

MCBS\_derive\_survey\_Readme.txt

Purpose: Extract survey data, combine with derived binary claim files, and create derived dataset for use in creation of analytic datasets. Data is derived separately for each of community and institutionalized populations-'inst' in name of program indicates institutionalized code.

Data out is used in next dataset creation step: within imputation.

Community population--Program/code required:  
Derive\_MCBS09.sas

Institutionalized population--Program/code required:  
Derive\_MCBS09\_INST.sas

```

/*****
Program: 'Derive_MCBS09_INST.sas'
Purpose: define and derive MCBS data from survey instruments for
institutionalized population, merge with claims file for use in
imputation processes
Data in: Insert path for input datasets
Data out: Insert path for output dataset
*****/

%let Y=09;

libname out "Insert file path";
libname claim "Insert file path";
libname mc&Y._raw "Insert file path";

libname labels "Insert file path"; *code for labels and formats;
%include "Insert file path"; *for formats.sas";
options ; *options statements;
%include "Insert file path\xdelete.sas"; *for delete.sas';
%xdelete(_ALL_);

Proc sql;
Create table mcbs_cost2 as
Select baseid, sum(aamttot) as cost
from mc&Y._raw.ricss
group by baseid;
Quit;

*Pull separate cost for facility and institutional events;
proc sql;
create table cost_facility as
select baseid, sum(PAMTFA) as faccost, sum(PAMTIU) as instcost
from mc&Y._raw.ricps
group by baseid;
quit;

*file: Cost and Use: Survey Identification;
data ric1(keep= baseid male race didserv marital ed5 tinc totincome faminc
income_c income age agecat);
set mc&Y._raw.ric1;
*Sex;
if rostsex= 1 then male= 1;
else if rostsex= 2 then male= 0;
label male ="Sex";

```

```

*Age;
date=mdy(1,1,2009);
age=(date-
mdy(substr(d_dob,5,2),substr(d_dob,7,2),substr(d_dob,1,4)))/365.25;

if age >= 65 and age< 75 then agecat= 1;
else if age >= 75 and age< 85 then agecat= 2;
else if age >= 85 then agecat= 3;
label agecat ="Age";
*categories: 1='65-74' 2='75-84' 3='>84';
If age>=65;

*Race;
If d_ethnic= 1 then race= 3;
else if d_race= 3 then race= 2;
else if d_race= 4 then race= 1;
else if d_race in (1,2,5,91) then race= 4;
label race = "Race 1=white, 2=black, 3=hispanic, 4=other";

* Served in the armed forces;
if D_AFEVER =1 then didserv= 1;
Else if D_AFEVER =2 then didserv= 0;
label didserv= 'Served in armed forces; yes/no';

* Marital status 1= Married, 2= Widowed, 4= Divorced or Separated, 5=
Never married;
maritals= .;
if spmarsta= 1 then maritals= 1;
else if spmarsta= 2 then maritals= 2;
else if spmarsta= 3 then maritals= 4;
else if spmarsta= 4 then maritals= 4;
else if spmarsta= 5 then maritals= 5;
label maritals = "1= Married, 2= Widowed, 4=Divorced or Separated, 5=
Never married";

* Education;
ed5= .;
if SPDEGRCV in (1,2) then ed5= 1;
else if SPDEGRCV in (3) then ed5= 2;
else if SPDEGRCV = 4 then ed5= 3;
else if SPDEGRCV in (5,6,7) then ed5= 4;
else if SPDEGRCV in (8,9) then ed5= 5;
label ed5 = 'Education: 1= 0-9 grades; 2= 9-12grade; 3=HS or GED; 4= More
than HS';

```

```

* Income;
* "family" income==SP + spouse;
faminc=.;
if income=1 then faminc=1;
else if income=2 then faminc=2;
else if income=3 then faminc=3;
else if income=4 then faminc=4;
else if income=5 then faminc=5;
else if income in (6,7) then faminc=6;
else if income in (8,9) then faminc=7;
else if income in (10,11) then faminc=8; *removed 13;
label faminc="family income = SP + spouse";

totincome=faminc;

if totincome=1 then tinc=2500;
else if totincome=2 then tinc=7500;
else if totincome=3 then tinc=12500;
else if totincome=4 then tinc=17500;
else if totincome=5 then tinc=22500;
else if totincome=6 then tinc=30000;
else if totincome=7 then tinc=40000;
else if totincome=8 then tinc=60000;
label totincome ="household income, or if not available then family
inc";
run;

*Insurance*;
data ric4(keep= baseid priv_insur medicaid any_hmo
mc_ab mcab_months mc_ab1 mc_ab2 mc_ab3 mc_ab4 mc_ab5 mc_ab6 mc_ab7 mc_ab8
mc_ab9 mc_ab10 mc_ab11 mc_ab12 mcab_months_3grp);
set mc&Y._raw.ric4;
if d_phi=0 then priv_insur=0;
Else if d_phi>0 then priv_insur=1; *Any Private insurance y/n*;

***Create variable for indicator of Medicaid***;
if d_caid=0 then medicaid=0;
else if d_caid>0 then medicaid=1; *Medicaid y/n*;
label medicaid='Medicaid: yes(1), no(0)';

***Create variable for indicator of any HMO coverage***;
if d_hmo=0 then any_hmo=0;
else if d_hmo>0 then any_hmo=1; *Any HMO coverage y/n*;
label any_hmo='Annual HMO coverage (any type): yes(1), no(0)(RIC4)';

***Create variable for annual Medicare entitlement=both A and B coverage***;

```

```

if d_care=3 then mc_ab=1;
else mc_ab=0;
    label mc_ab='Annual Medicare A&B entitlement: yes(1), no(0)';

    ***Create monthly indicators of Medicare entitlement=both A and B
coverage***;
if d_care1=3 then mc_ab1=1;
else mc_ab1=0;
    if d_care2=3 then mc_ab2=1;
else mc_ab2=0;
    if d_care3=3 then mc_ab3=1;
else mc_ab3=0;
    if d_care4=3 then mc_ab4=1;
else mc_ab4=0;
    if d_care5=3 then mc_ab5=1;
else mc_ab5=0;
    if d_care6=3 then mc_ab6=1;
else mc_ab6=0;
    if d_care7=3 then mc_ab7=1;
else mc_ab7=0;
    if d_care8=3 then mc_ab8=1;
else mc_ab8=0;
    if d_care9=3 then mc_ab9=1;
else mc_ab9=0;
    if d_care10=3 then mc_ab10=1;
else mc_ab10=0;
    if d_care11=3 then mc_ab11=1;
else mc_ab11=0;
    if d_care12=3 then mc_ab12=1;
else mc_ab12=0;

    mcab_months=sum( of mc_ab1 mc_ab2 mc_ab3 mc_ab4 mc_ab5 mc_ab6 mc_ab7
mc_ab8 mc_ab9 mc_ab10 mc_ab11 mc_ab12);
    label mcab_months='Number of months of Medicare A&B entitlement';

if mcab_months=0 then mcab_months_3grp=0;
else if mcab_months=12 then mcab_months_3grp=2;
else mcab_months_3grp=1;
label mcab_months_3grp='0: no A&B, 1: 1-11 months A&B, 2: 12 months A&B';

Run;

*file: Cost and Use: Survey Health Status and Functioning (Facility);
data ric2f(keep= baseid inst comphealth healthstat hearingaid hear_inst
eversmoke smokenow smoking

```

```

weightkg height pneushot flushot dif_lift dif_stoop
dif_walk
prb_eat prb_dres psa1yr hyst mammogram pap_smear
cataract);
    set mc&Y._raw.ric2f;

inst= 1; **this data is collected for the institutionalized population only;

* Comparative health ;
if hlthcomp in (1,2) then comphealth= 1;
if hlthcomp in (3) then comphealth= 2;
if hlthcomp in (4,5) then comphealth= 3;
label comphealth= "Health compared to 1 year ago : 1=Better, 2=Same,
3=Worse";

* General health status;
if splealth in (1,2,3,4,5) then healthstat=splealth;
label healthstat= "General health status: 1=excel, 2= very good, 3= good, 4=
fair, 5=poor";

* Hearing aid only;
if hcheaid=1 then hearingaid=1;
else if hcheaid=2 then hearingaid=0;

*Keep variable for description of hearing, do not modify scale*;
if hchecond <0 then hear_inst=.;
else hear_inst=hchecond;
label hear_inst='Description of hearing';

* Smoking: ever;
if evrsmoke <0 then ever smoke=.;
else ever smoke=2-evrsmoke;
label ever smoke="Ever smoked";

* Smoking: current;
if evrsmoke=2 then smokenow=0;
else if evrsmoke=. then smokenow=.; *Inapplicable is coded as missing;
else if nowsmoke=-8 then smokenow=.;
else smokenow=2-nowsmoke;
label smokenow="Current smoker";

*Combined smoking variable;
if smokenow=1 then smoking=2;
else if ever smoke=1 then smoking=1;
else if ever smoke=0 then smoking=0;
label smoking="3 level smoking: 0-never, 1-past, 2=current";

```

```

*Weight and height measurements;
if weightf>0 then weightkg=weightf*0.45359;
label weightkg = 'Weight (kg)';

if height=>0 then height=(height * 2.54);
label height = 'Height (cm)';

*Pneumonia shot;
if pneuvacc<0 then pneushot=.;
else if pneuvacc in (1,2) then pneushot=2-pneuvacc;
label pneushot='Pneumonia vaccination';

*Flu shot;
if fluvacc<0 then flushot=.;
else flushot=2-fluvacc;
label flushot='Flu shot';

*IADLS/ADLs;
if iadlift in (1,2) then dif_lift=1;
if iadlift in (3,4,5) then dif_lift=iadlift-1;
label dif_lift='Difficulty lifting heavy objects';

if iadstoop in(1,2) then dif_stoop=1;
if iadstoop in(3,4,5) then dif_stoop=iadstoop-1;
label dif_stoop='Difficulty stooping/crouching/kneeling';

if iadwalk in (1,2) then dif_walk=0;
if iadwalk in (3,4,5) then dif_walk=1;
label dif_walk='Difficulty walking 1/4 mi (Y/N)';

if pfdressng=1 then prb_dres=0;
if pfdressng in (2,3,4,5,6) then prb_dres=1; *code 6-Activity did not occur as
with difficulty;

if pfeating=1 then prb_eat=0;
if pfeating in (2,3,4,5,6) then prb_eat=1; *code 6-Activity did not occur as
with difficulty;

*PSA test in last year;
if bloodspa in(1,2) then psa1yr=2-bloodspa;
label psa1yr='PSA test in last year';

*Papsmear*;
If papsm in(1,2) then pap_smear=2-papsm;

```

```

*Hysterectomy;
if everhyst=1 then hyst = 1;
else if everhyst=2 then hyst = 0;
label hyst= 'Ever had Hysterectomy';

*Mammogram*;
if mammogr in(1,2) then mammogram=2-mammogr;

*Cataract operation;
if catarop=1 then cataract=1;
else if catarop=2 then cataract=0;
label cataract='cataract';
run;

* Create inpatient visits;
proc sort data=mc&Y._raw.ricipe out= ricipe;
    by baseid;
run;

*Hospital stays;
data hosp;
    set ricipe;
    by baseid;
endmm=evendmm+0;
endddd=evendddd+0;
endyy=evendyy+0;
begmm=evbegmm+0;
begddd=evbegddd+0;
begyy=evbegyy+0;
if endmm>0 and endddd>0 and endyy>=0 and begmm>0 and begddd>0 and begyy>=0 then
ndays=mdy(endmm,endddd,endyy) -mdy(begmm,begddd,begyy);
Else ndays=1 ;
    retain inpatnights inpatstays;
    if first.baseid then inpatnights= 0;
    inpatnights+ndays;
    if last.baseid;
    if first.baseid then inpatstays= 0;
    inpatstays+1;
    if last.baseid;
run;

data ric5 (keep=baseid d_hhlt50 d_hhge50 d_hhrel d_hhtot d_hhcomp nbrpeopl);
    set mc&Y._raw.ric5;
    If d_hhtot>=7 then nbrpeopl=7;
    Else if d_hhtot>0 then nbrpeopl=d_hhtot;

```



```

run;

proc sort data=mc&Y._raw.ricx nodupkey out=weights(keep=baseid CS1YRWGT
varunit varstrat);
by baseid;
Run;

%macro sortdata(database=);
proc sort data= &database;
by baseid;
run;
%mend sortdata;

proc sort data=mc&Y._raw.rica nodupkey out=rica(keep=baseid h_sex h_dob
h_dod H_PLTP01 H_PLTP02 H_PLTP03 H_PLTP04 H_PLTP05 H_PLTP06 H_PLTP07
H_PLTP08 H_PLTP09 H_PLTP10 H_PLTP11 H_PLTP12);
by baseid;
Run;

data rica (keep=baseid h_sex died birth_month died_month
mc_adv1 mc_adv2 mc_adv3 mc_adv4 mc_adv5 mc_adv6 mc_adv7 mc_adv8 mc_adv9
mc_adv10 mc_adv11 mc_adv12 mcadv_months mcadv_months_3grp);
set rica;
*Want variable to indicate month of birth*;
birth_month=substr(h_dob,5,2);
*Want variable to indicate death;
if h_dod ne . then died=1;
else died=0;
died_month=substr(h_dod,5,2);
*Indicator for Medicare Advantage plan*;
if H_PLTP01 in ('01', '02', '06') then mc_adv1=1;
else mc_adv1=0;
if H_PLTP02 in ('01', '02', '06') then mc_adv2=1;
else mc_adv2=0;
if H_PLTP03 in ('01', '02', '06') then mc_adv3=1;
else mc_adv3=0;
if H_PLTP04 in ('01', '02', '06') then mc_adv4=1;
else mc_adv4=0;
if H_PLTP05 in ('01', '02', '06') then mc_adv5=1;
else mc_adv5=0;
if H_PLTP06 in ('01', '02', '06') then mc_adv6=1;
else mc_adv6=0;
if H_PLTP07 in ('01', '02', '06') then mc_adv7=1;
else mc_adv7=0;
if H_PLTP08 in ('01', '02', '06') then mc_adv8=1;
else mc_adv8=0;

```

```

        if H_PLTP09 in ('01', '02', '06') then mc_adv9=1;
    else mc_adv9=0;
        if H_PLTP10 in ('01', '02', '06') then mc_adv10=1;
    else mc_adv10=0;
        if H_PLTP11 in ('01', '02', '06') then mc_adv11=1;
    else mc_adv11=0;
        if H_PLTP12 in ('01', '02', '06') then mc_adv12=1;
    else mc_adv12=0;

    mcadv_months=sum( of mc_adv1 mc_adv2 mc_adv3 mc_adv4 mc_adv5 mc_adv6
mc_adv7 mc_adv8 mc_adv9 mc_adv10 mc_adv11 mc_adv12);
    label mcadv_months='Number of months of Medicare HMO coverage (RICA)';

    if mcadv_months=0 then mcadv_months_3grp=0;
else if mcadv_months=12 then mcadv_months_3grp=2;
else mcadv_months_3grp=1;
label mcadv_months_3grp='0: No Advantage Plan, 1: 1-11 months Advantage Plan,
2: 12 months Advantage Plan';
run;

data rick (keep=baseid i_days institution type);
set mc&Y._raw.rick;
i_days=(s_days+f_days);
    if i_days=. then i_days=0;
if i_days=0 then institution=0; else institution=1;
label i_days='Number of Days Patient in Institution';
label institution='Institution in year: 1=yes, 2=no';
run;

*Call in claim file;
Data MCBS_claims&Y.;
Set claim.claimb_MCBS&Y.;
Run;

Data MCBS_claims&Y.;
Set MCBS_claims&Y.;
inclaim=1;
Run;

%sortdata(database= rica);
%sortdata(database= ric1);
%sortdata(database= ric2f);
%sortdata(database= ric5);

%sortdata(database= hosp);
%sortdata(database= mcbs_cost2);

```

```

%sortdata(database= cost_facility);
%sortdata(database= ric4);
%sortdata(database= rick);
%sortdata(database= MCBS_claims&Y.);

data alldata&Y.;
  merge  rica(in=a) ric1 ric2f(in=b) hosp ric5(in=c) weights mcbs_cost2
cost_facility ric4 rick MCBS_claims&Y.(in=claim);
  by baseid;
  if a and b;      *if in administrative record and health status survey for
facility dwellers;
  if age >=65;

*****;
* ===== ;
*              Poverty Scale ;
* ----- ;
* 1) No. of relatives in household ;
* 2) No. of relatives <18 ;
* 3) Age of survey respondent (assumed housholder) ;
* ===== ;

new18=.;
  if d_hhtot =1 then new18=0; *if total # in household (including SP) is
1 -> then no one is <18y;
  else if d_hhcomp in (1,2) then new18=0; *lives alone or spouse only ->
no one <18y;
  else if d_hhlt50 =0 then new18=0; *no one in household under 50yrs;

  else if d_hhtot =2 and (d_hhcomp = 2 or d_hhge50 =2) then new18=0; *2
people but either spouses or both over 50;
  else if d_hhtot = d_hhge50 then new18=0; *if total in household = #
>50y -> no one <18y;

  else if d_hhcomp = 4 then new18=d_hhlt50; *household composition =
children only then # <18y= # <50y;
  else if d_hhcomp = 5 then new18=d_hhlt50-1; *if hh has 'children &
others' then the # of those <50y minus 1 individual are <18y;
  else new18=0;

d_hhr18=new18;

if d_hhrel=1 and age<65 then fpl=9359;
else if d_hhrel=1 and age>64 then fpl=8628;
else if d_hhrel=2 and age<65 and d_hhr18=0 then fpl=12047;
else if d_hhrel=2 and age>64 and d_hhr18=0 then fpl=10874;

```

```
else if d_hhrel=2 and age<65 and d_hhr18=1 then fpl=12400;
else if d_hhrel=2 and age>64 and d_hhr18=1 then fpl=12353;

else if d_hhrel=3 and d_hhr18=0 then fpl=14072;
else if d_hhrel=3 and d_hhr18=1 then fpl=14480;
else if d_hhrel=3 and d_hhr18=2 then fpl=14494;

else if d_hhrel=4 and d_hhr18=0 then fpl=18556;
else if d_hhrel=4 and d_hhr18=1 then fpl=18859;
else if d_hhrel=4 and d_hhr18=2 then fpl=18244;
else if d_hhrel=4 and d_hhr18=3 then fpl=18307;

else if d_hhrel=5 and d_hhr18=0 then fpl=22377;
else if d_hhrel=5 and d_hhr18=1 then fpl=22703;
else if d_hhrel=5 and d_hhr18=2 then fpl=22007;
else if d_hhrel=5 and d_hhr18=3 then fpl=21469;
else if d_hhrel=5 and d_hhr18=4 then fpl=21141;

else if d_hhrel=6 and d_hhr18=0 then fpl=25738;
else if d_hhrel=6 and d_hhr18=1 then fpl=25840;
else if d_hhrel=6 and d_hhr18=2 then fpl=25307;
else if d_hhrel=6 and d_hhr18=3 then fpl=24797;
else if d_hhrel=6 and d_hhr18=4 then fpl=24038;
else if d_hhrel=6 and d_hhr18=5 then fpl=23588;

else if d_hhrel=7 and d_hhr18=0 then fpl=29615;
else if d_hhrel=7 and d_hhr18=1 then fpl=29799;
else if d_hhrel=7 and d_hhr18=2 then fpl=29162;
else if d_hhrel=7 and d_hhr18=3 then fpl=28718;
else if d_hhrel=7 and d_hhr18=4 then fpl=27890;
else if d_hhrel=7 and d_hhr18=5 then fpl=26924;
else if d_hhrel=7 and d_hhr18=6 then fpl=25865;

else if d_hhrel=8 and d_hhr18=0 then fpl=33121;
else if d_hhrel=8 and d_hhr18=1 then fpl=33414;
else if d_hhrel=8 and d_hhr18=2 then fpl=32812;
else if d_hhrel=8 and d_hhr18=3 then fpl=32285;
else if d_hhrel=8 and d_hhr18=4 then fpl=31538;
else if d_hhrel=8 and d_hhr18=5 then fpl=30589;
else if d_hhrel=8 and d_hhr18=6 then fpl=29601;
else if d_hhrel=8 and d_hhr18=7 then fpl=29350;

else if d_hhrel>8 and d_hhr18=0 then fpl=39843;
else if d_hhrel>8 and d_hhr18=1 then fpl=40036;
else if d_hhrel>8 and d_hhr18=2 then fpl=39504;
else if d_hhrel>8 and d_hhr18=3 then fpl=39057;
```

```

else if d_hhrel>8 and d_hhr118=4 then fpl=38323;
else if d_hhrel>8 and d_hhr118=5 then fpl=37313;
else if d_hhrel>8 and d_hhr118=6 then fpl=36399;
else if d_hhrel>8 and d_hhr118=7 then fpl=36173;
else if d_hhrel>8 and d_hhr118>7 then fpl=34780;

if income_c ne . then incpov=income_c/fpl;

if incpov=. then povcat=.;
else if incpov<1.0 then povcat=1;
else if incpov<1.25 then povcat=2;
else if incpov<2.0 then povcat=3;
else if incpov<4.0 then povcat=4;
else povcat=5;

if inst=1 then do;
If 0<=income_c<5000 then indfminc=1;
Else if 5000<=income_c<10000 then indfminc=2;
Else if 10000<=income_c<15000 then indfminc=3;
Else if 15000<=income_c<20000 then indfminc=4;
Else if 20000<=income_c<25000 then indfminc=5;
Else if 25000<=income_c<35000 then indfminc=6;
Else if 35000<=income_c<45000 then indfminc=7;
Else if 45000<=income_c<55000 then indfminc=8;
Else if 55000<=income_c<65000 then indfminc=9;
Else if 65000<=income_c<75000 then indfminc=10;
Else if 75000<=income_c then indfminc=11;
End;
If male=1 then do;
    hyst=0;
    mammogram=0;
    pap_smear=0;
End;
If male=0 then do;
    psa1yr=0;
End;

if inpatstays=. then inpatstays=0;
if inpatnights=. then inpatnights=0;
if i_days=. then i_days=0;
if CS1YRWGT>0;
run;

%macro claim;

```

```

Data alldata&Y.;
Set alldata&Y.;
%Do n=1 %to 125;
    If cgar&n=. then cgar&n=0;
%End;
Run;
%mend;
%claim;

data MCBS_NI&Y.(keep= baseid wgt psu strat cost faccost instcost
    age male race maritals ed5 comphealth healthstat hearingaid hear_inst
    everSmoke smokenow smoking
    weightkg height pneushot flushot dif_lift dif_stoop dif_walk
    prb_eat prb_dres psa1yr hyst mammogram pap_smear cgarsr43
    povcat inpatstays priv_insur medicaid any_hmo mc_ab mcab_months mc_ab1
    mc_ab2 mc_ab3 mc_ab4 mc_ab5 mc_ab6 mc_ab7
    mc_ab8 mc_ab9 mc_ab10 mc_ab11 mc_ab12 mcab_months_3grp
    didserv nbrpeopl inpatnights
    died birth_month died_month mc_adv1 mc_adv2 mc_adv3 mc_adv4 mc_adv5
    mc_adv6 mc_adv7 mc_adv8 mc_adv9 mc_adv10
    mc_adv11 mc_adv12 mcadv_months mcadv_months_3grp i_days institution
    cgar1-cgar125 inclaim type pure);
    set alldata&Y.(rename=( CS1YRWGT=wgt varunit=psu varstrat=strat));
cost=round(cost);
faccost=round(faccost);
instcost=round(instcost);
cgarsr43=cataract;
if (mcadv_months=0 and (mcab_months_3grp=2 or died=1)) then pure=1;
else pure=0;

run;

*Only keep variables needed for calibration*;
data out.INST_MCBS_&Y.(keep= baseid wgt psu strat cost faccost instcost
    age male race maritals ed5 comphealth healthstat hearingaid hear_inst
    everSmoke smokenow smoking
    weightkg height pneushot flushot dif_lift dif_stoop dif_walk
    prb_eat prb_dres psa1yr hyst mammogram pap_smear cgarsr43
    povcat inpatstays priv_insur didserv nbrpeopl inpatnights
    died i_days institution cgar1-cgar105 mcadv_months mcab_months_3grp
    type pure);
    set MCBS_NI&Y.;
run;

proc contents data=out.INST_MCBS_&Y.;

```

```
run;
```

```
proc surveyfreq data= out.INST_MCBS_&Y. missing;
```

```
  stratum psu;
```

```
  cluster strat;
```

```
  weight wgt;
```

```
tables male race maritals ed5 comphealth healthstat hearingaid hear_inst  
eversmoke smokenow smoking
```

```
  pneushot dif_lift dif_stoop dif_walk prb_eat prb_dres psa1yr hyst  
mammogram pap_smear cgarsr43
```

```
  povcat priv_insur didserv died institution;
```

```
run;
```

```
proc surveymeans data=out.INST_MCBS_&Y.;
```

```
  stratum psu;
```

```
  cluster strat;
```

```
  weight wgt;
```

```
var age inpatstays inpatnights i_days cost;
```

```
run;
```

```

/*****
Program: 'Derive_MCBS09.sas'
Purpose: Define and derive MCBS data from survey instruments for
community dwelling population, merge with claims file for use in
imputation processes
Data in: Insert path for input datasets
Data out: Insert path for output dataset
*****/

libname out "Insert file path";
libname claim "Insert file path";
libname mc&Y._raw "Insert file path";

libname labels "Insert file path"; *code for labels and formats;
%include "Insert file path"; *for formats.sas";
options ; *options statements;
%include "Insert file path\xdelete.sas"; *for delete.sas';
%xdelete(_ALL_);

Proc sql;
  Create table mcbs_cost2 as
  Select baseid, sum(aamttot) as cost
  from mc09_raw.ricss
  group by baseid;
  Quit;

*Pull separate cost for facility and institutional events;
proc sql;
  create table cost_facility as
  select baseid, sum(PAMTFA) as faccost, sum(PAMTIU) as instcost
  from mc09_raw.ricps
  group by baseid;
quit;

*file: 2009 Cost and Use: Survey Identification;
data ric1(keep= baseid male race didserv marital ed5 hasjob income income_c
income_h age agecat hasjob);
  set mc09_raw.ric1;
*Sex;
if rostsex= 1 then male= 1;
  else if rostsex= 2 then male= 0;
  label male ="Gender";

*Age;
  date=mdy(1,1,2009);
  age=(date-
mdy(substr(d_dob,5,2),substr(d_dob,7,2),substr(d_dob,1,4)))/365.25;

```



```

if age >= 65 and age< 75 then agecat= 1;
else if age >= 75 and age< 85 then agecat= 2;
else if age >= 85 then agecat= 3;
label agecat = "Age";
*categories: 1='65-74' 2='75-84' 3='>84';
If age>=65;

*Race and ethnicity;
If d_ethnic= 1 then race= 3;
else if d_race= 3 then race= 2;
else if d_race= 4 then race= 1;
else if d_race in (1,2,5,91) then race= 4;
label race = "Race 1=white, 2=black, 3=hispanic, 4=other";

* Served in the armed forces;
if D_AFEVER =1 then didserv= 1;
Else if D_AFEVER =2 then didserv= 0;
label didserv= 'Served in armed forces; yes/no';

* Marital status      1= Married, 2= Widowed, 4= Separated or Divorced, 5=
Never married;
maritals= .;
if spmarsta= 1 then maritals= 1;
else if spmarsta= 2 then maritals= 2;
else if spmarsta= 3 then maritals= 4; *Combine Divorced and Separated;
else if spmarsta= 4 then maritals= 4;
else if spmarsta= 5 then maritals= 5;
label maritals = "1= Married, 2= Widowed, 4=Divorced or Separated, 5=
Never married";

* Education-5 group:
1-Less Than 9th Grade, 2= 9-11th Grade (Includes 12th grade with no
diploma),
3 High School Grad/GED or Equivalent, 4 Some College or AA degree,
5=College grad or more*;
ed5= .;
if SPDEGRCV in (1,2) then ed5= 1;
else if SPDEGRCV in (3) then ed5= 2;
else if SPDEGRCV = 4 then ed5= 3;
else if SPDEGRCV in (5,6,7) then ed5= 4;
else if SPDEGRCV in (8,9) then ed5= 5;
label ed5 = 'Education';

*Job status;
If jobstat in (1) then hasjob=1;

```

```

        Else if jobstat in (2) then hasjob=0;
        label hasjob='Has job';
run;

data ric4(keep= baseid priv_insur medicaid any_hmo
mc_ab mcab_months mc_ab1 mc_ab2 mc_ab3 mc_ab4 mc_ab5 mc_ab6 mc_ab7 mc_ab8
mc_ab9 mc_ab10 mc_ab11 mc_ab12 mcab_months_3grp);
    set mc09_raw.ric4;
*Private health insurance;
    if d_phi=0 then priv_insur=0;
    Else if d_phi>0 then priv_insur=1;

***Create variable for indicator of Medicaid***;
    if d_caid=0 then medicaid=0;
    else if d_caid>0 then medicaid=1;    *Medicaid y/n*;
    label medicaid='Medicaid: yes(1), no(0), (ric4)';

***Create variable for indicator of any HMO coverage***;
    if d_hmo=0 then any_hmo=0;
    else if d_hmo>0 then any_hmo=1;    *Any HMO coverage y/n*;
    label any_hmo='Annual HMO coverage (any type): yes(1), no(0), ric4';

***Create variable for annual Medicare entitlement=both A and B coverage***;
    if d_care=3 then mc_ab=1;
    else mc_ab=0;
    label mc_ab='Annual Medicare A&B entitlement: yes(1), no(0), ric4';

    ***Create monthly indicators of Medicare entitlement=both A and B
coverage***;
    if d_care1=3 then mc_ab1=1;
    else mc_ab1=0;
        if d_care2=3 then mc_ab2=1;
    else mc_ab2=0;
        if d_care3=3 then mc_ab3=1;
    else mc_ab3=0;
        if d_care4=3 then mc_ab4=1;
    else mc_ab4=0;
        if d_care5=3 then mc_ab5=1;
    else mc_ab5=0;
        if d_care6=3 then mc_ab6=1;
    else mc_ab6=0;
        if d_care7=3 then mc_ab7=1;
    else mc_ab7=0;
        if d_care8=3 then mc_ab8=1;
    else mc_ab8=0;

```

```

        if d_care9=3 then mc_ab9=1;
    else mc_ab9=0;
        if d_care10=3 then mc_ab10=1;
    else mc_ab10=0;
        if d_care11=3 then mc_ab11=1;
    else mc_ab11=0;
        if d_care12=3 then mc_ab12=1;
    else mc_ab12=0;

    mcab_months=sum( of mc_ab1 mc_ab2 mc_ab3 mc_ab4 mc_ab5 mc_ab6 mc_ab7
mc_ab8 mc_ab9 mc_ab10 mc_ab11 mc_ab12);
        label mcab_months='Number of months of Medicare A&B entitlement';

if mcab_months=0 then mcab_months_3grp=0;
else if mcab_months=12 then mcab_months_3grp=2;
else mcab_months_3grp=1;
label mcab_months_3grp='0: no A&B, 1: 1-11 months A&B, 2: 12 months A&B,
ric4';
Run;

*file: 2009 Cost and Use: Survey Health Status and Functioning (Community);
data ric2(keep= baseid inst healthstat comphealth
                havecare hyst hyst cgarsr6- cgarsr11 cgarsr16 cgarsr18
cgarsr28 cgarsr37 cgarsr39 cgarsr49 cgarsr51 cgarsr52
                cgarsr56 cgarsr57 asthma_emphysema cataract hearing
weightkg height smokenow everSmoke
                dif_lift dif_stoop dif_walk prb_eat prb_dres
pneushot
                cgarsr82 cgarsr88 cgarsr89 cgarsr91 cgarsr96 mammogram psalyr pap_smear
flushot hearingaid bc_taken bp_taken);
    *removed variables from keep list:  digt_exam;
    set mc09_raw.ric2;

inst= 0; **this data for community dwellers only;

* Colon CA;
    if occcolon=1 then cgarsr6=1;
    else if occancer=2 or occcolon=2 then cgarsr6=0;
    label cgarsr6 = "Colon CA";

* Lung CA;
    if occlung=1 then cgarsr7=1;
    else if occancer=2 or occlung=2 then cgarsr7=0;
    label cgarsr7 = "Lung CA";

* Skin CA;

```

```

If occskin=1 or d_cskin=1 then cgarsr8=1;
Else If occskin=2 then cgarsr8=0;
label cgarsr8 ="Ever told had new skin cancer";

* Breast CA;
if occbreast=1 then cgarsr9=1;
else if occcancer=2 or occbreast=2 then cgarsr9=0;
label cgarsr9 = "Breast CA";

* Cervical CA ;
if occcervx=1 then cgarsr10=1;
else if occcancer=2 or occcervx=2 then cgarsr10=0;
label cgarsr10 ="Cervical CA ";

* Prostate CA;
if occprost=1 then cgarsr11=1;
else if occcancer=2 or occprost=2 then cgarsr11=0;
label cgarsr11="Prostate CA";

* Diabetes; *Variable name change in 2009;
if OCBETES= 1 then cgarsr16=1;
else if OCBETES= 2 then cgarsr16=0;
label cgarsr16 = "Diabetes";

*Parkinson disease;
If ocparkin>0 then cgarsr37=2-ocparkin;
label cgarsr37="Parkinson's disease";

*Paralysis;
If ocpparal=1 or d_pparal=1 then cgarsr39=1;
Else if ocpparal=2 then cgarsr39=0;
label cgarsr39="Paralysis";

*HBP;
if OCHBP= 1 or d_hbp=1 then cgarsr49= 1;
else if OCHBP= 2 then cgarsr49= 0;
label cgarsr49 ="High Blood Pressure";

*MI (heart attack);
if OCMYOCAR= 1 or d_myocar=1 then cgarsr51= 1;
else if OCMYOCAR= 2 then cgarsr51= 0;
label cgarsr51 ="MI (heart attack)";

*CHD/Angina;
if OCCHD= 1 or d_chd=1 then cgarsr52= 1;
else if OCCHD= 2 then cgarsr52= 0;

```

```

label cgarsr52="chd/angina";

*Congestive heart failure added in 2009;
if OCCFAIL= 1 or D_CFAIL=1 then cgarsr56= 1;
else if OCCFAIL= 2 then cgarsr56= 0;
label cgarsr56="Congestive heart failure";

*High cholesterol added in 2009;
if OCCHOLE= 1 or D_CHOLE=1 then cgarsr18= 1;
else if OCCHOLE= 2 then cgarsr18= 0;
label cgarsr18="Hyperlipidemia (high cholesterol)";

* Stroke;
if OCSTROKE= 1 or d_stroke=1 then cgarsr57= 1;
else if OCSTROKE= 2 then cgarsr57= 0;
    label cgarsr57 = "Stroke";

* Asthma -includes emphy and copd in mcbs;
if OCEMPHYS= 1 then asthma_emphysema= 1;
else if OCEMPHYS= 2 then asthma_emphysema= 0;
label asthma_emphysema= "Asthma -includes emphysema and COPD in MCBS";

    *Prostate Hyperplasia;
    If havepros=1 or d_prost=1 then cgarsr82=1;
    Else If havepros=2 then cgarsr82=0;
    label cgarsr82='Prostate Hyperpasia';

    * Arthritis - Rheumatoid ;
if OCARTHRH= 1 then cgarsr88= 1;
else if OCARTHRH= 2 then cgarsr88= 0;
label cgarsr88 = "Rheumatoid Arthritis ";

* Arthritis - non-rheumatoid ;
if oarth=1 or d_arthrd=1 then cgarsr89= 1;
else if OCARTH= 2 then cgarsr89= 0;
label cgarsr89 = "Arthritis - non-rheumatoid ";

*Osteoporosis;
    if OCOSTEOP=1 then cgarsr91=1;
    else if OCOSTEOP=2 then cgarsr91=0;
    label cgarsr91="Ever told had osteoporosis/soft bones";

    *Hip Fracture;
if OCBRKHIP=1 or d_BRKHIP=1 then cgarsr96=1;
else if OCBRKHIP=2 then cgarsr96=0;
label cgarsr96="Ever told had broken hip";

```

```

*Cataract operation;
If eccatop=1 then cataract=1;
Else If eccatop=2 then cataract=0;
label cataract='cataract';

*Hearing;
If hchelp=3 then hearing=3; *deaf;
Else if hctroub>0 then do;
    If hctroub=1 then hearing=1 ;
    If hctroub in(2,3) then hearing=2 ;
    If hctroub in(4) then hearing=3 ;
End;
    *hearing aid;
if hchelp=1 then hearingaid=1;
else if hchelp=2 then hearingaid=0;
label hearing='Quality of hearing';

    *Hysterectomy;
if HYSTEREC=1 then hyst = 1;
else if HYSTEREC=2 then hyst = 0;
label hyst= 'Ever had Hysterectomy';

    * General health status;
if GENHELTH in (1,2,3,4,5) then healthstat= genhelth;
    label healthstat= " PERCEIVED HEALTH STATUS: 1=excel, 2= very good, 3=
good, 4= fair, 5=poor";

    * Comparative health;
if complth in(1,2) then comphealth= 1;
if complth in(3) then comphealth= 2;
if complth in(4,5) then comphealth= 3;
label comphealth= " Comp HEALTH : 1=Better, 2=same, 3=worse";

    * Smoking: ever;
if EVERSMOK<0 then everSmoke=.;
Else everSmoke=2-everSmok;

    *Smoke_ current;
If everSmok=2 then smokenow=0;
else if smoknow in (1,2) then smokenow=2-smoknow;
else smokenow=.;

    *Height and weight;
If (heightft=>0 and heightin=>0) then height=(heightft * 30.48) + (heightin
* 2.54);

```

```

if weight>0 then weightkg=weight*0.45359 ;

*Usual source of care;
if placepar= 1 then havecare=1;
else if placepar= 2 then havecare=0;
label havecare ="Have source care: Does SP go to particular place for med
care";

*Last blood cholesterol and blood pressure check;
***Note in 2003, 2005 CB: "Note: Note not created";
If bctaken in(1,2) then bc_taken=1;
Else if bctaken>0 then bc_taken=bctaken-1;

If bptaken in (1,2) then bp_taken=1;
Else if bptaken=3 then bp_taken=2;
Else if bptaken in(4,5) then bp_taken=3;
Else if bptaken=6 then bp_taken=4;

    *Pneumonia shot;
If pneushot<0 then pneushot=.;
Else pneushot=2-pneushot;

*ADLs and IADLs;
*lift;
If diflift in(1,2) then dif_lift=1;
If diflift in(3,4,5) then dif_lift=diflift-1;

*stoop;
If difstoop in(1,2) then dif_stoop=1;
If difstoop in(3,4,5) then dif_stoop=difstoop-1;

*walk;
If difwalk in(1,2) then dif_walk=0;
Else If difwalk in(3,4,5) then dif_walk=1;

*eating;
If hppdeat in(1,2) then prb_eat=2-hppdeat;
Else if hppdeat=3 and donteat=1 then prb_eat=1;

*dressing;
If hppddres in(1,2) then prb_dres=2-hppddres;
Else if hppddres=3 and dontdres=1 then prb_dres=1;

*Mammogram, pap smear and PSA;
If mammogrm in(1,2) then mammogram=2-mammogrm;

```

```

If papsmear in(1,2) then pap_smear=2-papsmear;
If bloodtst in(1,2) then psa1yr=2-bloodtst;

*Flushot;
if flushot<0 then flushot=.;
else flushot=2-flushot;

*Depression added in 2009;
if OCDEPRSS= 1 or D_DEPRSS=1 then cgarsr28= 1;
else if OCDEPRSS= 2 then cgarsr28= 0;
label cgarsr28="Depression";
run;

* Create inpatient visits;
proc sort data=mc09_raw.ricipe out= ricipe;
    by baseid;
run;

data hosp;
    set ricipe;
    by baseid;
endmm=evendmm+0;
endddd=evendddd+0;
endyy=evendyy+0;
begmm=evbegmm+0;
begddd=evbegddd+0;
begyy=evbegyy+0;
if endmm>0 and endddd>0 and endyy>0 and begmm>0 and begddd>0 and begyy>0 then
ndays=mdy(endmm,endddd,endyy) -mdy(begmm,begddd,begyy);
Else ndays=1 ;
    retain inpatnights inpatstays;
    if first.baseid then inpatnights= 0;
    inpatnights+ndays;
    if last.baseid;

    if first.baseid then inpatstays= 0;
    inpatstays+1;
    if last.baseid;
run;

data ric5 (keep=baseid d_hhlt50 d_hhge50 d_hhrel d_hhtot d_hhcomp nbrrooms
dwel dwelling nbrpeopl);
    set mc09_raw.ric5;
    If dwelling in(2,5) then dwel=2;
    Else If dwelling in(3,6) then dwel=3;
    Else If dwelling in(91,96) then dwel=5;

```



```

    Else if dwelling>0 then dwel=dwelling;
    If NBRROOMS<0 then nbrrooms=.;
    If d_hhtot>=7 then nbrpeopl=7;
    Else if d_hhtot>0 then nbrpeopl=d_hhtot;
run;

proc sort data=mc09_raw.ricx  nodupkey out=weights(keep=baseid CS1YRWGT
varunit varstrat);
by baseid;
Run;

* to merge all datasets sort them first;
%macro sortdata(database=);
proc sort data= &database;
    by baseid;
run;
%mend sortdata;

*02/29/2012: Kaushik contacted ResDac, they suggested using h_pltp01-
h_pltp12" in Cost and Use files (rica) as an indicator of Medicare Advantage
plan,
determine if rates different from ric4 HMO indicators*;
proc sort data=mc09_raw.rica  nodupkey out=rica(keep=baseid h_sex h_dob h_dod
H_PLTP01 H_PLTP02 H_PLTP03 H_PLTP04 H_PLTP05 H_PLTP06 H_PLTP07
H_PLTP08 H_PLTP09 H_PLTP10 H_PLTP11 H_PLTP12);
by baseid;
Run;

data rica (keep=baseid h_sex died birth_month died_month
mc_adv1 mc_adv2 mc_adv3 mc_adv4 mc_adv5 mc_adv6 mc_adv7 mc_adv8 mc_adv9
mc_adv10 mc_adv11 mc_adv12 mcadv_months mcadv_months_3grp);
    set rica;
*Want variable to indicate month of birth*;
    birth_month=substr(h_dob,5,2);
*Want variable to indicate death;
if h_dod ne . then died=1;
else died=0;
died_month=substr(h_dod,5,2);
*Indicator for Medicare Advantage plan*;
if H_PLTP01 in ('01', '02', '06') then mc_adv1=1;
    else mc_adv1=0;
    if H_PLTP02 in ('01', '02', '06') then mc_adv2=1;
    else mc_adv2=0;
    if H_PLTP03 in ('01', '02', '06') then mc_adv3=1;
    else mc_adv3=0;
    if H_PLTP04 in ('01', '02', '06') then mc_adv4=1;

```

```

else mc_adv4=0;
  if H_PLTP05 in ('01', '02', '06') then mc_adv5=1;
else mc_adv5=0;
  if H_PLTP06 in ('01', '02', '06') then mc_adv6=1;
else mc_adv6=0;
  if H_PLTP07 in ('01', '02', '06') then mc_adv7=1;
else mc_adv7=0;
  if H_PLTP08 in ('01', '02', '06') then mc_adv8=1;
else mc_adv8=0;
  if H_PLTP09 in ('01', '02', '06') then mc_adv9=1;
else mc_adv9=0;
  if H_PLTP10 in ('01', '02', '06') then mc_adv10=1;
else mc_adv10=0;
  if H_PLTP11 in ('01', '02', '06') then mc_adv11=1;
else mc_adv11=0;
  if H_PLTP12 in ('01', '02', '06') then mc_adv12=1;
else mc_adv12=0;

madv_months=sum( of mc_adv1 mc_adv2 mc_adv3 mc_adv4 mc_adv5 mc_adv6
mc_adv7 mc_adv8 mc_adv9 mc_adv10 mc_adv11 mc_adv12);
  label madv_months='Number of months of Medicare HMO coverage (RICA)';

  if madv_months=0 then madv_months_3grp=0;
else if madv_months=12 then madv_months_3grp=2;
else madv_months_3grp=1;
label madv_months_3grp='0: No Advantage Plan, 1: 1-11 months Advantage Plan,
2: 12 months Advantage Plan';
run;

*Number of Days Patient in Institution;
data rick (keep=baseid i_days institution type);
set mc09_raw.rick;
i_days=(s_days+f_days);
  if i_days=. then i_days=0;
if i_days=0 then institution=0; else institution=1;
label i_days='Number of Days Patient in Institution';
label institution='Institution in year: 1=yes, 2=no';
run;

*Call in claim file;
Data MCBS_claims09;
Set claim.claimb_MCBS09;
Run;

%sortdata(database= rica);
%sortdata(database= ric1);

```

```

%sortdata(database= ric2);
%sortdata(database= ric5);

%sortdata(database= hosp);
%sortdata(database= mcbs_cost2);
%sortdata(database= cost_facility);
%sortdata(database= ric4);
%sortdata(database= rick);
%sortdata(database= MCBS_claims09);

data alldata09;
  merge rica(in=a) ric1 ric2(in=b) hosp ric5(in=c) weights mcbs_cost2
  cost_facility ric4 rick MCBS_claims09;
  by baseid;
  If a and b;
  if age >=65;
    * ===== ;
    *                Poverty Scale                ;
    * ----- ;
    * 1) No. of relatives in household            ;
    * 2) No. of relatives <18                    ;
    * 3) Age of survey respondent (assumed housholder) ;
    * ===== ;
    new18=.;
    if d_hhtot =1 then new18=0; *if total # in household (including SP) is
1 -> then no one is <18y;
    else if d_hhcomp in (1,2) then new18=0; *lives alone or spouse only ->
no one <18y;
    else if d_hhlt50 =0 then new18=0; *no one in household under 50yrs;

    else if d_hhtot =2 and (d_hhcomp = 2 or d_hhge50 =2) then new18=0; *2
people but either spouses or both over 50;
    else if d_hhtot = d_hhge50 then new18=0; *if total in household = #
>50y -> no one <18y;

    else if d_hhcomp = 4 then new18=d_hhlt50; *household composition =
children only then # <18y= # <50y;
    else if d_hhcomp = 5 then new18=d_hhlt50-1; *if hh has 'children &
others' then the # of those <50y minus 1 individual are <18y;
    else new18=0;

    d_hhr18=new18;

    if d_hhrel=1 and age<65 then fpl=9359;
    else if d_hhrel=1 and age>64 then fpl=8628;
    else if d_hhrel=2 and age<65 and d_hhr18=0 then fpl=12047;

```

```
else if d_hhrel=2 and age>64 and d_hhr18=0 then fpl=10874;
else if d_hhrel=2 and age<65 and d_hhr18=1 then fpl=12400;
else if d_hhrel=2 and age>64 and d_hhr18=1 then fpl=12353;

else if d_hhrel=3 and d_hhr18=0 then fpl=14072;
else if d_hhrel=3 and d_hhr18=1 then fpl=14480;
else if d_hhrel=3 and d_hhr18=2 then fpl=14494;

else if d_hhrel=4 and d_hhr18=0 then fpl=18556;
else if d_hhrel=4 and d_hhr18=1 then fpl=18859;
else if d_hhrel=4 and d_hhr18=2 then fpl=18244;
else if d_hhrel=4 and d_hhr18=3 then fpl=18307;

else if d_hhrel=5 and d_hhr18=0 then fpl=22377;
else if d_hhrel=5 and d_hhr18=1 then fpl=22703;
else if d_hhrel=5 and d_hhr18=2 then fpl=22007;
else if d_hhrel=5 and d_hhr18=3 then fpl=21469;
else if d_hhrel=5 and d_hhr18=4 then fpl=21141;

else if d_hhrel=6 and d_hhr18=0 then fpl=25738;
else if d_hhrel=6 and d_hhr18=1 then fpl=25840;
else if d_hhrel=6 and d_hhr18=2 then fpl=25307;
else if d_hhrel=6 and d_hhr18=3 then fpl=24797;
else if d_hhrel=6 and d_hhr18=4 then fpl=24038;
else if d_hhrel=6 and d_hhr18=5 then fpl=23588;

else if d_hhrel=7 and d_hhr18=0 then fpl=29615;
else if d_hhrel=7 and d_hhr18=1 then fpl=29799;
else if d_hhrel=7 and d_hhr18=2 then fpl=29162;
else if d_hhrel=7 and d_hhr18=3 then fpl=28718;
else if d_hhrel=7 and d_hhr18=4 then fpl=27890;
else if d_hhrel=7 and d_hhr18=5 then fpl=26924;
else if d_hhrel=7 and d_hhr18=6 then fpl=25865;

else if d_hhrel=8 and d_hhr18=0 then fpl=33121;
else if d_hhrel=8 and d_hhr18=1 then fpl=33414;
else if d_hhrel=8 and d_hhr18=2 then fpl=32812;
else if d_hhrel=8 and d_hhr18=3 then fpl=32285;
else if d_hhrel=8 and d_hhr18=4 then fpl=31538;
else if d_hhrel=8 and d_hhr18=5 then fpl=30589;
else if d_hhrel=8 and d_hhr18=6 then fpl=29601;
else if d_hhrel=8 and d_hhr18=7 then fpl=29350;

else if d_hhrel>8 and d_hhr18=0 then fpl=39843;
else if d_hhrel>8 and d_hhr18=1 then fpl=40036;
else if d_hhrel>8 and d_hhr18=2 then fpl=39504;
```

```

else if d_hhrel>8 and d_hhr118=3 then fpl=39057;
else if d_hhrel>8 and d_hhr118=4 then fpl=38323;
else if d_hhrel>8 and d_hhr118=5 then fpl=37313;
else if d_hhrel>8 and d_hhr118=6 then fpl=36399;
else if d_hhrel>8 and d_hhr118=7 then fpl=36173;
else if d_hhrel>8 and d_hhr118>7 then fpl=34780;

if income_c ne . then incpov=income_c/fpl;

if incpov=. then povcat=.;
else if incpov<1.0 then povcat=1;
else if incpov<1.25 then povcat=2;
else if incpov<2.0 then povcat=3;
else if incpov<4.0 then povcat=4;
else povcat=5;

if inst=1 then do;
If 0<=income_c<5000 then indfminc=1;
Else if 5000<=income_c<10000 then indfminc=2;
Else if 10000<=income_c<15000 then indfminc=3;
Else if 15000<=income_c<20000 then indfminc=4;
Else if 20000<=income_c<25000 then indfminc=5;
Else if 25000<=income_c<35000 then indfminc=6;
Else if 35000<=income_c<45000 then indfminc=7;
Else if 45000<=income_c<55000 then indfminc=8;
Else if 55000<=income_c<65000 then indfminc=9;
Else if 65000<=income_c<75000 then indfminc=10;
Else if 75000<=income_c then indfminc=11;
End;

If male=1 then do;
    hyst=0;
    cgarsr9=0;
        cgarsr10=0;
        mammogram=0;
        pap_smear=0;
End;
If male=0 then do;
    cgarsr82=0;
    cgarsr11=0;
        psa1yr=0;
        digt_exam=0;
End;
if inpatstays=. then inpatstays=0;
if inpatnights=. then inpatnights=0;
if i_days=. then i_days=0;

```

```

        if CS1YRWGT>0;
run;
%macro claim;

Data alldata09;
Set alldata09;
%Do n=1 %to 125;
        If cgar&n=. then cgar&n=0;
%End;
Run;
%mend;
%claim;
data out.MCBS_NI09(keep= baseid wgt psu strat cost faccost instcost
        age male race maritals ed5 weightkg height havecare smokenow everSmoke
        hyst healthstat comphealth povcat inpatstays
        cgarsr6- cgarsr11 cgarsr16 cgarsr18 cgarsr28 cgarsr37 cgarsr39
cgarsr49 cgarsr51 cgarsr52 cgarsr56 cgarsr57
        cgarsr82 cgarsr88 cgarsr89 cgarsr91 cgarsr96
        hasjob nbrrooms dwel priv_insur didserv cgarsr43 asthma_emphysema
hearing hearingaid bc_taken bp_taken dif_lift dif_stoop dif_walk prb_eat
prb_dres nbrpeopl
        mammogram psa1yr pap_smear inpatnights flushot pneushot died
        i_days institution cgar1-cgar125 type pure );
        set alldata09(rename=( CS1YRWGT=wgt varunit=psu varstrat=strat));
cost=round(cost);
faccost=round(faccost);
instcost=round(instcost);
cgarsr43=cataract;

if (madv_months=0 and (mcab_months_3grp=2 or died=1)) then pure=1;
else pure=0;
run;

proc surveyfreq data=out.MCBS_NI09 missing;
        stratum psu;
        cluster strat;
        weight wgt;
tables male race maritals ed5 havecare
        hyst healthstat comphealth povcat
        cgarsr6- cgarsr11 cgarsr16 cgarsr18 cgarsr28 cgarsr37 cgarsr39
cgarsr49 cgarsr51 cgarsr52 cgarsr56 cgarsr57
        cgarsr82 cgarsr88 cgarsr89 cgarsr91 cgarsr96
        dwel hasjob nbrrooms priv_insur didserv
        cgarsr43 asthma_emphysema hearing hearingaid smokenow everSmoke
        dif_lift dif_stoop dif_walk prb_eat prb_dres pneushot nbrpeopl
        mammogram psa1yr pap_smear inpatnights flushot

```

```
        died institution;
run;

proc surveymeans data=out.MCBS_NI09;
    stratum psu;
    cluster strat;
    weight wgt;
var age inpatstays inpatnights i_days;
run;
```