 Survey.
*           3) Jan 2002 BY KEITH RATHBUN - Updated to run under SAS
*              version 8 (changed INTERCEP to INTERCEPT).
*
* NOTES:
*
* 1) Run this program after BENCHA01.SAS and BENCHA02.SAS.
* 2) This program will generate the input for BENCHA04.SAS.
*
*****************************************************************************
* Assign data libraries and options
*****************************************************************************;
libname in  V612 '....\Q1_2000\programs\benchmark';
libname in2 V612 '....\2000\programs\reportcards\cahps_adult2000\data';
libname out V612 'data';

%let wgt=wrwt;

OPTIONS MLOGIC MPRINT NOCENTER LS=132 PS=79;


%macro comb(f,t,q,l);

proc summary data=&f;
 var &t;
 *where &q~=.;
 weight &wgt;
 output out=temp mean=&t;
run;

data temp;
 set temp;
 array old &t;
 call symput('z',left(dim(old)));
run;

data temp(drop=_type_ &t);
 set temp;
 array old &t;
 array new var1-var&z;
  do i=1 to &z;
   new(i)=old(i);
  end;
run;

data &q._&l;
 merge temp c_&q;
 array coeffs &t;
 array means var1-var&z;
  DO I = 1 TO DIM(COEFFS);
   IF COEFFS(I) = . THEN COEFFS(I) = 0;
   IF MEANS(I) = . THEN MEANS(I) = 0;
```

```
   ADJUST + ( COEFFS(I) * MEANS(I) );
  END;

 ADJUST = ADJUST + INTERCEPT;
 &q._&l=adjust;

run;

%mend comb;

%macro adjust(x,y);



proc summary data=setup;
where &x>.;
 class product;

 output out=count;
run;

data count(rename=(_freq_=denom)) count2;
 set count;
 if _type_=0 then output count2;
 else output count;
run;

data count(keep=pweight product);
 if _n_=1 then set count2;
 set count;
 pweight=denom/_freq_;
run;

data temp;
 merge count  setup; by product;

run;
proc summary data=temp;
where &x>.;
weight pweight;
var &y;
output out=temp2 mean=&y;
data temp2;
 set temp2;
 array old &y;
 call symput('z',left(dim(old)));
run;
data temp2(keep=var1-var&z);
 set temp2;
 array old &y;
 array new var1-var&z;
  do i=1 to &z;
   new(i)=old(i);
  end;
run;
data temp;
set temp;
if _n_=1 then set temp2;
 array old &y;
 array new var1-var&z;
  do i=1 to &z;
  if old(i)=. then
   old(i)=new(i);
  end;
run;
proc reg data=temp outest=c_&x noprint;
 model &x=&y;
 weight pweight;
 output out=r_&x r=r_&x;
run;
```

```
proc sort data=r_&x; by product;
run;

PROC DESCRIPT DATA=r_&x DESIGN=STRWR NOPRINT;
 WEIGHT pweight;
 SETENV DECWIDTH=4;
 NEST product / missunit;
 VAR R_&x;
 OUTPUT  SEMEAN / TABLECELL=DEFAULT
 FILENAME=s_&x;
RUN;

data s_&x(rename=(semean=s_&x));
 set s_&x(keep=semean);


   data group8;
    set in2.group8;
   run;
   %comb(group8,&y,&x,8);



%mend adjust;

/* adjust all the variables */

%macro comp(compno,a,b,c,d);
 %if &a~= %then %do;
  %let n=r_&a;
  %let m=s_&a;

   %let p8=&a._8;
  %let grpnum=1;
   proc sort data=r_&a;
    by mpid;
   run;
 %end;
 %if &b~= %then %do;
  %let n=%str(&n r_&b);
  %let m=%str(&m s_&b);
   %let p8=%str(&p8 &b._8);

  %let grpnum=2;
   proc sort data=r_&b;
    by mpid;
   run;
 %end;
 %if &c~= %then %do;
  proc sort data=r_&c;
   by mpid;
  run;
  %let grpnum=3;
  %let n=%str(&n r_&c);
   %let p8=%str(&p8 &c._8);
  %let m=%str(&m s_&c); %end;

  %if &d~= %then %do;
   proc sort data=r_&d;
    by mpid;
   run;
   %let grpnum=4;
   %let n=%str(&n r_&d);
     %let p8=%str(&p8 &d._8);

    %let m=%str(&m s_&d);
  %end;

data infile;
 merge &n;
 by mpid;
```

```
run;

proc corr outp=outf noprint;
 var &n;
 weight pweight;
run;

data final;
 if _n_=1 then do;
  %if &a~= %then %do;
   set s_&a;
  %end;
  %if &b~= %then %do;
   set s_&b;
  %end;
  %if &c~= %then %do;
   set s_&c;
  %end;
  %if &d~= %then %do;
   set s_&d;
  %end;
 end;
 set  outf;
 call symput('s'||compress(_n_),substr(_name_,3));
 where _type_='CORR';
run;

data final;
 set final;
 array r_val &n;
 array s_val &m;
 sde=0;
 do i=1 to dim(s_val);
  %do i=1 %to &grpnum;
   if _name_="R_&&s&i" then
   sde=sde+r_val(i)*s_&&s&i*s_val(i);
  %end;
 end;
run;

data sefin&compno;
 set final end=last;
 tv+sde;
 if last then do;
 sde=(tv**.5)/&grpnum;
 output;
end;
 data temp(keep=&p8);
  merge &p8;
 run;

data output;
 set &p8;
 totadj+adjust;
run;

data output(keep=totadj);
 set output end=last;
 if last then do;
  totadj=totadj/&grpnum;
  output;
 end;
run;

data out&compno._8;
 merge output temp;
run;

data out.comp&compno._8;
   merge out&compno._8
         sefin&compno;
```

```
run;


%mend comp;
/* create composites */
proc sort data=in.bencha02 out=setup;
 by product;
run;
data setup;
set setup;
if ^(model in (2,4));
if disp='M10' & ac03=1;
data setup;
 set setup; by product;
 mpid=_n_;
 if agegroup ne . then do;
 age1824=0; age2534=0; age3544=0; age4554=0; age5564=0; age6574=0;

      if agegroup=1 then age1824=1;
 else if agegroup=2 then age2534=1;
 else if agegroup=3 then age3544=1;
 else if agegroup=4 then age4554=1;
 else if agegroup=5 then age5564=1;
 else if agegroup=6 then age6574=1;
 end;
run;
%INCLUDE "J:\8687\PROGRAMS\REPORTCARDS\CONVERT.SAS";

%CONT1(DSN=SETUP, NUM=7,  Y=R00007 R00014 R00028 R00029
                            R00048 R00050 R00055);
%CONT2(DSN=SETUP, NUM=4,  Y=R00037 R00056 R00009 R00016);
%CONT3(DSN=SETUP, NUM=12, Y=R00019 R00021 R00024 R00030
                           R00033 R00034 R00035 R00036
                            R00031 R00032 R00044 R00045);
/* GETTING NEEDED CARE */
%adjust(r00007,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00014,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00028,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00029,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(1,r00007,r00014,r00028,r00029);

/* GETTING NEEDED CARE QUICKLY */
%adjust(r00019,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00021,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00024,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00030,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(2,r00019,r00021,r00024,r00030);

/* HOW WELL DOCTORS COMMUNICATE */
%adjust(r00033,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00034,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00035,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00036,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(3,r00033,r00034,r00035,r00036);

/* COURTEOUS AND HELPFUL OFFICE STAFF */
%adjust(r00031,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00032,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(4,r00031,r00032);

/* CUSTOMER SERVICE */
%adjust(r00048,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00050,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00055,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(5,r00048,r00050,r00055);

/* CLAIMS PROCESSING */
%adjust(r00044,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%adjust(r00045,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(6,r00044,r00045);
```

```
/* RATING ALL HEALTH CARE: 0 - 10 */
%adjust(r00037,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(7,r00037);

/* RATING OF HEALTH PLAN: 0 - 10 */
%adjust(r00056,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(8,r00056);

/* RATING OF PERSONAL DR: 0 - 10 */
%adjust(r00009,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(9,r00009);

/* SPECIALTY CARE */
%adjust(r00016,age1824 age2534 age3544 age4554 age5564 age6574 r00077);
%comp(10,r00016);

*****************************************************************************
*
* PROGRAM:  BENCHA04.SAS
* TASK:     Quarterly DOD HEALTH CARE SURVEY ANALYSIS (8687-430)
* PURPOSE:  Convert the Benchmark Scores Database into the WEB layout
*
* WRITTEN:  06/01/2000 BY KEITH RATHBUN
*
* INPUTS:   1) Benchmark data sets with adjusted scores
*              (COMPn_i.SD2 where n = composite number and i = group number)
*
* OUTPUT:   1) BENCHA04.SD2 - Combined Benchmark Scores Database in WEB layout
*
* INCLUDES: 1) LOADCAHQ.INC - Format definitions for CAHPS Individual
*              and composite data sets
*
* MODIFIED: 1) Dec 2000 BY KEITH RATHBUN - Update variable names for
*              Q1 2000 Survey.  For the quarterly survey group 8 (all benes)
*              is being used as the benchmark for all groups (1-8).  Thus,
*              this group is copied and output to each of the other 7 groups.
*
* NOTES:
*
* 1) The following steps need to be run prior to this program:
*    - BENCHA01.SAS - Extract Benchmark variables
*    - BENCHA02.SAS - Recode Benchmark variables
*    - BENCHA03.SAS - Construct Scores and SEMEAN datasets
*
* 2) The output file (BENCHA04.SD2) will be run through the
*    MAKEHTMQ.SAS program to generate the WEB pages.
*
*****************************************************************************
* Assign data libraries and options
*****************************************************************************;
LIBNAME IN  "DATA";
LIBNAME OUT "DATA";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

*****************************************************************************
* Load Format definitions for CAHPS Individual and composite data sets.
*****************************************************************************;
%INCLUDE "..\LOADWEB\LOADCAHQ.INC";

*****************************************************************************
*****************************************************************************
*
* Process Macro Input Parameters:
*
* 1) CNUM = Composite or rating variable number (1-10)
* 2) GNUM = Group number (1-8)
* 3) NVAR = Number of variables in the composite
* 4) VARS = List of individual variables for composite
* 5) SE   = List of individual standard error variables
*
* ____________________________________________________________
```

```
*    Adjusted Score           Definitions
*    Group Number
*  ____________________________________________________________
* 1. Prime enrollees          XINS_COV IN (1,2,6) AND H00002>=2
* 2. Enrollees w/mil PCM      XENR_PCM IN (1,2,6) AND H00002>=2
* 3. Enrollees w/civ PCM      XENR_PCM = 3        AND H00002>=2
* 4. Nonenrollees             XINS_COV IN (3,4,5)
* 5. Active duty              XBNFGRP = 1
* 6. Active duty dependents   XBNFGRP = 2
* 7. Retirees and dependents  XBNFGRP IN (3,4)
* 8. All Beneficiaries
*
*****************************************************************************;
%MACRO PROCESS(CNUM=, GNUM=, NVAR=, VARS=, SE=);
*****************************************************************************
* Assign value for BENTYPE composite year
*****************************************************************************;
%LET YEAR = "2000";

*****************************************************************************
* Convert benchmark scores datasets into WEB layout.
*****************************************************************************;
%DO GROUP = 1 %TO 8;
   DATA COMP&CNUM._&GROUP;
      SET IN.COMP&CNUM._&GNUM;

      LENGTH MAJGRP  $30;
      LENGTH REGION  $15;
      LENGTH REGCAT  $26;
      LENGTH BENTYPE $50;
      LENGTH BENEFIT $34;

      ***********************************************************************
      * For now, assign SIG = 0
      ***********************************************************************;
      SIG = 0;

      ***********************************************************************
      * Assign major group
      ***********************************************************************;
      MAJGRP  = PUT(&GROUP,MAJGRPF.);

      ***********************************************************************
      * Assign Region and Regcat
      ***********************************************************************;
      REGION  = "Benchmark";
      REGCAT  = "Benchmark";

      ***********************************************************************
      * Assign benefit and benefit type
      ***********************************************************************;
      IF      &CNUM = 1  THEN BENEFIT = "Getting Needed Care";
      ELSE IF &CNUM = 2  THEN BENEFIT = "Getting Care Quickly";
      ELSE IF &CNUM = 3  THEN BENEFIT = "How Well Doctors Communicate";
      ELSE IF &CNUM = 4  THEN BENEFIT = "Courteous and Helpful Office Staff";
      ELSE IF &CNUM = 5  THEN BENEFIT = "Customer Service";
      ELSE IF &CNUM = 6  THEN BENEFIT = "Claims Processing";
      ELSE IF &CNUM = 7  THEN BENEFIT = "Health Care";
      ELSE IF &CNUM = 8  THEN BENEFIT = "Health Plan";
      ELSE IF &CNUM = 9  THEN BENEFIT = "Primary Care Manager";
      ELSE IF &CNUM = 10 THEN BENEFIT = "Specialty Care";

      BENTYPE = PUT(&YEAR,$BENTYPF.);

      ***********************************************************************
      * Assign composite score and SEMEAN
      ***********************************************************************;
      SCORE = TOTADJ;
      SEMEAN = SDE;

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

```
      * Output composite score record for each REGION
      ******************************************************************;
      OUTPUT;

      ******************************************************************
      * Now, output the individual score records
      ******************************************************************;
      IF &NVAR GT 1 THEN DO;
         ARRAY ITEMS &VARS;
         ARRAY SE    &SE;
         LENGTH NAME $8;
         DO I = 1 TO DIM(ITEMS); DROP I;
            CALL VNAME(ITEMS(I),NAME);
            NAME = SUBSTR(NAME,1,6);
            SCORE  = ITEMS(I);
            SEMEAN = SE(I);
            BENTYPE = PUT(NAME,$BENTYPF.);
            OUTPUT;
         END;
      END;

   KEEP MAJGRP
        REGION
        REGCAT
        BENTYPE
        BENEFIT
        SEMEAN
        SCORE
        SIG
      ;
   RUN;
%END;

%MEND;

*************************************************************************
* COMPOSITE # 1.
* GETTING NEEDED CARE VARIABLES.
*************************************************************************;
%PROCESS(CNUM=1, GNUM=8, NVAR=4, VARS=R00007_8 R00014_8 R00028_8 R00029_8,
         SE=S_R00007 S_R00014 S_R00028 S_R00029);

*************************************************************************
* COMPOSITE # 2.
* GETTING CARE QUICKLY VARIABLES.
*************************************************************************;
%PROCESS(CNUM=2, GNUM=8, NVAR=4, VARS=R00019_8 R00021_8 R00024_8 R00030_8,
         SE=S_R00019 S_R00021 S_R00024 S_R00030);

*************************************************************************
* COMPOSITE # 3.
* HOW WELL DOCTORS COMMUNICATE.
*************************************************************************;
%PROCESS(CNUM=3, GNUM=8, NVAR=4, VARS=R00033_8 R00034_8 R00035_8 R00036_8,
         SE=S_R00033 S_R00034 S_R00035 S_R00036);

*************************************************************************
* COMPOSITE # 4.
* COURTEOUS AND HELPFUL OFFICE STAFF.
*************************************************************************;
%PROCESS(CNUM=4, GNUM=8, NVAR=2, VARS=R00031_8 R00032_8, SE=S_R00031 S_R00032);

*************************************************************************
* COMPOSITE # 5.
* CUSTOMER SERVICE.
*************************************************************************;
%PROCESS(CNUM=5, GNUM=8, NVAR=3, VARS=R00048_8 R00050_8 R00055_8,
         SE=S_R00048 S_R00050 S_R00055);

*************************************************************************
* COMPOSITE # 6.
```

```
* CLAIMS PROCESSING.
*************************************************************************;
%PROCESS(CNUM=6, GNUM=8, NVAR=2, VARS=R00044_8 R00045_8, SE=S_R00044 S_R00045);

*************************************************************************
* INDIVIDUAL # 1.
* RATING OF ALL HEALTH CARE: 0 - 10.
*************************************************************************;
%PROCESS(CNUM=7, GNUM=8, NVAR=1, VARS=R00037_8, SE=S_R00037);

*************************************************************************
* INDIVIDUAL # 2.
* RATING OF HEALTH PLAN: 0 - 10.
*************************************************************************;
%PROCESS(CNUM=8, GNUM=8, NVAR=1, VARS=R00056_8, SE=S_R00056);

*************************************************************************
* INDIVIDUAL # 3.
* RATING OF PERSONAL DOCTOR: 0 - 10.
*************************************************************************;
%PROCESS(CNUM=9, GNUM=8, NVAR=1, VARS=R00009_8, SE=S_R00009);

*************************************************************************
* INDIVIDUAL # 4.
* SPECIALTY CARE: 0 - 10.
*************************************************************************;
%PROCESS(CNUM=10, GNUM=8, NVAR=1, VARS=R00016_8, SE=S_R00016);

*************************************************************************
*************************************************************************
* STACK up all of the files into one final output dataset.
*************************************************************************
*************************************************************************;
DATA OUT.BENCHA04;
   SET COMP1_1  COMP1_2  COMP1_3  COMP1_4  COMP1_5  COMP1_6  COMP1_7  COMP1_8
       COMP2_1  COMP2_2  COMP2_3  COMP2_4  COMP2_5  COMP2_6  COMP2_7  COMP2_8
       COMP3_1  COMP3_2  COMP3_3  COMP3_4  COMP3_5  COMP3_6  COMP3_7  COMP3_8
       COMP4_1  COMP4_2  COMP4_3  COMP4_4  COMP4_5  COMP4_6  COMP4_7  COMP4_8
       COMP5_1  COMP5_2  COMP5_3  COMP5_4  COMP5_5  COMP5_6  COMP5_7  COMP5_8
       COMP6_1  COMP6_2  COMP6_3  COMP6_4  COMP6_5  COMP6_6  COMP6_7  COMP6_8
       COMP7_1  COMP7_2  COMP7_3  COMP7_4  COMP7_5  COMP7_6  COMP7_7  COMP7_8
       COMP8_1  COMP8_2  COMP8_3  COMP8_4  COMP8_5  COMP8_6  COMP8_7  COMP8_8
       COMP9_1  COMP9_2  COMP9_3  COMP9_4  COMP9_5  COMP9_6  COMP9_7  COMP9_8
       COMP10_1 COMP10_2 COMP10_3 COMP10_4 COMP10_5 COMP10_6 COMP10_7 COMP10_8
    ;
    IF SCORE = . THEN DELETE;
RUN;

TITLE1 "Quarterly DOD Health Survey Scores/Report Cards (8687-430)";
TITLE2 "Program Name: BENCHA04.SAS By Keith Rathbun";
TITLE3 "Program Inputs: Benchmark Individual and Composite data sets with adjusted
scores";
TITLE4 "Program Outputs: BENCHA04.SD2 - Combined Benchmark Scores Database in WEB
layout";

PROC CONTENTS; RUN;

PROC FREQ;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT
       REGION*REGCAT
      /MISSING LIST;
RUN;
```

5. CALCULATE PREVENTIVE CARE COMPOSITE SCORES

```
*****************************************************************
*  Project:   DoD Reporting and Analysis 8687-100
*  Program:   PRVCOMPQ.SAS
*  Author:    Chris Rankin
*  Date:      12/22/2000
*  Modified:  4/19/2001 by Keith Rathbun: Restrict population to
*             xins_cov in(1,2,3,6).  Use POSTSTR instead of
*             adj_cell.
*             10/25/2001 by Daniele Beahm: Because no poststratification
*             was done for q3 2000, changed POSTSTR back to ADJ_CELL
*             1/30/2002 by Chris Rankin: Q1 and Q2 BP taken out of
*             calculations
*             1/31/2002 by Mike Scott: Added condition XENR_PCM = 7 (now
*             XENR_PCM IN (3,7)) when setting BGROUP=3.
*  Purpose:   Calculate MPR Preventive Care Composites
*  Input:     HCS00A_1.SD2
*  Output:    RFINAL.SD2
*             CFINAL.SD2
*             MFINAL.SD2
*  Include
*   Files:    LOADCAHPQ.INC
*             catrep.inc
*    Note:    Next program is Loadmpr.sas
*****************************************************************;

OPTIONS NOCENTER LS=124 PS=74 SOURCE SOURCE2 MLOGIC MPRINT
        NOFMTERR COMPRESS=YES;

LIBNAME IN       V612 "....\data";
LIBNAME OUT      V612 ".";
LIBNAME LIBRARY  V612 "....\data\fmtlib";

%LET WGT=cWRWT;
%LET DEBUG=Y;      /** Set to Y for Debug print of datasets **/
%LET INDATA=HCS00A_1;
%LET YRDATA=HCS00A;
%LET YR=00;

/***** The following parameters are used in the Variance ****/
/***** calcuation macro for region and catchment area    ****/

%LET GRPNUM=8;      /** number of groups          **/
%LET COMPNUM=8;     /** numper of variables       **/
%LET REGNUM=16;     /** number of regions         **/
%LET CATCHNUM=9999; /** number of catchment areas **/

%LET CMPNUM1=5;    /** number of variables in first compostie  **/
%LET CMPNUM2=3;    /** number of variables in second composite **/

%LET COMPCNT=2;    /** number of composites                    **/

**** set up benchmarks for prentive services ;
**** note -- these are the hp 2000 goals     ;

%LET GOALVAR1= .90;    /** HP Goal for prenatal care        **/
%LET GOALVAR2= .70;    /** HP Goal for Mammography          **/
%LET GOALVAR3= .90;    /** HP Goal for Papsmear             **/
%LET GOALVAR4= .95;    /** HP Goal for Blood Pressure check **/
%LET GOALVAR5= .90;    /** HP Goal for Flu shot             **/
%LET GOALVAR6= .90;    /** access goals                     **/
%LET GOALVAR7= .90;
%LET GOALVAR8= .98;

%INCLUDE "...\LOADWEB\LOADCAHQ.INC";
%INCLUDE "...\LOADWEB\CATREP.INC";

*************************************************************;
* Beneficiary group note
*    Eight groups             Definitions
* ____________________________________________________________;
```

```
* 1. Prime enrollees          XINS_COV IN (1,2,6) AND H00002>=2
* 2. Enrollees w/mil PCM      XENR_PCM IN (1,2,6) AND H00002>=2
* 3. Enrollees w/civ PCM      XENR_PCM=3          AND H00002>=2
* 4. Nonenrollees             XINS_COV IN (3,4,5)
* 5. Active duty              XBNFGRP = 1
* 6. Active duty dependents   XBNFGRP = 2
* 7. Retirees                 XBNFGRP IN (3,4)
* 8. All beneficiaries        ALL
*************************************************************;


/**** note -- output all data to a single dataset for macro */
/**** call                                                  */
/**** MACROS are no longer called for catchment areas       */


DATA &YRDATA(KEEP=BGROUP MHS CONUS XREGION CACSMPL &WGT TMP_CELL
                  PRVVAR1-PRVVAR&COMPNUM. NUM&YR.V1-NUM&YR.V&COMPNUM
               DEN&YR.V1-DEN&YR.V&COMPNUM);

  SET IN.&INDATA(KEEP=XINS_COV HP_FLU   HP_BP   HP_MAMOG HP_PAP HP_PRNTL
                      XREGION  XENR_PCM XBNFGRP ENBGSMPL &WGT   CACSMPL
                      ADJ_CELL H00021   H00024  H00030   H00002 QUARTER);
*  IF _N_ LE 100;


*************************************************************************
* For quarterly reports, catchment level reporting is not done
* so the value of cellp is set to 1.
* For annual reporting purposes, cellp will need to be assigned
* to geocell
*************************************************************************;

  CELLP=1;
  LENGTH TMP_CELL 8;
  TMP_CELL=ADJ_CELL;   /* make ADJ_CELL a numeric variable */

  IF XREGION=7 THEN XREGION=8;
  IF XREGION IN (.,0)    THEN DELETE;
  IF CACSMPL IN (.,9999) THEN DELETE;
  IF XINS_COV NOT IN(1,2,3,6) THEN DELETE;

  PRVVAR1=HP_PRNTL;        /** prenatal care  **/
  PRVVAR2=HP_MAMOG;        /** mammography    **/
  PRVVAR3=HP_PAP;          /** papsmear       **/
  PRVVAR4=HP_BP;           /** blood pressure **/
  PRVVAR5=HP_FLU;          /** flu shot       **/
  PRVVAR6=H00021;          /** access var 1   **/
  PRVVAR7=H00024;          /** access var 2   **/
  PRVVAR8=H00030;          /** access var 3   **/

  **** set up numerator and denominator for proportions ****;

  *********************************************************;
  *** Q1 and Q2 BP removed from calculations             ***;
  *** C.Rankin 1/30/02                                   ***;
  *********************************************************;

  IF QUARTER IN ("Q1 2000", "Q2 2000") THEN PRVVAR4=.;

  ARRAY PRVVAR(*) PRVVAR1-PRVVAR&COMPNUM;
  ARRAY  NUMER(*) NUM&YR.V1-NUM&YR.V&COMPNUM;
  ARRAY  DENOM(*) DEN&YR.V1-DEN&YR.V&COMPNUM;

  DO I = 1 TO &COMPNUM;
     IF I LE  &CMPNUM1 THEN DO;
        IF PRVVAR(I) = 1 THEN NUMER(I) = 1;
        ELSE NUMER(I)=0;
        IF PRVVAR(I) IN (1, 2) THEN DENOM(I)=1;
     END;
     ELSE IF I GT &CMPNUM1 THEN DO;
```

```
        IF PRVVAR(I) IN (1, 2) THEN NUMER(I)=1;
        ELSE NUMER(I)=0;
        IF PRVVAR(I) > 0 THEN DENOM(I)=1;
     END;
  END;
  DROP I;

  IF QUARTER NOT IN ("Q1 2000", "Q2 2000") THEN DENV4=1;  /* Changed 1/30/02 */

  MHS= 1;   /* set up dummy for MHS-- include all observations */

*****************************************************************************
* Assign indicator of CONUS based on XREGION.  CONUS stands for
* Contential United States it but includes both Alaska and Hawaii.
*****************************************************************************;
  IF      XREGION IN (1,2,3,4,5,6,7,8,9,10,11,12,16) THEN CONUS=1;
  ELSE IF XREGION IN (13,14,15)                      THEN CONUS=0;
  ELSE IF XREGION = .                                THEN CONUS=.;

* Prime enrollees     *;

  IF (XINS_COV IN (1,2,6) AND H00002>=2) THEN DO;
     BGROUP=1;
     OUTPUT;
  END;

* Enrollees with military PCMs *;

  IF (XENR_PCM IN (1,2,6) AND H00002>=2) THEN DO;
     BGROUP=2;
     OUTPUT;
  END;

* Enrollees with civilian PCMs *;

  IF (XENR_PCM IN (3,7) AND H00002>=2) THEN DO;
     BGROUP=3;
     OUTPUT;
  END;

* Nonenrollees *;

  IF XINS_COV IN (3,4,5) THEN DO;
     BGROUP=4;
     OUTPUT;
  END;

* Active duty      *;

  IF XBNFGRP = 1 THEN DO;
     BGROUP=5;
     OUTPUT;
  END;

* Active duty dependents  *;

  IF XBNFGRP = 2 THEN DO;
     BGROUP=6;
     OUTPUT;
  END;

* Retirees  *;

  IF XBNFGRP IN (3,4) THEN DO;
     BGROUP=7;
     OUTPUT;
  END;

* All beneficiaries *;

  BGROUP=8;
```

```
  OUTPUT;

RUN;

**** Next, check catchment areas for requisite number of observations ;
**** for the macro calls (exclude cacsmpl w/ <2 obs)                  ;
**** also, keep list of region/catchment area combinations            ;


 PROC FREQ NOPRINT DATA=&YRDATA;
     TABLE BGROUP*MHS*CONUS*XREGION*CACSMPL/MISSING LIST
     OUT=OBSCNT(DROP=PERCENT);
 RUN;

 PROC SORT DATA=&YRDATA; BY BGROUP MHS CONUS XREGION CACSMPL;
 RUN;

 DATA HCSDB /*FAILED*/;
    MERGE &YRDATA(IN=IN_ALL) OBSCNT(IN=IN_OBS);
    BY BGROUP MHS CONUS XREGION CACSMPL;
    IF COUNT < 2 THEN DO;
        PUT "Failed obs # criterion: XREGION=" XREGION "CACSMPL=" CACSMPL;
        *OUTPUT FAILED;
    END;
    /*ELSE*/ OUTPUT HCSDB;
 RUN;

 DATA OBSCNT;
    SET OBSCNT;
    RENAME BGROUP=GROUP;
 RUN;

 PROC SORT NODUPKEY DATA=OBSCNT; BY GROUP CACSMPL;
 RUN;


*******************************************************
*** First, calculate standard errors and create     ***
*** a file for each analytical unit                 ***
*******************************************************;

 PROC SORT DATA=HCSDB; BY TMP_CELL;
 RUN;

*******************************************************
***** Sudaan macro to calculate standard errors   *****
***** there are three output datasets created     *****
***** (REGION, CACSMPL, MHS)                      *****
***** Note:  7/10/2000 use CONUS for MHS          *****
***** Note:  there are 8 variables and 8 groups   *****
*******************************************************;

%MACRO A_SUDAAN(TABLEVAR);

*** set the number of levels in the proc descript ***;
*** for region or catchment                       ***;

 %IF %UPCASE(&TABLEVAR)=XREGION %THEN %DO;
    %LET ENDNUM=&REGNUM;
    %LET PREF=R;         /** dataset prefix for region data    **/
 %END;
 %ELSE %IF %UPCASE(&TABLEVAR)=CACSMPL %THEN %DO;
    %LET ENDNUM=&CATCHNUM;
    %LET PREF=C;         /** dataset prefix for catchement area data **/
 %END;
 %ELSE %IF %UPCASE(&TABLEVAR)=CONUS %THEN %LET PREF=M;


 %DO I=1 %TO &GRPNUM;     /** 8 groups    **/

     %DO J=1 %TO &COMPNUM;   /** 8 variables **/
```

```
DATA INDATA&I.&J(KEEP=&WGT MHS CONUS XREGION CACSMPL
                      NUM&YR.V&J DEN&YR.V&J TMP_CELL);
   SET HCSDB;
   WHERE XREGION > 0 AND BGROUP=&I
   AND  DEN&YR.V&J > 0;
   %IF %UPCASE(&TABLEVAR)=CONUS %THEN %DO;
        IF CONUS NE 1 THEN DELETE;  /* don't include all MHS */
   %END;
RUN;

/**** Calculate values for regions, catchment areas ****/

%IF %UPCASE(&TABLEVAR) NE CONUS %THEN %DO;

   PROC DESCRIPT DATA=INDATA&I.&J DESIGN=STRWR NOPRINT;
      WEIGHT &WGT;
      SETENV DECWIDTH=4;
      NEST TMP_CELL / MISSUNIT;
      VAR NUM&YR.V&J;
      TABLES &TABLEVAR;
      SUBGROUP &TABLEVAR;
      LEVELS &ENDNUM;
      OUTPUT SEMEAN/ TABLECELL=DEFAULT
      FILENAME=&PREF.GRP&I.V&J;
   RUN;

%END;
%ELSE %IF %UPCASE(&TABLEVAR)=CONUS %THEN %DO;

/**** No tables, levels, or subgroups needed ****/

   PROC DESCRIPT DATA=INDATA&I.&J DESIGN=STRWR NOPRINT;
      WEIGHT &WGT;
      SETENV DECWIDTH=4;
      NEST TMP_CELL / MISSUNIT;
      VAR NUM&YR.V&J;
      OUTPUT SEMEAN/ TABLECELL=DEFAULT
      FILENAME=&PREF.GRP&I.V&J;
   RUN;

%END;

/***** first, put all variables into one dataset for each group *****/

DATA &PREF.GRP&I.V&J;
  SET &PREF.GRP&I.V&J;
  IF SEMEAN NE .;
  MHS=1;
  %IF %UPCASE(&TABLEVAR)=CONUS %THEN %DO;
    CONUS=1;
  %END;
RUN;

%IF &J=1 %THEN %DO;

   DATA &PREF.SEGRP&I;
     SET &PREF.GRP&I.V&J(KEEP=&TABLEVAR SEMEAN);
     GROUP=&I;
     IF SEMEAN NE .;
     RENAME SEMEAN = SERR&YR.V&J;
   RUN;
%END;
%ELSE %DO;

   DATA &PREF.SEGRP&I;
     MERGE &PREF.SEGRP&I &PREF.GRP&I.V&J(KEEP=&TABLEVAR SEMEAN);
     BY &TABLEVAR;
     GROUP=&I;
     RENAME SEMEAN = SERR&YR.V&J;
   RUN;
```

```
         %END;
      %END;

***** Put all data into one dataset  *****;
***** Note:  changed output dataset  *****;
***** to include group               *****;

      %IF &I=1 %THEN %DO;

         DATA OUT.&PREF.SERR;
           SET &PREF.SEGRP&I;
           KEEP GROUP &TABLEVAR SERR&YR.V1-SERR&YR.V&COMPNUM;
         RUN;
      %END;
      %ELSE %DO;

         DATA OUT.&PREF.SERR;
           SET OUT.&PREF.SERR
           &PREF.SEGRP&I;
         RUN;
      %END;

/******** DEBUG PRINT   *******/

     %IF &DEBUG=Y %THEN %DO;
        %IF &I=&GRPNUM AND &PREF=R %THEN %DO;
           PROC PRINT DATA=OUT.&PREF.SERR;
              VAR &TABLEVAR GROUP SERR&YR.V1-SERR&YR.V&COMPNUM;
           RUN;
        %END;
     %END;
  %END;

%MEND A_SUDAAN;

%A_SUDAAN (CONUS);      /** 7/10/2000 changed MHS to CONUS **/
%A_SUDAAN (XREGION);
%A_SUDAAN (CACSMPL);


*******************************************************
*** Next, calculate correlation coefficients         ***
*** and create a file for each analytical unit       ***
*******************************************************;

%MACRO GETCORR(BYVAR);

 %IF %UPCASE(&BYVAR)=XREGION %THEN %LET PREF=R;
 %ELSE %IF %UPCASE(&BYVAR)=CACSMPL %THEN %LET PREF=C;
 %ELSE %IF %UPCASE(&BYVAR)=CONUS %THEN %LET PREF=M;

 PROC SORT DATA=HCSDB;
    BY &BYVAR;
 RUN;

 %DO I = 1 %TO &GRPNUM;

    PROC CORR NOPRINT DATA=HCSDB OUTP=&PREF.CORRC&I;
       %IF %UPCASE(&BYVAR)=CONUS %THEN %DO;
         WHERE BGROUP=&I AND CONUS = 1;
       %END;
       %ELSE %DO;
         WHERE BGROUP=&I;
       %END;
       BY &BYVAR;
       VAR PRVVAR1-PRVVAR&COMPNUM;
       WITH PRVVAR1-PRVVAR&COMPNUM;
       WEIGHT &WGT;
    RUN;

    DATA &PREF.CORRC&I;
```

```
      SET &PREF.CORRC&I;
      WHERE _TYPE_="CORR";
      GROUP=&I;
      ARRAY OLD PRVVAR1-PRVVAR&COMPNUM;
      ARRAY NEW COR&YR.V1-COR&YR.V&COMPNUM;
      DO J = 1 TO &COMPNUM;
         NEW(J)=OLD(J);
      END;
      DROP J PRVVAR1-PRVVAR&COMPNUM;
    RUN;

    %IF &I=1 %THEN %DO;

       DATA &PREF.CORRC;
        SET &PREF.CORRC&I;
       RUN;

    %END;
    %ELSE %DO;

       DATA &PREF.CORRC;
         SET &PREF.CORRC
         &PREF.CORRC&I;
       RUN;

    %END;

    %IF &DEBUG=Y %THEN %DO;
       %IF &I=&COMPNUM AND &PREF=R %THEN %DO;
          PROC PRINT DATA=&PREF.CORRC;
             WHERE GROUP=1;
          RUN;
       %END;
    %END;
 %END;

/*** Flatten dataset(for each region, condense matrix to one row) ***/

 %DO K=1 %TO &COMPNUM;

    DATA &PREF.CORR&K;
      SET &PREF.CORRC;
      WHERE _NAME_ = "PRVVAR&K";
      ARRAY CORR   (&COMPNUM) COR&YR.V1-COR&YR.V&COMPNUM;
      ARRAY CORR&K (&COMPNUM) COR&YR.V&K.1-COR&YR.V&K.&COMPNUM;
      DO L=1 TO &COMPNUM;
         CORR&K(L)=CORR(L);
      END;
      KEEP GROUP &BYVAR COR&YR.V&K.1-COR&YR.V&K.&COMPNUM;
    RUN;

    %IF &K=1 %THEN %DO;

       DATA OUT.&PREF.CORR;
         SET &PREF.CORR&K;
       RUN;

    %END;
    %ELSE %DO;

       DATA OUT.&PREF.CORR;
         MERGE OUT.&PREF.CORR(IN=IN_1) &PREF.CORR&K(IN=IN_2);
         BY GROUP &BYVAR;
       RUN;

    %END;

    %IF &DEBUG=Y %THEN %DO;
       %IF &PREF=R %THEN %DO;
           PROC PRINT DATA=OUT.&PREF.CORR;
              WHERE GROUP=1;
```

```
          RUN;
       %END;
    %END;
 %END;

%MEND GETCORR;

%GETCORR(CONUS);
%GETCORR(XREGION);
%GETCORR(CACSMPL);


*******************************************************
***  Macro to derive composites for each         *******
***  beneficiary group, level                    *******
***  output one dataset for each group           *******
*******************************************************;


%MACRO GETPROP(BYVAR);

 %LET START = %EVAL(&CMPNUM1+1);

 %IF %UPCASE(&BYVAR)=XREGION %THEN %LET PREF=R;
 %ELSE %IF %UPCASE(&BYVAR)=CACSMPL %THEN %LET PREF=C;
 %ELSE %IF %UPCASE(&BYVAR)=CONUS %THEN %LET PREF=M;


 PROC MEANS NWAY NOPRINT DATA=HCSDB;
    CLASS BGROUP &BYVAR;
    VAR NUM&YR.V1-NUM&YR.V&COMPNUM
        DEN&YR.V1-DEN&YR.V&COMPNUM;
    WEIGHT &WGT;
    OUTPUT OUT= &PREF.CMPSUM(DROP = _TYPE_)
    SUM =  ;
 RUN;

 PROC MEANS NWAY NOPRINT DATA=HCSDB;
    CLASS BGROUP &BYVAR;
    VAR DEN&YR.V1-DEN&YR.V&COMPNUM;
    OUTPUT OUT=&PREF.DGFR(DROP=_TYPE_ _FREQ_)
    SUM= NOBS&YR.V1-NOBS&YR.V&COMPNUM;
 RUN;

 DATA OUT.&PREF.CMPSUM;
   MERGE &PREF.CMPSUM(RENAME=(_FREQ_=N_OBS&YR.))
         &PREF.DGFR;
   BY BGROUP &BYVAR;

   %IF &PREF=M %THEN %DO;  /** added 7/10/2000 **/
      WHERE CONUS=1;
   %END;

   /**** set up group variable  **/

   RENAME BGROUP=GROUP;;

   /**** set up proportions, and composites **/

   ARRAY PROPORT PROP&YR.V1-PROP&YR.V&COMPNUM;
   ARRAY NUMER   NUM&YR.V1-NUM&YR.V&COMPNUM;
   ARRAY DENOM   DEN&YR.V1-DEN&YR.V&COMPNUM;
   DO J=1 TO DIM(PROPORT);
      PROPORT(J) = NUMER(J)/DENOM(J);
   END;
   DROP J;

   /**** composites **/

   %DO Q=1 %TO &COMPCNT;
      %IF &Q=1 %THEN %DO;
```

```
         CP&YR.NUM&Q.=SUM(OF NUM&YR.V1-NUM&YR.V&CMPNUM1);
         CP&YR.DEN&Q.=SUM(OF DEN&YR.V1-DEN&YR.V&CMPNUM1);
         CP&YR.OBS&Q.=SUM(OF NOBS&YR.V1-NOBS&YR.V&CMPNUM1);
      %END;
      %ELSE %DO;
         CP&YR.NUM&Q.=SUM(OF NUM&YR.V&START-NUM&YR.V&COMPNUM);
         CP&YR.DEN&Q.=SUM(OF DEN&YR.V&START-DEN&YR.V&COMPNUM);
         CP&YR.OBS&Q.=SUM(OF NOBS&YR.V&START-NOBS&YR.V&COMPNUM);
      %END;
      COMP&YR.&Q.=CP&YR.NUM&Q./CP&YR.DEN&Q.;
   %END;

** added goalvars to datastep, 5/30/2000                ;
** taken out of temporary array for variance calculations;
** and used, kept as variables                          ;

   GOALVAR1=&GOALVAR1;
   GOALVAR2=&GOALVAR2;
   GOALVAR3=&GOALVAR3;
   GOALVAR4=&GOALVAR4;
   GOALVAR5=&GOALVAR5;
   GOALVAR6=&GOALVAR6;
   GOALVAR7=&GOALVAR7;
   GOALVAR8=&GOALVAR8;

** the weight for preventive service is defined as the        ;
** proportion of the denominator for that service to the      ;
;
** composite denominator                                      ;
** healthy people 2000 goals -- used as benchmarks            ;

   ARRAY   SVCWGT(&COMPNUM) WGT&YR.V1-WGT&YR.V&COMPNUM;
   ARRAY    BMARK(&COMPNUM) GOALVAR1-GOALVAR&COMPNUM;
   ARRAY WGTBMARK(&COMPNUM) WTD&YR.V1-WTD&YR.V&COMPNUM;

   DO K = 1 TO &COMPNUM;
      IF K < &START THEN SVCWGT(K)= DENOM(K)/CP&YR.DEN1;
      ELSE SVCWGT(K) = DENOM(K)/CP&YR.DEN2;
      WGTBMARK(K) = SVCWGT(K)*BMARK(K);
   END;
   DROP K;
   CP&YR.BMK1=SUM(OF WTD&YR.V1-WTD&YR.V&CMPNUM1);
   CP&YR.BMK2=SUM(OF WTD&YR.V&START-WTD&YR.V&COMPNUM);

   DROP WGT&YR.V1-WGT&YR.V&COMPNUM WTD&YR.V1-WTD&YR.V&COMPNUM
        NUM&YR.V1-NUM&YR.V&COMPNUM;

 RUN;

 %IF &DEBUG=Y AND &PREF=R %THEN %DO;

    PROC PRINT DATA=OUT.&PREF.CMPSUM;  /* print out final dataset */
    RUN;                               /* for region to check     */
 %END;

%MEND GETPROP;

%GETPROP(CONUS);
%GETPROP(XREGION);
%GETPROP(CACSMPL);

*******************************************************
** since MHS benchmarks will be displayed           ****
** set up adjustment factor to apply to             ****
** each analytical unit's composite benchmarks      ****
*******************************************************;

DATA OUT.ADJUST(drop=group);
  SET OUT.MCMPSUM(KEEP=GROUP CP&YR.BMK1 CP&YR.BMK2);
  where group=8;
  RENAME CP&YR.BMK1=MHS&YR.BM1;
```

```
  RENAME CP&YR.BMK2=MHS&YR.BM2;
RUN;

**** simple macro added to get adjusted composite scores ****
**** for region and catchment to be displayed in report  ****
**** cards                                                ****;


%MACRO ADJUST(FILE,LEVEL);

  DATA OUT.&FILE;
      IF _N_=1 THEN SET  OUT.ADJUST;
                  SET  OUT.&FILE;

    %DO Z=1 %TO &COMPCNT;
       /*%IF &LEVEL=CONUS %THEN %DO;
          ADJ&YR.CP&Z.=1;
          C&YR.SCOR&Z=COMP&YR.&Z.*ADJ&YR.CP&Z.*100;
       %END;
       %ELSE %DO;*/
          ADJ&YR.CP&Z.=MHS&YR.BM&Z./CP&YR.BMK&Z.;
          C&YR.SCOR&Z=COMP&YR.&Z.*ADJ&YR.CP&Z.*100;
       /*%END;*/
    %END;
   RUN;

%MEND ADJUST;


%ADJUST(MCMPSUM,CONUS)
%ADJUST(RCMPSUM,REG);
%ADJUST(CCMPSUM,CAT);



*******************************************************
***  Macro to merge 3 datasets for each          *******
***  called by analytical unit                   *******
***  output final dataset for                    *******
***  Region, Catchment, MHS                      *******
*******************************************************;


%MACRO GETSIG(BYVAR);

 %LET START = %EVAL(&CMPNUM1+1);
 %LET NEXT  = %EVAL(&CMPNUM1+2);

 %IF &BYVAR=XREGION %THEN %LET PREF=R;
 %ELSE %IF &BYVAR=CACSMPL %THEN %LET PREF=C;
 %ELSE %IF &BYVAR=CONUS %THEN %LET PREF=M;

 DATA OUT.&PREF.FINAL(KEEP= MAJGRP REGION REGCAT GOALVAR1-GOALVAR&COMPNUM
                SIG&YR.V1-SIG&YR.V&COMPNUM SCOR&YR.V1-SCOR&YR.V&COMPNUM
                CP&YR.SIG1-CP&YR.SIG&COMPCNT CP&YR.1SE CP&YR.2SE
                C&YR.SCOR1-C&YR.SCOR&COMPCNT CP&YR.BMK1-CP&YR.BMK&COMPCNT
                SERR&YR.V1-SERR&YR.V&COMPNUM CP&YR.1SE CP&YR.2SE
                COMP&YR.1 COMP&YR.2 PROP&YR.V1-PROP&YR.V&COMPNUM
                DF&YR.SCR1-DF&YR.SCR&COMPNUM DF&YR._CP1 DF&YR._CP2
                NOBS&YR.V1-NOBS&YR.V&COMPNUM CP&YR.OBS1-CP&YR.OBS&COMPCNT
                DEN&YR.V1-DEN&YR.V&COMPNUM CP&YR.DEN1-CP&YR.DEN&COMPCNT)


   /** output a dataset to check **/

   OUT.&PREF.CHECK(DROP=SESQ&YR.V1-SESQ&YR.V&COMPNUM
                       PROP&YR.V1-PROP&YR.V&COMPNUM
                       SEM&YR.V11-SEM&YR.V&COMPNUM.&COMPNUM);


    FORMAT MAJGRP $30. REGION $15. REGCAT $26.;
```

```
  %IF &PREF=C %THEN %DO;
      MERGE OBSCNT(IN=IN_OBS) OUT.&PREF.CMPSUM(IN=IN_PROP) OUT.&PREF.CORR
      OUT.&PREF.SERR;
      BY GROUP &BYVAR;
      IF IN_OBS;
  %END;
  %ELSE %DO;
      MERGE OUT.&PREF.CMPSUM(IN=IN_PROP) OUT.&PREF.CORR
      OUT.&PREF.SERR;
      BY GROUP &BYVAR;
      IF IN_PROP;
  %END;

**  MAJGRP -- text field for group   **;
  IF      GROUP=1 THEN MAJGRP="Prime Enrollees            ";
  ELSE IF GROUP=2 THEN MAJGRP="Enrollees with Military PCM";
  ELSE IF GROUP=3 THEN MAJGRP="Enrollees with Civilian PCM";
  ELSE IF GROUP=4 THEN MAJGRP="Non-enrolled Beneficiaries ";
  ELSE IF GROUP=5 THEN MAJGRP="Active Duty                ";
  ELSE IF GROUP=6 THEN MAJGRP="Active Duty Dependents     ";
  ELSE IF GROUP=7 THEN MAJGRP="Retirees and Dependents    ";
  ELSE IF GROUP=8 THEN MAJGRP="All Beneficiaries          ";

**** REGION AND REGCAT SETUP          **;
  %IF &PREF=C %THEN %DO;
      REGCAT=PUT(CACSMPL, CATREP.);
      REGION=PUT(XREGION, REGIONF.);
  %END;
  %ELSE %IF &PREF=R %THEN %DO;
      REGION=PUT(XREGION, REGIONF.);
      REGCAT=PUT(XREGION, REGIONF.);
  %END;
  %ELSE %DO;
      REGION="CONUS MHS";
      REGCAT="CONUS MHS";
  %END;

 **** setup t statistics, degreees of freedom    **;

 ARRAY    TSTAT{&COMPNUM} T_&YR.V1-T_&YR.V&COMPNUM;
 ARRAY    BMARK{&COMPNUM} GOALVAR1-GOALVAR&COMPNUM;
 ARRAY  STNDERR{&COMPNUM} SERR&YR.V1-SERR&YR.V&COMPNUM;
 ARRAY  SERRSQR{&COMPNUM} SESQ&YR.V1-SESQ&YR.V&COMPNUM;
 ARRAY     DEGF{&COMPNUM} DF&YR.SCR1-DF&YR.SCR&COMPNUM;
 ARRAY    DENOM{&COMPNUM} DEN&YR.V1-DEN&YR.V&COMPNUM;
 ARRAY  PROPORT{&COMPNUM} PROP&YR.V1-PROP&YR.V&COMPNUM;
 ARRAY    SCORE{&COMPNUM} SCOR&YR.V1-SCOR&YR.V&COMPNUM;
 ARRAY   PVALUE{&COMPNUM} PVAL&YR.V1-PVAL&YR.V&COMPNUM;
 ARRAY      SIG{&COMPNUM} SIG&YR.V1-SIG&YR.V&COMPNUM;
 ARRAY     NOBS{&COMPNUM} NOBS&YR.V1-NOBS&YR.V&COMPNUM;


 ** get the item variance, t-statistics, df, p-values **;
 ** and whether significant                           **;

 DO I=1 TO &COMPNUM;
      SERRSQR{I}=STNDERR{I}**2;  /* Item variance */
      SCORE{I}=PROPORT{I}*100;   /* Score (prop. * 100) */
      IF STNDERR{I} > 0 THEN TSTAT{I}=(PROPORT{I}-BMARK{I})/STNDERR{I};
      ELSE TSTAT{I}=.;
      DEGF{I}=NOBS{I}-1;
      PVALUE{I}=(1-PROBT(ABS(TSTAT{I}),DEGF{I}))*2;
      IF PVALUE{I} GE .05 THEN SIG{I}=0;
      ELSE IF PVALUE{I} < .05 THEN DO;
          IF PROPORT{I} > BMARK{I} THEN SIG{I}=1;
          IF PROPORT{I} < BMARK{I} THEN SIG{I}=-1;
      END;
 END;
 DROP I;

 ** multiply each item pair std. errors and correlation coefficients **;
```

```
** preventive care composite                                          **;

ARRAY SERRC1{&CMPNUM1} SERR&YR.V1-SERR&YR.V&CMPNUM1;

%DO J = 1 %TO &CMPNUM1;
   ARRAY  SMEAN&J{&CMPNUM1} SEM&YR.V&J.1-SEM&YR.V&J.&CMPNUM1;
   ARRAY CORVAR&J{&CMPNUM1} COR&YR.V&J.1-COR&YR.V&J.&CMPNUM1;
   DO K=1 TO &CMPNUM1;
      SMEAN&J{K}=SERR&YR.V&J*SERRC1{K}*CORVAR&J{K};
   END;
   SEM&YR.V&J.&J=0; /** don't count in final standard error calculation **/

%END;
DROP K;

** multiply each item pair std. errors and correlation coefficients **;
** access to care composite                                          **;

ARRAY SERRC2{&CMPNUM2} SERR&YR.V&START-SERR&YR.V&COMPNUM;

%DO L = &START %TO &COMPNUM;
   ARRAY  SMEAN&L{&CMPNUM2} SEM&YR.V&L.&START-SEM&YR.V&L.&COMPNUM;
   ARRAY CORVAR&L{&CMPNUM2} COR&YR.V&L.&START-COR&YR.V&L.&COMPNUM;
   DO M=1 TO &CMPNUM2;
      SMEAN&L{M}=SERR&YR.V&L*SERRC2{M}*CORVAR&L{M};
   END;
   SEM&YR.V&L.&L=0;  /** don't coun't in final standard error calculation **/
 %END;
 DROP M;

** calculate composite t-statistic, pvalue, and whether significant **;
** for composites                                                   **;

 %DO P=1 %TO &COMPCNT;
    %IF &P=1 %THEN %DO;

       ** composite standard error comprised of two parts **;

       CP&YR.&P.SE1=SUM(OF SESQ&YR.V1-SESQ&YR.V&CMPNUM1);
       CP&YR.&P.SE2=SUM(OF SEM&YR.V11-SEM&YR.V&CMPNUM1.&CMPNUM1.);

    %END;
    %ELSE %DO;
       CP&YR.&P.SE1=SUM(OF SESQ&YR.V&START-SESQ&YR.V&COMPNUM);
       CP&YR.&P.SE2=SUM(OF SEM&YR.V&START.&START.-SEM&YR.V&COMPNUM.&COMPNUM.);

    %END;

 ** add the two parts of the composite standard error  **;
 ** calculate the composite t statistics and p-values  **;
 ** determine whether differences are sigificant       **;

    CP&YR.&P.SE=SQRT(CP&YR.&P.SE2+CP&YR.&P.SE1)/&&CMPNUM&P.;
    IF CP&YR.&P.SE > 0 THEN CP&YR._T&P.=(COMP&YR.&P.-CP&YR.BMK&P.)/CP&YR.&P.SE;
    ELSE CP&YR._T&P.= .;
    DF&YR._CP&P.=CP&YR.OBS&P. - 1;
    CP&YR._P&P.=(1-PROBT(ABS(CP&YR._T&P.),DF&YR._CP&P.))*2;
    IF CP&YR._P&P GE .05 THEN CP&YR.SIG&P=0;
    ELSE IF CP&YR._P&P < .05 THEN DO;
       IF COMP&YR.&P. > CP&YR.BMK&P THEN CP&YR.SIG&P= 1;
       ELSE IF COMP&YR.&P. < CP&YR.BMK&P THEN CP&YR.SIG&P=-1;
    END;

 %END;

 OUTPUT OUT.&PREF.FINAL;

 %IF &PREF=M %THEN %DO;
    OUTPUT OUT.&PREF.CHECK;
 %END;
```

```
 RUN;

%MEND GETSIG;

%GETSIG(CONUS);    /** changed to CONUS 7/10/2000 **/
%GETSIG(XREGION);
%GETSIG(CACSMPL);

ENDSAS;
```

6. CALCULATE TREND AND PERFORM SIGNIFICANCE TESTS ON MPR SCORES

```
*****************************************************************
*  Project:   DoD Reporting and Analysis 8687-100
*  Program:   TRENDMPR.SAS
*  Author:    Chris Rankin
*  Date:      6/19/2000
*  Modified:  2/21/2001
*             trend calculation changed
*  Purpose:   Calculate trends from 1998 to 1999
*  Output:    RTREND.SD2
*             MTREND.SD2
*             CTREND.SD2
*  Input:     RFINAL.SD2
*             CFINAL.SD2
*             MFINAL.SD2
*    Note:    Next program is loadmpr.sas
*****************************************************************;

OPTIONS NOCENTER LS=124 PS=74 SOURCE SOURCE2 MLOGIC MPRINT;

LIBNAME   IN00     ".";
LIBNAME   IN98     ".....\1998\programs\ReportCards\MPR_Adult1998";
LIBNAME   OUT      ".";
LIBNAME   LIBRARY  "......\8687\data1999\afinal\fmtlib";

%LET COMPNUM=8;    /** number of variables       **/

**** Note:  groups changed 6/16/2000 to correspond with ;
**** definition of CAHPS groups                        ;

*************************************************************;
* Beneficiary group note
*    Eight groups             Definitions
* ___________________________________________________________;
* 1. Prime enrollees          XINSCOV IN (1,2,6) AND H99004=4
* 2. Enrollees w/mil PCM      XENR_PCM IN (2,6)  AND H99004=4
* 3. Enrollees w/civ PCM      XENR_PCM=3         AND H99004=4
* 4. Nonenrollees             XINSCOV IN (3,4,5)
* 5. Active duty              BFGROUPP=1
* 6. Active duty dependents   BFGROUPP=2
* 7. Retirees                 BFGROUPP IN (3,4)
* 8. All beneficiaries        ALL
*************************************************************;

/*** macro to merge final datasets together and calculate trends ***/

%MACRO TRENDS(INDATA, OUTDATA);

  PROC SORT DATA=IN98.&INDATA;
     BY MAJGRP REGION REGCAT;
  RUN;

  PROC SORT DATA=IN00.&INDATA;
     BY MAJGRP REGION REGCAT;
  RUN;

  DATA OUT.&OUTDATA;
     MERGE IN00.&INDATA(IN=IN_00) IN98.&INDATA(IN=IN_98);
     BY MAJGRP REGION REGCAT;
     IF IN_00 & IN_98;
 /*** calculate trends in the composite benchmarks ***/

     ARRAY   BMK00{*} CP00BMK1 CP00BMK2;
     ARRAY   BMK98{*} CP98BMK1 CP98BMK2;
     ARRAY BMKTRND{*} TRNDBMK1 TRNDBMK2;

     DO J=1 TO 2;
        IF BMK98{J} > 0 THEN BMKTRND{J}=100*(BMK00{J}-BMK98{J});
        ELSE BMKTRND{J}=.;
     END;
```

```
     DROP J;
  /*** note-- don't use adjusted scores ***/

     ARRAY SCORE00{*} PROP00V1-PROP00V&COMPNUM COMP001 COMP002;
     ARRAY SCORE98{*} PROP98V1-PROP98V&COMPNUM COMP981 COMP982;
     ARRAY  SERR00{*} SERR00V1-SERR00V&COMPNUM CP001SE  CP002SE;
     ARRAY  SERR98{*} SERR98V1-SERR98V&COMPNUM CP981SE  CP982SE;
     ARRAY   TREND{*} TRENDV1-TRENDV&COMPNUM   CMPTRND1 CMPTRND2;
     ARRAY   TSTAT{*} T_TRNDV1-T_TRNDV&COMPNUM T_CTRND1 T_CTRND2;
     ARRAY  PVALUE{*} P_TRNDV1-P_TRNDV&COMPNUM P_CTRND1 P_CTRND2;
     ARRAY     SIG{*} SIGTRND1-SIGTRND&COMPNUM SIGCPTR1 SIGCPTR2;
     ARRAY DEGFR00{*} DF00SCR1-DF00SCR&COMPNUM DF00_CP1 DF00_CP2;
     ARRAY DEGFR98{*} DF98SCR1-DF98SCR&COMPNUM DF98_CP1 DF98_CP2;
     ARRAY    DEGF{*} DFSCOR1-DFSCOR&COMPNUM DF_COMP1 DF_COMP2;
     ARRAY   DENOM{*} DENOMT1-DENOMT&COMPNUM DENOMTC1 DENOMTC2;
     ARRAY   DEN98{*} DEN98V1-DEN98V&COMPNUM CP98DEN1 CP98DEN2;
     ARRAY   DEN00{*} DEN00V1-DEN00V&COMPNUM CP00DEN1 CP00DEN2;
     ARRAY    NWGT{*} NWGT1-NWGT&COMPNUM NWGTC1 NWGTC2;

  /*** setup t statistics, degreees of freedom    ***/

     DO I=1 TO 10;
        IF SCORE98{I} GE 0 AND SCORE00{I} GE 0 THEN DO;
           IF SCORE98{I} > 0 THEN TREND{I}=100*(SCORE00{I}-SCORE98{I}); /*changed
2/21/2001*/
           ELSE TREND{I}=.;
           if i<9 then DENOM{I}= SERR98{I}**2+SERR00{I}**2;
           else DENOM{I}= SERR98{I}**2+(BMK98{I-8}*SERR00{I}/BMK00{I-8})**2;
           IF DENOM{I} > 0 THEN do;
              if i<9 then
              TSTAT{I}=(SCORE00{I}-SCORE98{I})/SQRT(DENOM{I});
              else
              TSTAT{I}=((SCORE00{I}*BMK98{I-8}/BMK00{I-8})-SCORE98{I})/SQRT(DENOM{I});
           end;
           ELSE TSTAT{I}=.;
           DEGF{I}=MIN(DEGFR00{I},DEGFR98{I});
           NWGT{I}=MIN(DEN00{I},DEN98{I});
           IF DEGF{I}=0 THEN DEGF{I}=1;
           IF DEGF{I}IN (0, .) THEN
           PUT "MAJGRP=" MAJGRP "REGCAT=" REGCAT "REGION=" REGION
           "DEGFR98=" DEGFR98{I} "DEGFR00=" DEGFR00{I};
           PVALUE{I}=(1-PROBT(ABS(TSTAT{I}),DEGF{I}))*2;
           IF TREND{I}=. THEN SIG{I}=.;
           ELSE IF TREND{I} NE . THEN DO;
              IF PVALUE{I} GE .05 THEN SIG{I}=0;
              IF PVALUE{I} < .05  THEN DO;
                 IF TSTAT{I} > 0 THEN SIG{I}=1;
                 IF TSTAT{I} < 0 & TSTAT{I} ne . THEN SIG{I}=-1;
              END;
           END;
        END;
     END;
     DROP I;


  RUN;

%MEND TRENDS;

%TRENDS(MFINAL, MTREND);
%TRENDS(RFINAL, RTREND);
%TRENDS(CFINAL, CTREND);
```

7. GENERATE WEB LAYOUT FOR 2000 TRICARE CONSUMER REPORTS

```
*****************************************************************;
*  Project:   DoD Reporting and Analysis 8687-100
*  Program:   LOADMPR.SAS
*  Author:    Chris Rankin
*  Date:      4/07/2000
*  Modified:  5/08/2001 -- standard errors retained in output data
*             set
```

```
*  Purpose:   Calculate MPR Preventive Care Composites
*
*   Input:    RFINAL.SD2
*             CFINAL.SD2
*             MFINAL.SD2
*   Output:   loadmpr.sd2
*****************************************************************;

OPTIONS COMPRESS=YES NOCENTER LS=124 PS=74 SOURCE SOURCE2;

LIBNAME   INLIB V612   ".";
LIBNAME   OUT   V612   ".";
LIBNAME   LIBRARY      "...data\fmtlib";


%LET COMPNUM=8; /*** number of questions in both composites ***/
%LET CMPNUM1=5; /*** number of questions in first composite ***/

%LET YR=00;
%LET YEAR=2000;

%INCLUDE "...\LOADWEB\LOADCAHQ.INC";


*****************************************************************;
*** Note -- take out access to care questions and composite ***;
*****************************************************************;

data mfinal(keep=cp00bmk1);
  set inlib.mfinal(keep=majgrp cp00bmk1);
  where majgrp="All Beneficiaries";
run;

data mfinal;
  if _n_=1 then set mfinal;
  set inlib.mfinal(drop=cp00bmk1);
run;

DATA BENCHMKS(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE SCORE SIG);
  FORMAT MAJGRP $30.  REGION $15. REGCAT $26.
         BENEFIT $34. BENTYPE $50.;

  SET MFINAL;

  /***** Benchmarks       *****/

  ARRAY BENCHMK{*} GOALVAR1-GOALVAR&CMPNUM1 CP00BMK1;
  DO I = 1 TO 6;
     SCORE   = BENCHMK{I}*100;
     SIG     = .;
     REGION  = "Benchmark";
     REGCAT  = "Benchmark";
     BENEFIT = "Preventive Care";
     IF      I = 1 THEN BENTYPE = "Prenatal Care";
     ELSE IF I = 2 THEN BENTYPE = "Mammography";
     ELSE IF I = 3 THEN BENTYPE = "Pap Smear";
     ELSE IF I = 4 THEN BENTYPE = "Hypertension";
     ELSE IF I = 5 THEN BENTYPE = "Flu Shot";
     ELSE IF I = 6 THEN BENTYPE = "&YEAR";
     OUTPUT;
  END;
  DROP I;
RUN;

DATA BENCHMKS;
  SET BENCHMKS;
  OUTPUT;
  IF MAJGRP = "All Beneficiaries" THEN DO;
     DO REG = 0 TO 16; DROP REG;
        IF REG NE 7 THEN DO;
           MAJGRP = "Benchmark";
```

```
          REGION = PUT(REG,REGIONF.);
          REGCAT = PUT(REG,REGIONF.);
          OUTPUT;
        END;
     END;
  END;
RUN;

PROC FREQ DATA=BENCHMKS;
   TABLES MAJGRP/MISSING LIST;
RUN;

*************************;
*****  Scores          **;
*************************;

DATA CFINAL;
  SET INLIB.CFINAL;
  WHERE UPCASE(TRIM(MAJGRP)) IN ("PRIME ENROLLEES", "ENROLLEES WITH MILITARY PCM",
                                 "ACTIVE DUTY", "ALL BENEFICIARIES");
RUN;

DATA SCORES(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE SCORE SEMEAN SIG N_OBS N_WGT);
  FORMAT MAJGRP $30.  REGION $15. REGCAT $26.
         BENEFIT $34. BENTYPE $50.;
  SET INLIB.MFINAL
      INLIB.RFINAL
      CFINAL;

  ARRAY SEMEANS{*} SERR00V1-SERR00V&CMPNUM1.  CP001SE ;
  ARRAY  SCORES{*} SCOR00V1-SCOR00V&CMPNUM1.  C00SCOR1;
  ARRAY  SIGNIF{*} SIG00V1-SIG00V&CMPNUM1.    CP00SIG1;
  ARRAY   NOBS {*} NOBS00V1-NOBS00V&CMPNUM1.  CP00OBS1;
  ARRAY   NWGT {*} DEN00V1-DEN00V&CMPNUM1     CP00DEN1;

  DO I = 1 TO 6;
     SCORE   = SCORES{I};
     SEMEAN  = SEMEANS{I};
     SIG     = SIGNIF{I};
     N_OBS   = NOBS{I};
     N_WGT   = NWGT{I};
     BENEFIT = "Preventive Care";
     IF      I = 1 THEN BENTYPE = "Prenatal Care";
     ELSE IF I = 2 THEN BENTYPE = "Mammography";
     ELSE IF I = 3 THEN BENTYPE = "Pap Smear";
     ELSE IF I = 4 THEN BENTYPE = "Hypertension";
     ELSE IF I = 5 THEN BENTYPE = "Flu Shot";
     ELSE IF I = 6 THEN BENTYPE = "&YEAR";
     OUTPUT;
  END;
RUN;

PROC FREQ DATA=SCORES;
   WHERE UPCASE(TRIM(MAJGRP)) IN ("PRIME ENROLLEES", "ENROLLEES WITH MILITARY PCM",
                                  "ACTIVE DUTY", "ALL BENEFICIARIES");
   TABLES MAJGRP*REGCAT;
RUN;

DATA CTREND;
  SET INLIB.CTREND; by majgrp;
  WHERE UPCASE(TRIM(MAJGRP)) IN ("PRIME ENROLLEES", "ENROLLEES WITH MILITARY PCM",
                                 "ACTIVE DUTY", "ALL BENEFICIARIES");
RUN;

proc sort data=inlib.mtrend out=mtrend; by descending majgrp;
data mtrend;
set mtrend;
retain adj1 adj2 0;
if upcase(majgrp)="ALL BENEFICIARIES" then do;
adj1=cp00bmk1; adj2=cp98bmk1; end;
proc print;
```

```
proc sort data=mtrend; by majgrp;
data mtrend(drop=adj1 adj2);
set mtrend;
retain tadj1 tadj2 0;
if _n_=1 then do;
tadj1=adj1;
tadj2=adj2;
end;

DATA TREND1
(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE semean SCORE SIG N_OBS N_WGT)
;
  FORMAT MAJGRP $30.  REGION $15. REGCAT $26.
         BENEFIT $34. BENTYPE $50.;

   SET MTREND
       CTREND
       INLIB.RTREND; by majgrp;
/*   if first.majgrp then do;
*    adj=cp00bmk1/cp98bmk1;
     adj1=cp00bmk1;
     adj2=cp00bmk1;
   end;*/
if _n_=1 then do;
adj1=tadj1; adj2=tadj2;
end;
   retain adj1 adj2;
   score=100*((comp001*adj1/cp00bmk1)-(comp981*adj2/cp98bmk1));
*    SCORE= ((CMPTRND1+100)*adj*cp98bmk1/cp00bmk1)-100;
   SIG= SIGCPTR1;
   N_OBS=DF_COMP1;
   N_WGT=NWGTC1;
   SEMEAN=.;
   BENTYPE="Trend";
   BENEFIT="Preventive Care";
   OUTPUT;
RUN;

DATA TREND2(KEEP=MAJGRP REGION REGCAT BENEFIT BENTYPE SCORE SIG);
  FORMAT MAJGRP $30.  REGION $15. REGCAT $26.
         BENEFIT $34. BENTYPE $50.;

  SET INLIB.MTREND;
  SCORE= TRNDBMK1;
  SIG=.;
  SEMEAN=.;
  REGION="Benchmark";
  REGCAT="Benchmark";
  BENTYPE="Trend";
  BENEFIT="Preventive Care";
  OUTPUT;
RUN;

DATA OUT.LOADMPR(KEEP=MAJGRP REGION REGCAT BENEFIT semean BENTYPE SCORE SIG
                      N_OBS N_WGT);
  SET BENCHMKS TREND1 TREND2 SCORES;
RUN;


PROC FREQ DATA=OUT.LOADMPR;
   WHERE BENTYPE="Trend";
   TABLES BENTYPE*REGION/MISSING LIST;
RUN;

/*********************************************************************/
/* PROJECT:  8687 - 1999 Annual Survey                               */
/* PROGRAM:  FAKE.SAS                                                */
/* PURPOSE:  Generate Fake Data for Report Cards                     */
/* AUTHOR:   Mark A. Brinkley                                        */
/*                                                                   */
/* MODIFIED: 1) July 2000 By Eric Schone to utilize CACRPT and CATREP */
```

```
/*              include files.                                        */
/*           2) January 2002 By Keith Rathbun: Updated to support the */
/*              2000 Annual HCSDB format.                             */
/*                                                                    */
/* INCLUDES: 1) CATREP.INC - Report Card Catchment Format Defns       */
/*                                                                    */
/**********************************************************************/

LIBNAME OUT V612 '.';
LIBNAME IN '...\DATA';    /*** Changed from J: to relative reference MAB 1-24-2002 ***/
OPTIONS COMPRESS=YES NOFMTERR;

DATA TEMP;
   SET IN.HCS00A_1(KEEP=XREGION CACSMPL);
RUN;

*************************************************************************
* CACSMPL FORMAT DEFINITIONS FOR REPORT CARD USE FACILITY NAME.
*************************************************************************;
PROC FORMAT;
%INCLUDE "CATREP.INC";

PROC FORMAT;
   VALUE REG
       1  = 'Region 1'
       2  = 'Region 2'
       3  = 'Region 3'
       4  = 'Region 4'
       5  = 'Region 5'
       6  = 'Region 6'
       7  = 'Region 7/8'
       9  = 'Region 9'
       10 = 'Region 10'
       11 = 'Region 11'
       12 = 'Region 12'
       13 = 'Europe'
       14 = 'Asia'
       15 = 'Latin America'
       16 = 'Alaska';
RUN;

proc freq;
table xregion*cacsmpl/ noprint out=temp;
data temp;
length cafmt $26;
set temp end=last; by xregion;
caf=0;
where cacsmpl ne 9999;
if first.xregion & xregion ne 8 then do; cafmt=put(xregion,reg.); output; end;
cafmt=put(cacsmpl,catrep.); caf=1; if count>60 & cafmt ne 'INV' then output;
if last then do;
xregion=0; caf=0; cafmt='Benchmark'; output; caf=1; cafmt='CONUS MHS'; output;
end;
proc sort; by xregion caf cafmt;
data temp;
set temp end=last;

start=_n_; label=cafmt; type='N'; fmtname='ROWMAT';
if last then call symput('x',_n_);
proc format cntlin=temp;
proc print data=temp;

PROC FORMAT;



  VALUE BEN
  0 = 'Total' /*** Added 01-09-2002 by KRR ***/
  1 = 'Getting Needed Care'
  2 = 'Getting Care Quickly'
  3 = 'Courteous and Helpful Office Staff'
```

```
  4 = 'How Well Doctors Communicate'
  5 = 'Customer Service'
  6 = 'Claims Processing'
  7 = 'Health Plan'
  8 = 'Health Care'
  9 = 'Primary Care Manager'
 10 = 'Specialty Care'
 11 = 'Preventive Care';


  VALUE MAJOR
  1 = "Prime Enrollees            "
  2 = "Enrollees with Military PCM"
  3 = "Enrollees with Civilian PCM"
  /**4 = "Non-enrolled Beneficiaries " CHANGED MAB 1-25-2002**/
  4 = "Standard/Extra Users       "
  5 = "Active Duty                "
  6 = "Active Duty Dependents     "
  7 = "Retirees and Dependents    "
  /**8 = "All Beneficiaries          "  CHANGED MAB 1-25-2002**/
  8 = "All Users                  "  ;

RUN;




DATA FAKE;

  KEEP MAJGRP REGION REGCAT BENEFIT BENTYPE I K;

  LENGTH MAJGRP $  30
         REGION $  15
         REGCAT $  26
         BENTYPE $ 50;



  DO I=1 TO 8;             ** 8 Major groups **;

     MAJGRP=PUT(I,MAJOR.);

     DO J=1 TO &x;        ** Region/catchment **;

     REGCAT=PUT(J,ROWMAT.);
     RETAIN REGION;

     IF REGCAT="Benchmark" THEN REGION="Benchmark";
     ELSE IF REGCAT="CONUS MHS" THEN REGION="CONUS MHS";
     ELSE IF UPCASE(SUBSTR(REGCAT,1,6))="REGION" OR
             REGCAT="Alaska" OR
             REGCAT="Europe" OR
             REGCAT="Asia" OR
             REGCAT="Latin America" THEN REGION=REGCAT;

        DO K = 0 TO 11; *Start with 0 (total) 12 Benefits 01-09-2002 - KRR;

        BENEFIT=PUT(K,BEN.);


          /*** Changed 01-22-2002 MAB  - Reordered years to 1998/1999/2000 ***/

          IF K=0 THEN DO;        /*** Added 01-22-2002 by MAB ***/
              BENTYPE="1998"; OUTPUT;
              BENTYPE="1999"; OUTPUT;
              BENTYPE="2000"; OUTPUT;
              BENTYPE="Trend"; OUTPUT;
          END;
          ELSE IF K=1 THEN DO;
              BENTYPE="Problems Getting Personal Doctor/Nurse"; OUTPUT;
              BENTYPE="Problems Getting Referral to Specialist"; OUTPUT;
```

```
    BENTYPE="Problems Getting Necessary Care"; OUTPUT;
    BENTYPE="Delays in Care while Awaiting Approval"; OUTPUT;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=2 THEN DO;
    BENTYPE="Advice over Telephone"; OUTPUT;
    BENTYPE="Wait for Routine Visit"; OUTPUT;
    BENTYPE="Wait for Urgent Care"; OUTPUT;
    BENTYPE="Wait More than 15 Minutes Past Appointment"; OUTPUT;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=3 THEN DO;
    BENTYPE="Courteous and Respectful"; OUTPUT;
    BENTYPE="Helpful"; OUTPUT;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=4 THEN DO;
    BENTYPE="Listens Carefully             "; OUTPUT;
    BENTYPE="Explains so You can Understand"; OUTPUT;
    BENTYPE="Shows Respect                 "; OUTPUT;
    BENTYPE="Spends Time with You          "; OUTPUT;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=5 THEN DO;
    BENTYPE="Problem Finding/Understanding Written Material"; OUTPUT;
    BENTYPE="Problem Getting Help from Customer Service"; OUTPUT;
    BENTYPE="Problem with Paperwork"; OUTPUT;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=6 THEN DO;
    BENTYPE="Claims Handled in a Reasonable Time"; OUTPUT;
    BENTYPE="Claims Handled Correctly"; OUTPUT;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=7 THEN DO;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=8 THEN DO;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=9 THEN DO;
    BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
    BENTYPE="1999"; OUTPUT;
    BENTYPE="2000"; OUTPUT;
    BENTYPE="Trend"; OUTPUT;
END;
ELSE IF K=10 THEN DO;
```

```
            BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
            BENTYPE="1999"; OUTPUT;
            BENTYPE="2000"; OUTPUT;
            BENTYPE="Trend"; OUTPUT;
        END;
        ELSE IF K=11 THEN DO;
            BENTYPE="Mammography  "; OUTPUT;
            BENTYPE="Pap Smear    "; OUTPUT;
            BENTYPE="Hypertension "; OUTPUT;
            BENTYPE="Flu Shot     "; OUTPUT;
            BENTYPE="Prenatal Care"; OUTPUT;
            BENTYPE="1998"; OUTPUT; /*** Added 01-09-2002 by KRR ***/
            BENTYPE="1999"; OUTPUT;
            BENTYPE="2000"; OUTPUT;
            BENTYPE="Trend"; OUTPUT;
        END;
       END;
    END;
  END;
RUN;


/*** Assign score and sig values ***/
DATA FAKE;
  SET FAKE;

  /*** significance is either -1, 0, or 1 ***/
  SIG = INT(RANUNI(1)*3)-1;



  /*** These BENEFITs have range 1.00-3.00 ***/
  IF BENEFIT='Getting Needed Care' THEN SCORE = (RANUNI(1)*2)+1;
  IF BENEFIT='Getting Care Quickly' THEN SCORE = (RANUNI(1)*2)+1;
  IF BENEFIT='Courteous and Helpful Office Staff' THEN SCORE = (RANUNI(1)*2)+1;
  IF BENEFIT='How Well Doctors communicate'   THEN SCORE = (RANUNI(1)*2)+1;
  IF BENEFIT='Customer Service' THEN SCORE = (RANUNI(1)*2)+1;
  IF BENEFIT='Claims Processing' THEN SCORE = (RANUNI(1)*2)+1;

  /*** These BENEFITs have range 0-100 ***/
  IF BENEFIT='Health Plan' THEN SCORE = INT(RANUNI(1)*100);
  IF BENEFIT='Health Care' THEN SCORE = INT(RANUNI(1)*100);
  IF BENEFIT='Primary Care Manager' THEN SCORE = INT(RANUNI(1)*100);
  IF BENEFIT='Specialty Care' THEN SCORE = INT(RANUNI(1)*100);
  IF BENEFIT='Preventive Care'  THEN SCORE = INT(RANUNI(1)*100);

  /*** Trend is always range 0-100 ***/
  IF BENTYPE="Trend" THEN SCORE = INT(RANUNI(1)*100);



  /*** Even though fake data, need to have benchmarks near high end of range ***/
  IF REGCAT="Benchmark" THEN DO;
      /*** These BENEFITs have range 1.00-3.00 ***/
      IF BENEFIT='Getting Needed Care' THEN SCORE = (RANUNI(1)*1)+2;
      IF BENEFIT='Getting Care Quickly' THEN SCORE = (RANUNI(1)*1)+2;
      IF BENEFIT='Courteous and Helpful Office Staff' THEN SCORE = (RANUNI(1)*1)+2;
      IF BENEFIT='How Well Doctors communicate'   THEN SCORE = (RANUNI(1)*1)+2;
      IF BENEFIT='Customer Service' THEN SCORE = (RANUNI(1)*1)+2;
      IF BENEFIT='Claims Processing' THEN SCORE = (RANUNI(1)*1)+2;

      /*** These BENEFITs have range 0-100 ***/
      IF BENEFIT='Health Plan' THEN SCORE = INT(RANUNI(1)*10)+90;
      IF BENEFIT='Health Care' THEN SCORE = INT(RANUNI(1)*10)+90;
      IF BENEFIT='Primary Care Manager' THEN SCORE = INT(RANUNI(1)*10)+90;
      IF BENEFIT='Specialty Care' THEN SCORE = INT(RANUNI(1)*10)+90;
      IF BENEFIT='Preventive Care'  THEN SCORE = INT(RANUNI(1)*10)+90;

      /*** Trend is always range 0-100 ***/
      IF BENTYPE="Trend" THEN SCORE = INT(RANUNI(1)*10)+90;
  END;
```

```
RUN;



/*** Need to clean up data ***/
DATA OUT.FAKE;
  SET FAKE;

  /*** Need to set oddball records to missing ***/
  IF REGION="Benchmark" THEN SIG=.;
  if region=''|compress(regcat)='.' then delete;

  /*** Don't populate catchment areas for 4 major groups ***/
  IF I IN(3,4,6,7) AND REGION^=REGCAT THEN DELETE;

  DROP I K;

RUN;


PROC FREQ;
  TABLES MAJGRP REGION REGCAT BENTYPE BENEFIT SIG;
RUN;

PROC MEANS N MIN MAX MEAN;
  VAR SCORE;
RUN;
```

8. COMBINE SCORES DATABASES FOR QUARTERLY AND BENCHMARK DATA

```
***************************************************************************
*
* PROGRAM:  MERGFINL.SAS
* TASK:     2000 DOD HEALTH CARE SURVEY ANALYSIS (8687-210)
* PURPOSE:  Merge the final CAHPS and MPR Scores Databases
*           into the WEB layout preserving the order of the FAKE.SD2.
*
* WRITTEN:  06/07/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 01/09/2002 BY KEITH RATHBUN: Updated to support the 2000
*              annual HCSDB.
*
* INPUTS:   1) MPR and CAHPS Individual and Composite data sets with adjusted
*              scores, and benchmark data for 1998-2000 DoD HCS.
*              - LOADMPR.SD2  - 1998-2000 MPR Scores Databases
*              - LOADCAHP.SD2 - 1998-2000 CAHPS Scores Databases
*              - BENCHA04.SD2 - 1998-2000 CAHPS Benchmark Databases
*              - FAKE.SD2     - WEB Layout in Column order
*
* OUTPUT:   1) MERGFINL.SD2 - Combined Scores Database in WEB layout
*
* NOTES:
*
* 1) The following steps need to be run prior to this program (1998,1999,2000):
*  - STEP1.SAS       - Recode questions and generate CAHPS group files
*  - STEP2.SAS       - Calculate CAHPS individual adjusted scores for groups 1-8
*  - COMPOSIT.SAS    - Calculate composite adjusted scores for group 1-8
*  - PRVCOMP.SAS     - Calculate MPR individual and composite scores
*  - BENCHA01-04.SAS - Convert Benchmark Scores into WEB layout
*  - LOADCAHP.SAS    - Convert CAHPS Scores Database into WEB layout
*
* 2) The output file (MERGFINL.SD2) will be run through the
*    MAKEHTML.SAS program to generate the WEB pages.
*
***************************************************************************
* Assign data libraries and options
***************************************************************************;
LIBNAME IN1  ".";
LIBNAME IN2  "....\2000\PROGRAMS\LOADWEB";
LIBNAME IN3  "....\1999\PROGRAMS\LOADWEB";
LIBNAME IN4  "....\1998\PROGRAMS\LOADWEB";
LIBNAME IN5  "....\2000\PROGRAMS\REPORTCARDS\MPR_ADULT2000";
LIBNAME IN6  "....\1999\PROGRAMS\REPORTCARDS\MPR_ADULT1999";
LIBNAME IN7  "....\1998\PROGRAMS\REPORTCARDS\MPR_ADULT1998";
LIBNAME IN8  "....\2000\PROGRAMS\BENCHMARK\DATA";
LIBNAME IN9  "....\1999\PROGRAMS\BENCHMARK\DATA";
LIBNAME IN10 "....\1998\PROGRAMS\BENCHMARK\DATA";
LIBNAME OUT  ".";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

***************************************************************************
* Construct ORDERing variable from WEB layout
***************************************************************************;
DATA ORDER;
   SET IN1.FAKE;
   ORDER = _N_;
   LENGTH KEY $200;
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));
   KEEP KEY ORDER;
RUN;

PROC SORT DATA=ORDER; BY KEY; RUN;

***************************************************************************
* Merge the Scores Databases
***************************************************************************;
DATA MERGFINL;
   SET IN2.LOADCAHP (IN=INCAHP00)
```

```
        IN3.LOADCAHP (IN=INCAHP99)
        IN4.LOADCAHP (IN=INCAHP98)
        IN5.LOADMPR  (IN=INMPR00)
        IN6.LOADMPR  (IN=INMPR99)
        IN7.LOADMPR  (IN=INMPR98)
        IN8.BENCHA04 (IN=INBEN00)
        IN9.BENCHA04 (IN=INBEN99)
        IN10.BENCHA04(IN=INBEN98);
   SVCAHP00 = INCAHP00;
   SVCAHP99 = INCAHP99;
   SVCAHP98 = INCAHP98;
   SVMPR00  = INMPR00 ;
   SVMPR99  = INMPR99 ;
   SVMPR98  = INMPR98 ;
   SVBEN00  = INBEN00 ;
   SVBEN99  = INBEN99 ;
   SVBEN98  = INBEN98 ;
   LENGTH KEY $200;
   IF MAJGRP = "All Beneficiaries" THEN MAJGRP = "All Users";
   IF MAJGRP = "Non-enrolled Beneficiaries" THEN MAJGRP = "Standard/Extra Users";
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));
   IF SCORE = . THEN DELETE;
   IF TRIM(REGCAT) = "INV" THEN DELETE;
   ************************************************************************
   * Keep only the composites from 1998 and 1999.
   ************************************************************************;
   IF (INBEN99 OR INBEN98 OR INCAHP99 OR INCAHP98 OR INMPR99 OR INMPR98) THEN DO;
      IF BENTYPE IN ("1998","1999") THEN OUTPUT;
   END;
   ELSE OUTPUT;

RUN;

PROC SORT DATA=MERGFINL; BY KEY; RUN;

***************************************************************************
* Append ORDERing variable to the merged Scores database file
***************************************************************************;
DATA MERGFINL MISSING;
   MERGE MERGFINL(IN=IN1) ORDER(IN=IN2);
   BY KEY;

   LENGTH FLAG $30;
   IF IN1 AND IN2 THEN FLAG = "IN SCORES DB AND LAYOUT";
   ELSE IF    IN1 THEN FLAG = "IN SCORES DB ONLY";
   ELSE IF    IN2 THEN FLAG = "IN LAYOUT ONLY";

   LENGTH SOURCE $30;
   IF SVCAHP00 = 1 THEN SOURCE = "CAHPS 2000    ";
   IF SVCAHP99 = 1 THEN SOURCE = "CAHPS 1999    ";
   IF SVCAHP98 = 1 THEN SOURCE = "CAHPS 1998    ";
   IF SVMPR00  = 1 THEN SOURCE = "MPR 2000      ";
   IF SVMPR99  = 1 THEN SOURCE = "MPR 1999      ";
   IF SVMPR98  = 1 THEN SOURCE = "MPR 1998      ";
   IF SVBEN00  = 1 THEN SOURCE = "BENCHMARK 2000";
   IF SVBEN99  = 1 THEN SOURCE = "BENCHMARK 1999";
   IF SVBEN98  = 1 THEN SOURCE = "BENCHMARK 1998";

   IF IN1 AND NOT IN2 THEN OUTPUT MISSING; *Missing from layout;
   IF IN1 AND ORDER NE . THEN OUTPUT MERGFINL;
RUN;

***************************************************************************
* Reorder file according to WEB layout
***************************************************************************;
PROC SORT DATA=MERGFINL OUT=OUT.MERGFINL; BY ORDER; RUN;

DATA FAKE;
   SET IN1.FAKE;
```

```
   ORDER = _N_;
RUN;

DATA LAYONLY;
   MERGE FAKE(IN=IN1) OUT.MERGFINL(IN=IN2 KEEP=ORDER);
   BY ORDER;
   IF IN1 AND NOT IN2;
RUN;

TITLE1 "2000 DOD Health Survey Scores/Report Cards (8687-210)";
TITLE2 "Program Name: MERGFINL.SAS By Keith Rathbun";
TITLE3 "Program Inputs: MPR and CAHPS Combined Scores data sets and WEB Layout";
TITLE4 "Program Outputs: MERGFINL.SD2 - Merged Final Scores Database for input to
MAKEHTML.SAS";

TITLE5 "MERGFINL.SD2 Data source counts";
PROC FREQ DATA=OUT.MERGFINL;
TABLES SOURCE FLAG
  SVCAHP00 SVCAHP99 SVCAHP98 SVMPR00 SVMPR99 SVMPR98 SVBEN00 SVBEN99 SVBEN98
  SVCAHP00*SVCAHP99*SVCAHP98*SVMPR00*SVMPR99*SVMPR98*SVBEN00*SVBEN99*SVBEN98
 /MISSING LIST;
RUN;

TITLE5 "MERGFINL.SD2 Data attribute counts";
PROC FREQ DATA=OUT.MERGFINL;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT
       REGION*REGCAT
      /MISSING LIST;
RUN;

TITLE5 "LAYONLY.SD2 Data attribute counts";
PROC FREQ DATA=LAYONLY;
TABLES BENEFIT BENTYPE MAJGRP REGION REGCAT
       REGION*REGCAT
      /MISSING LIST;
RUN;

TITLE5 "No matching record found in LAYOUT file (FAKE.SD2)";
PROC PRINT DATA=MISSING;
VAR MAJGRP REGION REGCAT BENTYPE BENEFIT;
RUN;
```

8. CALCULATE CAHPS CONUS SCORES AND CONDUCT SIGNIFICANCE TEST

```
***************************************************************************
*
*  PROGRAM:  CONUS_Q.SAS
*  TASK:     Quarterly DOD HEALTH CARE SURVEY ANALYSIS (8687-210)
*  PURPOSE:  Generate CAHPS CONUS scores and perform significance tests.
*
*  WRITTEN:  11/13/2000 BY KEITH RATHBUN, Adapted from CONUS_A.SAS.
*            Merged SIGNIF_A.SAS funtionality.
*
*  MODIFIED: 1) 01/07/2002 BY KEITH RATHBUN, Updated for 2000 annual consumer
*               reports.
*
*   INPUTS:  1) MERGFINL.SD2 - Scores Database in WEB Layout
*            2) FAKE.SD2 - Scores Database WEB Layout
*            3) CONUS_A.SD2 - Previous years Combined CAHPS/MPR Scores Database in WEB
layout
*
*   OUTPUT:  1) CONUS_Q.SD2 - Combined CAHPS/MPR Scores Database in WEB layout
*            2) LT30Q.SD2 - Records with <= 30 observations
*
*    NOTES:
*
* 1) The following steps need to be run prior to this program:
*    - STEP1Q.SAS   - Recode questions and generate group files
*    - STEP2.SAS    - Calculate individual adjusted scores for group 1-8
*    - COMPOSIT.SAS - Calculate composite adjusted scores for group 1-8
*    - MERGFINL.SAS - Merge the final CAHPS and MPR Scores Databases
*
***************************************************************************
* Assign data libraries and options
***************************************************************************;
LIBNAME IN1  ".";
LIBNAME OUT  ".";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

***************************************************************************
***************************************************************************
*
* Process Macro Input Parameters:
*
* 1) BENTYPE = Benefit Type
* 2) MAJGRP = Major Group
* 3) TYPE = INDIVIDUAL or COMPOSITE
* 4) BENEFIT = COMPOSITE Benefit Type
*
***************************************************************************
***************************************************************************;
* Set up empty template file for data merge purposes and set first time flag
***************************************************************************;
%LET DSN = MERGFINL;

DATA INIT;
   SET IN1.&DSN;
   DELETE;
RUN;
%LET FLAG = 0;

%MACRO PROCESS(BENTYPE=,MAJGRP=,TYPE=,BENEFIT=);
DATA TEMP;
   SET IN1.&DSN END=FINISHED;
   %IF "&TYPE" = "INDIVIDUAL" %THEN %DO;
       WHERE BENTYPE = "&BENTYPE" AND "&MAJGRP" = MAJGRP AND REGION = REGCAT AND
             REGION NOT IN("Benchmark","CONUS MHS") AND
             REGCAT NOT IN("Benchmark","CONUS MHS");
   %END;
   %ELSE %IF "&TYPE" = "COMPOSITE" %THEN %DO;
       WHERE BENTYPE = &BENTYPE AND "&MAJGRP" = MAJGRP AND REGION = REGCAT AND
             BENEFIT = "&BENEFIT" AND
             REGION NOT IN("Benchmark","CONUS MHS") AND
             REGCAT NOT IN("Benchmark","CONUS MHS");
```

```
   %END;
   %ELSE %DO;
       PUT "ERROR: Invalid Type = &TYPE";
   %END;
RUN;

DATA TEMP;
   SET TEMP END=FINISHED;
   IF _N_ = 1 THEN DO;
      SUMSCOR1 = 0;    RETAIN SUMSCOR1;
      SUMWGT1 = 0;     RETAIN SUMWGT1;
      SUMSE2 = 0;      RETAIN SUMSE2;
      SUMWGT2 = 0;     RETAIN SUMWGT2;
      N_OBS1 = 0;      RETAIN N_OBS1;
   END;
   ************************************************************************
   * Skip over the Non-CONUS
   ************************************************************************;
   IF REGION NOT IN("Asia","Europe","Latin America") THEN DO;
      IF SCORE  NE . AND N_WGT NE . THEN SUMSCOR1 = SUMSCOR1 + (SCORE*N_WGT);
      IF N_WGT  NE . THEN SUMWGT1  = SUMWGT1  + N_WGT;
      IF SEMEAN NE . AND N_WGT NE . THEN SUMSE2 = SUMSE2 + (SEMEAN*N_WGT)**2;
      IF N_OBS  NE . THEN N_OBS1 + N_OBS;
   END;
   IF FINISHED THEN GOTO FINISHED;
   RETURN;

KEEP MAJGRP REGION REGCAT BENTYPE BENEFIT SIG SCORE SEMEAN N_OBS N_WGT
     FLAG SOURCE SUMSCOR1 SUMWGT1 SUMSE2 KEY;

FINISHED:
   SCORE   = SUMSCOR1/SUMWGT1;
   SEMEAN  = SQRT(SUMSE2)/SUMWGT1;
   N_OBS   = N_OBS1;
   N_WGT   = SUMWGT1;
   SOURCE  = "CONUS";
   FLAG    = "CONUS";
   REGION  = "CONUS MHS";
   REGCAT  = "CONUS MHS";
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));
   OUTPUT;
RUN;

%IF &FLAG = 0 %THEN %DO;
   DATA FINAL;
      SET INIT TEMP;
   RUN;
%END;
%ELSE %DO;
   DATA FINAL;
      SET FINAL TEMP;
   RUN;
%END;
%LET FLAG = 1;

%MEND;

***************************************************************************
* Create CONUS for Active Duty - Individual
***************************************************************************;
%PROCESS(BENTYPE=Advice over Telephone                        ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled Correctly                     ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time          ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous and Respectful                     ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
```

```
%PROCESS(BENTYPE=Delays in Care while Awaiting Approval        ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You can Understand                ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Helpful                                       ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                             ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Finding/Understanding Written Material,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Getting Help from Customer Service    ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem with Paperwork                        ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Necessary Care               ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Personal Doctor/Nurse        ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Referral to Specialist       ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                                 ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You                          ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care                          ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait More than 15 Minutes Past Appointment    ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit                        ,MAJGRP=Active Duty,
TYPE=INDIVIDUAL);

*****************************************************************************
* Create CONUS for Active Duty Dependents - Individual
*****************************************************************************;
%PROCESS(BENTYPE=Advice over Telephone                         ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled Correctly                      ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time           ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous and Respectful                      ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Delays in Care while Awaiting Approval        ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You can Understand                ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Helpful                                       ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                             ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Finding/Understanding Written Material,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Getting Help from Customer Service    ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem with Paperwork                        ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Necessary Care               ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Personal Doctor/Nurse        ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Referral to Specialist       ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                                 ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You                          ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care                          ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait More than 15 Minutes Past Appointment    ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);
```

```
%PROCESS(BENTYPE=Wait for Routine Visit                        ,MAJGRP=Active Duty
Dependents, TYPE=INDIVIDUAL);

*****************************************************************************
* Create CONUS for Enrollees with Civilian PCM - Individual
*****************************************************************************;
%PROCESS(BENTYPE=Advice over Telephone                         ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled Correctly                      ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time           ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous and Respectful                      ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Delays in Care while Awaiting Approval        ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You can Understand                ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Helpful                                       ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                             ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Finding/Understanding Written Material,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Getting Help from Customer Service    ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem with Paperwork                        ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Necessary Care               ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Personal Doctor/Nurse        ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Referral to Specialist       ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                                 ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You                          ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care                          ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait More than 15 Minutes Past Appointment    ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit                        ,MAJGRP=Enrollees with
Civilian PCM, TYPE=INDIVIDUAL);

*****************************************************************************
* Create CONUS for Enrollees with Military PCM - Individual
*****************************************************************************;
%PROCESS(BENTYPE=Advice over Telephone                         ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled Correctly                      ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time           ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous and Respectful                      ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Delays in Care while Awaiting Approval        ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You can Understand                ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Helpful                                       ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                             ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Finding/Understanding Written Material,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Getting Help from Customer Service    ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem with Paperwork                        ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
```

```
%PROCESS(BENTYPE=Problems Getting Necessary Care               ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Personal Doctor/Nurse        ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Referral to Specialist       ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                                 ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You                          ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care                          ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait More than 15 Minutes Past Appointment    ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit                        ,MAJGRP=Enrollees with
Military PCM, TYPE=INDIVIDUAL);

*****************************************************************************
* Create CONUS for Standard/Extra Users - Individual
*****************************************************************************;
%PROCESS(BENTYPE=Advice over Telephone                         ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled Correctly                      ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time           ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous and Respectful                      ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Delays in Care while Awaiting Approval        ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You can Understand                ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Helpful                                       ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                             ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Finding/Understanding Written Material,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Getting Help from Customer Service    ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem with Paperwork                        ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Necessary Care               ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Personal Doctor/Nurse        ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Referral to Specialist       ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                                 ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You                          ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care                          ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait More than 15 Minutes Past Appointment    ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit                        ,MAJGRP=Standard/Extra
Users, TYPE=INDIVIDUAL);

*****************************************************************************
* Create CONUS for Prime Enrollees - Individual
*****************************************************************************;
%PROCESS(BENTYPE=Advice over Telephone                         ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled Correctly                      ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time           ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous and Respectful                      ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
```

```
%PROCESS(BENTYPE=Delays in Care while Awaiting Approval        ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You can Understand                ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Helpful                                       ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                             ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Finding/Understanding Written Material,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Getting Help from Customer Service    ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem with Paperwork                        ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Necessary Care               ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Personal Doctor/Nurse        ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Referral to Specialist       ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                                 ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You                          ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care                          ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait More than 15 Minutes Past Appointment    ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit                        ,MAJGRP=Prime Enrollees,
TYPE=INDIVIDUAL);

*****************************************************************************
* Create CONUS for Retirees and Dependents - Individual
*****************************************************************************;
%PROCESS(BENTYPE=Advice over Telephone                         ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled Correctly                      ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time           ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous and Respectful                      ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Delays in Care while Awaiting Approval        ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You can Understand                ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Helpful                                       ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                             ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Finding/Understanding Written Material,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Getting Help from Customer Service    ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem with Paperwork                        ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Necessary Care               ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Personal Doctor/Nurse        ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Referral to Specialist       ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                                 ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You                          ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care                          ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait More than 15 Minutes Past Appointment    ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);
```

```
%PROCESS(BENTYPE=Wait for Routine Visit                        ,MAJGRP=Retirees and
Dependents, TYPE=INDIVIDUAL);

*************************************************************************
* Create CONUS for All Users - Individual
*************************************************************************;
%PROCESS(BENTYPE=Advice over Telephone                         ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled Correctly                      ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Claims Handled in a Reasonable Time           ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Courteous and Respectful                      ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Delays in Care while Awaiting Approval        ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Explains so You can Understand                ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Helpful                                       ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Listens Carefully                             ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Finding/Understanding Written Material,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem Getting Help from Customer Service    ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problem with Paperwork                        ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Necessary Care               ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Personal Doctor/Nurse        ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Problems Getting Referral to Specialist       ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Shows Respect                                 ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Spends Time with You                          ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Urgent Care                          ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait More than 15 Minutes Past Appointment    ,MAJGRP=All Users,
TYPE=INDIVIDUAL);
%PROCESS(BENTYPE=Wait for Routine Visit                        ,MAJGRP=All Users,
TYPE=INDIVIDUAL);

*************************************************************************
* Process Annual (1998,1999,2000) CONUS Composites
*************************************************************************;
%MACRO ANNUAL;
%DO PERIOD = 1998 %TO 2000;
*************************************************************************
* Create CONUS for Claims Processing - Annual
*************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Claims Processing);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Claims Processing);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Claims Processing);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Claims Processing);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Claims Processing);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Claims Processing);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Claims Processing);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Claims Processing);

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

```
* Create CONUS for Courteous and Helpful Office Staff - Annual
*************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Courteous and Helpful Office Staff);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Courteous and Helpful Office Staff);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Courteous and Helpful Office Staff);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Courteous and Helpful Office Staff);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Courteous and Helpful Office Staff);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Courteous and Helpful Office Staff);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Courteous and Helpful Office Staff);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Courteous and Helpful Office Staff);

*************************************************************************
* Create CONUS for Customer Service - Annual
*************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Customer Service);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Customer Service);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Customer Service);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Customer Service);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Customer Service);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Customer Service);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Customer Service);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Customer Service);

*************************************************************************
* Create CONUS for Getting Care Quickly - Annual
*************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Getting Care Quickly);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Getting Care Quickly);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Getting Care Quickly);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Getting Care Quickly);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Getting Care Quickly);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Getting Care Quickly);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Getting Care Quickly);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Getting Care Quickly);

*************************************************************************
* Create CONUS for Getting Needed Care - Annual
*************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Getting Needed Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Getting Needed Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Getting Needed Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Getting Needed Care);
```

```
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Getting Needed Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Getting Needed Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Getting Needed Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Getting Needed Care);

****************************************************************************
* Create CONUS for Health Care - Annual
****************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Health Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Health Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Health Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Health Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Health Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Health Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Health Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Health Care);

****************************************************************************
* Create CONUS for Health Plan - Annual
****************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Health Plan);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Health Plan);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Health Plan);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Health Plan);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Health Plan);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Health Plan);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Health Plan);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Health Plan);

****************************************************************************
* Create CONUS for How Well Doctors Communicate - Annual
****************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=How Well Doctors Communicate);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=How Well Doctors Communicate);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=How Well Doctors Communicate);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=How Well Doctors Communicate);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=How Well Doctors Communicate);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=How Well Doctors Communicate);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=How Well Doctors Communicate);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=How Well Doctors Communicate);

****************************************************************************
* Create CONUS for Primary Care Manager - Annual
```

```
*****************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Primary Care Manager);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Primary Care Manager);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Primary Care Manager);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Primary Care Manager);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Primary Care Manager);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Primary Care Manager);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Primary Care Manager);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Primary Care Manager);

*****************************************************************************
* Create CONUS for Specialty Care - Annual
*****************************************************************************;
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty                ,
TYPE=COMPOSITE,BENEFIT=Specialty Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Active Duty Dependents     ,
TYPE=COMPOSITE,BENEFIT=Specialty Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Civilian PCM,
TYPE=COMPOSITE,BENEFIT=Specialty Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Enrollees with Military PCM,
TYPE=COMPOSITE,BENEFIT=Specialty Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Standard/Extra Users       ,
TYPE=COMPOSITE,BENEFIT=Specialty Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Prime Enrollees            ,
TYPE=COMPOSITE,BENEFIT=Specialty Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=Retirees and Dependents    ,
TYPE=COMPOSITE,BENEFIT=Specialty Care);
%PROCESS(BENTYPE="&PERIOD", MAJGRP=All Users                  ,
TYPE=COMPOSITE,BENEFIT=Specialty Care);

%END; * END DO FOR 1998 TO 2000;
%MEND ANNUAL;
%ANNUAL;

*****************************************************************************
* Extract ORDER and KEY from the WEB Layout file.  TEMPQ will be used
* as place holders for missing records.  FAKE will be used for adding
* new records.
*****************************************************************************;
DATA FAKE;
   SET IN1.FAKE;
   SIG = .;
   SCORE = .;
   ORDER = _N_;
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));

RUN;
PROC SORT DATA=FAKE OUT=TEMPQ;       BY KEY; RUN;
PROC SORT DATA=FAKE(KEEP=ORDER KEY); BY KEY; RUN;

*****************************************************************************
* Append BENCHMARK records to CAHPS records and perform significance tests
*****************************************************************************;
DATA BENCHMRK(KEEP=MAJGRP BENEFIT BENTYPE SEMEAN SCORE);
   SET IN1.&DSN;
   WHERE REGION = "Benchmark" AND SVMPR98=0 AND SVMPR99=0 AND SVMPR00=0;
RUN;
PROC SORT DATA=BENCHMRK; BY MAJGRP BENEFIT BENTYPE; RUN;

PROC SORT DATA=FINAL; BY KEY; RUN;
```

```
DATA CONUS_Q;
   MERGE FINAL(IN=IN1) FAKE(IN=IN2);
   BY KEY;
   IF IN1;
RUN;
PROC SORT DATA=CONUS_Q; BY MAJGRP BENEFIT BENTYPE; RUN;

*************************************************************************
* Perform significance tests for CONUS scores
*************************************************************************;
DATA SIGTEST1;
   MERGE CONUS_Q(IN=SIN) BENCHMRK(RENAME=(SCORE=BSCORE SEMEAN=BSEMEAN));
   BY MAJGRP BENEFIT BENTYPE;

   TEMP = (SCORE-BSCORE)/SQRT(BSEMEAN**2+SEMEAN**2);
   TEST = 2*(1-PROBT(ABS(TEMP),N_OBS-1));
   SIG = 0;
   IF TEST < 0.05 THEN SIG = 1;
   IF SCORE < BSCORE THEN SIG = -SIG;
   REGION = "CONUS MHS";
   REGCAT = "CONUS MHS";

   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));
   SOURCE = "CONUS_Q";
   FLAG   = "CONUS_Q";
   IF SIN;
RUN;
PROC SORT DATA=SIGTEST1; BY KEY; RUN;

*************************************************************************
* Extract CAHPS scores to perform significance tests
*************************************************************************;
DATA CAHPS MPR;
   SET IN1.&DSN;
   *********************************************************************
   * Significance tests have already been performed for MPR scores,
   * so remove from file.
   *********************************************************************;
   IF SVMPR98 = 1|svmpr99=1|svmpr00=1 THEN OUTPUT MPR;
   IF SVMPR98=0 & svmpr99 = 0 & svmpr00 = 0 THEN OUTPUT CAHPS;
RUN;

PROC SORT DATA=CAHPS;
   BY MAJGRP BENEFIT BENTYPE;
RUN;

*************************************************************************
* Perform significance tests for CAHPS scores
*************************************************************************;
DATA SIGTEST2;
   MERGE CAHPS(IN=SIN) BENCHMRK(RENAME=(SCORE=BSCORE SEMEAN=BSEMEAN));
   BY MAJGRP BENEFIT BENTYPE;
   TEMP = (SCORE-BSCORE)/SQRT(BSEMEAN**2+SEMEAN**2);
   TEST = 2*(1-PROBT(ABS(TEMP),N_OBS-1));
   SIG = 0;
   IF N_OBS >= 30 AND TEST < 0.05 THEN SIG = 1;
   IF SCORE < BSCORE THEN SIG = -SIG;
   IF SIN;
RUN;
PROC SORT DATA=SIGTEST2; BY KEY; RUN;

PROC SORT DATA=MPR; BY KEY; RUN;

*************************************************************************
* Combine previously created records with the new file
*************************************************************************;
DATA COMBINE OUT.LT30Q;
   SET SIGTEST1 SIGTEST2 MPR;
   BY KEY;
```

```
   ************************************************************************
   * Remove N_OBS < 30 OR N_WGT < 200
   ************************************************************************;
   IF (N_OBS < 30 OR N_WGT < 200) AND (MAJGRP NE "Benchmark") AND
      (REGION NE "Benchmark")
      THEN OUTPUT OUT.LT30Q;
   ELSE OUTPUT COMBINE;
RUN;

***************************************************************************
* Create place holders for missing records
***************************************************************************;
DATA FAKEONLY;
   MERGE COMBINE(IN=IN1) TEMPQ(IN=IN2);
   BY KEY;
   SOURCE = "FAKE ONLY";
   FLAG   = "FAKE ONLY";
   IF IN2 AND NOT IN1;
RUN;

***************************************************************************
* Combine all of the missing records with the existing records to generate
* the complete WEB layout file.
***************************************************************************;
DATA CONUS_Q;
   SET FAKEONLY COMBINE;
   BY KEY;
   ************************************************************************
   * Convert CAHPS Composites and Individual to 1-100 scale.  Note that
   * preventive care, and scores from previous quarters have already been
   * converted to 1-100 scale.  The below if condition will need to have the
   * following condition added for Q4:
   * AND BENTYPE NE "July, 2000 to June, 2001".
   ************************************************************************;
   IF BENEFIT NE "Preventive Care" /*AND
      BENTYPE NOT IN ("1998","1999","2000")*/
   THEN SCORE = SCORE*100;
RUN;

PROC SORT DATA=CONUS_Q OUT=OUT.CONUS_Q; BY ORDER; RUN;

TITLE1 "Quarterly DOD Health Survey Scores/Report Cards (8687-210)";
TITLE2 "Program Name: CONUS_Q.SAS By Keith Rathbun";
TITLE3 "Program Inputs: MERGFINL.SD2 - Scores Database in WEB Layout";
TITLE4 "Program Outputs: CONUS_Q.SD2 - CONUS Scores Database in WEB layout";

PROC FREQ;
TABLES SIG FLAG SOURCE BENEFIT BENTYPE MAJGRP REGION REGCAT
       REGION*REGCAT
      /MISSING LIST;
RUN;
```

10. GENERATE MPR AND CAHPS TOTAL SCORE

```
***************************************************************************
*
*  PROGRAM:  TOTAL_A.SAS
*  TASK:     Quarterly DOD HEALTH CARE SURVEY ANALYSIS (8687-430)
*  PURPOSE:  Generate TOTAL scores and perform significance tests.
*
*  WRITTEN:  12/15/2000 BY KEITH RATHBUN
*
*  MODIFIED: 1) May 2001 BY ERIC SCHONE, Modified calculations for
*               Total Score.
*
*   INPUTS:  1) CONUS_Q.SD2 - Scores Database in WEB Layout
*            2) FAKEQ.SD2 - Scores Database WEB Layout
*            3) FACTCOMP.SD2 - Total Scores (Part 1)
*
*   OUTPUT:  1) TOTAL_A.SD2 - Combined CAHPS/MPR/TOTAL Scores Database in WEB layout
*
*    NOTES:
*
* 1) The following steps need to be run prior to this program:
*    - STEP1Q.SAS   - Recode questions and generate group files
*    - STEP2Q.SAS   - Calculate individual adjusted scores for group 1-8
*    - COMPOSIT.SAS - Calculate composite adjusted scores for group 1-8
*    - MERGFINQ.SAS - Merge the final CAHPS and MPR Scores Databases
*    - CONUS_Q.SAS  - Generate CAHPS CONUS scores and perform significance tests.
*    - FACTCOMP.SAS - Calculate total scores (Part 1)
*
***************************************************************************
* Assign data libraries and options
***************************************************************************;
LIBNAME IN1  ".";
LIBNAME OUT  ".";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER;

***************************************************************************
***************************************************************************
*
* Process Macro Input Parameters:
*
* 1) MAJGRP = Major Group
* 2) REGION = Region
*
***************************************************************************
***************************************************************************;
* Set up empty template file for data merge purposes and set first time flag
***************************************************************************;
%LET PERIOD = 2000;
%LET DSN = CONUS_Q;

DATA INIT;
   SET IN1.&DSN;
   DELETE;
RUN;

PROC SORT DATA=IN1.FACTCOMP OUT=FACTCOMP; BY LAB; RUN;

PROC CONTENTS DATA=INIT;
TITLE 'CONUS_Q';
RUN;

PROC CONTENTS DATA=FACTCOMP;
TITLE 'FACTCOMP';
RUN;

%LET FLAG = 0;

%MACRO PROCESS(MAJGRP=, REGION=);
DATA TEMP(DROP=SUMSCOR1 SUMWGT1 SUMSE2);
   SET IN1.&DSN;
   WHERE ("&MAJGRP" = MAJGRP  AND
```

```
          ("&REGION" = REGION or region = "CONUS MHS") AND
          "&PERIOD" = BENTYPE AND
           BENEFIT NE 'Total');
RUN;

PROC SORT; BY BENEFIT REGION; RUN;

DATA TEMP;
   SET TEMP; BY BENEFIT REGION;
   RETAIN CSORE SWGT 0;
   IF FIRST.BENEFIT & REGION='CONUS MHS' THEN DO;
      CSORE = SCORE;
      SWGT = N_WGT;
   END;
RUN;

PROC SORT; BY BENEFIT DESCENDING REGION; RUN:

DATA TEMP(DROP=TSORE);
   SET TEMP; BY BENEFIT;
   RETAIN TSORE TWGT 0;
   IF FIRST.BENEFIT & REGION='CONUS MHS' THEN DO;
      TSORE = SCORE ;
      TWGT = N_WGT;
   END;
   IF REGION = "&REGION" THEN DO;
      if csore = 0 & swgt = 0 then do;
         CSORE = TSORE;
         SWGT = TWGT;
       end;
      SIGMA = SQRT(CSORE*(100-CSORE));
      OUTPUT;
   END;
RUN;

PROC SORT; BY BENEFIT; RUN;

DATA TEMP;
   MERGE TEMP FACTCOMP(RENAME=(LAB=BENEFIT)); BY BENEFIT;
   IF BENEFIT = 'Preventive Care' THEN VAR = 1/11;
RUN;
proc sort; by regcat;
DATA TEMP;
   SET TEMP; by regcat;
   IF first.regcat THEN DO;
      SUMSCOR1 = 0;    RETAIN SUMSCOR1;
      SUMWGT1 = 0;     RETAIN SUMWGT1;
      SUMSE2 = 0;      RETAIN SUMSE2;
      SUMWGT2 = 0;     RETAIN SUMWGT2;
      N_OBS1 = 0;      RETAIN N_OBS1;
      TSIG = 0; RETAIN TSIG;
   END;
   IF SCORE  NE . AND N_WGT NE . AND N_OBS > 29 THEN
      SUMSCOR1 = SUMSCOR1 + (VAR/SIGMA)*(SCORE*SWGT);
   ELSE SUMSCOR1 = SUMSCOR1+(VAR/SIGMA)*(CSORE*SWGT);
   SUMWGT1 = SUMWGT1  + VAR*SWGT;
   TSIG = TSIG+SIGMA;
   IF SEMEAN NE . AND N_WGT NE . & N_OBS > 29 THEN SUMSE2 = SUMSE2 +
(VAR*SEMEAN*SWGT)**2;
   IF N_OBS  NE . THEN N_OBS1 + N_OBS;
   IF last.regcat THEN GOTO FINISHED;
   RETURN;

KEEP MAJGRP REGION REGCAT BENTYPE BENEFIT SIG SCORE SEMEAN N_OBS N_WGT
     FLAG SOURCE SUMSCOR1 SUMWGT1 SUMSE2 KEY;

FINISHED:
   SCORE   = TSIG*SUMSCOR1/(11*SUMWGT1);
   SEMEAN  = SQRT(SUMSE2)/SUMWGT1;
   N_OBS   = N_OBS1;
   N_WGT   = SUMWGT1;
```

```
   SOURCE  = "TOTAL";
   FLAG    = "TOTAL";
   BENEFIT = "Total";
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));
   OUTPUT;
RUN;

%IF &FLAG = 0 %THEN %DO;
   DATA FINAL;
      SET INIT TEMP;
   RUN;
%END;
%ELSE %DO;
   DATA FINAL;
      SET FINAL TEMP;
   RUN;
%END;

%LET FLAG = 1;

%MEND PROCESS;

*************************************************************************
* Create TOTAL for Active Duty
*************************************************************************;
%PROCESS(MAJGRP=Active Duty, REGION=Region 1       );
%PROCESS(MAJGRP=Active Duty, REGION=Region 2       );
%PROCESS(MAJGRP=Active Duty, REGION=Region 3       );
%PROCESS(MAJGRP=Active Duty, REGION=Region 4       );
%PROCESS(MAJGRP=Active Duty, REGION=Region 5       );
%PROCESS(MAJGRP=Active Duty, REGION=Region 6       );
%PROCESS(MAJGRP=Active Duty, REGION=Region 7/8     );
%PROCESS(MAJGRP=Active Duty, REGION=Region 9       );
%PROCESS(MAJGRP=Active Duty, REGION=Region 10      );
%PROCESS(MAJGRP=Active Duty, REGION=Region 11      );
%PROCESS(MAJGRP=Active Duty, REGION=Region 12      );
%PROCESS(MAJGRP=Active Duty, REGION=Europe         );
%PROCESS(MAJGRP=Active Duty, REGION=Asia           );
%PROCESS(MAJGRP=Active Duty, REGION=Latin America  );
%PROCESS(MAJGRP=Active Duty, REGION=Alaska         );
%PROCESS(MAJGRP=Active Duty, REGION=CONUS MHS      );

*************************************************************************
* Create TOTAL for Active Duty Dependents
*************************************************************************;
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 1            );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 2            );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 3            );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 4            );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 5            );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 6            );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 7/8          );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 9            );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 10           );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 11           );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Region 12           );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Europe              );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Asia                );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Latin America       );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=Alaska              );
%PROCESS(MAJGRP=Active Duty Dependents, REGION=CONUS MHS           );

*************************************************************************
* Create TOTAL for Enrollees with Civilian PCM
*************************************************************************;
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 1       );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 2       );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 3       );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 4       );
```

```
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 5       );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 6       );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 7/8     );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 9       );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 10      );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 11      );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Region 12      );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Europe         );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Asia           );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Latin America  );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=Alaska         );
%PROCESS(MAJGRP=Enrollees with Civilian PCM, REGION=CONUS MHS      );

*************************************************************************
* Create TOTAL for Enrollees with Military PCM - Individual
*************************************************************************;
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 1       );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 2       );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 3       );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 4       );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 5       );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 6       );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 7/8     );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 9       );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 10      );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 11      );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Region 12      );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Europe         );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Asia           );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Latin America  );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=Alaska         );
%PROCESS(MAJGRP=Enrollees with Military PCM, REGION=CONUS MHS      );

*************************************************************************
* Create TOTAL for Standard/Extra Users
*************************************************************************;
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 1        );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 2        );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 3        );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 4        );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 5        );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 6        );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 7/8      );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 9        );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 10       );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 11       );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Region 12       );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Europe          );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Asia            );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Latin America   );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=Alaska          );
%PROCESS(MAJGRP=Standard/Extra Users, REGION=CONUS MHS       );

*************************************************************************
* Create TOTAL for Prime Enrollees
*************************************************************************;
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 1                   );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 2                   );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 3                   );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 4                   );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 5                   );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 6                   );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 7/8                 );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 9                   );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 10                  );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 11                  );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Region 12                  );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Europe                     );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Asia                       );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Latin America              );
%PROCESS(MAJGRP=Prime Enrollees, REGION=Alaska                     );
```

```
%PROCESS(MAJGRP=Prime Enrollees, REGION=CONUS MHS                 );

*************************************************************************
* Create TOTAL for Retirees and Dependents
*************************************************************************;
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 1           );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 2           );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 3           );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 4           );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 5           );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 6           );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 7/8         );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 9           );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 10          );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 11          );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Region 12          );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Europe             );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Asia               );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Latin America      );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=Alaska             );
%PROCESS(MAJGRP=Retirees and Dependents, REGION=CONUS MHS          );

*************************************************************************
* Create TOTAL for All Users
*************************************************************************;
%PROCESS(MAJGRP=All Users, REGION=Region 1                 );
%PROCESS(MAJGRP=All Users, REGION=Region 2                 );
%PROCESS(MAJGRP=All Users, REGION=Region 3                 );
%PROCESS(MAJGRP=All Users, REGION=Region 4                 );
%PROCESS(MAJGRP=All Users, REGION=Region 5                 );
%PROCESS(MAJGRP=All Users, REGION=Region 6                 );
%PROCESS(MAJGRP=All Users, REGION=Region 7/8               );
%PROCESS(MAJGRP=All Users, REGION=Region 9                 );
%PROCESS(MAJGRP=All Users, REGION=Region 10                );
%PROCESS(MAJGRP=All Users, REGION=Region 11                );
%PROCESS(MAJGRP=All Users, REGION=Region 12                );
%PROCESS(MAJGRP=All Users, REGION=Europe                   );
%PROCESS(MAJGRP=All Users, REGION=Asia                     );
%PROCESS(MAJGRP=All Users, REGION=Latin America            );
%PROCESS(MAJGRP=All Users, REGION=Alaska                   );
%PROCESS(MAJGRP=All Users, REGION=CONUS MHS                );

*************************************************************************
* Extract ORDER and KEY from the WEB Layout file.  TEMPQ will be used
* as place holders for missing records.  FAKEQ will be used for adding
* new records.
*************************************************************************;
DATA FAKEQ;
   SET IN1.FAKE;
   SIG = .;
   SCORE = .;
   ORDER = _N_;
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));

RUN;
PROC SORT DATA=FAKEQ OUT=TEMPQ;       BY KEY; RUN;
PROC SORT DATA=FAKEQ(KEEP=ORDER KEY); BY KEY; RUN;

*************************************************************************
* Append BENCHMARK records to CAHPS records and perform significance tests
*************************************************************************;
DATA BENCHMRK(KEEP=MAJGRP BENEFIT BENTYPE SEMEAN SCORE);
   SET IN1.&DSN;
   WHERE REGION = "Benchmark" AND SVMPR98 = 0 & svmpr99 =0 & svmpr00 =0;
RUN;
PROC SORT DATA=BENCHMRK; BY MAJGRP BENEFIT BENTYPE; RUN;

PROC SORT DATA=FINAL; BY KEY; RUN;
```

```
DATA TOTAL_A;
   MERGE FINAL(IN=IN1) FAKEQ(IN=IN2);
   BY KEY;
   IF IN1;
RUN;
PROC SORT DATA=TOTAL_A; BY MAJGRP BENEFIT BENTYPE; RUN;

*************************************************************************
* Perform significance tests for TOTAL scores
*************************************************************************;
DATA SIGTESTS;
   MERGE TOTAL_A(IN=SIN) BENCHMRK(RENAME=(SCORE=BSCORE SEMEAN=BSEMEAN));
   BY MAJGRP BENEFIT BENTYPE;

   TEMP = (SCORE-BSCORE)/SQRT(BSEMEAN**2+SEMEAN**2);
   TEST = 2*(1-PROBT(ABS(TEMP),N_OBS-1));
   SIG = 0;
   IF TEST < 0.05 THEN SIG = 1;
   IF SCORE < BSCORE THEN SIG = -SIG;

   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));
   SOURCE = "TOTAL_A";
   FLAG   = "TOTAL_A";
   IF SIN;
RUN;
PROC SORT DATA=SIGTESTS; BY KEY; RUN;

PROC SORT DATA=IN1.&DSN OUT=PREVIOUS; BY KEY; RUN;

*************************************************************************
* Combine previously created records with the new file
*************************************************************************;
DATA COMBINE OUT.LT30Q;
   SET PREVIOUS SIGTESTS;
   BY KEY;
   ***********************************************************************
   * Remove N_OBS < 30 OR N_WGT < 200
   ***********************************************************************;
   IF (N_OBS < 30 OR N_WGT < 200) AND (MAJGRP NE "Benchmark") AND
      (REGION NE "Benchmark")
      THEN OUTPUT OUT.LT30Q;
   ELSE OUTPUT COMBINE;
RUN;

*************************************************************************
* Create place holders for missing records
*************************************************************************;
DATA FAKEONLY;
   MERGE COMBINE(IN=IN1) TEMPQ(IN=IN2);
   BY KEY;
   SOURCE = "FAKE ONLY";
   FLAG   = "FAKE ONLY";
   IF IN2 AND NOT IN1;
RUN;

*************************************************************************
* Combine all of the missing records with the existing records to generate
* the complete WEB layout file.
*************************************************************************;
DATA TOTAL_A;
   SET FAKEONLY COMBINE;
   BY KEY;
   IF BENEFIT = "Total" THEN DO;
      SIG = 0;
      IF REGION = "Benchmark" OR MAJGRP = "Benchmark" THEN SCORE = .A;
   END;
RUN;

PROC SORT DATA=TOTAL_A OUT=OUT.TOTAL_A; BY ORDER; RUN;
```

```
TITLE1 "Quarterly DOD Health Survey Scores/Report Cards (8687-430)";
TITLE2 "Program Name: TOTAL_A.SAS By Keith Rathbun";
TITLE3 "Program Inputs: FAKEQ.SD2, FACTCOMP.SD2, CONUS_Q.SD2 - CONUS Scores Database in
WEB Layout";
TITLE4 "Program Outputs: TOTAL_A.SD2 - TOTAL Scores Database in WEB layout";

PROC FREQ;
TABLES SIG FLAG SOURCE BENEFIT BENTYPE MAJGRP REGION REGCAT
       REGION*REGCAT
      /MISSING LIST;
RUN;
```

10. CALCULATE TRENDS BASED ON CAHPS 1998 AND 2000 SCORES

```
*****************************************************************************
*
* PROGRAM:  TREND_A.SAS
* TASK:     2000 DOD HEALTH CARE SURVEY ANALYSIS (8687-210)
* PURPOSE:  Add TREND records to Scores database.
*
* WRITTEN:  06/28/2000 BY KEITH RATHBUN
*
* MODIFIED: 1) 02/21/2001 BY KEITH RATHBUN -- updated calculation for
*              trend score (DSCORE).
*           2) 01/07/2002 BY KEITH RATHBUN -- updated for 2000 survey.
*              Use 1998/2000 pairs to caclulate trends.
*
* INPUTS:   1) TOTAL_A.SD2 - MPR and CAHPS Scores Database in WEB layout
*           2) FAKE.SD2 - Scores Database WEB Layout
*
* OUTPUT:   1) TREND_A.SD2 - Combined Scores Database in WEB layout
*
* NOTES:
*
* 1) All of the scores DB programs must be run and MERGFINL.SAS prior to
*    running this program.  All report card records must be merged prior
*    to the trend calculations (MERGFINL.SAS,CONUS_Q.SAS,TOTAL_A.SAS).
*
* 2) The output file (TREND_A.SD2) will be run through the
*    MAKEHTML.SAS program to generate the HTML consumer reports.
*
*****************************************************************************
* Assign data libraries and options
*****************************************************************************;
LIBNAME IN   ".";
LIBNAME OUT  ".";
OPTIONS PS=79 LS=132 COMPRESS=YES NOCENTER ERRORS=10000;

*****************************************************************************
* Extract records to calculate TRENDs.  Keep only 1998/2000 pairs for CAHPS
* records.  Trends have already been calculated for MPR scores.
*****************************************************************************;
DATA TRENDS;
   SET IN.TOTAL_A;
   WHERE BENTYPE IN ('1998','2000');
   ***************************************************************************
   * Trends already calculated for MPR scores, so remove from file
   ***************************************************************************;
   IF SVMPR98 = 1 THEN DELETE;
   IF SVMPR99 = 1 THEN DELETE;
   IF SVMPR00 = 1 THEN DELETE;

RUN;

DATA TEMP98;
   SET TRENDS;
   KEEP MAJGRP REGION REGCAT BENEFIT;
   IF BENTYPE = "1998";
RUN;
PROC SORT DATA=TEMP98; BY MAJGRP REGION REGCAT BENEFIT; RUN;

DATA TEMP00;
   SET TRENDS;
   KEEP MAJGRP REGION REGCAT BENEFIT;
   IF BENTYPE = "2000";
RUN;
PROC SORT DATA=TEMP00; BY MAJGRP REGION REGCAT BENEFIT; RUN;

DATA PAIR9800(keep=majgrp region regcat benefit);
   MERGE TEMP98(IN=IN98) TEMP00(IN=IN00);
   BY MAJGRP REGION REGCAT BENEFIT;
   IF IN98 AND IN00;
RUN;
```

```
PROC SORT DATA=TRENDS;
   BY MAJGRP REGION REGCAT BENEFIT;
RUN;

DATA TRENDS;
   MERGE TRENDS(IN=INTREND) PAIR9800(IN=INPAIR);
   BY MAJGRP REGION REGCAT BENEFIT;
   IF INTREND AND INPAIR;
RUN;

PROC SORT DATA=TRENDS;
   BY MAJGRP REGION REGCAT BENEFIT BENTYPE;
RUN;
  proc print data=trends(obs=100);
*************************************************************************
* Calculate TRENDs keeping only the TREND records
*************************************************************************;
DATA TRENDS bench;
   SET TRENDS(drop=bscore bsemean);
   BY MAJGRP REGION REGCAT BENEFIT BENTYPE;
   IF BENTYPE = '1998' THEN DO;
      SCORE98 = SCORE/100;
      SE98    = SEMEAN;
      N98     = N_OBS;
      W98     = N_WGT;
   END;
   RETAIN SCORE98 SE98 N98 W98;
   IF BENTYPE = '2000' THEN DO;
      SCORE00 = SCORE/100;
      SE00    = SEMEAN;
      N00     = N_OBS;
      W00     = N_WGT;
   END;
   RETAIN SCORE00 SE00 N00 W00;
   IF BENTYPE = '2000' THEN DO;
      BENTYPE = "Trend";
      KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
            UPCASE(TRIM(MAJGRP))  ||
            UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));
      SOURCE = "TREND";
      SEMEAN = SQRT(SE98**2+SE00**2);
      N_OBS  = MIN(N98,N00);
      N_WGT  = MIN(W98,W00);
      SCORE  = SCORE00-SCORE98;
      DSCORE = 100*(SCORE00-SCORE98);
      if region='Benchmark' then OUTPUT bench;
      else output trends;
   END;
   DROP ORDER SCORE98 SCORE00 SE98 SE00 N98 N00;
RUN;
PROC SORT DATA=trends;
   BY MAJGRP BENEFIT BENTYPE;
RUN;
proc sort data=bench out=benchs(keep=majgrp benefit bentype score semean);
by majgrp benefit bentype;
run;

*************************************************************************
* Perform significance tests for CAHPS scores
*************************************************************************;
DATA trends;
   MERGE trends(IN=SIN) BENCHs(RENAME=(SCORE=BSCORE SEMEAN=BSEMEAN));
   BY MAJGRP BENEFIT BENTYPE;
   TEMP = (SCORE-BSCORE)/SQRT(BSEMEAN**2+SEMEAN**2);
   TEST = 2*(1-PROBT(ABS(TEMP),N_OBS-1));
   SIG = 0;
   IF N_OBS >= 30 AND TEST < 0.05 THEN SIG = 1;
   IF SCORE < BSCORE THEN SIG = -SIG;
   if benefit='Getting Care Quickly' then do;
   score=.A; dscore=.A; sig=.A; end;
      IF SIN;
```

```
RUN;
proc print data=trends(obs=100);

data trends;
set trends bench;
score=dscore;
PROC SORT DATA=TRENDS; BY KEY; RUN;

*************************************************************************
* Construct ORDERing variable from WEB layout
*************************************************************************;
DATA ORDER;
   SET IN.FAKE;
   ORDER = _N_;
   LENGTH KEY $200;
   KEY = UPCASE(TRIM(BENEFIT)) || UPCASE(TRIM(BENTYPE)) ||
         UPCASE(TRIM(MAJGRP))  ||
         UPCASE(TRIM(REGCAT))  || UPCASE(TRIM(REGION));
   KEEP KEY ORDER;
RUN;
PROC SORT DATA=ORDER; BY KEY; RUN;

DATA MERGTRND;
   MERGE TRENDS(IN=IN1) ORDER(IN=IN2);
   BY KEY;
   IF IN1;
RUN;

PROC SORT DATA=IN.TOTAL_A OUT=TOTAL_A; BY ORDER; RUN;
PROC SORT DATA=MERGTRND; BY ORDER; RUN;

DATA OUT.TREND_A;
   MERGE TOTAL_A MERGTRND;
   BY ORDER;
   IF BENEFIT = "Getting Care Quickly" THEN DO;
      IF BENTYPE IN ("1998","1999") THEN DO;
         SIG = 0;
         IF REGCAT = "Benchmark" THEN SCORE = .A;
      END;
      IF BENTYPE = "Trend" THEN SCORE = .A;
   END;
RUN;

TITLE1 "2000 DOD Health Survey Scores/Report Cards (8687-210)";
TITLE2 "Program Name: TREND_A.SAS By Keith Rathbun";
TITLE3 "Program Inputs: MPR and CAHPS data records in WEB Layout";
TITLE4 "Program Outputs: TREND_A.SD2 - Merged Final Scores Database with TRENDs for input
to SIGNIF_A.SAS";

TITLE5 "FREQs of TREND_A.SD2";
PROC FREQ;
   TABLES SOURCE FLAG MAJGRP REGION BENEFIT BENTYPE
  /MISSING LIST;
RUN;

TITLE5 "FREQs of FAKE.SD2";
PROC FREQ DATA=IN.FAKE;
   TABLES MAJGRP REGION BENEFIT BENTYPE
  /MISSING LIST;
RUN;
```

11. GENERATE HTML FILE FOR THE 2000 TRICARE CONSUMER REPORTS

```
*=====================================================================;
*   Programmer:  Mark A. Brinkley                                     ;
*        Title:  MAKEHTMA.SAS                                         ;
*       Client:  8687-210                                             ;
*         Date:  01-10-2002                                           ;
*                                                                     ;
*      Purpose:  This program is designed to create                   ;
*                 Annual report cards for the 2000 DOD project        ;
*                                                                     ;
```

```
*  Input files:  TOTAL_Q.SD2                                          ;
* Output files:  HTML\                                                ;
*                 1292*3 F*.HTM Files (Frame version)                 ;
*                 1292   P*.HTM Files (Printer friendly - no frames)  ;
*                  816   P*.XLS Files (Excel files)                   ;
*                 -------------------                                 ;
*                 5984                                                ;
*                                                                     ;
*                                                                     ;
*   ÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!   ;
*                                                                     ;
*     IF YOU MODIFY THIS PROGRAM THEN PLEASE INITIAL AND DOCUMENT     ;
*     YOUR CHANGES.  THOSE FAILING TO DO THIS WILL BE SEVERELY        ;
*     BEATEN.                                                         ;
*                                                                     ;
*   ÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!ÛÛÛ!   ;
*                                                                     ;
*                                                                     ;
*                                                                     ;
* Modifications:                                                      ;
* 11-01-2000 - JSykes added pieces to create Excel Spreadsheets       ;
* 07-01-2001 - MAB modified for qtr 2                                 ;
* 10-25-2001 - C.Rankin moved link to printer friendly version        ;
*              from frame, created macro variable to include          ;
*              third row of subbenefit heading                        ;
* 11-1-2001 -  D.Beahm changed splitpercent to splitpixel and adjusted;
*              the pixel size of the top frame to prevent scrolling   ;
*              she also added a <BR> before the printer icon to make  ;
*              sure it appears on it's own line                       ;
*              sure it appears on it's own line                       ;
* 01-10-2002 - MAB Modified Q3 MAKEHTMQ.SAS to create MAKEHTMA.SAS    ;
*               for 2000 annual program                               ;
* 01-18-2002 - MAB Changed comments of 'qtrly' to 'trend'             ;
* 01-30-2002 - MAB Changed 'qtr' to 'period' for images               ;
*=====================================================================;



/*** Changed  MAB 1-18-2002 ***/
%LET PERIOD=2000;           /** Period of these reports **/
%LET TRENDCOLUMNS=4;        /** Number of columns for trends **/


OPTIONS NOXWAIT;        /* 2000/11: added noxwait*/


/***OPTIONS MPRINT;  Removed MAB 1-23-2002 ***/


%LET HTMLSP=%NRSTR( );     /**DANIELE CHANGED %STR( ) TO %NRSTR( )**/
%LET QUOTE=%STR("");
%LET OUTDIR=HTML;                /** Directory to put HTML files **/
%LET IMGDIR=images;              /** Directory with images **/
%LET TARGET=target='_parent';    /** HTML code for frames targeting **/
%LET OUTXLS=1;                   /** 1=Make XLS file/0=Don't   Added 1-24 MAB **/
%LET fontface=%STR(Arial,Helvetica,Swiss,Geneva);
%LET hdcolr=%STR('white');
%LET BLUE=%STR('#663300');       /** This is really dark red **/
%LET GREEN=%STR('#009933');
%LET RED=%STR('#cc0000');
%LET GRAY=%STR('white');
%LET LOGO=%STR('images\tricare_side_35_new.gif');
%LET HELP_BUT=%STR('images\help75.gif');
%LET HOME_BUT=%STR('images\home75.gif');
%LET BACK_BUT=%STR('images\back75.gif');
%LET NUMBER_HTML_FILES=0;        /** Keep count of HTML files created **/

%LET SUB_HEAD=0;                 /** Macro variable for sub-benfit heading **/


                                 /** 1=headings, 0=no headings            **/
```

```
/*********************************************************/
/***** Macro for putting notes at bottom of table   *****/
/*********************************************************/
%MACRO BOTTOM_NOTES();

%IF &var1=8 and &var3=3 %THEN %DO;

     PUT "<tr>";
     PUT "    <td colspan='&columns.'><font face='Arial,Helvetica,Swiss,Geneva'
size='2'>Source: 2000 Health Care Survey of DOD Beneficiaries</font>";
     PUT "    <font face='Arial,Helvetica,Swiss,Geneva' size='2' color='#009933'><br>";
     PUT "    <b>Indicates score significantly exceeds
benchmark</b></font><b>&htmlsp.<br>";
     PUT "    </b><font face='Arial,Helvetica,Swiss,Geneva' size='2'
color='#cc0000'><i>Indicates score significantly falls short of
benchmark</i></font><br>";
     PUT "    <font face='Arial,Helvetica,Swiss,Geneva' size='2'>NA Indicates not
applicable</font><br>";
     PUT "    <font face='Arial,Helvetica,Swiss,Geneva' size='2'>*** Indicates
significance not available</font><br>";
     PUT "    <center><a href='&hrefxls.'><img src='&imgdir.\excel.gif' border=0>Download
Page</a></center>";

%END;

%ELSE %DO;

     PUT "<tr>";
     PUT "    <td colspan='&columns.'><font face='Arial,Helvetica,Swiss,Geneva'
size='2'>Source: 2000 Health Care Survey of DOD Beneficiaries</font>";
     PUT "    <font face='Arial,Helvetica,Swiss,Geneva' size='2' color='#009933'><br>";
     PUT "    <b>Indicates score significantly exceeds
benchmark</b></font><b>&htmlsp.<br>";
     PUT "    </b><font face='Arial,Helvetica,Swiss,Geneva' size='2'
color='#cc0000'><i>Indicates score significantly falls short of
benchmark</i></font><br>";
     PUT "    <font face='Arial,Helvetica,Swiss,Geneva' size='2'>NA Indicates not
applicable</font><br>";
     PUT "    <font face='Arial,Helvetica,Swiss,Geneva' size='2'>*** Indicates
significance not available</font><br>";
     PUT "    <center><a href='&hrefxls.'><img src='&imgdir.\excel.gif' border=0>Download
Page</a></center>";
%END;

     PUT "</td></tr>";
%MEND BOTTOM_NOTES;



/*********************************************************/
/***** Macro for adding in link row to trends data  *****/
/*********************************************************/

/*** Macro variable with Javascript to go back ***/
%LET GOBACK=%STR(<script>document.write(&quote.<a href='javascript:history.go(-1)'
target='_parent'>&quote.);
document.write(&quote.<img src='images\\back75.gif' border='0' alt='Go to previous
page'>&quote.);document.write(&quote.</a>&quote.);</script>);


LIBNAME SRC1 V612 '.'  ACCESS=READONLY;


OPTIONS LS=132;


/*********************************************************************/
/****   Macro to create html pages                                 ****/
/****          var1=major group                                    ****/
/****          var2=region                                         ****/
```

```
/****          var3=benefit                                          ****/
/****       seppage=0/no separate pages for trends                   ****/
/****               1/1st separate page                              ****/
/****               2/2nd separate page                              ****/
/*********************************************************************/
%MACRO MKHTML(var1,var2,var3,seppage);


/*** Determine some macro variables ***/
%if &prefix=f %then %do;
  %let width1=640;
  %let width2=640;
  %let border=0;
%end;
%else %do;
  %let width1=90%;
  %let width2=85%;
  %let border=1;
%end;




%let number_html_files=%EVAL(1+&number_html_files.);


/** Load in data **/
DATA SUBSET;
  SET SRC1.TREND_A;
RUN;


/** Load in data **/
DATA SUBSET;
  SET SUBSET;


  LENGTH FILEOUT1 $ 40;
  LENGTH FILEOUT2 $ 40;
  LENGTH FILEOUT3 $ 40;


  /*** VAR1 indicated major group ***/
  %if &var1.=0 %then %let major=%STR();
  %if &var1.=1 %then %let major=%STR(Prime Enrollees);
  %if &var1.=2 %then %let major=%STR(Enrollees with Military PCM);
  %if &var1.=3 %then %let major=%STR(Enrollees with Civilian PCM);
  %if &var1.=4 %then %let major=%STR(Standard/Extra Users);   /*** Changed from 'Non-
enrolled Beneficiaries' 1-25-2002 MAB ***/
  %if &var1.=5 %then %let major=%STR(Active Duty);
  %if &var1.=6 %then %let major=%STR(Active Duty Dependents);
  %if &var1.=7 %then %let major=%STR(Retirees and Dependents);
  %if &var1.=8 %then %let major=%STR(All Users);  /*** Changed from 'All Beneficiares' 1-
24-2002 MAB ***/


  %if &var1.=0 %then %do;
     /***IF REGION=REGCAT AND REGION NOT IN("CONUS MHS","Benchmark") ***/
     IF REGION=REGCAT AND REGION NOT IN("Benchmark");  /** Replaced 1-22 MAB **/

      %if &var2.^=99 %then %do; /*** Added 1-30 mab ***/
        IF REGION="CONUS MHS" THEN DELETE;
      %end;

     %let comma=%STR();
     %let grpmsg=%STR();
  %end;
  %else %do;
     IF MAJGRP="&major.";    /*** Subset data by major group ***/
     %let comma=%STR(,);
     %let grpmsg=%STR(Click below to view this table by other groups);
```

```
  %end;



   /*** Create macro variables to refer to Component or Trend pages ***/
   %if &seppage.=2 %then %do;
      %let q=q;
      %let unq=;
      %let click_alt=Click for Component data;
      %let click_image=component.gif;
   %end;
   %else %do;
      %let q=;
      %let unq=q;
      %let click_alt=Click for Trend data;
      %let click_image=trend.gif;
   %end;



   FILEOUT1=COMPRESS("&outdir.\&prefix.&var1.-&var2.-&var3.&q..htm");    /** Main html
**/
   FILEOUT2=COMPRESS("&outdir.\&prefix.&var1.-&var2.-&var3.&q.a.htm");   /** Header html
**/
   FILEOUT3=COMPRESS("&outdir.\&prefix.&var1.-&var2.-&var3.&q.b.htm");   /** Data html
**/


    /*** Added 07-12-2001 MAB  If creating Excel then don't create HTML ***/
    %if &outxls.=1 %then %do;
      %let fileout1= NUL;
      %let fileout2= NUL;
      %let fileout3= NUL;
    %end;
    %else %do;
      call symput('fileout1',FILEOUT1);
      call symput('fileout2',FILEOUT2);
      call symput('fileout3',FILEOUT3);
    %end;



  /*-------------------------*/
  /* 2000/11: begin xls code */
  /*-------------------------*/
  FILEOUTX=COMPRESS("&outdir.\p&var1.-&var2.-&var3..xls");          /* create run-
specific xls file */
  CALL SYMPUT('fileoutX',FILEOUTX);                                 /* via global macro
vars        */

  TEMPLATE=COMPRESS("Templates\Template&var3..xls");
  CALL SYMPUT('template',TEMPLATE);                                 /* identify which
template xls file */
  /*-------------------------*/
  /* 2000/11: end xls code   */
  /*-------------------------*/


  /*** VAR3 dictates type of benefit heading ***/
  %if &var3=0 %then %do;
      %let headvar=BENEFIT;
  %end;
  %else %let headvar=BENTYPE;

  /*** clean up headvar variable ***/
  /***IF BENTYPE="Trend" THEN BENTYPE="Trend<BR>% change";***/

  /*** Link to XLS file ***/
  HREFXLS=COMPRESS("p&var1.-&var2.-&var3..xls");
  call symput('hrefxls',HREFXLS);
RUN;
```

```
/*** Subset data by region ***/
DATA SUBSET;
  SET SUBSET;

  %if &var2.=0 %then %do;    /** 0 = All regions **/
     IF REGION=REGCAT;       /** Just do All Region table **/
      %let sub_regs=%STR(All Regions);
  %end;
  %else %if &var2.=1 %then %do;
     IF REGION="Region 1" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 1);
  %end;
  %else %if &var2.=2 %then %do;
     IF REGION="Region 2" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 2);
  %end;
  %else %if &var2.=3 %then %do;
     IF REGION="Region 3" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 3);
  %end;
  %else %if &var2.=4 %then %do;
     IF REGION="Region 4" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 4);
  %end;
  %else %if &var2.=5 %then %do;
     IF REGION="Region 5" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 5);
  %end;
  %else %if &var2.=6 %then %do;
     IF REGION="Region 6" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 6);
  %end;
  %else %if &var2.=7 %then %do;
     IF REGION="Region 7/8" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 7/8);
  %end;
  %else %if &var2.=8 %then %do;
     IF REGION="Region 9" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 9);
  %end;
  %else %if &var2.=9 %then %do;
     IF REGION="Region 10" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 10);
  %end;
  %else %if &var2.=10 %then %do;
     IF REGION="Region 11" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 11);
  %end;
  %else %if &var2.=11 %then %do;
     IF REGION="Region 12" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Region 12);
  %end;
  %else %if &var2.=12 %then %do;
     IF REGION="Europe" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Europe);
  %end;
  %else %if &var2.=13 %then %do;
     IF REGION="Asia" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Asia);
  %end;
  %else %if &var2.=14 %then %do;
     IF REGION="Latin America" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Latin America);
  %end;
  %else %if &var2.=15 %then %do;
     IF REGION="Alaska" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(Alaska);
  %end;
```

```
  %else %if &var2.=99 %then %do;
     IF REGION="CONUS MHS" OR REGION IN("CONUS MHS","Benchmark");
      %let sub_regs=%STR(CONUS MHS);
  %end;

RUN;



/*** Subset data by Benefit ***/
DATA SUBSET;
  SET SUBSET;

  %if &var3.=0 %then %do;   /** 0=All Benefits **/
     IF BENTYPE="&period.";
  %end;
  %else %if &var3.=2 %then %do;
     IF BENEFIT="Getting Needed Care";

     /*** # of columns for this benefit table ***/
     %let columns=%EVAL(5+&trendcolumns.);
  %end;
  %else %if &var3.=3 %then %do;
     IF BENEFIT="Getting Care Quickly";
     %let columns=%EVAL(5+&trendcolumns.);
  %end;
  %else %if &var3.=4 %then %do;
     IF BENEFIT="Courteous and Helpful Office Staff";
     %let columns=%EVAL(3+&trendcolumns.);
  %end;
  %else %if &var3.=5 %then %do;
     IF BENEFIT="How Well Doctors Communicate";
     %let columns=%EVAL(5+&trendcolumns.);
  %end;
  %else %if &var3.=6 %then %do;
     IF BENEFIT="Customer Service";
     %let columns=%EVAL(4+&trendcolumns.);
  %end;
  %else %if &var3.=7 %then %do;
     IF BENEFIT="Claims Processing";
     %let columns=%EVAL(3+&trendcolumns.);
  %end;
  %else %if &var3.=8 %then %do;
     IF BENEFIT="Health Plan";
     %let columns=%EVAL(1+&trendcolumns.);
  %end;
  %else %if &var3.=9 %then %do;
     IF BENEFIT="Health Care";
     %let columns=%EVAL(1+&trendcolumns.);
  %end;
  %else %if &var3.=10 %then %do;
     IF BENEFIT="Primary Care Manager";
     %let columns=%EVAL(1+&trendcolumns.);
  %end;
  %else %if &var3.=11 %then %do;
     IF BENEFIT="Specialty Care";
     %let columns=%EVAL(1+&trendcolumns.);
  %end;
  %else %if &var3.=12 %then %do;
     IF BENEFIT="Preventive Care";
     %let columns=%EVAL(6+&trendcolumns.);
  %end;

  /*** Set macro variable ***/
  %if &var3.=0 %then %do;
      %let sub_ben=%STR(&period. Composite Scores);
      %let columns=13;
  %end;
  %else %do;
    call symput('sub_ben',BENEFIT);
  %end;
```

```
  /*** Determine number of columns for sub-benefits  ***/
  /*** Equals cols - (x for qtrs  - 1 for stub column) ***/
  %let subcols=%EVAL(&columns.-&trendcolumns.-1);

  /*** Determine number of columns less 1st (stub) column ***/
  %let columns_less1=%EVAL(&columns.-1);

RUN;




/*** Added 4-3-01 MAB ***/
DATA SUBSET;
  SET SUBSET;

  WIDTH_COL1=120; /** Set width of column 1 **/

  /*** Changed 1-18-2002 MAB ***/
  IF BENTYPE IN ("1998","1999","2000","Trend") THEN WIDTH3=120;
  ELSE WIDTH3=90;

  /** Deal with some special cases **/
  IF BENEFIT="Preventive Care" THEN DO;
      /*** Changed 1-18-2002 MAB ***/
      IF BENTYPE IN ("1998","1999","2000","Trend") THEN WIDTH3=.;
       ELSE WIDTH3=80;
  END;
  IF BENEFIT="Courteous and Helpful Office Staff" AND
          BENTYPE IN ("1998","1999","2000","Trend") THEN WIDTH3=70;
          /*** Changed 1-18-2002 MAB ***/


  %if &var3.=0 %then %do;
     WIDTH_COL1=.;
     WIDTH3=40;
  %end;


        /*** Added 5-7-2001 mab ***/
        %if &prefix.=p %then %do;
            WIDTH3=.;
        %end;

RUN;



OPTIONS LS=152;
PROC PRINT;
 VAR BENEFIT BENTYPE REGION REGCAT MAJGRP;
RUN CANCEL;



/*****************************************************************/
/****  Put out Header rows of table                            ****/
/*****************************************************************/
DATA HTML;
  SET SUBSET;


  IF REGION IN("Benchmark") OR MAJGRP IN("Benchmark");

  /** Determine where back button should link to **/
  %if &var1.=0 %then %do;
     HREFBACK=COMPRESS("&prefix.8-0-0.htm");
  %end;
  %else %do;
```

```
     HREFBACK=COMPRESS("&prefix.&var1.-0-0.htm");
  %end;

  /*** Create macro variable date with today's date ***/
  DATETIME=DATETIME();
  CALL SYMPUT ('DATETIME',left(put(datetime,datetime20.)));
  DROP DATETIME;

RUN;



/*** ÛÛ FRAMES SECTION ÛÛ ***/
%if &prefix=f %then %do;

    /*** Make frameset page split frames smaller on all ratings pages ***/

   %if &var3.=0 %then %do;
         %let splitpixel=228;
    %end;
    %else %if &var3.=2 OR &var3.=3 %then %do;
         %let splitpixel=211;
    %end;
    %else %if &var3.=4 OR &var3.=7 %then %do;
         %let splitpixel=181;
    %end;
    %else %if &var3.=5 %then %do;
         %let splitpixel=196;
    %end;
    %else %if &var3.=6 %then %do;
         %let splitpixel=221;
    %end;
    %else %if &var3.=8 OR &var3.=9 OR &var3.=10 OR &var3.=11 %then %do;
         %let splitpixel=158;
    %end;
    %else %if &var3.=12 %then %do;
         %let splitpixel=192;
    %end;

    %if &SEPPAGE.=2 %then %do;
         %let splitpixel=157;
    %end;


   /*** Create frameset page HTML page ***/
   DATA _NULL_;
     FILE "&FILEOUT1.";
     PUT "<html>";
     PUT "<frameset rows='&splitpixel.,*'>";
      %if &seppage.=2 %then %do;
        PUT "   <frame src='f&var1.-&var2.-&var3.qa.htm'  MARGINHEIGHT='0'
MARGINWIDTH='0'>";
        PUT "   <frame src='f&var1.-&var2.-&var3.qb.htm'  MARGINHEIGHT='0'
MARGINWIDTH='0'>";
      %end;
      %else %do;
        PUT "   <frame src='f&var1.-&var2.-&var3.a.htm'  MARGINHEIGHT='0'
MARGINWIDTH='0'>";
        PUT "   <frame src='f&var1.-&var2.-&var3.b.htm'  MARGINHEIGHT='0'
MARGINWIDTH='0'>";
      %end;


     PUT "</frameset></html>";
   RUN;

   /*** Since done making frameset page then assign fileout1 = frame 1 ***/
   %let fileout1=&fileout2.;
   %if &seppage.=1 %then %do;
       %let fileout1=&fileout2.;
    %end;
```

```
    %else %if &seppage.=2 %then %do;
       %let fileout1=&fileout2.;
    %end;

%end;



/*** Initialize HTML page ***/
DATA _NULL_;
  FILE "&FILEOUT1.";

  PUT "<! Created &datetime.>";
  PUT "<html><head><title>";
  PUT "&major. &comma. &sub_ben., &sub_regs.";
  PUT "</title></head>";
  PUT "<body bgcolor='#999999' text='#000099' link='#660066' alink='#660066'
vlink='#996699'>";

  /*** link to printer friendly version moved, 10/25/2001 C.Rankin ***/


RUN;



/*-------------------------*/
/* 2000/11: begin xls code */
/*-------------------------*/
%if &outxls.=1 %then %do;
  X "COPY &template. &fileoutX.";                              /* copy template xls to
run-specific xls file */
  X "START &fileoutX.";                                        /* open run-specific xls
file                 */
  FILENAME XLSTITLE DDE 'excel|Sheet1!R1C1:R2C20' NOTAB;        /* xls rows 1 & 2
(titles)                   */
  FILENAME XLSDATA DDE 'excel|Sheet1!R6C1:R100C20' NOTAB;       /* xls rows 6+ (body of
table)                */
%end;
/*-------------------------*/
/* 2000/11: end xls code   */
/*-------------------------*/




/*ÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛ*/
/*** If ALL benefits (VAR3=0) then do special column headers ***/
%if &var3.=0 %then %do;
DATA _NULL_;
  SET HTML END=EOF;

  IF _N_=1 THEN DO;

        FILE "&FILEOUT1." MOD;      /* 2000/11: moved file stmt inside if stmt */

         /*** put table title ***/
         /**PUT "<h2><center><font face='&fontface.'>&major., &sub_regs. <br> &sub_ben.
</font></center></h2>"**/

         /** MF Changes ROW 1 **/
         PUT "<center><table border='&border.' cellpadding='2' cellspacing='0'
bgcolor='#D8D8D8' colspan=13 width='&width1.'>";
         PUT "<tr bgcolor='white'>";
         PUT "    <td colspan='6' valign='top' bgcolor='#999999'><img border='0'
height='25' width='242' src=&logo.></td>";
         PUT "    <td colspan='7' align='right' valign='bottom' bgcolor='#999999'>";
         PUT "          <div align='right'>";
         PUT "          <a href='index.htm' &target.><img src=&home_but. border='0'
alt='Return to Main Page'></a>&htmlsp. &htmlsp.";
```

```
         /*** 4-17 MAB added JS code to go back ***/
         PUT "&goback.";

         PUT "          <noscript><a href="" HREFBACK  +(-1) "" &target.><img
src=&back_but. border='0' alt='Return to Top Level'></a></noscript>";
         PUT "          &htmlsp. &htmlsp.";
         PUT "          <a href='help.htm' &target.><img src=&help_but. border='0'
alt='Help'></a></div>";
         PUT "    </td>";
         PUT "</tr>";

         /** MF Changes ROW 2 **/
         /** Modified 2-2 MAB to better align title **/
         PUT "<tr>";
         PUT "        <td valign='center' align='center' colspan='13'
bgcolor='#D8D8D8'>";
         PUT "                <font face='&fontface.' color='#3333cc' size='5'><b>&major.
&comma.  &sub_regs.<br>";
         PUT "                 &sub_ben.</b></font>";
         PUT "        </td>";
         PUT "</tr>";


         /*** Print out 3rd row ***/
         /*** ÛÛ FRAMES SECTION ÛÛ ***/

         %if &prefix=f %then %do;
              PUT "<tr bgcolor= &hdcolr.>";
              PUT "<td width=70>&htmlsp.</td>";
              PUT "<td width=40 colspan=1><IMG SRC='&imgdir.\total_score.gif' ALT='Total
Score' BORDER=0></td>";
              PUT "<td width=80 colspan=2><IMG SRC='&imgdir.\eoa.gif'ALT='Ease of Access'
BORDER=0></td>";
              PUT "<td width=185 colspan=4><IMG SRC='&imgdir.\com&cus_ser.gif'
ALT='Communication and Customer Service' BORDER=0></td>";
              PUT "<td width=160 colspan=4><IMG SRC='&imgdir.\ratings0.gif' ALT='Ratings'
BORDER=0></td>";
              PUT "<td width=50 colspan=1><IMG SRC='&imgdir.\prevention.gif'
ALT='Prevention' BORDER=0></td>";
              PUT "</tr>";
              PUT "<tr bgcolor= &hdcolr.>";
          %end;
          %else %do;
              PUT "<tr bgcolor= &hdcolr.>";
              PUT "<td>&htmlsp.</td>";
              PUT "<td align='center' valign='bottom' colspan=1><font face='&fontface.'
size='2'><b>Total Score</b></font></td>";
              PUT "<td align='center' valign='bottom' colspan=2><font face='&fontface.'
size='2'><b>Ease of Access</b></font></td>";
              PUT "<td align='center' valign='bottom' colspan=4><font face='&fontface.'
size='2'><b>Communication and Customer Service</b></font></td>";
              PUT "<td align='center' valign='bottom' colspan=4><font face='&fontface.'
size='2'><b>Ratings</b></font></td>";
              PUT "<td align='center' valign='bottom' colspan=1><font face='&fontface.'
size='2'><b>Prevention</b></font></td>";
              PUT "</tr>";
              PUT "<tr bgcolor= &hdcolr.>";
          %end;


         /*** Print out 1st column of 4th row ***/
         /*** ÛÛ FRAMES SECTION ÛÛ ***/
         %if &prefix=f %then %do;
             PUT "<td width=55>&htmlsp.</td>";
         %end;
         %else %do;
             PUT "<td width='7%'><font face='&fontface.'>&htmlsp.</font></td>";
         %end;
```

```
       bennum=1;  /** index to all 11 benefits **/

       /*-------------------------*/
       /* 2000/11: begin xls code */
       /*-------------------------*/
       %if &outxls.=1 %then %do;
         FILE XLSTITLE;
         PUT "&major. &comma. &sub_regs.";
         PUT "%cmpres('&sub_ben.')";
       %end;
       /*-------------------------*/
       /* 2000/11: begin xls code */
       /*-------------------------*/
  END;

   FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */

   /*** Put Benefits across columns (Continuation of 4th row) ***/
   LENGTH HREF $ 20;
   HREF=COMPRESS("&prefix.&var1.-&var2.-"||bennum||".htm");



   /** If TOTAL benefit then don't have HREF **/
   /*** ÛÛ FRAMES SECTION ÛÛ ***/
   %if &prefix=f %then %do;
     IMAGE=COMPRESS("&imgdir.\image0_"||bennum||".gif");
     IF BENNUM=1 THEN PUT "<td align='center' valign='bottom'><IMG
SRC='&imgdir.\image0_0.gif' alt='Total' BORDER=0></td>";
     ELSE PUT "<td align='center' valign='bottom'><a href=""" HREF +(-1) """
&target.><IMG SRC='" IMAGE "' alt='" BENEFIT "' BORDER=0></a></td>";
   %end;
   %else %do;
     IF BENNUM=1 THEN PUT "<td width='7%' align='center' valign='bottom'><font
face='&fontface.'size='1'>" &HEADVAR. "</font></td>";
     ELSE PUT "<td width='7%' align='center' valign='bottom'><font
face='&fontface.'size='1'><a href=""" HREF +(-1) """ &target.>" &HEADVAR.
"</a></font></td>";
   %end;


  bennum+1;


  IF EOF THEN DO;
    PUT "</tr>";
    /***  2-2 MAB removed scale row ***/
  END;

RUN;
%end;




/*ÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛ*/
/*** If Sub-benefit (VAR3^=0) then do differently ***/
/*** If not separate page (SEPPAGE=0) for quarterly info then do as before ***/
%else %if &seppage.=0 OR &var3.=8 OR &var3.=9 OR &var3.=10 OR &var3.=11 %then %do;


DATA _NULL_;
  SET HTML END=EOF;

  COLUMNS=&columns.;
  SPAN1=ROUND(COLUMNS/2,1);
  SPAN2=COLUMNS-SPAN1;


  IF _N_=1 THEN DO;
```

```
        FILE "&FILEOUT1." MOD ;   /* 2000/11: moved inside if stmt */


         /** MF Changes ROW 1 **/
         PUT "<center><table border='&border.' cellpadding='2' cellspacing='0'
bgcolor='#D8D8D8' width='&width2.'>";
         PUT "<tr bgcolor='white'>";
         PUT "    <td colspan=""" SPAN1 +(-1) """ valign='top' bgcolor='#999999'><img
border='0' height='25' width='242' src=&logo.></td>";
         PUT "    <td colspan=""" SPAN2 +(-1) """ align='right' valign='bottom'
bgcolor='#999999'>";
         PUT "          <div align='right'>";
         PUT "          <a href='index.htm' &target.><img src=&home_but. border='0'
alt='Return to Main Page'></a>&htmlsp. &htmlsp.";

         /*** 4-17 MAB added JS code to go back ***/
         PUT "&goback.";

         PUT "          <noscript><a href=""" HREFBACK  +(-1) """ &target.><img
src=&back_but. border='0' alt='Return to Top Level'></a></noscript>";
         PUT "          &htmlsp. &htmlsp.";
         PUT "          <a href='help.htm' &target.><img src=&help_but. border='0'
alt='Help'></a></div>";
         PUT "    </td>";
         PUT "</tr>";

         /** MF Changes ROW 2 **/
         /** Modified 2-2 MAB to better align title **/
         PUT "<tr>";
         PUT "        <td valign='center' align='center' colspan=""" COLUMNS +(-1) """
bgcolor='#D8D8D8'>";
         PUT "                <font face='&fontface.' color='#3333cc' size='5'><b>&major.
&comma.  &sub_regs. <br>";

         /*** If ratings then don't display reference period ***/
         %if &var3.=8 OR &var3.=9 OR &var3.=10 OR &var3.=11 %then %do;
               PUT "                 &sub_ben.</b></font>";
         %end;
         %else %do;
               PUT "                 &sub_ben.<BR>&period.</b></font>";
         %end;


         PUT "        </td>";
         PUT "</tr>";


         /*** Sub_head macro variable added C.Rankin 10/25/2001  ***/

         %if &sub_head.=1 %then %do;
            /** 3rd Row ***/
            /** ÛÛ FRAMES SECTION ÛÛ ***/
            %if &prefix=f %then %do;
                 PUT "<tr bgcolor= &hdcolr.><td>&htmlsp.</td>";   /** Column 1 **/
                 /*** If sub-benefits then output sub-benefit columns ***/
                 %if &subcols.^=0 %then %do;
                   IMAGE=COMPRESS("&imgdir.\span_image&var3..gif");
                   PUT "<td align='center' valign='bottom' colspan=&subcols.><IMG SRC="
IMAGE " alt='" BENEFIT "' BORDER=0></td>";
                   PUT "<td align='center' valign='bottom' colspan=&trendcolumns.><IMG
SRC='&imgdir.\composite.gif' ALT='Composite' BORDER=0></td></tr>";
                 %end;
                 %else %do;
                   PUT "<td align='center' valign='bottom' colspan=&trendcolumns.><IMG
SRC='&imgdir.\border_rating.gif' ALT='Ratings' BORDER=0></td></tr>";
                 %end;
            %end;
            %else %do;
                 PUT "<tr bgcolor= &hdcolr.><td>&htmlsp.</td>";   /** Column 1 **/
                 /*** If sub-benefits then output sub-benefit columns ***/
```

```
                %if &subcols.^=0 %then %do;
                  PUT "<td align='center' valign='bottom' colspan=&subcols.><font
face='&fontface.'><b>&sub_ben.<br>components</b></font></td>";
                  PUT "<td align='center' valign='bottom' colspan=&trendcolumns.><font
face='&fontface.'><b>Composite</b></font></td></tr>";
                %end;
                %else %do;
                  PUT "<td align='center' valign='bottom' colspan=&trendcolumns.><font
face='&fontface.'><b>Ratings</b></font></td></tr>";
                %end;
            %end;
         %end;


         /*** 4th Row start (column 1) ***/
         /*** ÛÛ FRAMES SECTION ÛÛ ***/
         %if &prefix=f %then %do;
           PUT "<tr bgcolor= &hdcolr.><font face='&fontface.'>";
           PUT "<td align='center' valign='bottom'><img src='&imgdir.\blank_120_50.gif'
border=0></td>";
         %end;
         %else %do;
           PUT "<tr bgcolor= &hdcolr.><font face='&fontface.'>";
           PUT "<td width='10%'>&htmlsp.</td>";
         %end;



         /*-------------------------*/
         /* 2000/11: begin xls code */
         /*-------------------------*/
         %if &outxls.=1 %then %do;
           FILE XLSTITLE;
           PUT "&major. &comma. &sub_regs.";
           PUT "%cmpres('&sub_ben.')";
         %end;
         /*-------------------------*/
         /* 2000/11: begin xls code */
         /*-------------------------*/
  END;

  FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */
  /*** Print out column headings ***/
  HREF=COMPRESS("help.htm#q&var3.");


  /*** 4th Row (columns 2+) ***/
  /*** If quarter column then HREF link is different ****/
  /*** ÛÛ FRAMES SECTION ÛÛ ***/
  %if &prefix=f %then %do;
     IF _N_>&subcols. THEN IMAGE=COMPRESS("&imgdir.\period"||_N_-&subcols.||".gif");
     ELSE IMAGE=COMPRESS("&imgdir.\image&var3._"||_N_||".gif");
     PUT "<td align='center' valign='bottom'><a href=""" HREF +(-1) """ &target.><IMG
SRC='" IMAGE "' alt='" BENTYPE "' BORDER=0></a></td>";
  %end;
  %else %do;
     PUT "<td width='10%' align='center' valign='bottom'><font face='&fontface.'
size='1'><a href=""" HREF +(-1) """ &target.>" &HEADVAR. "</a></font></td>";
  %end;


  IF EOF THEN DO;
    PUT "</font></tr>";
    /***  2-2 MAB removed scale row ***/
  END;

RUN;
%end;
```

```
/*ÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛ*/
/*** Added MAB 11-20-2000 ***/
/*** If Sub-benefit then do differently ***/
/*** If separate page (SEPPAGE=1) then create 1st of 2 HTML files ***/
/*** 1 for data without trend info and 1 for just trend info ***/
%else %if &seppage.=1 %then %do;


/*** Remove trendcolumns from column counts ***/
%let columns=%EVAL(&columns.-&trendcolumns.);


/*** Do sub-benefit page without any trend info ***/
DATA _NULL_;
  SET HTML END=EOF;


  /*** Since spliting up table need to delete some records ***/
  /*** Modified 2-2 MAB to deal with new period values **/
  IF BENTYPE IN ("1998","1999","2000","Trend") THEN DELETE; /*** Changed 1-18-2002 MAB
***/


  FILE "&FILEOUT1." MOD ;

  COLUMNS=&columns.;
  SPAN2=ROUND(COLUMNS/2,1);
  SPAN1=COLUMNS-SPAN2;


  IF _N_=1 THEN DO;

        FILE "&FILEOUT1." MOD ;   /* 2000/11: moved inside if stmt */


         /** MF Changes ROW 1 **/
         PUT "<center><table border='&border.' cellpadding='2' cellspacing='0'
bgcolor='#D8D8D8' width='&width2.'>";
         PUT "<tr bgcolor='white'>";
         PUT "    <td colspan=""" SPAN1 +(-1) """ valign='top' bgcolor='#999999'><img
border='0' height='25' width='242' src=&logo.></td>";
         PUT "    <td colspan=""" SPAN2 +(-1) """ align='right' valign='bottom'
bgcolor='#999999'>";
         PUT "          <div align='right'>";
      PUT "          <a href='&prefix.&var1.-&var2.-&var3.&unq..htm' &target.><img
src='&imgdir.\&click_image.' alt='&click_alt.' border=0></a>&htmlsp.";
         PUT "          <a href='index.htm' &target.><img src=&home_but. border='0'
alt='Return to Main Page'></a>&htmlsp. ";

         /*** 4-17 MAB added JS code to go back ***/
         PUT "&goback.";
         PUT "          <noscript><a href=""" HREFBACK  +(-1) """ &target.><img
src=&back_but. border='0' alt='Return to Top Level'></a></noscript>";
         PUT "          &htmlsp. ";
         PUT "          <a href='help.htm' &target.><img src=&help_but. border='0'
alt='Help'></a></div>";
         PUT "    </td>";
         PUT "</tr>";

         /** MF Changes ROW 2 **/
         /** Modified 2-2 MAB to better align title **/
         PUT "<tr>";
         PUT "        <td valign='center' align='center' colspan=""" COLUMNS +(-1) """
bgcolor='#D8D8D8'>";
         PUT "                <font face='&fontface.' color='#3333cc' size='5'><b>&major.
&comma.  &sub_regs. <br>";


         PUT "                 &sub_ben.<BR>&period.</b></font>";
```

```
         PUT "        </td>";
         PUT "</tr>";

         /*** Sub_head macro variable added C.Rankin 10/25/2001  ***/

         %if &sub_head.=1 %then %do;
            /*** 3rd Row ***/
            /*** ÛÛ FRAMES SECTION ÛÛ ***/
            %if &prefix=f %then %do;
               PUT "<tr bgcolor= &hdcolr.><td>&htmlsp.</td>";   /** Column 1 **/
               IMAGE=COMPRESS("&imgdir.\span_image&var3..gif");
IMAGE=COMPRESS("&imgdir.\span_image&var3..gif");
               PUT "<td align='center' valign='bottom' colspan=&subcols.><IMG SRC=" IMAGE
" alt='" BENEFIT "' BORDER=0></td>";
            %end;
            %else %do;
               PUT "<tr bgcolor= &hdcolr.><td>&htmlsp.</td>";   /** Column 1 **/
               PUT "<td align='center' valign='bottom' colspan=&subcols.><font
face='&fontface.'><b>&sub_ben.<br>components</b></font></td>";
            %end;
         %end;

         /*** 4th Row start (column 1) ***/
         /*** ÛÛ FRAMES SECTION ÛÛ ***/
         %if &prefix=f %then %do;
           PUT "<tr bgcolor= &hdcolr.><font face='&fontface.'>";
           PUT "<td align='center' valign='bottom'><img src='&imgdir.\blank_120_50.gif'
border=0></td>";
         %end;
         %else %do;
           PUT "<tr bgcolor= &hdcolr.><font face='&fontface.'>";
           PUT "<td width='10%'>&htmlsp.</td>";
         %end;



         /*-------------------------*/
         /* 2000/11: begin xls code */
         /*-------------------------*/
         %if &outxls.=1 %then %do;
           FILE XLSTITLE;
           PUT "&major. &comma. &sub_regs.";
           PUT "%cmpres('&sub_ben.')";
         %end;
         /*-------------------------*/
         /* 2000/11: begin xls code */
         /*-------------------------*/
  END;

  FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */
  /*** Print out column headings ***/
  HREF=COMPRESS("help.htm#q&var3.");


  /*** 4th Row (columns 2+) ***/
  /*** If quarter column then HREF link is different ****/
  /*** ÛÛ FRAMES SECTION ÛÛ ***/
  %if &prefix=f %then %do;
     IMAGE=COMPRESS("&imgdir.\image&var3._"||_N_||".gif");
     PUT "<td align='center' valign='bottom'><a href="""" HREF +(-1) """" &target.><IMG
SRC='" IMAGE "' alt='" BENTYPE "' BORDER=0></a></td>";
  %end;
  %else %do;
     PUT "<td width='10%' align='center' valign='bottom'><font face='&fontface.'
size='1'><a href="""" HREF +(-1) """" &target.>" &HEADVAR. "</a></font></td>";
  %end;


  IF EOF THEN DO;
```

```
    PUT "</font></tr>";
    /***  2-2 MAB removed scale row ***/
  END;


RUN;
%end;




/*ÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛ*/
/*** If separate page (SEPPAGE=2) then create 2nd of 2 HTML files ***/
/*** 1 for data without trend info and 1 for just trend info ***/
%else %if &seppage.=2 %then %do;


/*** Keep only trendcolumns in column counts ***/
%let columns=%EVAL(&trendcolumns.+1);


/*** Then do sub-benefit page with just trend info ***/
DATA JUSTTRENDS;
  SET HTML;
  /*** Since spliting up table need to delete some records ***/
  /*** Modified 2-2 MAB to deal with new period values **/
  IF BENTYPE IN ("1998","1999","2000","Trend");   /*** Changed 1-18-2002 MAB ***/
RUN;


DATA _NULL_;
  SET JUSTTRENDS END=EOF;

  FILE "&FILEOUT1." MOD ;

  COLUMNS=&columns.;
  SPAN2=ROUND(COLUMNS/2,1);
  SPAN1=COLUMNS-SPAN2;




  IF _N_=1 THEN DO;

        FILE "&FILEOUT1." MOD ;   /* 2000/11: moved inside if stmt */

         /** MF Changes ROW 1 **/
         PUT "<center><table border='&border.' cellpadding='2' cellspacing='0'
bgcolor='#D8D8D8' width='&width2.'>";
         PUT "<tr bgcolor='white'>";
         PUT "    <td colspan=""" SPAN1 +(-1) """ valign='top' bgcolor='#999999'><img
border='0' height='25' width='242' src=&logo.></td>";
         PUT "    <td colspan=""" SPAN2 +(-1) """ align='right' valign='bottom'
bgcolor='#999999'>";
         PUT "          <div align='right'>";
      PUT "          <a href='&prefix.&var1.-&var2.-&var3.&unq..htm' &target.><img
src='&imgdir.\&click_image.' alt='&click_alt.' border=0></a>&htmlsp.";
         PUT "          <a href='index.htm' &target.><img src=&home_but. border='0'
alt='Return to Main Page'></a>&htmlsp. &htmlsp.";

         /*** 4-17 MAB added JS code to go back ***/
         PUT "&goback.";

         PUT "          <noscript><a href=""" HREFBACK  +(-1) """ &target.><img
src=&back_but. border='0' alt='Return to Top Level'></a></noscript>";
         PUT "          &htmlsp.";
         PUT "          <a href='help.htm' &target.><img src=&help_but. border='0'
alt='Help'></a></div>";
         PUT "    </td>";
         PUT "</tr>";
```

```
         /** MF Changes ROW 2 **/
         /** Modified 2-2 MAB to better align title **/
         PUT "<tr>";
         PUT "        <td valign='center' align='center' colspan=""" COLUMNS +(-1) """
bgcolor='#D8D8D8'>";
         PUT "                <font face='&fontface.' color='#3333cc' size='5'><b>&major.
&comma.  &sub_regs. <br>";

         /*** Since trend data don't display reference period ***/
         PUT "                 &sub_ben.</b></font>";


         PUT "        </td>";
         PUT "</tr>";


         /*** 3rd Row ***/
         /*** ÛÛ FRAMES SECTION ÛÛ ***/
         /**PUT "<td></td>"**/


         /*** 4th Row start (column 1) ***/
         /*** ÛÛ FRAMES SECTION ÛÛ ***/
         %if &prefix=f %then %do;
           PUT "<tr bgcolor= &hdcolr.><font face='&fontface.'>";
           PUT "<td align='center' valign='bottom'><img src='&imgdir.\blank_120_50.gif'
border=0></td>";
         %end;
         %else %do;
           PUT "<tr bgcolor= &hdcolr.><font face='&fontface.'>";
           PUT "<td width='10%'>&htmlsp.</td>";
         %end;



         /*-------------------------*/
         /* 2000/11: begin xls code */
         /*-------------------------*/
         %if &outxls.=1 %then %do;
           FILE XLSTITLE;
           PUT "&major. &comma. &sub_regs.";
           PUT "%cmpres('&sub_ben.')";
         %end;
         /*-------------------------*/
         /* 2000/11: begin xls code */
         /*-------------------------*/
  END;

  FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */
  /*** Print out column headings ***/
  HREF=COMPRESS("help.htm#q&var3.");


  /*** 4th Row (columns 2+) ***/
  /*** If quarter column then HREF link is different ****/
  /*** ÛÛ FRAMES SECTION ÛÛ ***/
  %if &prefix=f %then %do;
     IMAGE=COMPRESS("&imgdir.\period"||_N_||".gif");
     PUT "<td align='center' valign='bottom'><a href=""" HREF +(-1) """ &target.><IMG
SRC='" IMAGE "' alt='" BENTYPE "' BORDER=0></a></td>";
  %end;
  %else %do;
     PUT "<td width='10%' align='center' valign='bottom'><font face='&fontface.'
size='1'><a href=""" HREF +(-1) """ &target.>" &HEADVAR. "</a></font></td>";
  %end;


  IF EOF THEN DO;
    PUT "</font></tr>";
    /***  2-2 MAB removed scale row ***/
  END;
```

```
RUN;
%end;




/*** ÛÛ FRAMES SECTION ÛÛ ***/
%if &prefix=f %then %do;
  /*** Close out header HTML page ***/
  DATA _NULL_;
    FILE "&FILEOUT1." MOD;

    PUT "</center></table>";
    PUT "</body></html>";
  RUN;


  /*** Since done making frame 1 page then assign fileout1 = frame 2 ***/
  %let fileout1=&fileout3.;

  /*** Initialize out data HTML page ***/
  DATA _NULL_;
    FILE "&FILEOUT3.";

    PUT "<! Created &datetime.>";
    PUT "<html>";
    PUT "<body bgcolor='#999999' text='#000099' link='#660066' alink='#660066'
vlink='#996699'>";
    PUT "<center><table border='1' cellpadding='2' cellspacing='0' bgcolor='#D8D8D8'
cols=&columns. width=640>";
  RUN;

%end;




/*************************************/
/****  Put out rest of table      ****/
/****  Colored scores and Stub    ****/
/*************************************/
%if &seppage.=0 OR &var3.=8 OR &var3.=9 OR &var3.=10 OR &var3.=11 %then %do;
DATA HTML;
  SET SUBSET;
RUN;
%end;
%else %if &seppage.=1 %then %do;
DATA HTML;
  SET SUBSET;
  /*** Since spliting up table need to delete some records ***/
  /*** Modified 2-2 MAB to deal with new period values **/
  IF BENTYPE IN ("1998","1999","2000","Trend") THEN DELETE; /*** Changed 1-18-2002 MAB
***/
RUN;
%end;
%else %if &seppage.=2 %then %do;
DATA HTML;
  SET SUBSET;
  /*** Since spliting up table need to delete some records ***/
  /*** Modified 2-2 MAB to deal with new period values **/
  IF BENTYPE IN ("1998","1999","2000","Trend");  /*** Changed 1-18-2002 MAB ***/
RUN;
%end;
```

```
/*** MAB 1-10-2002  -  This code should never be run since never create ***/
/*** all MAJGRP page for Annual report cards ***/
/*ÛÛÛÛ ALL MAJGRPS ÛÛÛÛ*/
%if &var1.=0 %then %do;

DATA HTML;
  SET HTML END=EOF;


  IF MAJGRP="Prime Enrollees" THEN MAJNUM=1;
  IF MAJGRP="Enrollees with Military PCM"  THEN MAJNUM=2;
  IF MAJGRP="Enrollees with Civilian PCM" THEN MAJNUM=3;
  IF MAJGRP="Standard/Extra Users" THEN MAJNUM=4;  /*** Changed from 'Non-enrolled
Beneficiaries' 1-25-2002 MAB ***/
  IF MAJGRP="Active Duty" THEN MAJNUM=5;
  IF MAJGRP="Active Duty Dependents" THEN MAJNUM=6;
  IF MAJGRP="Retirees and Dependents" THEN MAJNUM=7;
  IF MAJGRP="All Users" THEN MAJNUM=8;   /*** Changed from 'All Beneficiares' 1-24-2002
MAB ***/


  /*** HREF link to another page ***/
  HREF=COMPRESS("&prefix."||MAJNUM||"-0-&var3.&q..htm");  /** Link is diff for CONUS MHS
region **/
  /*** MAB 7-12-2001 updated to reference trend page if needed ***/


  %if &var2.^=99 %then %do;
     IF REGION="CONUS MHS" THEN DELETE;
  %end;


  LENGTH HREFQ LMAJGRP $ 30;
  RETAIN LMAJGRP;

  IF _N_=1 THEN DO;
     LMAJGRP=" ";
     ROW=0;


    /*** Add links to trend data 7.6.2001 MAB ***/
    %let columns_less1=%EVAL(&columns.-1);
    %if &seppage.=0 %then %do;
          FILE "&FILEOUT1." MOD ;   /* 2000/11: moved inside if stmt */
          PUT "<tr bgcolor= &gray.><td width='" WIDTH_COL1 "'><font face='&fontface.'
size='2'><b>Trends</b></font></td>";
          PUT "<td width='" WIDTH3 "'>&htmlsp.</td>";

          %do i=2 %to 12;
             %if &i.^=8 AND &i.^=9 AND &i.^=10 AND &i.^=11 %then %do;
                 HREFQ=COMPRESS("&prefix.&var1.-&var2.-&i.q.htm");  /*** href to 2nd html
file ***/
             %end;
             %else %do;
                 HREFQ=COMPRESS("&prefix.&var1.-&var2.-&i..htm");  /*** href to 2nd html
file ***/
             %end;

             PUT "<td width='" WIDTH3 "'><a href='" HREFQ "' &target.><CENTER><img
src='&imgdir.\trend_row.gif' border=0></CENTER></a></td>";
          %end;
          PUT "</tr>";
    %end;

  END;
```

```
  IF LMAJGRP^=MAJGRP THEN DO;             /*** Start new row ***/
        FILE "&FILEOUT1." MOD ;   /* 2000/11: moved inside if stmt */
        ROW+1;
        IF LMAJGRP^=" " THEN PUT "</tr>";  /*** terminate previous row ***/


        /*** Column 1 / Row 1 ***/
        /*** ÛÛ FRAMES SECTION ÛÛ ***/
        %if &prefix=f %then %do;
            IF MAJGRP IN("Benchmark") THEN PUT "<tr><td width='" WIDTH_COL1 "'><b><font
face='&fontface.' size='2'>" MAJGRP "</font></b></td>";    /*** no HREF links ***/
        %end;
        %else %do;
            IF MAJGRP IN("Benchmark") THEN PUT "<tr><td><b><font face='&fontface.'
size='2'>" MAJGRP "</font></b></td>";                           /*** no HREF links ***/
        %end;

        /*** Column 1 / Row 2+ ***/
        ELSE IF MOD(ROW,2)=0 THEN PUT "<tr bgcolor= &gray.><td><font face='&fontface.'
size='2'><a href="""  HREF +(-1) """ &target.> " MAJGRP " </a></font></td>";   /** Shade
row **/
        ELSE PUT "<tr><td><font face='&fontface.' size='2'><a href="""  HREF +(-1) """
&target.> " MAJGRP " </a></font></td>";



        /*-------------------------*/
        /* 2000/11: begin xls code */
        /*-------------------------*/
         %if &outxls.=1 %then %do;
           FILE XLSDATA;
           IF LMAJGRP^=" " THEN           PUT " ";
           IF REGION IN("Benchmark") THEN PUT REGION '09'x @@;   /* '09'x ensures text
string is put into one cell */
           ELSE IF MOD(ROW,2)=0 THEN      PUT MAJGRP '09'x @@;   /* rather than spanning
across cells              */
           ELSE                           PUT MAJGRP '09'x @@;
         %end;
        /*-------------------------*/
        /* 2000/11: end xls code   */
        /*-------------------------*/

        LMAJGRP=MAJGRP;
  END;


  /*** Column 2+ ***/
  /*********************************************/
  /**** Need to output different formats    ****/
  /*********************************************/
  FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */


  IF MAJGRP IN("Benchmark") THEN DO;
       IF SCORE=. THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>***<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE IF SCORE=.A THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>NA<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE IF SCORE=.B THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>NB<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE PUT "<td width='" WIDTH3 "' align='center' valign='bottom'><b><font
face='&fontface.' color=&blue. size='2'>" SCORE 3.0 "<!CODE= " +(-1) ORDER Z5.
"></font></b></td>";
  END;
  ELSE DO;
```

```
    IF SCORE=. THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>***<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
    END;
    ELSE IF SCORE=.A THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>NA<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
    END;
   ELSE IF SCORE=.B THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>NB<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
    END;
    ELSE DO;
        IF SIG=1 THEN PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2' color=&green.>" SCORE 3.0  "<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=. THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>***<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=.A THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>NA<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=.B THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>NB<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=-1 THEN PUT "<td align='center' valign='bottom'><i><font
face='&fontface.' size='2' color=&red.>" SCORE 3.0  "<!CODE= " +(-1) ORDER Z5.
"></font></i></td>";
        ELSE PUT "<td align='center' valign='bottom'><font face='&fontface.' size='2'>"
SCORE 3.0 "<!CODE= " +(-1) ORDER Z5.  "></font></td>";
    END;
  END;



  /*-------------------------*/
  /* 2000/11: begin xls code */
  /*-------------------------*/
  %if &outxls.=1 %then %do;
    FILE XLSDATA;
    IF MAJGRP IN("Benchmark") THEN DO;   /** Replaced 1-22 mab **/
         IF SCORE=. THEN        PUT "***" '09'x @@;
         ELSE IF SCORE=.A THEN  PUT "NA"  '09'x @@;
         ELSE IF SCORE=.B THEN  PUT "NB"  '09'x @@;
         ELSE                   PUT SCORE '09'x @@;
    END;
    ELSE DO;
      IF SCORE=. THEN DO;
          PUT "***" '09'x @@;
      END;
      ELSE IF SCORE=.A THEN DO;
          PUT "NA" '09'x @@;
      END;
      ELSE IF SCORE=.B THEN DO;
          PUT "NB" '09'x @@;
      END;
      ELSE DO;
          IF SIG=1 THEN       PUT SCORE '09'x @@;
          ELSE IF SIG=. THEN  PUT "***" '09'x @@;
          ELSE IF SIG=.A THEN PUT "NA"  '09'x @@;
          ELSE IF SIG=.B THEN PUT "NB"  '09'x @@;
          ELSE IF SIG=-1 THEN PUT SCORE '09'x @@;
          ELSE                PUT SCORE '09'x @@;
      END;
    END;
  %end;
  /*-------------------------*/
  /* 2000/11: end xls code   */
  /*-------------------------*/

  IF EOF THEN DO;
     FILE "&FILEOUT1." MOD ;                          /* 2000/11: to refer back to htm
file */
     PUT "</tr>";  /*** terminate last row ***/
```

```
     %BOTTOM_NOTES;  /** Macro with bottom notes **/


    /*-------------------------*/
    /* 2000/11: begin xls code */
    /*-------------------------*/
    %if &outxls.=1 %then %do;
     FILE XLSDATA;
     PUT; PUT;
         %if &var1=8 and &var3=3 %then %do;
           PUT "Source: 2000 Health Care Survey of DOD Beneficiaries";
           PUT "Indicates score significantly exceeds benchmark";
           PUT "Indicates score significantly falls short of benchmark";
           PUT "NA Indicates not applicable";
           PUT "*** Indicates significance not available";
         %end;
         %else %do;
           PUT "Source: 2000 Health Care Survey of DOD Beneficiaries";
           PUT "Indicates score significantly exceeds benchmark";
           PUT "Indicates score significantly falls short of benchmark";
           PUT "NA Indicates benchmark not available";
           PUT "*** Indicates significance not available";
         %end;
    %end;
    /*-------------------------*/
    /* 2000/11: end xls code   */
    /*-------------------------*/

  END;
RUN;
%end;




/*ÛÛÛÛ All Regions ÛÛÛÛ*/
%if &var2.=0 %then %do;
DATA HTML;
  SET HTML END=EOF;


  LENGTH HREFQ LREGION $ 26;
  RETAIN LREGION;

  IF _N_=1 THEN DO;
     LREGION=" ";
     REGNUM=1;
     ROW=0;


    /*** Add links to trend data 7.6.2001 MAB ***/
    %let columns_less1=%EVAL(&columns.-1);
    %if &seppage.=0 %then %do;
          FILE "&FILEOUT1." MOD ;   /* 2000/11: moved inside if stmt */
          PUT "<tr bgcolor= &gray.><td width='" WIDTH_COL1 "'><font face='&fontface.'
size='2'><b>Trends</b></font></td>";
          PUT "<td width='" WIDTH3 "'>&htmlsp.</td>";

          %do i=2 %to 12;
             %if &i.^=8 AND &i.^=9 AND &i.^=10 AND &i.^=11 %then %do;
                 HREFQ=COMPRESS("&prefix.&var1.-&var2.-&i.q.htm");  /*** href to 2nd html
file ***/
             %end;
             %else %do;
                 HREFQ=COMPRESS("&prefix.&var1.-&var2.-&i..htm");  /*** href to 2nd html
file ***/
             %end;

             PUT "<td width='" WIDTH3 "'><a href='" HREFQ "' &target.><CENTER><img
src='&imgdir.\trend_row.gif' border=0></CENTER></a></td>";
```

```
          %end;
          PUT "</tr>";
    %end;


  END;


  IF LREGION^=REGION THEN DO;              /*** Start new row ***/
        FILE "&FILEOUT1." MOD ;   /* 2000/11: moved inside if stmt */
        ROW+1;
        IF LREGION^=" " THEN PUT "</tr>";  /*** terminate previous row ***/


        /*-------------------------*/
        /* 2000/11: begin xls code */
        /*-------------------------*/
        %if &outxls.=1 %then %do;
          FILE XLSDATA;
          IF LREGION^=" " THEN PUT " ";          /*** terminate previous row ***/
          FILE "&FILEOUT1." MOD ;                /* 2000/11: to refer back to htm file */
        %end;
        /*-------------------------*/
        /* 2000/11: end xls code   */
        /*-------------------------*/


        /***REMOVED MAB 1-18-2002***/
        /***IF REGION IN("CONUS MHS") THEN DO;
             ORIGNUM=REGNUM;
             REGNUM=99;
        END;***/


        /*** Column 1 / Row 1 ***/
        /*** ÛÛ FRAMES SECTION ÛÛ ***/
        %if &prefix=f %then %do;
           IF REGION IN("Benchmark") THEN PUT "<tr><td width='" WIDTH_COL1 "'><b><font
face='&fontface.' size='2'>" REGCAT "</font></b></td>";  /*** no HREF links ***/
           ELSE IF REGION IN("CONUS MHS") THEN PUT "<tr bgcolor= &gray.><td><b><font
face='&fontface.' size='2'>" REGCAT "</font></b></td>";  /*** no HREF links ***/
        %end;
        %else %do;
           IF REGION IN("Benchmark") THEN PUT "<tr><td><b><font face='&fontface.'
size='2'>" REGCAT "</font></b></td>";  /*** no HREF links ***/
           ELSE IF REGION IN("CONUS MHS") THEN PUT "<tr bgcolor= &gray.><td><b><font
face='&fontface.' size='2'>" REGCAT "</font></b></td>";  /*** no HREF links ***/
        %end;
        ELSE DO;   /*** HREF links for each region ***/


          /***REMOVED MAB 1-10-2002  HREF=COMPRESS("&prefix.0-"||REGNUM||"-
&var3.&q..htm");***/
          /*** Added MAB 1-10-2002 ***/
          HREF=COMPRESS("&prefix.&var1.-"||REGNUM||"-&var3.&q..htm");

          /*** Added MAB 1-10-2002 ***/
          /*** Certain major groups are not large enough to show ***/
          /*** catchment level detail. so don't add HREF link here  ***/
          %if &var1.=3 or &var1.=4 or &var1.=6 or &var1.=7  %then %do;
            IF MOD(ROW,2)=0 THEN PUT "<tr bgcolor= &gray.><td><font  face='&fontface.'
size='2'> " REGCAT " </font></td>";    /**Shade row **/
            ELSE PUT "<tr><td><font  face='&fontface.' size='2'> " REGCAT "
</font></td>";
          %end;
          %else %do;
            IF MOD(ROW,2)=0 THEN PUT "<tr bgcolor= &gray.><td><font face='&fontface.'
size='2'><a href=""" HREF +(-1) """ &target.> " REGCAT " </a></font></td>";  /** Shade
row **/
            ELSE PUT "<tr><td><font face='&fontface.' size='2'><a href=""" HREF +(-1) """
&target.> " REGCAT " </a></font></td>";
```

```
          %end;



          /*** Column 1 / Row 2+ ***/
          /*** REMOVED MAB 1-10-2002 ***/
          /***%if &prefix=f %then %do;
             IF MOD(ROW,2)=0 THEN PUT "<tr bgcolor= &gray.><td><font face='&fontface.'
size='2'><a href=""" HREF +(-1) """ &target.> " REGCAT " </a></font></td>";  Shade row
             ELSE PUT "<tr><td><font face='&fontface.' size='2'><a href=""" HREF +(-1)
""" &target.> " REGCAT " </a></font></td>";
          %end;
          %else %do;
             IF MOD(ROW,2)=0 THEN PUT "<tr bgcolor= &gray.><td><font face='&fontface.'
size='2'><a href=""" HREF +(-1) """ &target.> " REGCAT " </a></font></td>";  Shade row
             ELSE PUT "<tr><td><font face='&fontface.' size='2'><a href=""" HREF +(-1)
""" &target.> " REGCAT " </a></font></td>";
          %end;***/


          REGNUM+1;

          /***REMOVED MAB 1-18-2002***/
          /***IF REGION IN("CONUS MHS") THEN DO;
             REGNUM=ORIGNUM;
          END;***/

        END;

        /*-------------------------*/
        /* 2000/11: begin xls code */
        /*-------------------------*/
        %if &outxls.=1 %then %do;
          FILE XLSDATA;
          IF REGION IN("Benchmark") THEN  PUT REGCAT '09'x @@;   /* no logic difference
*/
          ELSE DO;
            IF MOD(ROW,2)=0 THEN          PUT REGCAT '09'x @@;   /* just presentation
difference in htm */
            ELSE                          PUT REGCAT '09'x @@;   /* keeping as is to
preserve htm code structure */
          END;
        %end;
        /*-------------------------*/
        /* 2000/11: end xls code   */
        /*-------------------------*/

        LREGION=REGION;
  END;


  /*** Column 2+ ***/
  /**********************************************/
  /**** Need to output different formats    ****/
  /**********************************************/
  FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */
  IF REGION IN("Benchmark") THEN DO;     /*** no significance ***/
       IF SCORE=. THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>***<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE IF SCORE=.A THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>NA<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE IF SCORE=.B THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>NB<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE PUT "<td width='" WIDTH3 "' align='center' valign='bottom'><b><font
face='&fontface.' color=&blue. size='2'>" SCORE 3.0 "<!CODE= " +(-1) ORDER Z5.
"></font></b></td>";
  END;
  ELSE DO;
```

```
    IF SCORE=. THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>***<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
    END;
    ELSE IF SCORE=.A THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>NA<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
    END;
    ELSE IF SCORE=.B THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>NB<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
    END;
    ELSE DO;
        IF SIG=1 THEN PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2' color=&green.>" SCORE 3.0  "<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=. THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>***<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=.A THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>NA<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=.B THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>NB<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=-1 THEN PUT "<td align='center' valign='bottom'><i><font
face='&fontface.' size='2' color=&red.>" SCORE 3.0  "<!CODE= " +(-1) ORDER Z5.
"></font></i></td>";
        ELSE PUT "<td align='center' valign='bottom'><font face='&fontface.' size='2'>"
SCORE 3.0 "<!CODE= " +(-1) ORDER Z5.  "></font></td>";
    END;
  END;


  /*-------------------------*/
  /* 2000/11: begin xls code */
  /*-------------------------*/
  %if &outxls.=1 %then %do;
    FILE XLSDATA;
    IF REGION IN("Benchmark") THEN DO;
         IF SCORE=. THEN       PUT "***" '09'x @@;
         ELSE IF SCORE=.A THEN PUT "NA"  '09'x @@;
         ELSE IF SCORE=.B THEN PUT "NB"  '09'x @@;
         ELSE                  PUT SCORE '09'x @@;
    END;
    ELSE DO;
      IF SCORE=. THEN DO;
          PUT "***" '09'x @@;
      END;
      ELSE IF SCORE=.A THEN DO;
          PUT "NA" '09'x @@;
      END;
      ELSE IF SCORE=.B THEN DO;
          PUT "NB" '09'x @@;
      END;
      ELSE DO;
          IF SIG=1 THEN       PUT SCORE '09'x @@;
          ELSE IF SIG=. THEN  PUT "***" '09'x @@;
          ELSE IF SIG=.A THEN PUT "NA"  '09'x @@;
          ELSE IF SIG=.B THEN PUT "NB"  '09'x @@;
          ELSE IF SIG=-1 THEN PUT SCORE '09'x @@;
          ELSE                PUT SCORE '09'x @@;
      END;
    END;
  %end;
  /*-------------------------*/
  /* 2000/11: end xls code   */
  /*-------------------------*/



  IF EOF THEN DO;
     FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */
     PUT "</tr>";  /*** terminate last row ***/
```

```
     %BOTTOM_NOTES;  /** Macro with bottom notes **/


     /*-------------------------*/
     /* 2000/11: begin xls code */
     /*-------------------------*/
     %if &outxls.=1 %then %do;
       FILE XLSDATA;
       PUT; PUT;
       %if &var1=8 and &var3=3 %then %do;
           PUT "Source: 2000 Health Care Survey of DOD Beneficiaries";
           PUT "Indicates score significantly exceeds benchmark";
           PUT "Indicates score significantly falls short of benchmark";
           PUT "NA Indicates not applicable";
           PUT "*** Indicates significance not available";
         %end;
         %else %do;
           PUT "Source: 2000 Health Care Survey of DOD Beneficiaries";
           PUT "Indicates score significantly exceeds benchmark";
           PUT "Indicates score significantly falls short of benchmark";
           PUT "NA Indicates benchmark not available";
           PUT "*** Indicates significance not available";
         %end;
     %end;
     /*-------------------------*/
     /* 2000/11: end xls code   */
     /*-------------------------*/

  END;

RUN;

%end;




/*ÛÛÛÛ Single Regions ÛÛÛÛ*/
/* This code is not applicable for the 2000 report cards */
/*  since not enough data to display sub-region info. */
/*  Will leave in code in case this changes */
%if &var2.^=0 AND &var1.^=0 %then %do;
DATA HTML;
  SET HTML END=EOF;

  LENGTH HREFQ LREGCAT $ 26;   /*** Added HREFQ 1-18-2002 MAB ***/
  RETAIN LREGCAT;

  IF _N_=1 THEN DO;
     LREGCAT=" ";
     ROW=0;

    /*** Add links to trend data 1.23.2002 MAB ***/
    %let columns_less1=%EVAL(&columns.-1);
    %if &seppage.=0 %then %do;
          FILE "&FILEOUT1." MOD ;
          PUT "<tr bgcolor= &gray.><td width='" WIDTH_COL1 "'><font face='&fontface.'
size='2'><b>Trends</b></font></td>";
          PUT "<td width='" WIDTH3 "'>&htmlsp.</td>";

          %do i=2 %to 12;
             %if &i.^=8 AND &i.^=9 AND &i.^=10 AND &i.^=11 %then %do;
                 HREFQ=COMPRESS("&prefix.&var1.-&var2.-&i.q.htm");  /*** href to 2nd html
file ***/
             %end;
             %else %do;
                 HREFQ=COMPRESS("&prefix.&var1.-&var2.-&i..htm");  /*** href to 2nd html
file ***/
             %end;
```

```
            PUT "<td width='" WIDTH3 "'><a href='" HREFQ "' &target.><CENTER><img
src='&imgdir.\trend_row.gif' border=0></CENTER></a></td>";
          %end;
          PUT "</tr>";
    %end;

  END;


  IF LREGCAT^=REGCAT THEN DO;              /*** Start new row ***/
        FILE "&FILEOUT1." MOD ;   /* 2000/11: moved inside if stmt */
        ROW+1;
        IF LREGCAT^=" " THEN PUT "</tr>";  /*** terminate previous row ***/
        IF REGCAT IN("Benchmark") THEN PUT "<tr><td width='" WIDTH_COL1 "'><b><font
face='&fontface.' size='2'>" REGCAT "</font></b></td>";
        ELSE IF REGCAT IN("CONUS MHS") THEN PUT "<tr bgcolor= &gray.><td><b><font
face='&fontface.' size='2'>" REGCAT "</font></b></td>";
        ELSE IF MOD(ROW,2)=0 THEN PUT "<tr bgcolor= &gray.><td><font face='&fontface.'
size='2'>" REGCAT "</font></td>";   /** Shade row **/
        ELSE PUT "<tr><td><font face='&fontface.' size='2'>" REGCAT "</font></td>";


        /*-------------------------*/
        /* 2000/11: begin xls code */
        /*-------------------------*/
        %if &outxls.=1 %then %do;
          FILE XLSDATA;
          IF LREGCAT^=" " THEN PUT " ";
          IF REGCAT IN("Benchmark") THEN      PUT REGCAT '09'x @@;         /* no logic
difference */
          ELSE IF REGCAT IN("CONUS MHS") THEN PUT REGCAT '09'x @@;
          ELSE IF MOD(ROW,2)=0 THEN           PUT REGCAT '09'x @@;         /* just
presentation difference in htm */
          ELSE                                PUT REGCAT '09'x @@;         /* keeping as
is to preserve htm code structure */
        %end;
        /*-------------------------*/
        /* 2000/11: end xls code   */
        /*-------------------------*/


        LREGCAT=REGCAT;

  END;



  /*********************************************/
  /**** Need to output different formats    ****/
  /*********************************************/
  FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */
  IF REGION IN("Benchmark") THEN DO;     /*** no significance ***/
       /*** Add WIDTH info 1.23.2002 MAB ***/
       IF SCORE=. THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>***<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE IF SCORE=.A THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>NA<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE IF SCORE=.B THEN PUT "<td width='" WIDTH3 "' align='center'
valign='bottom'><b><font face='&fontface.' color=&blue. size='2'>NB<!CODE= " +(-1) ORDER
Z5.  "></font></b></td>";
       ELSE PUT "<td width='" WIDTH3 "' align='center' valign='bottom'><b><font
face='&fontface.' color=&blue. size='2'>" SCORE 3.0 "<!CODE= " +(-1) ORDER Z5.
"></font></b></td>";
  END;
  ELSE DO;
    IF SCORE=. THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>***<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
```

```
    END;
    ELSE IF SCORE=.A THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>NA<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
    END;
    ELSE IF SCORE=.B THEN DO;
        PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2'>NB<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
    END;
    ELSE DO;
        IF SIG=1 THEN PUT "<td align='center' valign='bottom'><b><font face='&fontface.'
size='2' color=&green.>" SCORE 3.0  "<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=. THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>***<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=.A THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>NA<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=.B THEN PUT "<td align='center' valign='bottom'><b><font
face='&fontface.' size='2'>NB<!CODE= " +(-1) ORDER Z5.  "></font></b></td>";
        ELSE IF SIG=-1 THEN PUT "<td align='center' valign='bottom'><i><font
face='&fontface.' size='2' color=&red.>" SCORE 3.0  "<!CODE= " +(-1) ORDER Z5.
"></font></i></td>";
        ELSE PUT "<td align='center' valign='bottom'><font face='&fontface.' size='2'>"
SCORE 3.0 "<!CODE= " +(-1) ORDER Z5.  "></font></td>";
    END;
  END;

  /*-------------------------*/
  /* 2000/11: begin xls code */
  /*-------------------------*/
  %if &outxls.=1 %then %do;
    FILE XLSDATA;
    IF REGION IN("Benchmark") THEN DO;
         IF SCORE=. THEN        PUT "***" '09'x @@;
         ELSE IF SCORE=.A THEN  PUT "NA"  '09'x @@;
         ELSE IF SCORE=.B THEN  PUT "NB"  '09'x @@;
         ELSE                   PUT SCORE '09'x @@;
    END;
    ELSE DO;
      IF SCORE=. THEN DO;
          PUT "***" '09'x @@;
      END;
      ELSE IF SCORE=.A THEN DO;
          PUT "NA" '09'x @@;
      END;
      ELSE IF SCORE=.B THEN DO;
          PUT "NB" '09'x @@;
      END;
      ELSE DO;
          IF SIG=1 THEN       PUT SCORE '09'x @@;
          ELSE IF SIG=. THEN  PUT "***" '09'x @@;
          ELSE IF SIG=.A THEN PUT "NA"  '09'x @@;
          ELSE IF SIG=.B THEN PUT "NB"  '09'x @@;
          ELSE IF SIG=-1 THEN PUT SCORE '09'x @@;
          ELSE                PUT SCORE '09'x @@;
      END;
    END;
  %end;
  /*-------------------------*/
  /* 2000/11: end xls code   */
  /*-------------------------*/


  IF EOF THEN DO;
     FILE "&FILEOUT1." MOD ;                /* 2000/11: refer back to htm file */
     PUT "</tr>";  /*** terminate last row ***/

     %BOTTOM_NOTES;  /** Macro with bottom notes **/


     /*-------------------------*/
     /* 2000/11: begin xls code */
```

```
     /*-------------------------*/
     %if &outxls.=1 %then %do;
       FILE XLSDATA;
       PUT; PUT;
   %if &var1=8 and &var3=3 %then %do;
            PUT "Source: 2000 Health Care Survey of DOD Beneficiaries";
            PUT "Indicates score significantly exceeds benchmark";
            PUT "Indicates score significantly falls short of benchmark";
            PUT "NA Indicates not applicable";
            PUT "*** Indicates significance not available";
          %end;
          %else %do;
            PUT "Source: 2000 Health Care Survey of DOD Beneficiaries";
            PUT "Indicates score significantly exceeds benchmark";
            PUT "Indicates score significantly falls short of benchmark";
            PUT "NA Indicates benchmark not available";
            PUT "*** Indicates significance not available";
          %end;
     %end;
     /*-------------------------*/
     /* 2000/11: end xls code   */
     /*-------------------------*/

  END;

RUN;
%end;



/*************************************/
/****  Print out footer info      ****/
/*************************************/
DATA _NULL_;
    FILE "&FILEOUT1." MOD ;


    /** Determine where back button should link to **/
    %if &var1.=0 %then %do;
       HREFBACK=COMPRESS("&prefix.8-0-0.htm");
    %end;
    %else %do;
       HREFBACK=COMPRESS("&prefix.&var1.-0-0.htm");
    %end;


    /** MF Changes **/
    PUT "<tr>";
    PUT "   <td colspan='&columns.'>";
    PUT "      <center>";
    PUT "         <a href='index.htm' &target.><img src=&home_but. border='0' alt='Return
to Main Page'></a>&htmlsp.&htmlsp.";
             /*** 7-17 MAB added JS code to go back ***/
    PUT "&goback.";
    PUT "          <noscript><a href=""" HREFBACK  +(-1) """ &target.><img src=&back_but.
border='0' alt='Return to Top Level'></a></noscript>";

    PUT "         <a href='help.htm' &target.><img src=&help_but. border='0'
alt='Help'></a><br>";
    PUT "         <font face='Arial,Helvetica,Swiss,Geneva' size='2'><b>&grpmsg.<br>";
    PUT "         </b></font>";



    majgrp1=COMPRESS("&prefix.1-&var2.-&var3.&q..htm");
    majgrp2=COMPRESS("&prefix.2-&var2.-&var3.&q..htm");
    majgrp3=COMPRESS("&prefix.3-&var2.-&var3.&q..htm");
    majgrp4=COMPRESS("&prefix.4-&var2.-&var3.&q..htm");
    majgrp5=COMPRESS("&prefix.5-&var2.-&var3.&q..htm");
    majgrp6=COMPRESS("&prefix.6-&var2.-&var3.&q..htm");
    majgrp7=COMPRESS("&prefix.7-&var2.-&var3.&q..htm");
```

```
    majgrp8=COMPRESS("&prefix.8-&var2.-&var3.&q..htm");


     /*** Certain major groups are not large enough to show ***/
     /*** catchment level detail. So if we are in html file ***/
     /*** which has this detail then don't link to a html   ***/
     /*** file which doesn't exist                          ***/

    %if &var1.^=0 %then %do;
      %if &var1.^=3 and &var1.^=4 and &var1.^=6 and &var1.^=7 and &var2.^=0 %then %do;

         PUT "<a href=""" MAJGRP1 +(-1) """ &target.><font face='&fontface.'
size='2'>Prime Enrollees</font></a>&htmlsp.&htmlsp.";
         PUT "<a href=""" MAJGRP2 +(-1) """ &target.><font face='&fontface.'
size='2'>Enrollees with Military PCM</font></a>&htmlsp.&htmlsp.";
         PUT "<a href=""" MAJGRP5 +(-1) """ &target.><font face='&fontface.'
size='2'>Active Duty</font></a>&htmlsp.&htmlsp.";
         PUT "<a href=""" MAJGRP8 +(-1) """ &target.><font face='&fontface.' size='2'>All
Users</font></a>";  /*** Changed from 'All Beneficiares' 1-24-2002 MAB ***/

      %end;
      %else %do;

        PUT "<a href=""" MAJGRP1 +(-1) """ &target.><font face='&fontface.'
size='2'>Prime Enrollees</font></a>&htmlsp.&htmlsp.";
        PUT "<a href=""" MAJGRP2 +(-1) """ &target.><font face='&fontface.'
size='2'>Enrollees with Military PCM</font></a>&htmlsp.&htmlsp.";
        PUT "<a href=""" MAJGRP3 +(-1) """ &target.><font face='&fontface.'
size='2'>Enrollees with Civilian PCM</font></a>&htmlsp.&htmlsp.";
        PUT "<a href=""" MAJGRP4 +(-1) """ &target.><font face='&fontface.'
size='2'>Standard/Extra Users</font></a>&htmlsp.&htmlsp.";  /*** Changed from 'Non-
enrolled Beneficiaries' 1-25-2002 MAB ***/
        PUT "<br>";
        PUT "<a href=""" MAJGRP5 +(-1) """ &target.><font face='&fontface.'
size='2'>Active Duty</font></a>&htmlsp.&htmlsp.";
        PUT "<a href=""" MAJGRP6 +(-1) """ &target.><font face='&fontface.'
size='2'>Active Duty Dependents</font></a>&htmlsp.&htmlsp.";
        PUT "<a href=""" MAJGRP7 +(-1) """ &target.><font face='&fontface.'
size='2'>Retirees and Dependents</font></a>&htmlsp.&htmlsp.";
        PUT "<a href=""" MAJGRP8 +(-1) """ &target.><font face='&fontface.' size='2'>All
Users</font></a>";    /*** Changed from 'All Beneficiares' 1-24-2002 MAB ***/

      %end;
    %end;

   /*** link to printer friendly version moved C.Rankin 10/25/2001 ***/

   /*** 4-17 MAB added  ***/
   /*** If creating frames need link to printer friendly version of file ***/
   /***DANIELE ADDED BR STATEMENT ON 11/1/01 SO PRINTER ICON WOULD SHOW UP ON SEPARATE
LINE ***/
   %if &prefix=f %then %do;
      HREFP=COMPRESS("p&var1.-&var2.-&var3.&q..htm");
      PUT "    <BR><font face='Arial,Helvetica,Swiss,Geneva' size='1'><a href='" HREFP "'
&target.><img src='&imgdir.\printer.gif' alt='Printer Friendly Page' border=0>Printer
Friendly Page</a></font>";
   %end;



RUN;


/*** Close HTML page ***/
DATA _NULL_;
  FILE "&FILEOUT1." MOD ;

  PUT "</center></td></tr></table>";
  PUT "</body></html>";

RUN;
```

```
/*-------------------------------*/
/* 2000/12: begin xls color code */
/*-------------------------------*/
%if &outxls.=1 %then %do;
  FILENAME CMDS DDE 'excel|system';

  /* Align 2 titles */
  DATA _NULL_;
     FILE CMDS;
     CELL=COMPRESS("[SELECT(""R1C1:R1C"||&columns.||""")]"); PUT CELL;
     PUT '[ALIGNMENT(3, False, 3,0, False,,,True)]';  /** Merges titles across columns
**/
     CELL=COMPRESS("[SELECT(""R2C1:R2C"||&columns.||""")]"); PUT CELL;
     PUT '[ALIGNMENT(3, False, 3,0, False,,,True)]';  /** Merges titles across columns
**/
  RUN;

  DATA _NULL_;
    FILE CMDS;
    SET HTML(DROP=ROW) END=EOF;

    RETAIN ROW COLUMN;


    /*** Need to initialize row and column pointers ***/
    IF _N_=1 THEN DO;
      ROW=6;
      COLUMN=1;
    END;

    /*** Increment Row and Column pointers ***/
    COLUMN=COLUMN+1;
    IF COLUMN>&columns. THEN DO;
       ROW=ROW+1;
       COLUMN=2;
    END;


    CELL=COMPRESS("[SELECT(""R"||ROW||"C"||COLUMN||":R"||ROW||"C"||COLUMN||""")]");
    PUT CELL;

    /** Before color cell center data **/
    PUT '[ALIGNMENT(3, False, 3,0, False)]';


    IF REGION IN("Benchmark") THEN PUT
'[FORMAT.FONT("Arial",10,True,False,False,False,9)]';  /*** BOLD & DARK RED ***/
    ELSE IF SCORE NOT IN(.,.A) THEN DO;
      IF SIG=1 THEN PUT '[FORMAT.FONT("Arial",10,True,False,False,False,10)]';
/*** BOLD & GREEN ***/
      ELSE IF SIG=-1 THEN PUT '[FORMAT.FONT("Arial",10,False,True,False,False,3)]';
/*** RED ***/
      ELSE PUT '[FORMAT.FONT("Arial",10,False,False,False,False,5)]';    /*** BLUE ***/
    END;


    /*** If last record then output footer ***/
    IF EOF THEN DO;
       ROW=ROW+3; COLUMN=1;
       CELL=COMPRESS("[SELECT(""R"||ROW||"C"||COLUMN||":R"||ROW||"C"||COLUMN||""")]");
       PUT CELL;
       PUT '[FORMAT.FONT("Arial",10,True,False,False,False,10)]';          /*** BOLD &
GREEN ***/
       ROW=ROW+1;
       CELL=COMPRESS("[SELECT(""R"||ROW||"C"||COLUMN||":R"||ROW||"C"||COLUMN||""")]");
       PUT CELL;
       PUT '[FORMAT.FONT("Arial",10,False,True,False,False,3)]';     /*** RED ***/
    END;
```

```
  RUN;
  FILENAME CMDS DDE 'excel|system';
  DATA _NULL_;
    FILE CMDS;
    PUT '[SAVE()]';
    PUT '[CLOSE()]';
  RUN;
%end;
/*---------------------------------*/
/* 2000/12: end xls color code   */
/*---------------------------------*/


%MEND MKHTML;
/*ÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛ*/
/*ÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛ*/



**********************************************;
**** Create macros to call MKHTML macro  ****;
**********************************************;
/*** Create 68 HTML files ***/
%MACRO DOALL1();
      %DO J=0 %TO 15;
             %MKHTML(1,&j.,0,0);
             %MKHTML(2,&j.,0,0);
             %MKHTML(5,&j.,0,0);
             %MKHTML(8,&j.,0,0);
      %END;

      %MKHTML(3,0,0,0);
      %MKHTML(4,0,0,0);
      %MKHTML(6,0,0,0);
      %MKHTML(7,0,0,0);

%MEND DOALL1;



/*** Create 704 HTML pages (4 Majgrps / 16 Regions / 11 Benefits)***/
/*** Create 448 More pages if have sep page for trends ***/
%MACRO DOALL2();
      %DO J=0 %TO 15;
         %DO K=2 %TO 12;      * 11 Sub-benefits ;

              %MKHTML(1,&j.,&K.,1);
              %MKHTML(2,&j.,&K.,1);
              %MKHTML(5,&j.,&K.,1);
              %MKHTML(8,&j.,&K.,1);

                 /*** Call macro for 2nd page (except for ratings benefits) ***/
                 %if &k.^=8 AND &k.^=9 AND &k.^=10 AND &k.^=11 %then %do;
                   %MKHTML(1,&j.,&K.,2);
                   %MKHTML(2,&j.,&K.,2);
                   %MKHTML(5,&j.,&K.,2);
                   %MKHTML(8,&j.,&K.,2);
                 %end;
         %END;

      %END;
%MEND DOALL2;


/*** Create 72 HTML pages ***/
%MACRO DOALL3();
      %DO J=0 %TO 0;
         %DO K=2 %TO 12;      * 11 Sub-benefits ;

              %MKHTML(3,&j.,&K.,1);
              %MKHTML(4,&j.,&K.,1);
```

```
              %MKHTML(6,&j.,&K.,1);
              %MKHTML(7,&j.,&K.,1);


                 /*** Call macro for 2nd page (except for ratings benefits) ***/
                 %if &k.^=8 AND &k.^=9 AND &k.^=10 AND &k.^=11 %then %do;
                   %MKHTML(3,&j.,&K.,2);
                   %MKHTML(4,&j.,&K.,2);
                   %MKHTML(6,&j.,&K.,2);
                   %MKHTML(7,&j.,&K.,2);
                 %end;
         %END;

      %END;
%MEND DOALL3;




/**********************************************/
/**** Create macros to call MKHTML macro  ****/
/**** Need special macros for Excel files ****/
/**********************************************/
/*** Create 68 HTML files ***/
%MACRO EXCEL1();
      %DO J=0 %TO 15;
             %MKHTML(1,&j.,0,0);
             %MKHTML(2,&j.,0,0);
             %MKHTML(5,&j.,0,0);
             %MKHTML(8,&j.,0,0);
      %END;

      %MKHTML(3,0,0,0);
      %MKHTML(4,0,0,0);
      %MKHTML(6,0,0,0);
      %MKHTML(7,0,0,0);

%MEND EXCEL1;



/*** Create 704 HTML pages (4 Majgrps / 16 Regions / 11 Benefits)***/
%MACRO EXCEL2();
      %DO J=0 %TO 15;
         %DO K=2 %TO 12;      * 11 Sub-benefits ;

              %MKHTML(1,&j.,&K.,0);
              %MKHTML(2,&j.,&K.,0);
              %MKHTML(5,&j.,&K.,0);
              %MKHTML(8,&j.,&K.,0);

         %END;

      %END;
%MEND EXCEL2;


/*** Create 44 HTML pages ***/
%MACRO EXCEL3();
      %DO J=0 %TO 0;
         %DO K=2 %TO 12;      * 11 Sub-benefits ;

              %MKHTML(3,&j.,&K.,0);
              %MKHTML(4,&j.,&K.,0);
              %MKHTML(6,&j.,&K.,0);
              %MKHTML(7,&j.,&K.,0);

         %END;

      %END;
%MEND EXCEL3;
```

```
/*** Run macro to create Printer Friendly HTML files (non-frames) ***/
%LET PREFIX=p;
%LET OUTXLS=0;
%DOALL1;
%DOALL2;
%DOALL3;


/*** Run macro to create Frame HTML files ***/
%LET PREFIX=f;
%LET OUTXLS=0;
%DOALL1;
%DOALL2;
%DOALL3;



/*** Run macro to create Excel files ONLY ***/
%LET PREFIX=p;
%LET OUTXLS=1;
%EXCEL1;
%EXCEL2;
%EXCEL3;




%PUT "&number_html_files. HTML files created.";



ENDSAS;
*************************************************************************;
*************************************************************************;
*************************************************************************;
```

12. QUALITY ASSURANCE FOR CONSUMER REPORTS

```
*=====================================================================;
*                                                                     ;
*   Programmer:  Mark A. Brinkley                                     ;
*        Title:  QC_ADULT.SAS                                         ;
*       Client:  8687-100                                             ;
*         Date:  03-29-2000                                           ;
*                                                                     ;
*      Purpose:  This program is designed to read in ALL adult html   ;
*                files, extract the table data, and then compare      ;
*                this data to the input data which was used to        ;
*                create the html report cards.  If everything is OK,  ;
*                then the comparison should yield no differences.     ;
*                                                                     ;
*  Input files:  1) All F*.HTM files                                  ;
*                2) TOTAL_Q.SD2                                       :
*                                                                     ;
*  Modifications:                                                     ;
*  1) 02/14/2001 - Keith Rathbun, Remove outputting of permanent      ;
*     SAS Dataset.  Deleted directory output file.  Removed white     ;
*     space from program.  Removed BY statement from proc compares.   ;
*     Added titles.  Setup to run in LOADWEB directory on Jdrive.     ;
*                                                                     ;
*  2) 04/18/2001 - Chris Rankin -- added Macro to process             ;
*                  frames and non-frames version separately           ;
* Output files: Comparison summary listing                            ;
*                                                                     ;
*=====================================================================;
LIBNAME IN  ".";
OPTIONS NOCENTER LS=200 PS=79 COMPRESS=NO;

*******************************************************************;
*****    Run batch command to create dir of all F*.HTM files   *****;
*******************************************************************;
OPTIONS NOXWAIT;

%MACRO COMPARE(INCOND=,TITLE=);

X "DIR HTML\&INCOND..HTM /B > HTML\QC_ADULT.DAT";
X "CD HTML";

*******************************************************************;
*****    Read in QC_ADULT which was just created               *****;
*******************************************************************;

DATA QC_ADULT;
   INFILE "QC_ADULT.DAT" LRECL=15 PAD;
   INPUT HTMLFILE $ 1-15;
RUN;

*******************************************************************;
*******       Read in all F*.HTM files                       *******;
*******************************************************************;

DATA HTMLS;
   SET QC_ADULT;
   INFILE FILEREF FILEVAR=HTMLFILE  LRECL=175 PAD END=DONE;
   DO UNTIL(DONE);
      INPUT TEMPVAR $ 1-175;
      OUTPUT;
   END;
RUN;

DATA TEMP;
   SET HTMLS;
   LENGTH ORDER 5;
   IF INDEX(TEMPVAR,"CODE")>0;
   PLACEI=INDEX(TEMPVAR,"CODE");
   ORDER=SUBSTR(TEMPVAR,PLACEI+5,5);
RUN;
```

```
proc contents data=temp;
run;

DATA TESTFILE(DROP=PLACE PLACE2 PLACE3 SRCH PLACEI LNGTH TEMPVAR SCORE);
   format score $4.;
   SET TEMP;
   LENGTH COLOR $6;
   LENGTH SCORE $4;
   LENGTH SCORE_ 3;
   LENGTH SIG_ 3;
   IF INDEX(TEMPVAR,"color")>0 THEN DO;
      PLACE=INDEX(TEMPVAR,"color");
      COLOR=SUBSTR(TEMPVAR,PLACE+8,6);
      SRCH=SUBSTR(TEMPVAR,PLACE,30);
      IF INDEX(SRCH,">")>0 AND INDEX(SRCH,"<")>0 THEN DO;
         PLACE2=INDEX(SRCH,">");
         PLACE3=INDEX(SRCH,"<");
         LNGTH=PLACE3-PLACE2-1;
         SCORE=SUBSTR(SRCH,PLACE2+1,LNGTH);
      END;
   END;
   ELSE DO;
      PLACE=INDEX(TEMPVAR,"CODE");
      SCORE=SUBSTR(TEMPVAR,PLACE-5,3);
      COLOR='.';
   END;
   IF COLOR='663300' THEN SIG_=.;
   ELSE IF COLOR='cc0000' THEN SIG_=-1;
   ELSE IF COLOR='009933' THEN SIG_=1;
   ELSE IF COLOR='.' THEN SIG_=0;
   IF SCORE='***' THEN SCORE_=.;
   ELSE IF SCORE IN ('NA','>NA') THEN SCORE_=.A;
   ELSE SCORE_=SCORE;

RUN;


PROC SORT DATA=TESTFILE;
   BY ORDER;
RUN;

DATA TESTFILE;
   SET TESTFILE;
   BY ORDER;
   IF FIRST.ORDER;
RUN;


DATA MERGED(KEEP=ORDER SIG SIG_ SCORE color SCORE_ SCORE1 majgrp region bentype benefit
color);
   MERGE TESTFILE(IN=IN1)
         IN.TREND_A;
   BY ORDER;
   IF IN1;
   LENGTH SCORE1 3;
   SCORE1=ROUND(SCORE);
   IF (SIG=. AND SIG_=0) THEN SIG_=.;
   ELSE IF (SIG=0 AND SIG_=.) THEN SIG_=0;
   ELSE IF (SIG=.A AND SIG_=.) THEN SIG_=.A;
   IF (SCORE1=. AND SCORE_=.A) THEN SCORE_=.;
RUN;



proc print data=merged;
   where sig ne sig_;
   var majgrp majgrp region bentype benefit sig sig_ color score score_;
   title 'Obs where sig ne sig_';
run;
```

```
TITLE1 "Validate DOD Health Survey Scores/Report Cards (8687-210)";
TITLE2 "Program Name: QC_ADULT.SAS By Mark Brinkley";
TITLE3 "Program Inputs: TREND_A.SD2 - Scores Database in WEB Layout and report card HTML
files";
TITLE4 &TITLE;

PROC COMPARE DATA=MERGED BRIEF;
   VAR SIG;
   WITH SIG_;
RUN;

PROC COMPARE DATA=MERGED BRIEF;
   VAR SCORE1;
   WITH SCORE_;
RUN;

X "DEL QC_ADULT.DAT";
X "CD ..";

%MEND COMPARE;

%COMPARE(INCOND=F*-*,TITLE="FRAMES VERSION");
ENDSAS;

%COMPARE(INCOND=P*-*,TITLE="NON-FRAMES VERSION");
```