SAS Analysis Examples Replication C11

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* SAS Analysis Examples Replication for ASDA 2nd Edition
* Berglund April 2017
* Chapter 11 ;
libname d "P:\ASDA 2\Data sets\HRS 2012\HRS 2006_2012 Longitudinal File\" ;
options nodate nonumber ls=119 ps=67 ;

data c11_hrs ;
 set d.hrs 2006 2012 15jul2016 ;
 if kfinr=1 and kwgtr ne 0 ;
* prepare ln income ;
ln_inc06 = log(H8ITOT + 1);
ln_inc08 = log(H9ITOT + 1);
ln_inc10 = log(H10ITOT + 1);
ln_inc12 = log(H11ITOT + 1);
run ;

ods rtf bodytitle style=normalprinter ;
* histogram of each income variable ;
title "Histograms of Log Income Variables" ;
proc sgplot ;
 histogram ln_inc06 ;
run ;
proc sgplot ;
 histogram ln_inc08 ;
run ;
proc sgplot ;
 histogram ln_inc10 ;
run ;
proc sgplot ;
 histogram ln_inc12 ;
run ;

************************************************************************************************** ;
* Single Wave ;
title "11.3.1 Example: Descriptive Estimation at a Single Wave, Complete Case Analysis Table 11.2" ;
proc surveymeans data=c11_hrs ;
 strata stratum ; cluster secu ; weight kwgtr ;
 var ln_inc08 ;
 ods output statistics = outstat ;
 run ;
* use exp function to back transform log income ;
data outstat1 ;
 set outstat ;
 mean=exp(mean) ;
 lcl=exp(lowerclmean) ;
 ucl=exp(upperclmean) ;
run ;
proc print ;
run ;

* Weight adjustment approach for 2008 log-income. Compute response indicator for 2008. ;
data c11_hrs_wgt_adj ;
 set c11_hrs ;
 * response in 2008 indicator ;
 if ln_inc08 ne . then resp08=1 ; else resp08=0 ;
 * Modal imputation of missing covariate values. ;
 if selfrhealth_06 = . then selfrhealth_06 = 3 ;
 if marcat_06=. then marcat_06 = 2 ;
 if diabetes_06=. then diabetes_06 = 0 ;
 if arthritis_06=. then arthritis_06 = 1 ;
 if racecat = . then racecat=2 ;
 if edcat = . then edcat=2 ;
run ;

title "Logistic Regression with Response in 2008 as Outcome: Weight Adjustment Method for 2008" ;
proc surveylogistic data=c11_hrs_wgt_adj ;
 strata stratum ; cluster secu ; weight kwgtr ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first) / param=ref  ;
 model resp08 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=outp p=phat ;
run ;
proc rank data=outp groups=10 ties=mean out=outp_deciles ;
 var phat ;
 ranks dec ;
run ;
```

```
proc sort ;
 by dec phat ;
run ;

* mean of phat by deciles ;
proc sql ;
 create table outp_deciles_1
  as select *, mean(phat) as mean_phat
   from outp_deciles
    group by dec ;

title "Mean of Phat by Deciles" ;
proc means n mean data=outp_deciles_1 ;
 class dec ; var mean_phat ;
run ;

* Create adjusted weight ;
data outp_deciles_2 ;
 set outp deciles 1 ;
 adj kwgtr = kwgtr*(1/mean_phat) ;
run ;

title " Mean Income using Adjusted Weight" ;
proc surveymeans data=outp_deciles_2 ;
 strata stratum ; cluster secu ; weight adj_kwgtr ;
 var ln_inc08 ;
 ods output statistics=outstat2 ;
run ;
proc print data=outstat2 ;
run ;

* use exp function to back transform log income ;
data outstat3 ;
 set outstat2 ;
 exp_mean=exp(mean) ;
 lcl=exp(lowerclmean) ;
 ucl=exp(upperclmean) ;
 *format _numeric_ 12.3 ;
run ;
proc print ;
run ;

* Multiple Imputation method.
* Create deciles of the 2006 sampling weights. ;
proc rank data=c11_hrs groups=10 ties=low out=wt_deciles ;
 var kwgtr ;
 ranks kwgtr_dec ;
run ;
* use modal values for all variables except log income 2008 ;
data wt_deciles_1 ;
 set wt_deciles ;
 * Modal imputation of missing covariate values. ;
 if selfrhealth_06 = . then selfrhealth_06 = 3 ;
 if marcat_06=. then marcat_06 = 2 ;
 if diabetes_06=. then diabetes_06 = 0 ;
 if arthritis_06=. then arthritis_06 = 1 ;
 if racecat = . then racecat=2 ;
 if edcat = . then edcat=2 ;
run ;

title "Means of all Variables Included in Imputation" ;
proc means n nmiss mean min max data=wt_deciles_1 ;
 var ln_inc08 ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat stratum kwgtr_dec ;
run ;

title "MI to impute missing data on LN INC08" ;
proc mi data=wt_deciles_1 nimpute=5 out=outimp1 seed=41279;
 class selfrhealth_06 marcat_06 racecat edcat stratum kwgtr_dec ;
 var ln_inc08 ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat stratum kwgtr_dec ;
 fcs nbiter=5 reg(ln_inc08=ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat kwgtr_dec stratum
) ;
 run ;

title "Use PROC SURVEYMEANS in Step 2 of MI process" ;
proc surveymeans data=outimp1 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 var ln_inc08 ;
```

```
 by _imputation_ ;
 ods output statistics=outstats_mi ;
run ;
proc print data=outstats_mi ;
run ;

title "Use PROC MIANALYZE for Combining" ;
proc mianalyze data=outstats_mi ;
 modeleffects mean ;
 stderr stderr ;
 ods output parameterestimates=outest ;
run ;
proc print data=outest ;
run ;

* use exp function to back transform log income ;
data outest1 ;
 set outest ;
 exp_mean=exp(estimate) ;
 lcl=exp(lclmean) ;
 ucl=exp(uclmean) ;
 format _numeric_ 12.3 ;
run ;
title "Print Out of Transformed MI Results" ;
proc print ;
run ;

ods text=" Imputation Using a Selection Model Not Available in SAS SURVEY procedures" ;

*************************************************************************************************;
* Change over 2 Waves ;
title "11.3.2 Example: Change across Two Waves. 1. Complete Case Analysis." ;
* prepare data set from wide file ;
data c11_hrs_2waves ;
 set d.hrs 2006 2012 15jul2016 ;
  if kfinr=1 and kwgtr ne 0 ;

  * prepare ln income ;
  ln_inc06 = log(H8ITOT + 1);
  ln_inc08 = log(H9ITOT + 1);
  ln_inc10 = log(H10ITOT + 1);
  ln_inc12 = log(H11ITOT + 1);
  incdiff_06_10=h10itot-h8itot ;

  * response in 2010 for weight adjustment ;
  resp10=0 ;
  if ln_inc10 ne . then resp10=1 ;

  * Modal imputation of missing covariate values. ;
 if selfrhealth_06 = . then selfrhealth_06 = 3 ;
 if marcat_06=. then marcat_06 = 2 ;
 if diabetes_06=. then diabetes_06 = 0 ;
 if arthritis_06=. then arthritis_06 = 1 ;
 if racecat = . then racecat=2 ;
 if edcat = . then edcat=2 ;
run ;
proc surveymeans data=c11_hrs_2waves ;
 strata stratum ; cluster secu ; weight kwgtr ;
 var incdiff_06_10 ;
run ;

* 2. Weight Adjustment.
* table of response in 2010 ;
title "Response in 2010" ;
proc freq data=c11_hrs_2waves ;
 tables resp10 / missing ;
run ;

title "Logistic Regression with Response in 2010 as Outcome: Weight Adjustment Method for 2010" ;
proc surveylogistic data=c11_hrs_2waves ;
 strata stratum ; cluster secu ; weight kwgtr ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first) / param=ref  ;
 model resp10 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=outp1 p=phat1 ;
run ;

* ranks for phat using ties=low option ;
```

```
proc rank data=outp1 groups=10 ties=low out=outp_deciles ;
 var phat1 ;
 ranks dec ;
run ;

proc sort ;
 by dec phat1;
run ;

* mean of phat by deciles ;
proc sql ;
 create table outp_deciles_1
  as select *, mean(phat1) as mean_phat
   from outp_deciles
    group by dec ;

* create an adjusted weight ;
data outp_deciles_2 ;
 set outp deciles 1 ;
 adj kwgtr = kwgtr*(1/mean_phat) ;
run ;
title "Mean Income Difference using Adjusted Weight" ;
proc surveymeans data=outp_deciles_2 ;
 strata stratum ; cluster secu ; weight adj_kwgtr ;
 var incdiff_06_10 ;
run ;

* 3. Multiple Imputation.
* Multiple imputation of 2010 log-income.
* Create deciles of the 2006 sampling weights. (already done in above data step) ;
proc rank data=c11_hrs groups=10 ties=low out=wt_deciles ;
 var kwgtr ;
 ranks kwgtr_dec ;
run ;
* use modal values for all variables except log income 2010 ;
data wt_deciles_1 ;
 set wt_deciles ;

 * Modal imputation of missing covariate values. ;
 if selfrhealth_06 = . then selfrhealth_06 = 3 ;
 if marcat_06=. then marcat_06 = 2 ;
 if diabetes_06=. then diabetes_06 = 0 ;
 if arthritis 06=. then arthritis_06 = 1 ;
 if racecat = . then racecat=2 ;
 if edcat = . then edcat=2 ;
 incdiff_06_10=h10itot-h8itot ;
run ;

title "3. Multiple Imputation, MI of 2010 log-income" ;
proc means n nmiss mean min max data=wt_deciles_1 nolabels ;
 var ln_inc10 ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat stratum kwgtr_dec incdiff_06_10
;
run ;

proc mi data=wt_deciles_1 nimpute=5 out=outimp1 seed=41279;
 class selfrhealth_06 marcat_06 racecat edcat stratum kwgtr_dec ;
 var ln_inc10 ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat stratum kwgtr_dec ;
 fcs nbiter=5 reg (ln_inc10=ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat kwgtr_dec
stratum) ;
 run ;

* Obtain summary statistics for income diff 06_10 and log income 2010, from non imputed data set ;
proc means data=wt_deciles_1 ;
 var incdiff_06_10 ln_inc10 ;
run ;

* Compute bounded change scores in each imputed data set.;
data outimp2 ;
 set outimp1 ;
 * set upper and lower bounds for log income 2010 and difference of 2010 and 2006 ;
 if ln_inc10 > 14.92 then ln_inc10=14.92 ;
 new chg0610=exp(ln inc10) - exp(ln inc06) ;
 if new_chg0610 < -12300000 then new_chg0610 = -12300000 ;
 if new_chg0610 > 2062968 then new_chg0610 = 2062968 ;
run ;

title "Use PROC SURVEYMEANS in Step 2 of MI process" ;
```

```
proc surveymeans data=outimp2 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 var new_chg0610 ;
 by _imputation_ ;
 ods output statistics=outstats_mi ;
run ;
proc print data=outstats_mi ;
run ;

title "Use PROC MIANALYZE for Combining" ;
proc mianalyze data=outstats_mi ;
 modeleffects mean ;
 stderr stderr ;
 run ;

 *4. Calibration. ;
data cal ;
 set d.hrs 2006 2012 15jul2016 ;
 if kfinr=1 and kwgtr ne 0 ;
 * Modal imputation of missing covariate values. Note that gender has no missing data. ;
 if racecat =. then racecat=2 ;
 if edcat=. then edcat=2 ;
run ;
title "4. Calibration: Cross-Class distributions " ;
proc freq data=cal ;
 tables racecat*edcat*gender /list ;
run ;

* Compute sums of 2006 weights in cross-classes
* defined by sex, race, and education. ;
title "Sum of KWGTR by cross-classes" ;
proc means sum nmiss mean data=cal ;
 class racecat edcat gender ;
 var kwgtr ;
 output out=cal_pop_sizes (where=(_type_=7)) sum=popsize ;
run ;

* 32 cross classes with sums of weight kwgtr ;
proc print data=cal_pop_sizes ;
run ;

title "Repeat process for cases with complete data." ;
data complete ;
 set d.hrs_2006_2012_15jul2016 ;
 if kfinr=1 and kwgtr ne 0 ;
 * Modal imputation of missing covariate values.;
 if racecat =. then racecat=2 ;
 if edcat=. then edcat=2 ;
 ln inc10=log(h10itot + 1) ;
 if ln_inc10 ne . then resp10=1 ;
       else if ln_inc10 eq . then resp10=0 ;
 if resp10=1 ;
run ;

* Compute sums of 2006 weights among those that responded in 2010 and in cross-classes defined by sex, race, and education.
;
proc means sum nmiss mean data=complete ;
 class racecat edcat gender ;
 var kwgtr ;
 output out=cal_resp_sizes (where=(_type_=7)) sum=sumrespwgts ;
run ;

* 32 cross classes with sums of weight kwgtr ;
proc print data=cal_resp_sizes ;
run ;

* Merge the two data sets of estimated population sizes.;
proc sort data=cal_pop_sizes ; by racecat edcat gender ; run ;
proc sort data=cal_resp_sizes ; by racecat edcat gender ; run ;

data cal_resp_pop_sizes ;
 merge cal_pop_sizes cal_resp_sizes ;
  by racecat edcat gender ;
  * create cal_adj ;
  cal_adj=popsize/sumrespwgts ;
run ;
```

```
data cal_1  ;
 set d.hrs 2006 2012 15jul2016 ;
 if kfinr=1 and kwgtr ne 0 ;
 * Modal imputation of missing covariate values.;
 if racecat =. then racecat=2 ;
 if edcat=. then edcat=2 ;
 ln_inc06=log(h8itot + 1) ;
 ln_inc10=log(h10itot + 1) ;
run ;
proc sort ;
 by racecat edcat gender ;
run ;

data cal_cal_resp_pop_sizes ;
 merge cal_1 (in=cal) cal_resp_pop_sizes ;
 by racecat edcat gender ;
 if cal=1 ; * maintain the larger n of 11,789 ;
 * response indicator for 2010 ;
 if ln_inc10 ne . then resp10=1 ; else if ln_inc10=. then resp10=0 ;

 * calibrated weights for those with complete data ;
 if resp10=1 then kwgtr_cal= kwgtr*cal_adj ;
 incdiff_06_10=h10itot - h8itot ;
run ;

* Verify that sums of calibrated weights for cases with complete data are equal to sums of base weights for full sample.
;
title "Sums of Kwgtr by race, education, gender" ;
proc means sum ;
  class racecat edcat gender ;
  var kwgtr ;
run ;

title "Kwgtr cal should match Kwgtr among respondents" ;
proc means sum ;
 class racecat edcat gender ;
 var kwgtr cal ;
 where resp10=1 ;
run ;

title "Estimate mean change using complete cases. Table 11.3"  ;
proc surveymeans ;
 strata stratum ; cluster secu ; weight kwgtr_cal ;
 var incdiff_06_10 ;
run ;
********************************************************************************************************** ;
* Analysis of 3+ Waves ;
title "11.3.3 Example: Weighted Multilevel Modeling" ;
data hrs_2006_2012 ;
 set d.hrs_2006_2012_15jul2016 ;
 if kfinr=1 and kwgtr ne 0 ;
 ln_inc1=log(h8itot + 1) ;
 ln_inc2=log(h9itot + 1) ;
 ln_inc3=log(h10itot + 1) ;
 ln_inc4=log(h11itot + 1) ;
 wgt1 = kwgtr ;
 wgt2 = lwgtr ;
 wgt3 = mwgtr ;
 wgt4 = nwgtr ;
 basewgt = kwgtr ;
 keep hhid pn gender ln_inc1-ln_inc4 wgt1-wgt4 secu stratum basewgt ;
 run ;
* reshape from wide to long data set ;
data hrs_long ;
 set hrs_2006_2012 ;
 array inc [*] ln_inc1-ln_inc4 ;
 array w [*] wgt1-wgt4 ;

 do i=1 to 4 ;
        ln_inc = inc[i] ;
    wgt = w [i] ;
    year=i ;
  output ;
 end ;
run ;

proc print data=hrs_long (obs=4) ;
```

```
run ;

data hrs_long_1 ;
 set hrs_long ;
 if ln_inc=. then delete ;
 newid=trim(hhid)||trim(pn) ;
 level1wgt=wgt/basewgt ;
 level2wgt=basewgt ;
run ;
proc print data=hrs_long_1 (obs=8) ;
run ;

* prepare components for level1wgt_r ;
proc sql ;
 create table hrs_long_2
  as select *, sum(level1wgt) as sumw, count(ln_inc) as nj , level1wgt * (calculated nj / calculated sumw) as level1wgt_r,
i as year
   from hrs_long_1
    group by newid ;
proc sort ; by newid year ; run ;

proc print data=hrs_long_2 (obs=12) ;
run ;

data chapter11_hrs_vert ;
 set hrs long 2 ;
 if year=1 then yrssince06=0 ;
 else if year=2 then yrssince06=2 ;
 else if year=3 then yrssince06=4 ;
 else if year=4 then yrssince06=6 ;
 newid_num=newid*1 ;
 yrs06sq=yrssince06*yrssince06 ;
run ;

title " Plot data for small subsample of subjects. Figure 11.1 " ;
proc sgplot data=chapter11_hrs_vert noautolegend  ;
 where newid_num <= 10200000 ;
  series x=year y=ln_inc / group=newid ;
run ;

title "Plot Mean Log Income by Gender, Figure 11.2" ;
proc means data=chapter11_hrs_vert ;
 class gender year ;
 var ln_inc ;
 output out=outmeans (where=(_type_=3)) mean=mean;
 run ;
* use output means in PROC SGPLOT ;
proc sgplot data=outmeans ;
 series x=year y=mean / group=gender ;
run ;


* Model is modified to include random effects and level1 weight but no robust SE or level 2 weights in SAS due to lack of
ability to handle these features ;
* This model is not entirely correct but illustrates how weight mixed model can be set up in SAS ;
title "Modified Mixed Model with Level 1 weight and Stratum as fixed classification effect: NO level 2 weights included in
model" ;
proc mixed data=chapter11_hrs_vert method=ml ;
 class gender (ref=first) stratum (ref=first) ;
 model ln_inc=yrssince06 gender yrssince06*gender yrs06sq yrs06sq*gender stratum / solution ddfm=kr ;
 random int yrssince06 yrs06sq / subject=newid_num type=un g v  ;
 weight level1wgt_r ; *note no option for level 2 weights in SAS.  Also, no option for design based SE's in PROC MIXED/SAS
;
run ;

title "Unweighted Model to Demonstrate Use of PROC MIXED" ;
proc mixed data=chapter11_hrs_vert method=ml ;
 class gender (ref=first) ;
 model ln_inc=yrssince06 gender yrs06sq yrssince06*gender yrs06sq*gender / solution ddfm=kr ;
 random intercept yrssince06 yrs06sq / subject=newid_num type=un g v  ;
 run ;

*2. Veiga et al. (2014) approach. is NOT available in SAS ;

ods text="Veiga et al. (2014) not available in SAS SURVEY procedures" ;
```

```
* Weighted GEE Analysis. ;
title "11.3.4 Example: Weighted GEE Analysis" ;
data hrs_2006_2012 ;
 set d.hrs_2006_2012_15jul2016 ;
 if kfinr=1 and kwgtr ne 0 ;

 * Modal imputation of missing covariate values. ;
 if selfrhealth_06 = . then selfrhealth_06 = 3 ;
 if marcat_06=. then marcat_06 = 2 ;
 if diabetes_06=. then diabetes_06 = 0 ;
 if arthritis_06=. then arthritis_06 = 1 ;
 if racecat = . then racecat=2 ;
 if edcat = . then edcat=2 ;

 * prepare ln income ;
 ln_inc06 = log(H8ITOT + 1);
 ln_inc08 = log(H9ITOT + 1);
 ln_inc10 = log(H10ITOT + 1);
 ln_inc12 = log(H11ITOT + 1);

  * Compute response indicator for 2008.;
 if ln_inc08 ne . then resp08 = 1 ; else resp08 = 0 ;
 * Compute response indicator for 2010.;
 if ln_inc10 ne . then resp10=1 ; else resp10=0 ;
 * Compute response indicator for 2012.;
 if ln_inc12 ne . then resp12=1 ; else resp12=0 ;
run ;

title "Check Response in 2008, 2010, 2012" ;
proc freq ;
 tables resp08 resp10 resp12 ;
run ;

title " Response propensity model (2008)." ;
proc surveylogistic data=hrs_2006_2012 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
 model resp08 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=p1 p=phat08 ;
run ;
proc means n nmiss mean stderr clm ;
 var phat08 ;
run ;

title " Response propensity model (2010), respondents in 2008." ;
proc surveylogistic data=hrs_2006_2012 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 domain resp08 ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
 model resp10 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=p2 (where=(domain='resp08=1') keep=hhid pn phat10_11 domain ) p=phat10_11 ;
run ;
proc means n nmiss mean stderr clm ;
 var phat10_11 ;
run ;

title " Response propensity model (2010), non respondents in 2008." ;
proc surveylogistic data=hrs_2006_2012 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 domain resp08 ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
 model resp10 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=p3 (where=(domain='resp08=0') keep=hhid pn phat10_10 domain ) p=phat10_10 ;
run ;

proc means data=p3 n nmiss mean stderr clm ;
 var phat10_10 ;
run ;

* Response propensity model (2012), 111 pattern.;
title " Response propensity model (2012), 111 Pattern (06,08,10) " ;
proc surveylogistic data=hrs_2006_2012 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 domain resp08*resp10 ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
 model resp12 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=p4 (where=(domain='resp08=1 resp10=1') keep=hhid pn phat12_111 domain) p=phat12_111 ;
```

```
run ;

proc means n nmiss mean stderr clm ;
 var phat12_111 ;
run ;

* Response propensity model (2012), 110 pattern.;
title " Response propensity model (2012), 110 Pattern (06,08,no 10) " ;
proc surveylogistic data=hrs_2006_2012 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 domain resp08*resp10 ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
 model resp12 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=p5 (where=(domain='resp08=1 resp10=0') keep=hhid pn phat12_110 domain) p=phat12_110 ;
run ;

proc means n nmiss mean ;
  var phat12_110 ;
run ;

* Response propensity model (2012), 101 pattern.;
title " Response propensity model (2012), 101 Pattern (06,no 08,10) " ;
proc surveylogistic data=hrs_2006_2012 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 domain resp08*resp10 ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
 model resp12 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=p6 (where=(domain='resp08=0 resp10=1') keep=hhid pn phat12_101 domain) p=phat12_101 ;
run ;

proc means n nmiss mean stderr ;
  var phat12_101 ;
run ;

* Response propensity model (2012), 100 pattern.;
title " Response propensity model (2012), 100 Pattern (06,no 08,no 10) " ;
proc surveylogistic data=hrs_2006_2012 ;
 strata stratum ; cluster secu ; weight kwgtr ;
 domain resp08*resp10 ;
 class selfrhealth_06 (ref=first) marcat_06 (ref=first) racecat (ref=first) edcat (ref=first)/ param = ref ;
 model resp12 (event='1') = ln_inc06 selfrhealth_06 age_06 marcat_06 diabetes_06 arthritis_06 racecat edcat ;
 output out=p7 (where=(domain='resp08=0 resp10=0') keep=hhid pn phat12_100 domain) p=phat12_100 ;
run ;
proc means n nmiss mean stderr clm  ;
  var phat12_100 ;
run ;

*merge all data sets together using hhid and pn ;
data all_cumprobs ;
 merge p1 p2 p3 p4 p5 p6 p7 ;
 by hhid pn ;
 drop domain ;

* develop cumulative probabilities ;
cumprob1=1 ;
 if resp08=1 & resp10=1 & resp12=1 then cumprob4 = phat08 * phat10_11 *  phat12_111 ;
 if resp08=1 & resp10=1 & resp12=0 then cumprob4 = phat08 * phat10_11 * (1-phat12_111) ;

 if resp08=1 & resp10=0 & resp12=1 then cumprob4 = phat08 *(1-phat10_11) * phat12_110 ;
 if resp08=1 & resp10=0 & resp12=0 then cumprob4 = phat08 *(1-phat10_11)*(1-phat12_110) ;

 if resp08= 0 & resp10=1 & resp12=1 then cumprob4 =(1-phat08)*phat10_10 * phat12_101 ;
 if resp08= 0 & resp10=1 & resp12=0 then cumprob4 =(1-phat08)*phat10_10* (1-phat12_101) ;

 if resp08= 0 & resp10=0 & resp12=1 then cumprob4 =(1-phat08)*(1-phat10_10)* phat12_100 ;
 if resp08= 0 & resp10=0 & resp12=0 then cumprob4= (1-phat08)*(1-phat10_10)*(1-phat12_100) ;
 cumprob_case= cumprob4 ;

 ln_inc1=log(h8itot + 1) ;
 ln_inc2=log(h9itot + 1) ;
 ln_inc3=log(h10itot + 1) ;
 ln_inc4=log(h11itot + 1) ;

run ;
```

```
* note: small differences between SAS and Stata, likely due to Stata dropping strata without observations in subpopulation
whereas SAS does not drop strata ;
title "Mean for CUMCPROB CASE" ;
proc means n nmiss mean std min max  data=all_cumprobs ;
 var cumprob_case ;
run ;

* reshape from wide to long data set ;
data hrs_long ;
 set all_cumprobs ;
 array inc [*] ln_inc1-ln_inc4 ;
 do i=1 to 4 ;
       ln_inc = inc[i] ;
    year=i ;
       basewgt=kwgtr ;
 output ;
 end ;
keep hhid pn gender marcat_06 diabetes_06 arthritis_06 racecat edcat secu stratum cumprob_case ln_inc basewgt year ;
run ;

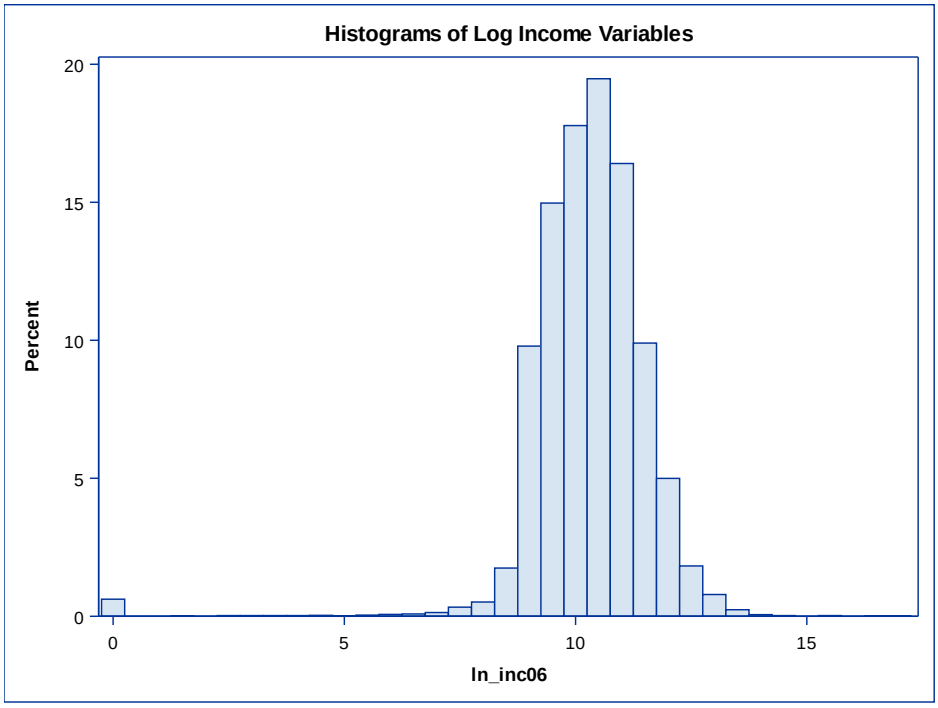
* prepare long data set for GEE weighted model ;
data hrs_long_1 ;
 set hrs long ;
 casewt = basewgt * (1 / cumprob_case) ;
* Compute measure of years since 2006, and squared version. ;
if year=1 then yrssince06 = 0 ;
if year=2 then yrssince06 = 2 ;
if year=3 then yrssince06 = 4 ;
if year=4 then yrssince06 = 6 ;
yrs06sq = yrssince06*yrssince06 ;
newid=trim(hhid)||trim(pn) ;
newid_num=newid * 1 ;

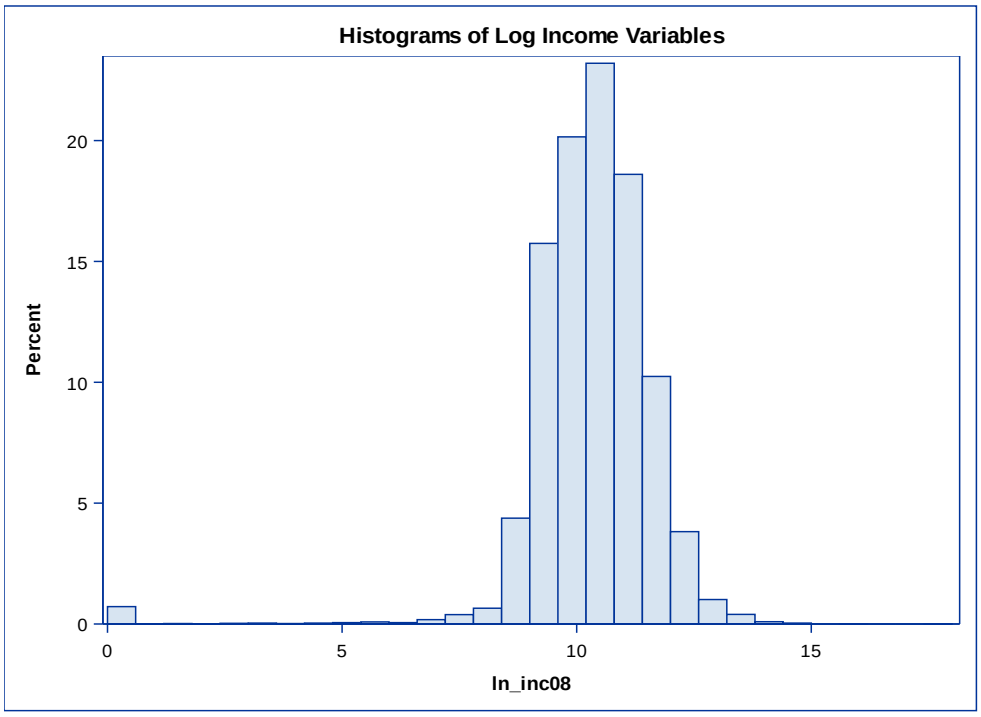
run ;

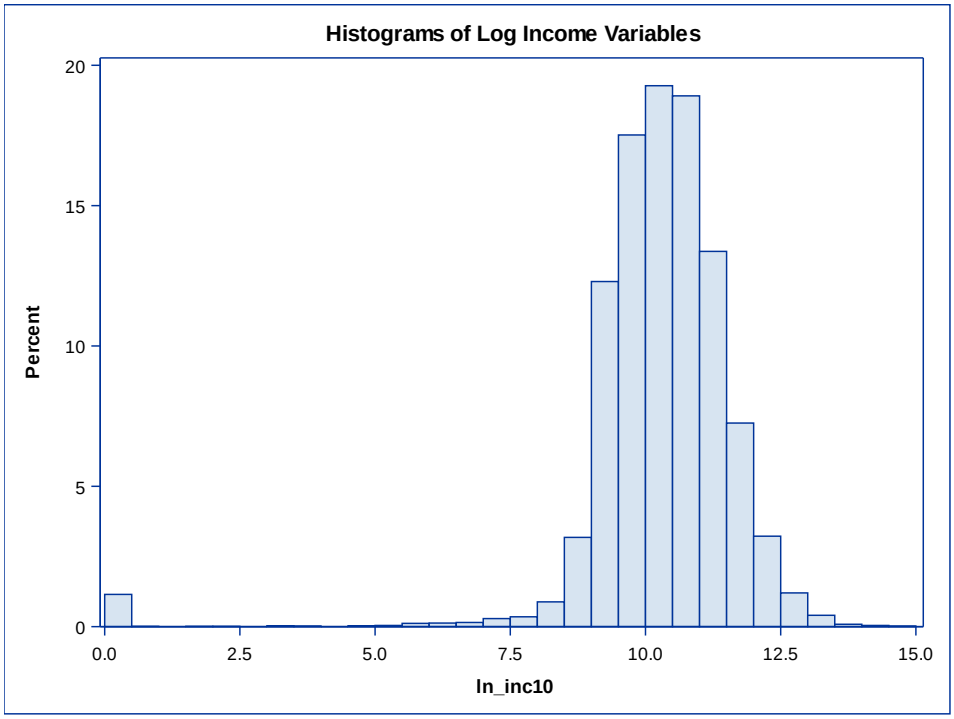
* run GEE model with cumulative weights ;
proc sort data=hrs_long_1 ;
 by newid_num ;
run ;

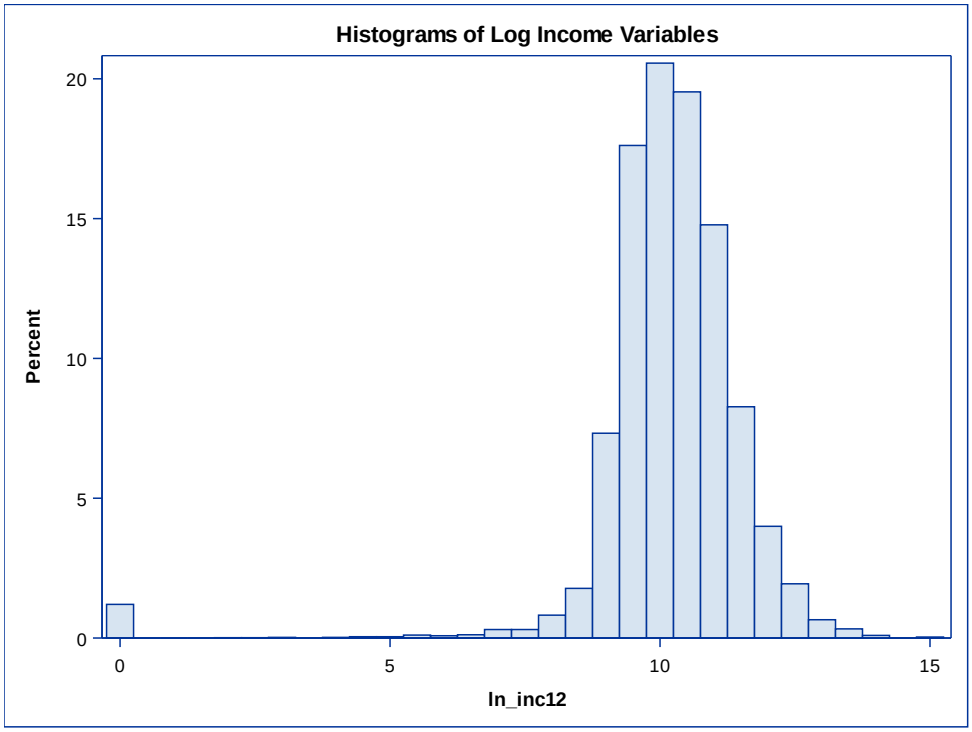
title "GEE Model with Repeated Measures Per Individual (Financial Respondent), 2006-2012" ;
proc genmod data=hrs_long_1 ;
 weight casewt ;
 class gender (ref=first) stratum (ref=first) newid_num year ;
 model ln_inc = yrssince06 gender yrs06sq yrssince06*gender yrs06sq*gender stratum ;
 repeated subject=newid_num / type=exch  corrw ;
 run ;

ods rtf close ;
```


Histograms of Log Income Variables
Percent
20
15
10
5
0
0
5
10
15
ln_inc06


Histograms of Log Income Variables
Percent
20
15
10
5
0
0
5
10
15
ln_inc08


Histograms of Log Income Variables
Percent
20
15
10
5
0
0.0
2.5
5.0
7.5
10.0
12.5
15.0
ln_inc10


Histograms of Log Income Variables
Percent
20
15
10
5
0
0
5
10
15
ln_inc12

11.3.1 Example: Descriptive Estimation at a Single Wave, Complete Case Analysis Table 11.2

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	**N**	**Mean**	**Std Error of Mean**	**95% CL for Mean**	
ln_inc08	10574	10.440682	0.026296	10.3880051	10.4933582

11.3.1 Example: Descriptive Estimation at a Single Wave, Complete Case Analysis Table 11.2

Obs	VarName	N	Mean	StdErr	LowerCLMean	UpperCLMean	lcl	ucl
1	ln_inc08	10574	34224	0.026296	10.3880051	10.4933582	32467.83	36075.10

Logistic Regression with Response in 2008 as Outcome: Weight Adjustment Method for 2008

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.C11_HRS_WGT_ADJ	
Response Variable	resp08	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp08**	**Total Frequency**	**Total Weight**
1	0	1215	4942420
2	1	10574	47613567

Probability modeled is resp08=1.

Class Level Information					
Class	**Value**	**Design Variables**			
selfrhealth_06	**1**	0	0	0	0
	2	1	0	0	0
	3	0	1	0	0
	4	0	0	1	0
	5	0	0	0	1
marcat_06	**1**	0	0		
	2	1	0		
	3	0	1		
racecat	**1**	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	
edcat	**1**	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	32772754	30734556
SC	32772770	30734825
-2 Log L	32772752	30734522

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	129728	11.6596	652.94	<.0001
Score	19.99	16	41	<.0001
Wald	22.66	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3723 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.04	1	56	0.8405
selfrhealth_06	43.04	4	53	<.0001
age_06	102.51	1	56	<.0001
marcat_06	2.81	2	55	0.0691
diabetes_06	7.90	1	56	0.0068
arthritis_06	28.03	1	56	<.0001
racecat	2.17	3	54	0.1025
edcat	0.44	3	54	0.7245

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		5.6307	0.5440	10.35	<.0001
ln_inc06		0.00727	0.0359	0.20	0.8405
selfrhealth_06	2	-0.1526	0.1534	-0.99	0.3242
selfrhealth_06	3	-0.3367	0.1865	-1.81	0.0764
selfrhealth_06	4	-0.7260	0.1681	-4.32	<.0001
selfrhealth_06	5	-1.4960	0.1871	-8.00	<.0001
age_06		-0.0439	0.00434	-10.12	<.0001
marcat_06	2	0.00848	0.0892	0.10	0.9246
marcat_06	3	-0.4002	0.1774	-2.26	0.0280
diabetes_06		-0.2035	0.0724	-2.81	0.0068
arthritis_06		0.3311	0.0625	5.29	<.0001
racecat	2	0.0251	0.1419	0.18	0.8601
racecat	3	-0.1931	0.1709	-1.13	0.2634
racecat	4	-0.4276	0.2735	-1.56	0.1236
edcat	2	-0.0468	0.1016	-0.46	0.6471
edcat	3	-0.1353	0.1206	-1.12	0.2667
edcat	4	-0.0177	0.1139	-0.16	0.8773
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.007	0.937	1.082
selfrhealth_06	2 vs 1	0.858	0.631	1.167
selfrhealth_06	3 vs 1	0.714	0.492	1.038
selfrhealth_06	4 vs 1	0.484	0.346	0.678
selfrhealth_06	5 vs 1	0.224	0.154	0.326
age_06		0.957	0.949	0.965
marcat_06	2 vs 1	1.009	0.844	1.206
marcat_06	3 vs 1	0.670	0.470	0.956
diabetes_06		0.816	0.706	0.943
arthritis_06		1.393	1.229	1.578
racecat	2 vs 1	1.025	0.772	1.362
racecat	3 vs 1	0.824	0.585	1.161
racecat	4 vs 1	0.652	0.377	1.128
edcat	2 vs 1	0.954	0.779	1.170
edcat	3 vs 1	0.873	0.686	1.112
edcat	4 vs 1	0.982	0.782	1.234
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	67.9	Somers' D	0.366
Percent Discordant	31.2	Gamma	0.370
Percent Tied	0.9	Tau-a	0.068
Pairs	12847410	c	0.683

Mean of Phat by Deciles

The MEANS Procedure

Analysis Variable : mean_phat			
Rank for Variable phat	N Obs	N	Mean
0	1178	1178	0.7373740
1	1179	1179	0.8331323
2	1179	1179	0.8682070
3	1179	1179	0.8903160
4	1179	1179	0.9068177
5	1179	1179	0.9202366
6	1179	1179	0.9308581
7	1179	1179	0.9405440
8	1179	1179	0.9502527
9	1179	1179	0.9623867

Mean Income using Adjusted Weight

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	58317820.6

Statistics					
Variable	**N**	**Mean**	**Std Error of Mean**	**95% CL for Mean**	
ln_inc08	10574	10.413583	0.026611	10.3602742	10.4668920

Mean Income using Adjusted Weight

Obs	VarName	N	Mean	StdErr	LowerCLMean	UpperCLMean
1	ln_inc08	10574	10.413583	0.026611	10.3602742	10.4668920

Mean Income using Adjusted Weight

Obs	VarName	N	Mean	StdErr	LowerCLMean	UpperCLMean	exp_mean	lcl	ucl
1	ln_inc08	10574	10.413583	0.026611	10.3602742	10.4668920	33309.01	31579.84	35132.85

Means of all Variables Included in Imputation

The MEANS Procedure

Variable	Label	N	N Miss	Mean	Minimum	Maximum
ln_inc08		10574	1215	10.3268766	0	17.9100947
ln_inc06		11789	0	10.2909710	0	17.0486936
selfrhealth_06	1=Excellent 2=Very Good 3=Good 4=Fair 5=Poor	11789	0	2.9179744	1.0000000	5.0000000
age_06	Age in 2006	11789	0	69.5194673	52.0000000	104.0000000
marcat_06	Marital Status 1=Married 2=Previously Married 3=Never Married	11789	0	1.5744338	1.0000000	3.0000000
diabetes_06	1=Yes Diabetes 0=No Diabetes	11789	0	0.2129103	0	1.0000000
arthritis_06	Arthritis 1=Yes 0=No	11789	0	0.6252439	0	1.0000000
racecat	Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other	11789	0	2.1140046	1.0000000	4.0000000
edcat	Education 1=0-11 Yrs 2=12 Yrs 3=13-15 Yrs 4=16+ Yrs	11789	0	2.3958775	1.0000000	4.0000000
STRATUM	STRATUM ID	11789	0	30.6344898	1.0000000	56.0000000
kwgtr_dec	Rank for Variable KWGTR	11789	0	4.4854525	0	9.0000000

MI to impute missing data on LN_INC08

The MI Procedure

Model Information	
Data Set	WORK.WT_DECILES_1
Method	FCS
Number of Imputations	5
Number of Burn-in Iterations	5
Seed for random number generator	41279

FCS Model Specification	
Method	**Imputed Variables**
Regression	ln_inc08 ln_inc06 age_06 diabetes_06 arthritis_06
Discriminant Function	selfrhealth_06 marcat_06 racecat edcat STRATUM kwgtr_dec

Missing Data Patterns												
Group	**ln_inc08**	**ln_inc06**	**selfrhealth_06**	**age_06**	**marcat_06**	**diabetes_06**	**arthritis_06**	**racecat**	**edcat**	**STRATUM**	**kwgtr_dec**	**Freq**
1	X	X	X	X	X	X	X	X	X	X	X	10574
2	.	X	X	X	X	X	X	X	X	X	X	1215

Missing Data Patterns						
Group	**Percent**	**Group Means**				
		ln_inc08	**ln_inc06**	**age_06**	**diabetes_06**	**arthritis_06**
1	89.69	10.326877	10.320609	69.000473	0.206733	0.623038
2	10.31	.	10.033033	74.036214	0.266667	0.644444

Variance Information (5 Imputations)							
Variable	**Variance**			**DF**	**Relative Increase in Variance**	**Fraction Missing Information**	**Relative Efficiency**
	Between	**Within**	**Total**				
ln_inc08	0.000013853	0.000158	0.000175	425.48	0.104979	0.099063	0.980572

Parameter Estimates (5 Imputations)									
Variable	**Mean**	**Std Error**	**95% Confidence Limits**		**DF**	**Minimum**	**Maximum**	**Mu0**	**t for H0: Mean=Mu0**	**Pr > |t|**
ln_inc08	10.297283	0.013228	10.27128	10.32328	425.48	10.293305	10.303288	0	778.45	<.0001

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=1

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
ln_inc08	11789	10.417042	0.026039	10.3648800	10.4692039

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=2

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
ln_inc08	11789	10.409710	0.026038	10.3575495	10.4618696

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=3

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
ln_inc08	11789	10.420634	0.025519	10.3695135	10.4717548

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=4

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
ln_inc08	11789	10.412223	0.025646	10.3608483	10.4635982

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=5

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
ln_inc08	11789	10.416641	0.025963	10.3646314	10.4686503

Use PROC SURVEYMEANS in Step 2 of MI process

Obs	_Imputation_	VarName	N	Mean	StdErr	LowerCLMean	UpperCLMean
1	1	ln_inc08	11789	10.417042	0.026039	10.3648800	10.4692039
2	2	ln_inc08	11789	10.409710	0.026038	10.3575495	10.4618696
3	3	ln_inc08	11789	10.420634	0.025519	10.3695135	10.4717548
4	4	ln_inc08	11789	10.412223	0.025646	10.3608483	10.4635982
5	5	ln_inc08	11789	10.416641	0.025963	10.3646314	10.4686503

Use PROC MIANALYZE for Combining

The MIANALYZE Procedure

Model Information	
Data Set	WORK.OUTSTATS_MI
Number of Imputations	5

Variance Information (5 Imputations)							
Parameter	**Variance**			**DF**	**Relative Increase in Variance**	**Fraction Missing Information**	**Relative Efficiency**
	Between	**Within**	**Total**				
mean	0.000018498	0.000668	0.000690	3864.8	0.033240	0.032672	0.993508

Parameter Estimates (5 Imputations)										
Parameter	**Estimate**	**Std Error**	**95% Confidence Limits**		**DF**	**Minimum**	**Maximum**	**Theta0**	**t for H0: Parameter=Theta0**	**Pr > |t|**
mean	10.415250	0.026268	10.36375	10.46675	3864.8	10.409710	10.420634	0	396.50	<.0001

Use PROC MIANALYZE for Combining

Obs	NImpute	Parm	Estimate	StdErr	LCLMean	UCLMean	DF	Min	Max	Theta0	tValue	Probt
1	5	mean	10.415250	0.026268	10.36375	10.46675	3864.8	10.409710	10.420634	0	396.50	<.0001

Print Out of Transformed MI Results

Obs	NImpute	Parm	Estimate	StdErr	LCLMean	UCLMean	DF	Min	Max	Theta0	tValue	Probt	exp_mean	lcl	ucl
1	5.000	mean	10.415	0.026	10.364	10.467	3864.808	10.410	10.421	0.000	396.504	0.000	33364.574	31689.796	35127.862

Imputation Using a Selection Model Not Available in SAS SURVEY procedures

11.3.2 Example: Change across Two Waves. 1. Complete Case Analysis.

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	**N**	**Mean**	**Std Error of Mean**	**95% CL for Mean**	
incdiff_06_10	9402	-6551.401642	1866.134563	-10289.718	-2813.0849

Response in 2010

The FREQ Procedure

resp10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2387	20.25	2387	20.25
1	9402	79.75	11789	100.00

Logistic Regression with Response in 2010 as Outcome: Weight Adjustment Method for 2010

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.C11_HRS_2WAVES	
Response Variable	resp10	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp10**	**Total Frequency**	**Total Weight**
1	0	2387	9323578
2	1	9402	43232409

Probability modeled is resp10=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	49132729	43706079
SC	49132745	43706347
-2 Log L	49132727	43706045

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	357259	11.3432	635.22	<.0001
Score	36.70	16	41	<.0001
Wald	31.73	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4105 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.45	1	56	0.2339
selfrhealth_06	66.01	4	53	<.0001
age_06	297.29	1	56	<.0001
marcat_06	3.52	2	55	0.0364
diabetes_06	5.10	1	56	0.0278
arthritis_06	39.11	1	56	<.0001
racecat	0.19	3	54	0.9018
edcat	0.62	3	54	0.6046

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.0712	0.4177	14.53	<.0001
ln_inc06		0.0291	0.0241	1.20	0.2339
selfrhealth_06	2	-0.1754	0.1280	-1.37	0.1762
selfrhealth_06	3	-0.4479	0.1394	-3.21	0.0022
selfrhealth_06	4	-0.8735	0.1234	-7.08	<.0001
selfrhealth_06	5	-1.6189	0.1466	-11.04	<.0001
age_06		-0.0641	0.00372	-17.24	<.0001
marcat_06	2	-0.00117	0.0628	-0.02	0.9851
marcat_06	3	-0.2803	0.1134	-2.47	0.0165
diabetes_06		-0.1475	0.0653	-2.26	0.0278
arthritis_06		0.3111	0.0497	6.25	<.0001
racecat	2	-0.0506	0.1218	-0.42	0.6795
racecat	3	0.0227	0.1298	0.18	0.8615
racecat	4	-0.0452	0.2847	-0.16	0.8745
edcat	2	0.0490	0.0729	0.67	0.5047
edcat	3	0.0786	0.0752	1.05	0.3003
edcat	4	0.0675	0.0813	0.83	0.4103
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.029	0.981	1.080
selfrhealth_06	2 vs 1	0.839	0.649	1.084
selfrhealth_06	3 vs 1	0.639	0.483	0.845
selfrhealth_06	4 vs 1	0.418	0.326	0.535
selfrhealth_06	5 vs 1	0.198	0.148	0.266
age_06		0.938	0.931	0.945
marcat_06	2 vs 1	0.999	0.881	1.133
marcat_06	3 vs 1	0.756	0.602	0.948
diabetes_06		0.863	0.757	0.983
arthritis_06		1.365	1.235	1.508
racecat	2 vs 1	0.951	0.745	1.213
racecat	3 vs 1	1.023	0.789	1.327
racecat	4 vs 1	0.956	0.540	1.691
edcat	2 vs 1	1.050	0.907	1.215
edcat	3 vs 1	1.082	0.931	1.258
edcat	4 vs 1	1.070	0.909	1.259
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	72.7	Somers' D	0.457
Percent Discordant	26.9	Gamma	0.459
Percent Tied	0.4	Tau-a	0.148
Pairs	22442574	c	0.729

Mean Income Difference using Adjusted Weight

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	65949786.7

Statistics					
Variable	**N**	**Mean**	**Std Error of Mean**	**95% CL for Mean**	
incdiff_06_10	9402	-6119.969809	1702.965099	-9531.4188	-2708.5208

3. Multiple Imputation, MI of 2010 log-income

The MEANS Procedure

Variable	N	N Miss	Mean	Minimum	Maximum
ln_inc10	9402	2387	10.2634346	0	14.9225145
ln_inc06	11789	0	10.2909710	0	17.0486936
selfrhealth_06	11789	0	2.9179744	1.0000000	5.0000000
age_06	11789	0	69.5194673	52.0000000	104.0000000
marcat_06	11789	0	1.5744338	1.0000000	3.0000000
diabetes_06	11789	0	0.2129103	0	1.0000000
arthritis_06	11789	0	0.6252439	0	1.0000000
racecat	11789	0	2.1140046	1.0000000	4.0000000
edcat	11789	0	2.3958775	1.0000000	4.0000000
STRATUM	11789	0	30.6344898	1.0000000	56.0000000
kwgtr_dec	11789	0	4.4854525	0	9.0000000
incdiff_06_10	9402	2387	-6124.49	-12310617.60	2062968.00

3. Multiple Imputation, MI of 2010 log-income

The MI Procedure

Model Information	
Data Set	WORK.WT_DECILES_1
Method	FCS
Number of Imputations	5
Number of Burn-in Iterations	5
Seed for random number generator	41279

FCS Model Specification	
Method	**Imputed Variables**
Regression	ln_inc10 ln_inc06 age_06 diabetes_06 arthritis_06
Discriminant Function	selfrhealth_06 marcat_06 racecat edcat STRATUM kwgtr_dec

Missing Data Patterns												
Group	**ln_inc10**	**ln_inc06**	**selfrhealth_06**	**age_06**	**marcat_06**	**diabetes_06**	**arthritis_06**	**racecat**	**edcat**	**STRATUM**	**kwgtr_dec**	**Freq**
1	X	X	X	X	X	X	X	X	X	X	X	9402
2	.	X	X	X	X	X	X	X	X	X	X	2387

Missing Data Patterns						
Group	**Percent**	**Group Means**				
		ln_inc10	**ln_inc06**	**age_06**	**diabetes_06**	**arthritis_06**
1	79.75	10.263435	10.360857	68.071581	0.200383	0.615826
2	20.25	.	10.015701	75.222455	0.262254	0.662338

Variance Information (5 Imputations)							
Variable	**Variance**			**DF**	**Relative Increase in Variance**	**Fraction Missing Information**	**Relative Efficiency**
	Between	**Within**	**Total**				
ln_inc10	0.000038210	0.000192	0.000237	106.01	0.239407	0.207805	0.960097

Parameter Estimates (5 Imputations)									
Variable	**Mean**	**Std Error**	**95% Confidence Limits**		**DF**	**Minimum**	**Maximum**	**Mu0**	**t for H0: Mean=Mu0**	**Pr > |t|**
ln_inc10	10.196018	0.015407	10.16547	10.22656	106.01	10.187287	10.200758	0	661.78	<.0001

3. Multiple Imputation, MI of 2010 log-income

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum
incdiff_06_10	9402	-6124.49	168492.04	-12310617.60	2062968.00
ln_inc10	9402	10.2634346	1.4977891	0	14.9225145

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=1

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
new_chg0610	11789	-3038.108713	3018.676269	-9085.2439	3009.02651

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=2

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
new_chg0610	11789	-3649.936205	2896.771960	-9452.8677	2152.99534

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=3

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
new_chg0610	11789	-4769.509374	2990.262833	-10759.726	1220.70689

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=4

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
new_chg0610	11789	-4152.842408	2984.650945	-10131.817	1826.13190

Use PROC SURVEYMEANS in Step 2 of MI process

The SURVEYMEANS Procedure

Imputation Number=5

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Sum of Weights	52555987

Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
new_chg0610	11789	-3153.212085	2883.333254	-8929.2227	2622.79850

Use PROC SURVEYMEANS in Step 2 of MI process

Obs	_Imputation_	VarName	N	Mean	StdErr	LowerCLMean	UpperCLMean
1	1	new_chg0610	11789	-3038.108713	3018.676269	-9085.244	3009.02651
2	2	new_chg0610	11789	-3649.936205	2896.771960	-9452.868	2152.99534
3	3	new_chg0610	11789	-4769.509374	2990.262833	-10759.726	1220.70689
4	4	new_chg0610	11789	-4152.842408	2984.650945	-10131.817	1826.13190
5	5	new_chg0610	11789	-3153.212085	2883.333254	-8929.223	2622.79850

Use PROC MIANALYZE for Combining

The MIANALYZE Procedure

Model Information	
Data Set	WORK.OUTSTATS_MI
Number of Imputations	5

Variance Information (5 Imputations)							
Parameter	**Variance**			**DF**	**Relative Increase in Variance**	**Fraction Missing Information**	**Relative Efficiency**
	Between	**Within**	**Total**				
mean	518651	8733424	9355804	903.88	0.071264	0.068582	0.986469

Parameter Estimates (5 Imputations)										
Parameter	**Estimate**	**Std Error**	**95% Confidence Limits**		**DF**	**Minimum**	**Maximum**	**Theta0**	**t for H0: Parameter=Theta0**	**Pr > |t|**
mean	-3752.721757	3058.725914	-9755.75	2250.309	903.88	-4769.509374	-3038.108713	0	-1.23	0.2202

4. Calibration: Cross-Class distributions

The FREQ Procedure

racecat	edcat	GENDER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	1	1	243	2.06	243	2.06
1	1	2	392	3.33	635	5.39
1	2	1	83	0.70	718	6.09
1	2	2	100	0.85	818	6.94
1	3	1	68	0.58	886	7.52
1	3	2	84	0.71	970	8.23
1	4	1	36	0.31	1006	8.53
1	4	2	33	0.28	1039	8.81
2	1	1	611	5.18	1650	14.00
2	1	2	866	7.35	2516	21.34
2	2	1	1152	9.77	3668	31.11
2	2	2	1967	16.69	5635	47.80
2	3	1	840	7.13	6475	54.92
2	3	2	1032	8.75	7507	63.68
2	4	1	1362	11.55	8869	75.23
2	4	2	797	6.76	9666	81.99
3	1	1	251	2.13	9917	84.12
3	1	2	469	3.98	10386	88.10
3	2	1	174	1.48	10560	89.58
3	2	2	373	3.16	10933	92.74
3	3	1	114	0.97	11047	93.71
3	3	2	238	2.02	11285	95.72
3	4	1	86	0.73	11371	96.45
3	4	2	158	1.34	11529	97.79
4	1	1	21	0.18	11550	97.97
4	1	2	36	0.31	11586	98.28
4	2	1	19	0.16	11605	98.44
4	2	2	35	0.30	11640	98.74
4	3	1	26	0.22	11666	98.96
4	3	2	36	0.31	11702	99.26
4	4	1	53	0.45	11755	99.71
4	4	2	34	0.29	11789	100.00

Sum of KWGTR by cross-classes

The MEANS Procedure

Analysis Variable : KWGTR 2006 WEIGHT: RESPONDENT LEVEL						
Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other	Education 1=0-11 Yrs 2=12 Yrs 3=13-15 Yrs 4=16+ Yrs	Gender 1=Male 2=Female	N Obs	Sum	N Miss	Mean
1	1	1	243	952539.00	0	3919.91
		2	392	1297966.00	0	3311.14
	2	1	83	339270.00	0	4087.59
		2	100	338442.00	0	3384.42
	3	1	68	306781.00	0	4511.49
		2	84	332306.00	0	3956.02
	4	1	36	197080.00	0	5474.44
		2	33	117180.00	0	3550.91
2	1	1	611	2545549.00	0	4166.20
		2	866	3402321.00	0	3928.78
	2	1	1152	5676873.00	0	4927.84
		2	1967	8598832.00	0	4371.55
	3	1	840	4655233.00	0	5541.94
		2	1032	5073592.00	0	4916.27
	4	1	1362	7663934.00	0	5626.97
		2	797	4143263.00	0	5198.57
3	1	1	251	726190.00	0	2893.19
		2	469	1163709.00	0	2481.26
	2	1	174	614359.00	0	3530.80
		2	373	1043799.00	0	2798.39
	3	1	114	452512.00	0	3969.40
		2	238	739390.00	0	3106.68
	4	1	86	349839.00	0	4067.90
		2	158	458371.00	0	2901.08
4	1	1	21	80328.00	0	3825.14
		2	36	146168.00	0	4060.22
	2	1	19	88160.00	0	4640.00
		2	35	189664.00	0	5418.97
	3	1	26	137638.00	0	5293.77
		2	36	200783.00	0	5577.31
	4	1	53	349311.00	0	6590.77
		2	34	174605.00	0	5135.44

Sum of KWGTR by cross-classes

Obs	racecat	edcat	GENDER	_TYPE_	_FREQ_	popsize
1	1	1	1	7	243	952539
2	1	1	2	7	392	1297966
3	1	2	1	7	83	339270
4	1	2	2	7	100	338442
5	1	3	1	7	68	306781
6	1	3	2	7	84	332306
7	1	4	1	7	36	197080
8	1	4	2	7	33	117180
9	2	1	1	7	611	2545549
10	2	1	2	7	866	3402321
11	2	2	1	7	1152	5676873
12	2	2	2	7	1967	8598832
13	2	3	1	7	840	4655233
14	2	3	2	7	1032	5073592
15	2	4	1	7	1362	7663934
16	2	4	2	7	797	4143263
17	3	1	1	7	251	726190
18	3	1	2	7	469	1163709
19	3	2	1	7	174	614359
20	3	2	2	7	373	1043799
21	3	3	1	7	114	452512
22	3	3	2	7	238	739390
23	3	4	1	7	86	349839
24	3	4	2	7	158	458371
25	4	1	1	7	21	80328
26	4	1	2	7	36	146168
27	4	2	1	7	19	88160
28	4	2	2	7	35	189664
29	4	3	1	7	26	137638
30	4	3	2	7	36	200783
31	4	4	1	7	53	349311
32	4	4	2	7	34	174605

Repeat process for cases with complete data.

The MEANS Procedure

Analysis Variable : KWGTR 2006 WEIGHT: RESPONDENT LEVEL						
Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other	Education 1=0-11 Yrs 2=12 Yrs 3=13-15 Yrs 4=16+ Yrs	Gender 1=Male 2=Female	N Obs	Sum	N Miss	Mean
1	1	1	183	715504.00	0	3909.86
		2	312	1070258.00	0	3430.31
	2	1	67	278814.00	0	4161.40
		2	79	259196.00	0	3280.96
	3	1	58	265283.00	0	4573.84
		2	71	268132.00	0	3776.51
	4	1	30	170094.00	0	5669.80
		2	29	104168.00	0	3592.00
2	1	1	424	1844304.00	0	4349.77
		2	613	2433966.00	0	3970.58
	2	1	904	4605583.00	0	5094.67
		2	1561	6987371.00	0	4476.21
	3	1	693	3941101.00	0	5687.01
		2	859	4309926.00	0	5017.38
	4	1	1147	6682990.00	0	5826.50
		2	671	3575251.00	0	5328.24
3	1	1	174	529836.00	0	3045.03
		2	358	916106.00	0	2558.96
	2	1	141	527373.00	0	3740.23
		2	303	855906.00	0	2824.77
	3	1	97	406108.00	0	4186.68
		2	209	651115.00	0	3115.38
	4	1	67	275110.00	0	4106.12
		2	139	414571.00	0	2982.53
4	1	1	16	68319.00	0	4269.94
		2	29	125535.00	0	4328.79
	2	1	15	59569.00	0	3971.27
		2	33	183355.00	0	5556.21
	3	1	22	126835.00	0	5765.23
		2	31	166551.00	0	5372.61
	4	1	40	266463.00	0	6661.58
		2	27	147716.00	0	5470.96

Repeat process for cases with complete data.

Obs	racecat	edcat	GENDER	_TYPE_	_FREQ_	sumrespwgts
1	1	1	1	7	183	715504
2	1	1	2	7	312	1070258
3	1	2	1	7	67	278814
4	1	2	2	7	79	259196
5	1	3	1	7	58	265283
6	1	3	2	7	71	268132
7	1	4	1	7	30	170094
8	1	4	2	7	29	104168
9	2	1	1	7	424	1844304
10	2	1	2	7	613	2433966
11	2	2	1	7	904	4605583
12	2	2	2	7	1561	6987371
13	2	3	1	7	693	3941101
14	2	3	2	7	859	4309926
15	2	4	1	7	1147	6682990
16	2	4	2	7	671	3575251
17	3	1	1	7	174	529836
18	3	1	2	7	358	916106
19	3	2	1	7	141	527373
20	3	2	2	7	303	855906
21	3	3	1	7	97	406108
22	3	3	2	7	209	651115
23	3	4	1	7	67	275110
24	3	4	2	7	139	414571
25	4	1	1	7	16	68319
26	4	1	2	7	29	125535
27	4	2	1	7	15	59569
28	4	2	2	7	33	183355
29	4	3	1	7	22	126835
30	4	3	2	7	31	166551
31	4	4	1	7	40	266463
32	4	4	2	7	27	147716

Sums of Kwgtr by race, education, gender

The MEANS Procedure

Analysis Variable : KWGTR 2006 WEIGHT: RESPONDENT LEVEL				
Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other	Education 1=0-11 Yrs 2=12 Yrs 3=13-15 Yrs 4=16+ Yrs	Gender 1=Male 2=Female	N Obs	Sum
1	1	1	243	952539.00
		2	392	1297966.00
	2	1	83	339270.00
		2	100	338442.00
	3	1	68	306781.00
		2	84	332306.00
	4	1	36	197080.00
		2	33	117180.00
2	1	1	611	2545549.00
		2	866	3402321.00
	2	1	1152	5676873.00
		2	1967	8598832.00
	3	1	840	4655233.00
		2	1032	5073592.00
	4	1	1362	7663934.00
		2	797	4143263.00
3	1	1	251	726190.00
		2	469	1163709.00
	2	1	174	614359.00
		2	373	1043799.00
	3	1	114	452512.00
		2	238	739390.00
	4	1	86	349839.00
		2	158	458371.00
4	1	1	21	80328.00
		2	36	146168.00
	2	1	19	88160.00
		2	35	189664.00
	3	1	26	137638.00
		2	36	200783.00
	4	1	53	349311.00
		2	34	174605.00

Kwgtr_cal should match Kwgtr among respondents

The MEANS Procedure

Analysis Variable : kwgtr_cal				
Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other	Education 1=0-11 Yrs 2=12 Yrs 3=13-15 Yrs 4=16+ Yrs	Gender 1=Male 2=Female	N Obs	Sum
1	1	1	183	952539.00
		2	312	1297966.00
	2	1	67	339270.00
		2	79	338442.00
	3	1	58	306781.00
		2	71	332306.00
	4	1	30	197080.00
		2	29	117180.00
2	1	1	424	2545549.00
		2	613	3402321.00
	2	1	904	5676873.00
		2	1561	8598832.00
	3	1	693	4655233.00
		2	859	5073592.00
	4	1	1147	7663934.00
		2	671	4143263.00
3	1	1	174	726190.00
		2	358	1163709.00
	2	1	141	614359.00
		2	303	1043799.00
	3	1	97	452512.00
		2	209	739390.00
	4	1	67	349839.00
		2	139	458371.00
4	1	1	16	80328.00
		2	29	146168.00
	2	1	15	88160.00
		2	33	189664.00
	3	1	22	137638.00
		2	31	200783.00
	4	1	40	349311.00
		2	27	174605.00

Estimate mean change using complete cases. Table 11.3

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	56
Number of Clusters	112
Number of Observations	11789
Number of Observations Used	9402
Number of Obs with Nonpositive Weights	2387
Sum of Weights	52555987

Statistics					
Variable	**N**	**Mean**	**Std Error of Mean**	**95% CL for Mean**	
incdiff_06_10	9402	-6341.656953	1780.599423	-9908.6262	-2774.6877

11.3.3 Example: Weighted Multilevel Modeling

Obs	HHID	PN	GENDER	SECU	STRATUM	ln_inc1	ln_inc2	ln_inc3	ln_inc4	wgt1	wgt2	wgt3	wgt4	basewgt	i	ln_inc	wgt	year
1	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093	4287	4806	4893	4093	1	10.5964	4093	1
2	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093	4287	4806	4893	4093	2	10.6920	4287	2
3	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093	4287	4806	4893	4093	3	11.0148	4806	3
4	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093	4287	4806	4893	4093	4	10.4913	4893	4

11.3.3 Example: Weighted Multilevel Modeling

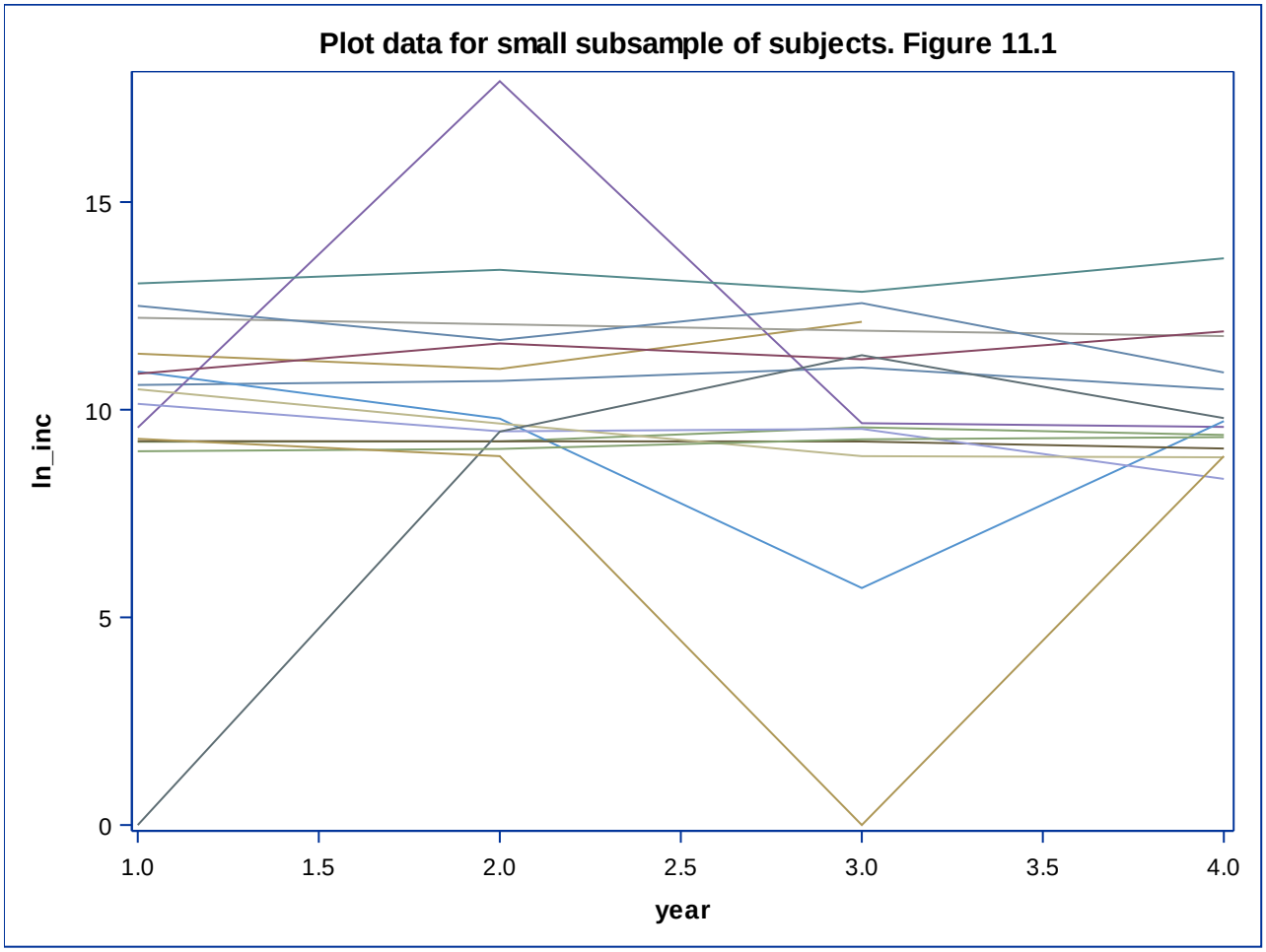
Obs	HHID	PN	GENDER	SECU	STRATUM	ln_inc1	ln_inc2	ln_inc3	ln_inc4	wgt1
1	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093
2	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093
3	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093
4	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093
5	010001	010	1	2	1	9.2291	9.2361	9.5751	9.3927	7434
6	010001	010	1	2	1	9.2291	9.2361	9.5751	9.3927	7434
7	010001	010	1	2	1	9.2291	9.2361	9.5751	9.3927	7434
8	010001	010	1	2	1	9.2291	9.2361	9.5751	9.3927	7434

Obs	wgt2	wgt3	wgt4	basewgt	i	ln_inc	wgt	year	newid	level1wgt	level2wgt
1	4287	4806	4893	4093	1	10.5964	4093	1	000003010	1.00000	4093
2	4287	4806	4893	4093	2	10.6920	4287	2	000003010	1.04740	4093
3	4287	4806	4893	4093	3	11.0148	4806	3	000003010	1.17420	4093
4	4287	4806	4893	4093	4	10.4913	4893	4	000003010	1.19546	4093
5	8308	4721	4710	7434	1	9.2291	7434	1	010001010	1.00000	7434
6	8308	4721	4710	7434	2	9.2361	8308	2	010001010	1.11757	7434
7	8308	4721	4710	7434	3	9.5751	4721	3	010001010	0.63506	7434
8	8308	4721	4710	7434	4	9.3927	4710	4	010001010	0.63358	7434

11.3.3 Example: Weighted Multilevel Modeling

Obs	HHID	PN	GENDER	SECU	STRATUM	ln_inc1	ln_inc2	ln_inc3	ln_inc4	wgt1	wgt2	wgt3
1	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093	4287	4806
2	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093	4287	4806
3	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093	4287	4806
4	000003	010	1	1	40	10.5964	10.6920	11.0148	10.4913	4093	4287	4806
5	010001	010	1	2	1	9.2291	9.2361	9.5751	9.3927	7434	8308	4721
6	010001	010	1	2	1	9.2291	9.2361	9.5751	9.3927	7434	8308	4721
7	010001	010	1	2	1	9.2291	9.2361	9.5751	9.3927	7434	8308	4721
8	010001	010	1	2	1	9.2291	9.2361	9.5751	9.3927	7434	8308	4721
9	010004	010	1	2	1	11.3487	10.9819	12.1168	.	5217	5214	5642
10	010004	010	1	2	1	11.3487	10.9819	12.1168	.	5217	5214	5642
11	010004	010	1	2	1	11.3487	10.9819	12.1168	.	5217	5214	5642
12	010013	010	1	2	1	9.5692	17.9101	9.6756	9.5858	5373	5303	5571

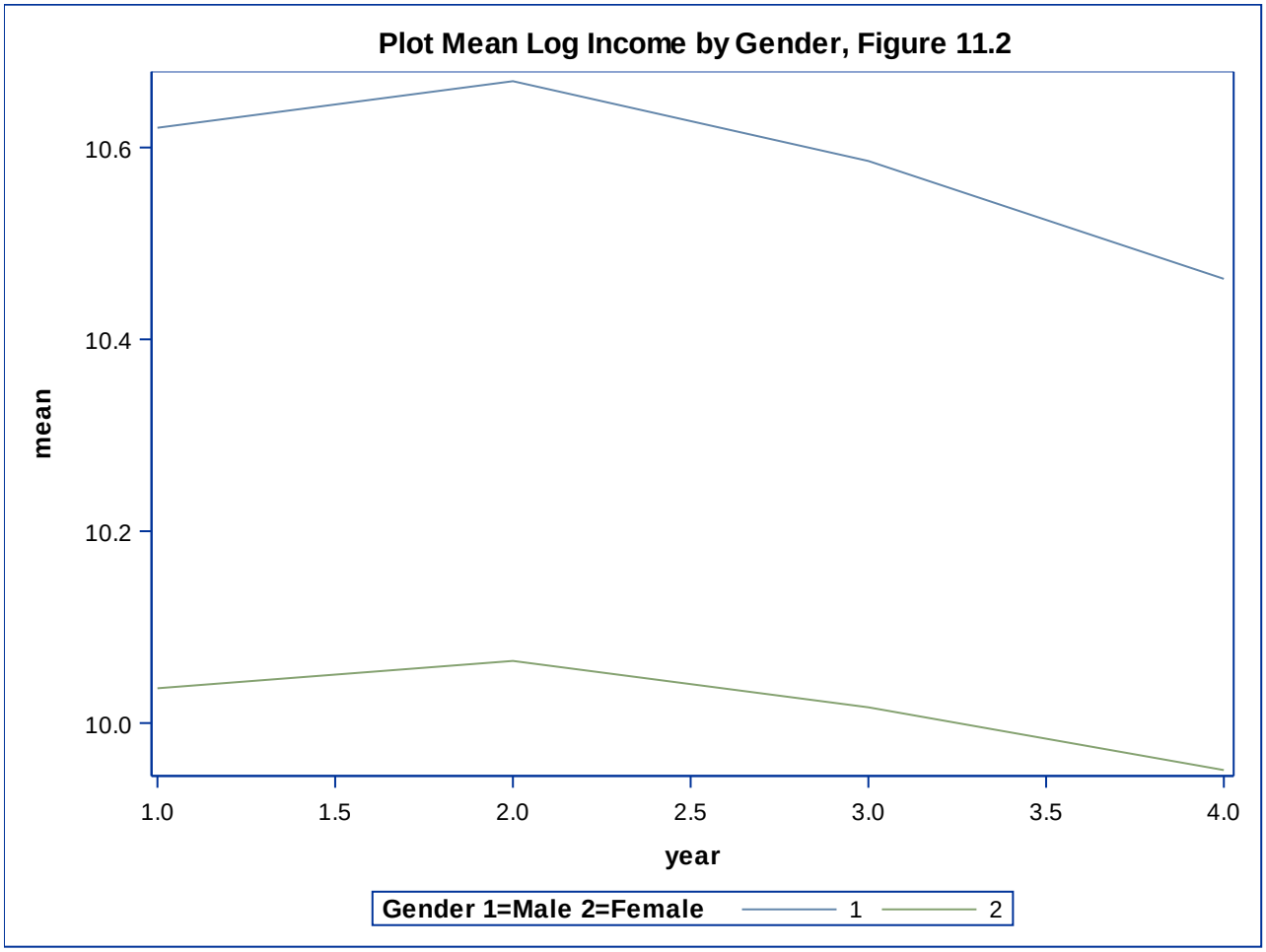
Obs	wgt4	basewgt	i	ln_inc	wgt	year	newid	level1wgt	level2wgt	sumw	nj	level1wgt_r
1	4893	4093	1	10.5964	4093	1	000003010	1.00000	4093	4.41705	4	0.90558
2	4893	4093	2	10.6920	4287	2	000003010	1.04740	4093	4.41705	4	0.94850
3	4893	4093	3	11.0148	4806	3	000003010	1.17420	4093	4.41705	4	1.06333
4	4893	4093	4	10.4913	4893	4	000003010	1.19546	4093	4.41705	4	1.08258
5	4710	7434	1	9.2291	7434	1	010001010	1.00000	7434	3.38620	4	1.18127
6	4710	7434	2	9.2361	8308	2	010001010	1.11757	7434	3.38620	4	1.32014
7	4710	7434	3	9.5751	4721	3	010001010	0.63506	7434	3.38620	4	0.75017
8	4710	7434	4	9.3927	4710	4	010001010	0.63358	7434	3.38620	4	0.74842
9	0	5217	1	11.3487	5217	1	010004010	1.00000	5217	3.08089	3	0.97374
10	0	5217	2	10.9819	5214	2	010004010	0.99942	5217	3.08089	3	0.97318
11	0	5217	3	12.1168	5642	3	010004010	1.08146	5217	3.08089	3	1.05307
12	5795	5373	1	9.5692	5373	1	010013010	1.00000	5373	4.10236	4	0.97505


Plot data for small subsample of subjects. Figure 11.1
ln_inc
15
10
5
0
1.0
1.5
2.0
2.5
3.0
3.5
4.0
year

Plot Mean Log Income by Gender, Figure 11.2

The MEANS Procedure

Analysis Variable : ln_inc							
Gender 1=Male 2=Female	year	N Obs	N	Mean	Std Dev	Minimum	Maximum
1	1	5139	5139	10.6205751	1.2433247	0	17.0486936
	2	4586	4586	10.6691170	1.2537393	0	17.9100947
	3	4078	4078	10.5859283	1.4186591	0	14.9225145
	4	3701	3701	10.4631073	1.5384880	0	15.1146774
2	1	6650	6650	10.0362589	1.3037437	0	15.4329026
	2	5988	5988	10.0647667	1.3835123	0	14.9177765
	3	5324	5324	10.0164156	1.5099156	0	14.5766570
	4	4859	4859	9.9509921	1.4515036	0	14.0302194


Plot Mean Log Income by Gender, Figure 11.2
10.6
10.4
10.2
10.0
mean
1.0
1.5
2.0
2.5
3.0
3.5
4.0
year
Gender 1=Male 2=Female
1
2

Modified Mixed Model with Level 1 weight and Stratum as fixed classification effect: NO level 2 weights included in model

The Mixed Procedure

Model Information	
Data Set	WORK.CHAPTER11_HRS_VERT
Dependent Variable	ln_inc
Weight Variable	level1wgt_r
Covariance Structure	Unstructured
Subject Effect	newid_num
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Kenward-Roger
Degrees of Freedom Method	Kenward-Roger

Class Level Information		
Class	**Levels**	**Values**
GENDER	2	2 1
STRATUM	56	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 1

Dimensions	
Covariance Parameters	7
Columns in X	65
Columns in Z per Subject	3
Subjects	11789
Max Obs per Subject	4

Number of Observations	
Number of Observations Read	40325
Number of Observations Used	39556
Number of Observations Not Used	769

Iteration History			
Iteration	**Evaluations**	**-2 Log Like**	**Criterion**
0	1	136386.68945127	
1	3	126341.96131506	0.00013913
2	2	126339.17756386	0.00003160
3	2	126338.80701248	0.00001752
4	1	126338.34223489	0.00000001

Convergence criteria met.

Estimated G Matrix					
Row	**Effect**	**Subject**	**Col1**	**Col2**	**Col3**
1	Intercept	1	0.8925	0.01101	-0.00653
2	yrssince06	1	0.01101	0.05642	-0.00938
3	yrs06sq	1	-0.00653	-0.00938	0.002079

Estimated V Matrix for Subject 1/Weighted by level1wgt_r				
Row	**Col1**	**Col2**	**Col3**	**Col4**
1	1.7780	0.8884	0.8320	0.7234
2	0.8884	1.8386	0.9622	0.7955

Estimated V Matrix for Subject 1/Weighted by level1wgt_r				
Row	Col1	Col2	Col3	Col4
3	0.8320	0.9622	1.7603	0.9639
4	0.7234	0.7955	0.9639	1.9694

Covariance Parameter Estimates		
Cov Parm	Subject	Estimate
UN(1,1)	newid_num	0.8925
UN(2,1)	newid_num	0.01101
UN(2,2)	newid_num	0.05642
UN(3,1)	newid_num	-0.00653
UN(3,2)	newid_num	-0.00938
UN(3,3)	newid_num	0.002079
Residual		0.8019

Fit Statistics	
-2 Log Likelihood	126338.3
AIC (Smaller is Better)	126474.3
AICC (Smaller is Better)	126474.6
BIC (Smaller is Better)	126975.8

Null Model Likelihood Ratio Test		
DF	Chi-Square	Pr > ChiSq
6	10048.35	<.0001

Solution for Fixed Effects							
Effect	Gender 1=Male 2=Female	STRATUM ID	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept			10.1840	0.07857	12E3	129.61	<.0001
yrssince06			0.03216	0.01118	11E3	2.88	0.0040
GENDER	2		-0.5722	0.02391	12E3	-23.94	<.0001
GENDER	1		0	.	.	.	.
yrssince06*GENDER	2		-0.00903	0.01488	11E3	-0.61	0.5438
yrssince06*GENDER	1		0	.	.	.	.
yrs06sq			-0.01106	0.001884	9860	-5.87	<.0001
yrs06sq*GENDER	2		0.003456	0.002506	9857	1.38	0.1678
yrs06sq*GENDER	1		0	.	.	.	.
STRATUM		2	0.1777	0.1104	12E3	1.61	0.1073
STRATUM		3	0.2541	0.1167	12E3	2.18	0.0294
STRATUM		4	0.3829	0.1145	11E3	3.34	0.0008
STRATUM		5	0.3801	0.1141	11E3	3.33	0.0009
STRATUM		6	0.3146	0.1104	12E3	2.85	0.0044
STRATUM		7	0.6909	0.1049	12E3	6.59	<.0001
STRATUM		8	0.4318	0.1012	12E3	4.27	<.0001
STRATUM		9	0.5938	0.1113	12E3	5.33	<.0001
STRATUM		10	0.8194	0.1144	12E3	7.16	<.0001
STRATUM		11	0.3370	0.1189	12E3	2.83	0.0046
STRATUM		12	0.2713	0.1215	12E3	2.23	0.0255
STRATUM		13	0.5903	0.1317	12E3	4.48	<.0001
STRATUM		14	0.5711	0.1314	12E3	4.35	<.0001
STRATUM		15	0.4672	0.1310	12E3	3.57	0.0004
STRATUM		16	0.3149	0.1314	12E3	2.40	0.0166

Solution for Fixed Effects							
Effect	Gender 1=Male 2=Female	STRATUM ID	Estimate	Standard Error	DF	t Value	Pr > |t|
STRATUM		17	0.5226	0.1158	12E3	4.51	<.0001
STRATUM		18	0.7641	0.1281	11E3	5.97	<.0001
STRATUM		19	0.3355	0.1256	12E3	2.67	0.0075
STRATUM		20	-0.07792	0.1121	12E3	-0.70	0.4868
STRATUM		21	0.5331	0.1098	12E3	4.86	<.0001
STRATUM		22	0.5039	0.1391	12E3	3.62	0.0003
STRATUM		23	0.5090	0.1416	11E3	3.59	0.0003
STRATUM		24	0.5706	0.1518	12E3	3.76	0.0002
STRATUM		25	0.4975	0.1457	12E3	3.41	0.0006
STRATUM		26	0.4939	0.1017	12E3	4.86	<.0001
STRATUM		27	0.6272	0.09827	12E3	6.38	<.0001
STRATUM		28	0.4964	0.1008	12E3	4.92	<.0001
STRATUM		29	0.5519	0.09603	12E3	5.75	<.0001
STRATUM		30	0.6267	0.09617	12E3	6.52	<.0001
STRATUM		31	0.5424	0.09663	12E3	5.61	<.0001
STRATUM		32	0.3440	0.1017	12E3	3.38	0.0007
STRATUM		33	0.2655	0.09337	12E3	2.84	0.0045
STRATUM		34	-0.00181	0.09977	12E3	-0.02	0.9855
STRATUM		35	0.5354	0.1229	12E3	4.36	<.0001
STRATUM		36	0.09914	0.1079	12E3	0.92	0.3581
STRATUM		37	0.2865	0.1129	12E3	2.54	0.0112
STRATUM		38	0.4110	0.1040	12E3	3.95	<.0001
STRATUM		39	0.5858	0.1048	12E3	5.59	<.0001
STRATUM		40	0.7484	0.09492	12E3	7.89	<.0001
STRATUM		41	0.5931	0.09844	12E3	6.02	<.0001
STRATUM		42	0.4728	0.09823	12E3	4.81	<.0001
STRATUM		43	0.5022	0.09907	12E3	5.07	<.0001
STRATUM		44	0.4654	0.09851	12E3	4.73	<.0001
STRATUM		45	0.6276	0.09337	12E3	6.72	<.0001
STRATUM		46	0.4900	0.09125	12E3	5.37	<.0001
STRATUM		47	0.2050	0.09517	12E3	2.15	0.0312
STRATUM		48	0.3340	0.1071	12E3	3.12	0.0018
STRATUM		49	0.2555	0.1018	12E3	2.51	0.0121
STRATUM		50	0.3569	0.09598	12E3	3.72	0.0002
STRATUM		51	0.3903	0.1014	12E3	3.85	0.0001
STRATUM		52	-0.5679	0.1226	12E3	-4.63	<.0001
STRATUM		53	0.6395	0.1919	12E3	3.33	0.0009
STRATUM		54	-0.2168	0.2740	11E3	-0.79	0.4289
STRATUM		55	0.2680	0.1643	11E3	1.63	0.1029
STRATUM		56	0.8292	0.1744	11E3	4.75	<.0001
STRATUM		1	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
yrssince06	1	11E3	13.81	0.0002
GENDER	1	12E3	572.95	<.0001
yrssince06*GENDER	1	11E3	0.37	0.5438
yrs06sq	1	9857	55.50	<.0001
yrs06sq*GENDER	1	9857	1.90	0.1678
STRATUM	55	12E3	8.74	<.0001

Unweighted Model to Demonstrate Use of PROC MIXED

The Mixed Procedure

Model Information	
Data Set	WORK.CHAPTER11_HRS_VERT
Dependent Variable	ln_inc
Covariance Structure	Unstructured
Subject Effect	newid_num
Estimation Method	ML
Residual Variance Method	Profile
Fixed Effects SE Method	Kenward-Roger
Degrees of Freedom Method	Kenward-Roger

Class Level Information		
Class	**Levels**	**Values**
GENDER	2	2 1

Dimensions	
Covariance Parameters	7
Columns in X	9
Columns in Z per Subject	3
Subjects	11789
Max Obs per Subject	4

Number of Observations	
Number of Observations Read	40325
Number of Observations Used	40325
Number of Observations Not Used	0

Iteration History			
Iteration	**Evaluations**	**-2 Log Like**	**Criterion**
0	1	140650.43060123	
1	2	148777.47335630	879329.70541
2	1	144073.41260282	2457944.7003
3	1	139451.46511502	6786165.8331
4	1	134833.46768971	17396603.179
5	3	132376.66278539	19832511.425
6	1	130796.55484017	0.00992550
7	3	130686.83113151	.
8	2	130599.50437358	.
9	2	130596.79951470	0.00000014
10	1	130596.79555413	0.00000000

Convergence criteria met.

Estimated G Matrix					
Row	**Effect**	**Subject**	**Col1**	**Col2**	**Col3**
1	Intercept	1	0.7726	0.08493	-0.01485
2	yrssince06	1	0.08493		-0.00083
3	yrs06sq	1	-0.01485	-0.00083	0.000745

Estimated V Matrix for Subject 1				
Row	**Col1**	**Col2**	**Col3**	**Col4**

Estimated V Matrix for Subject 1				
Row	**Col1**	**Col2**	**Col3**	**Col4**
1	1.6766	0.8831	0.8748	0.7478
2	0.8831	1.8962	0.9932	0.8860
3	0.8748	0.9932	1.9658	1.0804
4	0.7478	0.8860	1.0804	2.2349

Covariance Parameter Estimates		
Cov Parm	**Subject**	**Estimate**
UN(1,1)	newid_num	0.7726
UN(2,1)	newid_num	0.08493
UN(2,2)	newid_num	0
UN(3,1)	newid_num	-0.01485
UN(3,2)	newid_num	-0.00083
UN(3,3)	newid_num	0.000745
Residual		0.9040

Fit Statistics	
-2 Log Likelihood	130596.8
AIC (Smaller is Better)	130620.8
AICC (Smaller is Better)	130620.8
BIC (Smaller is Better)	130709.3

Null Model Likelihood Ratio Test		
DF	**Chi-Square**	**Pr > ChiSq**
5	10053.64	<.0001

Solution for Fixed Effects						
Effect	**Gender 1=Male 2=Female**	**Estimate**	**Standard Error**	**DF**	**t Value**	**Pr > |t|**
Intercept		10.6250	0.01786	12E3	594.87	<.0001
yrssince06		0.02429	0.01122	2E4	2.16	0.0304
GENDER	2	-0.5855	0.02378	12E3	-24.62	<.0001
GENDER	1	0	.	.	.	.
yrs06sq		-0.01045	0.001891	16E3	-5.53	<.0001
yrssince06*GENDER	2	-0.01232	0.01491	2E4	-0.83	0.4089
yrssince06*GENDER	1	0	.	.	.	.
yrs06sq*GENDER	2	0.004256	0.002511	16E3	1.69	0.0902
yrs06sq*GENDER	1	0	.	.	.	.

Type 3 Tests of Fixed Effects				
Effect	**Num DF**	**Den DF**	**F Value**	**Pr > F**
yrssince06	1	2E4	5.91	0.0150
GENDER	1	12E3	606.14	<.0001
yrs06sq	1	16E3	43.95	<.0001
yrssince06*GENDER	1	2E4	0.68	0.4089
yrs06sq*GENDER	1	16E3	2.87	0.0902

Veiga et al. (2014) not available in SAS SURVEY procedures

Check Response in 2008, 2010, 2012

The FREQ Procedure

resp08	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	1215	10.31	1215	10.31
1	10574	89.69	11789	100.00

resp10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	2387	20.25	2387	20.25
1	9402	79.75	11789	100.00

resp12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	3229	27.39	3229	27.39
1	8560	72.61	11789	100.00

Response propensity model (2008).

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp08	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp08**	**Total Frequency**	**Total Weight**
1	0	1215	4942420
2	1	10574	47613567

Probability modeled is resp08=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	32772754	30734556
SC	32772770	30734825
-2 Log L	32772752	30734522

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	129728	11.6596	652.94	<.0001
Score	19.99	16	41	<.0001
Wald	22.66	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3723 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.04	1	56	0.8405
selfrhealth_06	43.04	4	53	<.0001
age_06	102.51	1	56	<.0001
marcat_06	2.81	2	55	0.0691
diabetes_06	7.90	1	56	0.0068
arthritis_06	28.03	1	56	<.0001
racecat	2.17	3	54	0.1025
edcat	0.44	3	54	0.7245

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		5.6307	0.5440	10.35	<.0001
ln_inc06		0.00727	0.0359	0.20	0.8405
selfrhealth_06	2	-0.1526	0.1534	-0.99	0.3242
selfrhealth_06	3	-0.3367	0.1865	-1.81	0.0764
selfrhealth_06	4	-0.7260	0.1681	-4.32	<.0001
selfrhealth_06	5	-1.4960	0.1871	-8.00	<.0001
age_06		-0.0439	0.00434	-10.12	<.0001
marcat_06	2	0.00848	0.0892	0.10	0.9246
marcat_06	3	-0.4002	0.1774	-2.26	0.0280
diabetes_06		-0.2035	0.0724	-2.81	0.0068
arthritis_06		0.3311	0.0625	5.29	<.0001
racecat	2	0.0251	0.1419	0.18	0.8601
racecat	3	-0.1931	0.1709	-1.13	0.2634
racecat	4	-0.4276	0.2735	-1.56	0.1236
edcat	2	-0.0468	0.1016	-0.46	0.6471
edcat	3	-0.1353	0.1206	-1.12	0.2667
edcat	4	-0.0177	0.1139	-0.16	0.8773
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.007	0.937	1.082
selfrhealth_06	2 vs 1	0.858	0.631	1.167
selfrhealth_06	3 vs 1	0.714	0.492	1.038
selfrhealth_06	4 vs 1	0.484	0.346	0.678
selfrhealth_06	5 vs 1	0.224	0.154	0.326
age_06		0.957	0.949	0.965
marcat_06	2 vs 1	1.009	0.844	1.206
marcat_06	3 vs 1	0.670	0.470	0.956
diabetes_06		0.816	0.706	0.943
arthritis_06		1.393	1.229	1.578
racecat	2 vs 1	1.025	0.772	1.362
racecat	3 vs 1	0.824	0.585	1.161
racecat	4 vs 1	0.652	0.377	1.128
edcat	2 vs 1	0.954	0.779	1.170
edcat	3 vs 1	0.873	0.686	1.112
edcat	4 vs 1	0.982	0.782	1.234
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	67.9	Somers' D	0.366
Percent Discordant	31.2	Gamma	0.370
Percent Tied	0.9	Tau-a	0.068
Pairs	12847410	c	0.683

Response propensity model (2008).

The MEANS Procedure

Analysis Variable : phat08 Estimated Probability					
N	N Miss	Mean	Std Error	Lower 95% CL for Mean	Upper 95% CL for Mean
11789	0	0.8940258	0.000622060	0.8928065	0.8952451

Response propensity model (2010), respondents in 2008.

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp10	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp10**	**Total Frequency**	**Total Weight**
1	0	2387	9323578
2	1	9402	43232409

Probability modeled is resp10=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	49132729	43706079
SC	49132745	43706347
-2 Log L	49132727	43706045

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	357259	11.3432	635.22	<.0001
Score	36.70	16	41	<.0001
Wald	31.73	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4105 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.45	1	56	0.2339
selfrhealth_06	66.01	4	53	<.0001
age_06	297.29	1	56	<.0001
marcat_06	3.52	2	55	0.0364
diabetes_06	5.10	1	56	0.0278
arthritis_06	39.11	1	56	<.0001
racecat	0.19	3	54	0.9018
edcat	0.62	3	54	0.6046

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.0712	0.4177	14.53	<.0001
ln_inc06		0.0291	0.0241	1.20	0.2339
selfrhealth_06	2	-0.1754	0.1280	-1.37	0.1762
selfrhealth_06	3	-0.4479	0.1394	-3.21	0.0022
selfrhealth_06	4	-0.8735	0.1234	-7.08	<.0001
selfrhealth_06	5	-1.6189	0.1466	-11.04	<.0001
age_06		-0.0641	0.00372	-17.24	<.0001
marcat_06	2	-0.00117	0.0628	-0.02	0.9851
marcat_06	3	-0.2803	0.1134	-2.47	0.0165
diabetes_06		-0.1475	0.0653	-2.26	0.0278
arthritis_06		0.3111	0.0497	6.25	<.0001
racecat	2	-0.0506	0.1218	-0.42	0.6795
racecat	3	0.0227	0.1298	0.18	0.8615
racecat	4	-0.0452	0.2847	-0.16	0.8745
edcat	2	0.0490	0.0729	0.67	0.5047
edcat	3	0.0786	0.0752	1.05	0.3003
edcat	4	0.0675	0.0813	0.83	0.4103
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.029	0.981	1.080
selfrhealth_06	2 vs 1	0.839	0.649	1.084
selfrhealth_06	3 vs 1	0.639	0.483	0.845
selfrhealth_06	4 vs 1	0.418	0.326	0.535
selfrhealth_06	5 vs 1	0.198	0.148	0.266
age_06		0.938	0.931	0.945
marcat_06	2 vs 1	0.999	0.881	1.133
marcat_06	3 vs 1	0.756	0.602	0.948
diabetes_06		0.863	0.757	0.983
arthritis_06		1.365	1.235	1.508
racecat	2 vs 1	0.951	0.745	1.213
racecat	3 vs 1	1.023	0.789	1.327
racecat	4 vs 1	0.956	0.540	1.691
edcat	2 vs 1	1.050	0.907	1.215
edcat	3 vs 1	1.082	0.931	1.258
edcat	4 vs 1	1.070	0.909	1.259
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	72.7	Somers' D	0.457
Percent Discordant	26.9	Gamma	0.459
Percent Tied	0.4	Tau-a	0.148
Pairs	22442574	c	0.729

Response propensity model (2010), respondents in 2008.

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1215
Number of Observations not in Domain	10574
Sum of Weights in Domain	4942420.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp10	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	4942420
Sum of Weights Used	4942420

Response Profile			
Ordered Value	**resp10**	**Total Frequency**	**Total Weight**
1	0	1033	4032032.0
2	1	182	910388.0

Probability modeled is resp10=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	4722000.1	3980465.8
SC	4722013.5	3980693.8
-2 Log L	4721998.1	3980431.8

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	47419.3	11.2236	628.52	<.0001
Score	9.66	16	41	<.0001
Wald	8.96	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4256 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.02	1	56	0.8971
selfrhealth_06	6.19	4	53	0.0004
age_06	65.53	1	56	<.0001
marcat_06	1.80	2	55	0.1749
diabetes_06	0.79	1	56	0.3785
arthritis_06	0.06	1	56	0.8070
racecat	2.15	3	54	0.1051
edcat	3.73	3	54	0.0165

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		3.8234	1.0685	3.58	0.0007
ln_inc06		0.00941	0.0725	0.13	0.8971
selfrhealth_06	2	-0.3388	0.4445	-0.76	0.4492
selfrhealth_06	3	-0.9544	0.4015	-2.38	0.0209
selfrhealth_06	4	-0.9182	0.4636	-1.98	0.0526
selfrhealth_06	5	-1.5847	0.4441	-3.57	0.0007
age_06		-0.0712	0.00880	-8.09	<.0001
marcat_06	2	0.1450	0.2113	0.69	0.4954
marcat_06	3	-0.8500	0.5704	-1.49	0.1418
diabetes_06		0.2314	0.2606	0.89	0.3785
arthritis_06		0.0541	0.2205	0.25	0.8070
racecat	2	-0.1699	0.4270	-0.40	0.6922
racecat	3	0.3759	0.3840	0.98	0.3318
racecat	4	0.9791	0.7132	1.37	0.1753

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	0.2367	0.2881	0.82	0.4148
edcat	3	0.5730	0.2868	2.00	0.0506
edcat	4	-0.4502	0.3015	-1.49	0.1410
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.009	0.873	1.167
selfrhealth_06	2 vs 1	0.713	0.293	1.736
selfrhealth_06	3 vs 1	0.385	0.172	0.861
selfrhealth_06	4 vs 1	0.399	0.158	1.011
selfrhealth_06	5 vs 1	0.205	0.084	0.499
age_06		0.931	0.915	0.948
marcat_06	2 vs 1	1.156	0.757	1.765
marcat_06	3 vs 1	0.427	0.136	1.340
diabetes_06		1.260	0.748	2.124
arthritis_06		1.056	0.679	1.642
racecat	2 vs 1	0.844	0.359	1.985
racecat	3 vs 1	1.456	0.675	3.143
racecat	4 vs 1	2.662	0.638	11.110
edcat	2 vs 1	1.267	0.711	2.257
edcat	3 vs 1	1.774	0.998	3.150
edcat	4 vs 1	0.637	0.348	1.166
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	77.1	Somers' D	0.545
Percent Discordant	22.6	Gamma	0.547
Percent Tied	0.4	Tau-a	0.139
Pairs	188006	c	0.772

Response propensity model (2010), respondents in 2008.

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	10574
Number of Observations not in Domain	1215
Sum of Weights in Domain	47613567

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp10	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	

Model Information		
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	47613567
Sum of Weights Used	47613567

Response Profile			
Ordered Value	**resp10**	**Total Frequency**	**Total Weight**
1	0	1354	5291546
2	1	9220	42322021

Probability modeled is resp10=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	33223064	30156119
SC	33223079	30156385
-2 Log L	33223062	30156085

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	184747	10.8871	609.68	<.0001
Score	23.48	16	41	<.0001
Wald	27.09	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4696 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.29	1	56	0.2604
selfrhealth_06	30.68	4	53	<.0001
age_06	249.72	1	56	<.0001
marcat_06	0.05	2	55	0.9492
diabetes_06	1.99	1	56	0.1636
arthritis_06	13.86	1	56	0.0005
racecat	0.38	3	54	0.7696
edcat	1.25	3	54	0.3008

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.3297	0.4772	13.26	<.0001
ln_inc06		0.0350	0.0308	1.14	0.2604
selfrhealth_06	2	-0.1428	0.1771	-0.81	0.4233
selfrhealth_06	3	-0.3484	0.1919	-1.82	0.0747
selfrhealth_06	4	-0.7749	0.1631	-4.75	<.0001
selfrhealth_06	5	-1.3370	0.2016	-6.63	<.0001
age_06		-0.0628	0.00397	-15.80	<.0001
marcat_06	2	-0.0270	0.0831	-0.32	0.7465
marcat_06	3	-0.0147	0.1431	-0.10	0.9187
diabetes_06		-0.1188	0.0842	-1.41	0.1636
arthritis_06		0.2685	0.0721	3.72	0.0005
racecat	2	-0.0543	0.1744	-0.31	0.7566
racecat	3	0.0851	0.1927	0.44	0.6605
racecat	4	-0.0208	0.4022	-0.05	0.9590
edcat	2	0.0706	0.0935	0.76	0.4531
edcat	3	0.1072	0.0828	1.29	0.2008
edcat	4	0.1659	0.1115	1.49	0.1422
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	1.036	0.974	1.102
selfrhealth_06 2 vs 1	0.867	0.608	1.236
selfrhealth_06 3 vs 1	0.706	0.481	1.037
selfrhealth_06 4 vs 1	0.461	0.332	0.639
selfrhealth_06 5 vs 1	0.263	0.175	0.393
age_06	0.939	0.932	0.947
marcat_06 2 vs 1	0.973	0.824	1.150
marcat_06 3 vs 1	0.985	0.740	1.313
diabetes_06	0.888	0.750	1.051
arthritis_06	1.308	1.132	1.511
racecat 2 vs 1	0.947	0.668	1.343

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
racecat	3 vs 1	1.089	0.740	1.602
racecat	4 vs 1	0.979	0.438	2.192
edcat	2 vs 1	1.073	0.890	1.294
edcat	3 vs 1	1.113	0.943	1.314
edcat	4 vs 1	1.180	0.944	1.476
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	71.4	Somers' D	0.435
Percent Discordant	27.9	Gamma	0.438
Percent Tied	0.6	Tau-a	0.097
Pairs	12483880	c	0.717

Response propensity model (2010), respondents in 2008.

The MEANS Procedure

Analysis Variable : phat10_11 Estimated Probability					
N	N Miss	Mean	Std Error	Lower 95% CL for Mean	Upper 95% CL for Mean
11789	0	0.8634120	0.000908432	0.8616314	0.8651927

Response propensity model (2010), non respondents in 2008.

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp10	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp10**	**Total Frequency**	**Total Weight**
1	0	2387	9323578
2	1	9402	43232409

Probability modeled is resp10=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	49132729	43706079
SC	49132745	43706347
-2 Log L	49132727	43706045

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	357259	11.3432	635.22	<.0001
Score	36.70	16	41	<.0001
Wald	31.73	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4105 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.45	1	56	0.2339
selfrhealth_06	66.01	4	53	<.0001
age_06	297.29	1	56	<.0001
marcat_06	3.52	2	55	0.0364
diabetes_06	5.10	1	56	0.0278
arthritis_06	39.11	1	56	<.0001
racecat	0.19	3	54	0.9018
edcat	0.62	3	54	0.6046

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.0712	0.4177	14.53	<.0001
ln_inc06		0.0291	0.0241	1.20	0.2339
selfrhealth_06	2	-0.1754	0.1280	-1.37	0.1762
selfrhealth_06	3	-0.4479	0.1394	-3.21	0.0022
selfrhealth_06	4	-0.8735	0.1234	-7.08	<.0001
selfrhealth_06	5	-1.6189	0.1466	-11.04	<.0001
age_06		-0.0641	0.00372	-17.24	<.0001
marcat_06	2	-0.00117	0.0628	-0.02	0.9851
marcat_06	3	-0.2803	0.1134	-2.47	0.0165
diabetes_06		-0.1475	0.0653	-2.26	0.0278
arthritis_06		0.3111	0.0497	6.25	<.0001
racecat	2	-0.0506	0.1218	-0.42	0.6795
racecat	3	0.0227	0.1298	0.18	0.8615
racecat	4	-0.0452	0.2847	-0.16	0.8745
edcat	2	0.0490	0.0729	0.67	0.5047
edcat	3	0.0786	0.0752	1.05	0.3003
edcat	4	0.0675	0.0813	0.83	0.4103
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.029	0.981	1.080
selfrhealth_06	2 vs 1	0.839	0.649	1.084
selfrhealth_06	3 vs 1	0.639	0.483	0.845
selfrhealth_06	4 vs 1	0.418	0.326	0.535
selfrhealth_06	5 vs 1	0.198	0.148	0.266
age_06		0.938	0.931	0.945
marcat_06	2 vs 1	0.999	0.881	1.133
marcat_06	3 vs 1	0.756	0.602	0.948
diabetes_06		0.863	0.757	0.983
arthritis_06		1.365	1.235	1.508
racecat	2 vs 1	0.951	0.745	1.213
racecat	3 vs 1	1.023	0.789	1.327
racecat	4 vs 1	0.956	0.540	1.691
edcat	2 vs 1	1.050	0.907	1.215
edcat	3 vs 1	1.082	0.931	1.258
edcat	4 vs 1	1.070	0.909	1.259
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	72.7	Somers' D	0.457
Percent Discordant	26.9	Gamma	0.459
Percent Tied	0.4	Tau-a	0.148
Pairs	22442574	c	0.729

Response propensity model (2010), non respondents in 2008.

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1215
Number of Observations not in Domain	10574
Sum of Weights in Domain	4942420.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp10	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	4942420
Sum of Weights Used	4942420

Response Profile			
Ordered Value	**resp10**	**Total Frequency**	**Total Weight**
1	0	1033	4032032.0
2	1	182	910388.0

Probability modeled is resp10=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	4722000.1	3980465.8
SC	4722013.5	3980693.8
-2 Log L	4721998.1	3980431.8

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	47419.3	11.2236	628.52	<.0001
Score	9.66	16	41	<.0001
Wald	8.96	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4256 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.02	1	56	0.8971
selfrhealth_06	6.19	4	53	0.0004
age_06	65.53	1	56	<.0001
marcat_06	1.80	2	55	0.1749
diabetes_06	0.79	1	56	0.3785
arthritis_06	0.06	1	56	0.8070
racecat	2.15	3	54	0.1051
edcat	3.73	3	54	0.0165

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		3.8234	1.0685	3.58	0.0007
ln_inc06		0.00941	0.0725	0.13	0.8971
selfrhealth_06	2	-0.3388	0.4445	-0.76	0.4492
selfrhealth_06	3	-0.9544	0.4015	-2.38	0.0209
selfrhealth_06	4	-0.9182	0.4636	-1.98	0.0526
selfrhealth_06	5	-1.5847	0.4441	-3.57	0.0007
age_06		-0.0712	0.00880	-8.09	<.0001
marcat_06	2	0.1450	0.2113	0.69	0.4954
marcat_06	3	-0.8500	0.5704	-1.49	0.1418
diabetes_06		0.2314	0.2606	0.89	0.3785
arthritis_06		0.0541	0.2205	0.25	0.8070
racecat	2	-0.1699	0.4270	-0.40	0.6922
racecat	3	0.3759	0.3840	0.98	0.3318
racecat	4	0.9791	0.7132	1.37	0.1753

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	0.2367	0.2881	0.82	0.4148
edcat	3	0.5730	0.2868	2.00	0.0506
edcat	4	-0.4502	0.3015	-1.49	0.1410
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.009	0.873	1.167
selfrhealth_06	2 vs 1	0.713	0.293	1.736
selfrhealth_06	3 vs 1	0.385	0.172	0.861
selfrhealth_06	4 vs 1	0.399	0.158	1.011
selfrhealth_06	5 vs 1	0.205	0.084	0.499
age_06		0.931	0.915	0.948
marcat_06	2 vs 1	1.156	0.757	1.765
marcat_06	3 vs 1	0.427	0.136	1.340
diabetes_06		1.260	0.748	2.124
arthritis_06		1.056	0.679	1.642
racecat	2 vs 1	0.844	0.359	1.985
racecat	3 vs 1	1.456	0.675	3.143
racecat	4 vs 1	2.662	0.638	11.110
edcat	2 vs 1	1.267	0.711	2.257
edcat	3 vs 1	1.774	0.998	3.150
edcat	4 vs 1	0.637	0.348	1.166
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	77.1	Somers' D	0.545
Percent Discordant	22.6	Gamma	0.547
Percent Tied	0.4	Tau-a	0.139
Pairs	188006	c	0.772

Response propensity model (2010), non respondents in 2008.

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	10574
Number of Observations not in Domain	1215
Sum of Weights in Domain	47613567

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp10	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	

Model Information		
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	47613567
Sum of Weights Used	47613567

Response Profile			
Ordered Value	**resp10**	**Total Frequency**	**Total Weight**
1	0	1354	5291546
2	1	9220	42322021

Probability modeled is resp10=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	33223064	30156119
SC	33223079	30156385
-2 Log L	33223062	30156085

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	184747	10.8871	609.68	<.0001
Score	23.48	16	41	<.0001
Wald	27.09	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4696 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.29	1	56	0.2604
selfrhealth_06	30.68	4	53	<.0001
age_06	249.72	1	56	<.0001
marcat_06	0.05	2	55	0.9492
diabetes_06	1.99	1	56	0.1636
arthritis_06	13.86	1	56	0.0005
racecat	0.38	3	54	0.7696
edcat	1.25	3	54	0.3008

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.3297	0.4772	13.26	<.0001
ln_inc06		0.0350	0.0308	1.14	0.2604
selfrhealth_06	2	-0.1428	0.1771	-0.81	0.4233
selfrhealth_06	3	-0.3484	0.1919	-1.82	0.0747
selfrhealth_06	4	-0.7749	0.1631	-4.75	<.0001
selfrhealth_06	5	-1.3370	0.2016	-6.63	<.0001
age_06		-0.0628	0.00397	-15.80	<.0001
marcat_06	2	-0.0270	0.0831	-0.32	0.7465
marcat_06	3	-0.0147	0.1431	-0.10	0.9187
diabetes_06		-0.1188	0.0842	-1.41	0.1636
arthritis_06		0.2685	0.0721	3.72	0.0005
racecat	2	-0.0543	0.1744	-0.31	0.7566
racecat	3	0.0851	0.1927	0.44	0.6605
racecat	4	-0.0208	0.4022	-0.05	0.9590
edcat	2	0.0706	0.0935	0.76	0.4531
edcat	3	0.1072	0.0828	1.29	0.2008
edcat	4	0.1659	0.1115	1.49	0.1422
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	1.036	0.974	1.102
selfrhealth_06 2 vs 1	0.867	0.608	1.236
selfrhealth_06 3 vs 1	0.706	0.481	1.037
selfrhealth_06 4 vs 1	0.461	0.332	0.639
selfrhealth_06 5 vs 1	0.263	0.175	0.393
age_06	0.939	0.932	0.947
marcat_06 2 vs 1	0.973	0.824	1.150
marcat_06 3 vs 1	0.985	0.740	1.313
diabetes_06	0.888	0.750	1.051
arthritis_06	1.308	1.132	1.511
racecat 2 vs 1	0.947	0.668	1.343

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
racecat	3 vs 1	1.089	0.740	1.602
racecat	4 vs 1	0.979	0.438	2.192
edcat	2 vs 1	1.073	0.890	1.294
edcat	3 vs 1	1.113	0.943	1.314
edcat	4 vs 1	1.180	0.944	1.476
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	71.4	Somers' D	0.435
Percent Discordant	27.9	Gamma	0.438
Percent Tied	0.6	Tau-a	0.097
Pairs	12483880	c	0.717

Response propensity model (2010), non respondents in 2008.

The MEANS Procedure

Analysis Variable : phat10_10 Estimated Probability					
N	N Miss	Mean	Std Error	Lower 95% CL for Mean	Upper 95% CL for Mean
11789	0	0.2075541	0.0013233	0.2049602	0.2101480

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	3229	12855026
2	1	8560	39700961

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	58475989	51716914
SC	58476004	51717182
-2 Log L	58475987	51716880

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	447567	11.2501	630.01	<.0001
Score	48.06	16	41	<.0001
Wald	35.25	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4222 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.36	1	56	0.5494
selfrhealth_06	51.89	4	53	<.0001
age_06	358.56	1	56	<.0001
marcat_06	4.04	2	55	0.0231
diabetes_06	13.45	1	56	0.0005
arthritis_06	21.69	1	56	<.0001
racecat	1.56	3	54	0.2099
edcat	0.10	3	54	0.9605

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.1667	0.3939	15.66	<.0001
ln_inc06		0.0145	0.0241	0.60	0.5494
selfrhealth_06	2	-0.2030	0.1061	-1.91	0.0608
selfrhealth_06	3	-0.4741	0.1102	-4.30	<.0001
selfrhealth_06	4	-0.8706	0.1097	-7.93	<.0001
selfrhealth_06	5	-1.5873	0.1395	-11.38	<.0001
age_06		-0.0660	0.00348	-18.94	<.0001
marcat_06	2	-0.1154	0.0602	-1.92	0.0603
marcat_06	3	-0.2831	0.1125	-2.52	0.0148
diabetes_06		-0.1684	0.0459	-3.67	0.0005
arthritis_06		0.2612	0.0561	4.66	<.0001
racecat	2	-0.2037	0.0929	-2.19	0.0325
racecat	3	-0.1793	0.1143	-1.57	0.1225
racecat	4	-0.1739	0.1903	-0.91	0.3646
edcat	2	0.0341	0.0677	0.50	0.6162
edcat	3	0.00588	0.0684	0.09	0.9318
edcat	4	0.0122	0.0719	0.17	0.8656
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.015	0.967	1.065
selfrhealth_06	2 vs 1	0.816	0.660	1.010
selfrhealth_06	3 vs 1	0.622	0.499	0.776
selfrhealth_06	4 vs 1	0.419	0.336	0.522
selfrhealth_06	5 vs 1	0.204	0.155	0.270
age_06		0.936	0.930	0.943
marcat_06	2 vs 1	0.891	0.790	1.005
marcat_06	3 vs 1	0.753	0.601	0.944
diabetes_06		0.845	0.771	0.926
arthritis_06		1.298	1.160	1.453
racecat	2 vs 1	0.816	0.677	0.983
racecat	3 vs 1	0.836	0.665	1.051
racecat	4 vs 1	0.840	0.574	1.230
edcat	2 vs 1	1.035	0.904	1.185
edcat	3 vs 1	1.006	0.877	1.154
edcat	4 vs 1	1.012	0.876	1.169
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	73.1	Somers' D	0.465
Percent Discordant	26.6	Gamma	0.467
Percent Tied	0.3	Tau-a	0.185
Pairs	27640240	c	0.733

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1033
Number of Observations not in Domain	10756
Sum of Weights in Domain	4032032.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	4032032
Sum of Weights Used	4032032

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	983	3823167.0
2	1	50	208865.0

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1643342.5	1256288.9
SC	1643355.7	1256513.5
-2 Log L	1643340.5	1256254.9

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	24792.1	12.2143	684.00	<.0001
Score	7.41	16	41	<.0001
Wald	3.77	16	41	0.0003
NOTE: Second-order Rao-Scott design correction 0.3099 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.27	1	56	0.6046
selfrhealth_06	5.37	4	53	0.0010
age_06	16.57	1	56	0.0001
marcat_06	1.24	2	55	0.2979
diabetes_06	0.00	1	56	0.9729
arthritis_06	0.07	1	56	0.7940
racecat	3.02	3	54	0.0374
edcat	1.14	3	54	0.3416

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.5677	1.9920	0.79	0.4346
ln_inc06		0.0792	0.1522	0.52	0.6046
selfrhealth_06	2	0.0332	0.5701	0.06	0.9538
selfrhealth_06	3	-1.5411	0.6558	-2.35	0.0223
selfrhealth_06	4	-1.7387	0.7354	-2.36	0.0216
selfrhealth_06	5	-2.1004	0.8660	-2.43	0.0185
age_06		-0.0550	0.0135	-4.07	0.0001
marcat_06	2	-0.6456	0.4176	-1.55	0.1278
marcat_06	3	-0.1815	0.6327	-0.29	0.7753
diabetes_06		-0.0193	0.5657	-0.03	0.9729
arthritis_06		0.0868	0.3308	0.26	0.7940
racecat	2	-0.8103	0.7599	-1.07	0.2909
racecat	3	0.6911	0.7056	0.98	0.3316
racecat	4	0.2037	0.9461	0.22	0.8303

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	-0.1429	0.6336	-0.23	0.8223
edcat	3	-0.2196	0.7437	-0.30	0.7689
edcat	4	0.4785	0.6908	0.69	0.4914
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.082	0.798	1.468
selfrhealth_06	2 vs 1	1.034	0.330	3.239
selfrhealth_06	3 vs 1	0.214	0.058	0.797
selfrhealth_06	4 vs 1	0.176	0.040	0.767
selfrhealth_06	5 vs 1	0.122	0.022	0.694
age_06		0.946	0.921	0.972
marcat_06	2 vs 1	0.524	0.227	1.210
marcat_06	3 vs 1	0.834	0.235	2.962
diabetes_06		0.981	0.316	3.046
arthritis_06		1.091	0.562	2.116
racecat	2 vs 1	0.445	0.097	2.038
racecat	3 vs 1	1.996	0.486	8.204
racecat	4 vs 1	1.226	0.184	8.158
edcat	2 vs 1	0.867	0.244	3.084
edcat	3 vs 1	0.803	0.181	3.562
edcat	4 vs 1	1.614	0.404	6.439
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	80.3	Somers' D	0.620
Percent Discordant	18.3	Gamma	0.628
Percent Tied	1.4	Tau-a	0.057
Pairs	49150	c	0.810

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	182
Number of Observations not in Domain	11607
Sum of Weights in Domain	910388.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	910388
Sum of Weights Used	910388

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	44	212871.00
2	1	138	697517.00

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	990242.62	843291.77
SC	990254.34	843491.03
-2 Log L	990240.62	843257.77

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	8864.04	11.7554	658.30	<.0001
Score	1.03	16	41	0.4438
Wald	2.03	16	41	0.0343
NOTE: Second-order Rao-Scott design correction 0.3611 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.38	1	56	0.2447
selfrhealth_06	1.27	4	53	0.2916
age_06	0.48	1	56	0.4899
marcat_06	1.71	2	55	0.1903
diabetes_06	0.92	1	56	0.3419
arthritis_06	1.75	1	56	0.1911
racecat	2.25	3	54	0.0933
edcat	1.51	3	54	0.2234

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.4105	1.9785	0.71	0.4789
ln_inc06		0.1632	0.1388	1.18	0.2447
selfrhealth_06	2	0.8691	0.9398	0.92	0.3591
selfrhealth_06	3	0.1614	0.9404	0.17	0.8643
selfrhealth_06	4	0.0253	0.8400	0.03	0.9761
selfrhealth_06	5	1.4361	1.1199	1.28	0.2050
age_06		-0.0149	0.0215	-0.70	0.4899
marcat_06	2	-0.7220	0.4689	-1.54	0.1293
marcat_06	3	0.3602	1.1034	0.33	0.7453
diabetes_06		-0.4215	0.4397	-0.96	0.3419
arthritis_06		-0.6440	0.4867	-1.32	0.1911
racecat	2	-0.8599	0.7553	-1.14	0.2597
racecat	3	-0.4252	0.8983	-0.47	0.6378
racecat	4	-2.3458	0.9736	-2.41	0.0193

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	0.6592	0.5223	1.26	0.2121
edcat	3	0.5940	0.5405	1.10	0.2765
edcat	4	-0.3719	0.6760	-0.55	0.5844
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.177	0.891	1.555
selfrhealth_06	2 vs 1	2.385	0.363	15.670
selfrhealth_06	3 vs 1	1.175	0.179	7.731
selfrhealth_06	4 vs 1	1.026	0.191	5.518
selfrhealth_06	5 vs 1	4.204	0.446	39.623
age_06		0.985	0.944	1.029
marcat_06	2 vs 1	0.486	0.190	1.243
marcat_06	3 vs 1	1.434	0.157	13.073
diabetes_06		0.656	0.272	1.583
arthritis_06		0.525	0.198	1.392
racecat	2 vs 1	0.423	0.093	1.921
racecat	3 vs 1	0.654	0.108	3.952
racecat	4 vs 1	0.096	0.014	0.673
edcat	2 vs 1	1.933	0.679	5.504
edcat	3 vs 1	1.811	0.613	5.348
edcat	4 vs 1	0.689	0.178	2.671
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	67.1	Somers' D	0.347
Percent Discordant	32.5	Gamma	0.348
Percent Tied	0.4	Tau-a	0.128
Pairs	6072	c	0.673

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1354
Number of Observations not in Domain	10435
Sum of Weights in Domain	5291546.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	5291546
Sum of Weights Used	5291546

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	1227	4755792.0
2	1	127	535754.0

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	3469294.6	3066705.6
SC	3469308.1	3066934.8
-2 Log L	3469292.6	3066671.6

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	25799.1	11.5801	648.49	<.0001
Score	4.35	16	41	<.0001
Wald	4.96	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3817 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.34	1	56	0.5613
selfrhealth_06	1.87	4	53	0.1291
age_06	22.89	1	56	<.0001
marcat_06	6.85	2	55	0.0022
diabetes_06	3.64	1	56	0.0615
arthritis_06	2.04	1	56	0.1584
racecat	2.22	3	54	0.0966
edcat	0.03	3	54	0.9926

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		3.0384	1.1037	2.75	0.0079
ln_inc06		-0.0428	0.0733	-0.58	0.5613
selfrhealth_06	2	0.1799	0.5173	0.35	0.7294
selfrhealth_06	3	-0.2172	0.5130	-0.42	0.6737
selfrhealth_06	4	-0.3029	0.6171	-0.49	0.6255
selfrhealth_06	5	-1.2973	0.7174	-1.81	0.0759
age_06		-0.0519	0.0108	-4.78	<.0001
marcat_06	2	-0.7657	0.2714	-2.82	0.0066
marcat_06	3	-2.2658	0.7551	-3.00	0.0040
diabetes_06		-0.5591	0.2930	-1.91	0.0615
arthritis_06		0.4431	0.3099	1.43	0.1584
racecat	2	-0.7649	0.3304	-2.32	0.0243
racecat	3	-0.7076	0.3911	-1.81	0.0758
racecat	4	-1.1450	0.7126	-1.61	0.1137

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	0.0303	0.2476	0.12	0.9030
edcat	3	-0.00705	0.3073	-0.02	0.9818
edcat	4	-0.0918	0.3669	-0.25	0.8033
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
ln_inc06		0.958	0.827	1.110
selfrhealth_06	2 vs 1	1.197	0.425	3.374
selfrhealth_06	3 vs 1	0.805	0.288	2.249
selfrhealth_06	4 vs 1	0.739	0.215	2.543
selfrhealth_06	5 vs 1	0.273	0.065	1.150
age_06		0.949	0.929	0.970
marcat_06	2 vs 1	0.465	0.270	0.801
marcat_06	3 vs 1	0.104	0.023	0.471
diabetes_06		0.572	0.318	1.028
arthritis_06		1.558	0.837	2.898
racecat	2 vs 1	0.465	0.240	0.902
racecat	3 vs 1	0.493	0.225	1.079
racecat	4 vs 1	0.318	0.076	1.326
edcat	2 vs 1	1.031	0.628	1.693
edcat	3 vs 1	0.993	0.537	1.838
edcat	4 vs 1	0.912	0.437	1.902
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	73.7	Somers' D	0.481
Percent Discordant	25.6	Gamma	0.485
Percent Tied	0.8	Tau-a	0.082
Pairs	155829	c	0.740

Response propensity model (2012), 111 Pattern (06,08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	9220
Number of Observations not in Domain	2569
Sum of Weights in Domain	42322021

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	42322021
Sum of Weights Used	42322021

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	975	4063196
2	1	8245	38258825

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	26766061	25386275
SC	26766076	25386539
-2 Log L	26766059	25386241

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	86607.1	11.8470	663.43	<.0001
Score	9.63	16	41	<.0001
Wald	8.65	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3506 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.17	1	56	0.2831
selfrhealth_06	6.71	4	53	0.0002
age_06	100.13	1	56	<.0001
marcat_06	1.50	2	55	0.2330
diabetes_06	0.88	1	56	0.3520
arthritis_06	1.03	1	56	0.3142
racecat	2.39	3	54	0.0789
edcat	0.19	3	54	0.9027

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.9422	0.6019	11.53	<.0001
ln_inc06		-0.0421	0.0389	-1.08	0.2831
selfrhealth_06	2	-0.2737	0.1716	-1.59	0.1164
selfrhealth_06	3	-0.3708	0.1744	-2.13	0.0379
selfrhealth_06	4	-0.6410	0.1847	-3.47	0.0010
selfrhealth_06	5	-1.0594	0.2212	-4.79	<.0001
age_06		-0.0526	0.00526	-10.01	<.0001
marcat_06	2	-0.1396	0.0810	-1.72	0.0904
marcat_06	3	-0.0775	0.2756	-0.28	0.7797
diabetes_06		-0.0916	0.0976	-0.94	0.3520
arthritis_06		0.1036	0.1020	1.02	0.3142
racecat	2	-0.2481	0.1391	-1.78	0.0800
racecat	3	-0.3814	0.1415	-2.70	0.0093
racecat	4	0.0263	0.2234	0.12	0.9066

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	-0.0197	0.1025	-0.19	0.8486
edcat	3	-0.0856	0.1171	-0.73	0.4678
edcat	4	-0.0319	0.1259	-0.25	0.8006
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
ln_inc06		0.959	0.887	1.036
selfrhealth_06	2 vs 1	0.761	0.539	1.073
selfrhealth_06	3 vs 1	0.690	0.487	0.979
selfrhealth_06	4 vs 1	0.527	0.364	0.763
selfrhealth_06	5 vs 1	0.347	0.223	0.540
age_06		0.949	0.939	0.959
marcat_06	2 vs 1	0.870	0.739	1.023
marcat_06	3 vs 1	0.925	0.533	1.607
diabetes_06		0.912	0.750	1.110
arthritis_06		1.109	0.904	1.361
racecat	2 vs 1	0.780	0.590	1.031
racecat	3 vs 1	0.683	0.514	0.907
racecat	4 vs 1	1.027	0.656	1.606
edcat	2 vs 1	0.981	0.799	1.204
edcat	3 vs 1	0.918	0.726	1.161
edcat	4 vs 1	0.969	0.753	1.246
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	66.8	Somers' D	0.346
Percent Discordant	32.2	Gamma	0.349
Percent Tied	0.9	Tau-a	0.065
Pairs	8038875	c	0.673

Response propensity model (2012), 111 Pattern (06,08,10)

The MEANS Procedure

Analysis Variable : phat12_111 Estimated Probability					
N	N Miss	Mean	Std Error	Lower 95% CL for Mean	Upper 95% CL for Mean
11789	0	0.8779838	0.000660110	0.8766899	0.8792778

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	3229	12855026
2	1	8560	39700961

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	58475989	51716914
SC	58476004	51717182
-2 Log L	58475987	51716880

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	447567	11.2501	630.01	<.0001
Score	48.06	16	41	<.0001
Wald	35.25	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4222 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.36	1	56	0.5494
selfrhealth_06	51.89	4	53	<.0001
age_06	358.56	1	56	<.0001
marcat_06	4.04	2	55	0.0231
diabetes_06	13.45	1	56	0.0005
arthritis_06	21.69	1	56	<.0001
racecat	1.56	3	54	0.2099
edcat	0.10	3	54	0.9605

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.1667	0.3939	15.66	<.0001
ln_inc06		0.0145	0.0241	0.60	0.5494
selfrhealth_06	2	-0.2030	0.1061	-1.91	0.0608
selfrhealth_06	3	-0.4741	0.1102	-4.30	<.0001
selfrhealth_06	4	-0.8706	0.1097	-7.93	<.0001
selfrhealth_06	5	-1.5873	0.1395	-11.38	<.0001
age_06		-0.0660	0.00348	-18.94	<.0001
marcat_06	2	-0.1154	0.0602	-1.92	0.0603
marcat_06	3	-0.2831	0.1125	-2.52	0.0148
diabetes_06		-0.1684	0.0459	-3.67	0.0005
arthritis_06		0.2612	0.0561	4.66	<.0001
racecat	2	-0.2037	0.0929	-2.19	0.0325
racecat	3	-0.1793	0.1143	-1.57	0.1225
racecat	4	-0.1739	0.1903	-0.91	0.3646
edcat	2	0.0341	0.0677	0.50	0.6162
edcat	3	0.00588	0.0684	0.09	0.9318
edcat	4	0.0122	0.0719	0.17	0.8656
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.015	0.967	1.065
selfrhealth_06	2 vs 1	0.816	0.660	1.010
selfrhealth_06	3 vs 1	0.622	0.499	0.776
selfrhealth_06	4 vs 1	0.419	0.336	0.522
selfrhealth_06	5 vs 1	0.204	0.155	0.270
age_06		0.936	0.930	0.943
marcat_06	2 vs 1	0.891	0.790	1.005
marcat_06	3 vs 1	0.753	0.601	0.944
diabetes_06		0.845	0.771	0.926
arthritis_06		1.298	1.160	1.453
racecat	2 vs 1	0.816	0.677	0.983
racecat	3 vs 1	0.836	0.665	1.051
racecat	4 vs 1	0.840	0.574	1.230
edcat	2 vs 1	1.035	0.904	1.185
edcat	3 vs 1	1.006	0.877	1.154
edcat	4 vs 1	1.012	0.876	1.169
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	73.1	Somers' D	0.465
Percent Discordant	26.6	Gamma	0.467
Percent Tied	0.3	Tau-a	0.185
Pairs	27640240	c	0.733

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1033
Number of Observations not in Domain	10756
Sum of Weights in Domain	4032032.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	4032032
Sum of Weights Used	4032032

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	983	3823167.0
2	1	50	208865.0

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1643342.5	1256288.9
SC	1643355.7	1256513.5
-2 Log L	1643340.5	1256254.9

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	24792.1	12.2143	684.00	<.0001
Score	7.41	16	41	<.0001
Wald	3.77	16	41	0.0003
NOTE: Second-order Rao-Scott design correction 0.3099 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.27	1	56	0.6046
selfrhealth_06	5.37	4	53	0.0010
age_06	16.57	1	56	0.0001
marcat_06	1.24	2	55	0.2979
diabetes_06	0.00	1	56	0.9729
arthritis_06	0.07	1	56	0.7940
racecat	3.02	3	54	0.0374
edcat	1.14	3	54	0.3416

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.5677	1.9920	0.79	0.4346
ln_inc06		0.0792	0.1522	0.52	0.6046
selfrhealth_06	2	0.0332	0.5701	0.06	0.9538
selfrhealth_06	3	-1.5411	0.6558	-2.35	0.0223
selfrhealth_06	4	-1.7387	0.7354	-2.36	0.0216
selfrhealth_06	5	-2.1004	0.8660	-2.43	0.0185
age_06		-0.0550	0.0135	-4.07	0.0001
marcat_06	2	-0.6456	0.4176	-1.55	0.1278
marcat_06	3	-0.1815	0.6327	-0.29	0.7753
diabetes_06		-0.0193	0.5657	-0.03	0.9729
arthritis_06		0.0868	0.3308	0.26	0.7940
racecat	2	-0.8103	0.7599	-1.07	0.2909
racecat	3	0.6911	0.7056	0.98	0.3316
racecat	4	0.2037	0.9461	0.22	0.8303

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	-0.1429	0.6336	-0.23	0.8223
edcat	3	-0.2196	0.7437	-0.30	0.7689
edcat	4	0.4785	0.6908	0.69	0.4914
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	1.082	0.798	1.468
selfrhealth_06 2 vs 1	1.034	0.330	3.239
selfrhealth_06 3 vs 1	0.214	0.058	0.797
selfrhealth_06 4 vs 1	0.176	0.040	0.767
selfrhealth_06 5 vs 1	0.122	0.022	0.694
age_06	0.946	0.921	0.972
marcat_06 2 vs 1	0.524	0.227	1.210
marcat_06 3 vs 1	0.834	0.235	2.962
diabetes_06	0.981	0.316	3.046
arthritis_06	1.091	0.562	2.116
racecat 2 vs 1	0.445	0.097	2.038
racecat 3 vs 1	1.996	0.486	8.204
racecat 4 vs 1	1.226	0.184	8.158
edcat 2 vs 1	0.867	0.244	3.084
edcat 3 vs 1	0.803	0.181	3.562
edcat 4 vs 1	1.614	0.404	6.439
NOTE: The degrees of freedom in computing the confidence limits is 56.			

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	80.3	Somers' D	0.620
Percent Discordant	18.3	Gamma	0.628
Percent Tied	1.4	Tau-a	0.057
Pairs	49150	c	0.810

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	182
Number of Observations not in Domain	11607
Sum of Weights in Domain	910388.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT

Model Information		
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	910388
Sum of Weights Used	910388

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	44	212871.00
2	1	138	697517.00

Probability modeled is resp12=1.

Class Level Information					
Class	**Value**	**Design Variables**			
selfrhealth_06	**1**	0	0	0	0
	2	1	0	0	0
	3	0	1	0	0
	4	0	0	1	0
	5	0	0	0	1
marcat_06	**1**	0	0		
	2	1	0		
	3	0	1		
racecat	**1**	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	
edcat	**1**	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	990242.62	843291.77
SC	990254.34	843491.03
-2 Log L	990240.62	843257.77

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	8864.04	11.7554	658.30	<.0001
Score	1.03	16	41	0.4438
Wald	2.03	16	41	0.0343
NOTE: Second-order Rao-Scott design correction 0.3611 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.38	1	56	0.2447
selfrhealth_06	1.27	4	53	0.2916
age_06	0.48	1	56	0.4899
marcat_06	1.71	2	55	0.1903
diabetes_06	0.92	1	56	0.3419
arthritis_06	1.75	1	56	0.1911
racecat	2.25	3	54	0.0933
edcat	1.51	3	54	0.2234

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.4105	1.9785	0.71	0.4789
ln_inc06		0.1632	0.1388	1.18	0.2447
selfrhealth_06	2	0.8691	0.9398	0.92	0.3591
selfrhealth_06	3	0.1614	0.9404	0.17	0.8643
selfrhealth_06	4	0.0253	0.8400	0.03	0.9761
selfrhealth_06	5	1.4361	1.1199	1.28	0.2050
age_06		-0.0149	0.0215	-0.70	0.4899
marcat_06	2	-0.7220	0.4689	-1.54	0.1293
marcat_06	3	0.3602	1.1034	0.33	0.7453
diabetes_06		-0.4215	0.4397	-0.96	0.3419
arthritis_06		-0.6440	0.4867	-1.32	0.1911
racecat	2	-0.8599	0.7553	-1.14	0.2597
racecat	3	-0.4252	0.8983	-0.47	0.6378
racecat	4	-2.3458	0.9736	-2.41	0.0193
edcat	2	0.6592	0.5223	1.26	0.2121
edcat	3	0.5940	0.5405	1.10	0.2765
edcat	4	-0.3719	0.6760	-0.55	0.5844
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	1.177	0.891	1.555
selfrhealth_06 2 vs 1	2.385	0.363	15.670
selfrhealth_06 3 vs 1	1.175	0.179	7.731
selfrhealth_06 4 vs 1	1.026	0.191	5.518
selfrhealth_06 5 vs 1	4.204	0.446	39.623
age_06	0.985	0.944	1.029
marcat_06 2 vs 1	0.486	0.190	1.243
marcat_06 3 vs 1	1.434	0.157	13.073
diabetes_06	0.656	0.272	1.583

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
arthritis_06		0.525	0.198	1.392
racecat	2 vs 1	0.423	0.093	1.921
racecat	3 vs 1	0.654	0.108	3.952
racecat	4 vs 1	0.096	0.014	0.673
edcat	2 vs 1	1.933	0.679	5.504
edcat	3 vs 1	1.811	0.613	5.348
edcat	4 vs 1	0.689	0.178	2.671
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	67.1	Somers' D	0.347
Percent Discordant	32.5	Gamma	0.348
Percent Tied	0.4	Tau-a	0.128
Pairs	6072	c	0.673

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1354
Number of Observations not in Domain	10435
Sum of Weights in Domain	5291546.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	5291546
Sum of Weights Used	5291546

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	1227	4755792.0
2	1	127	535754.0

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	3469294.6	3066705.6
SC	3469308.1	3066934.8
-2 Log L	3469292.6	3066671.6

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	25799.1	11.5801	648.49	<.0001
Score	4.35	16	41	<.0001
Wald	4.96	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3817 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.34	1	56	0.5613
selfrhealth_06	1.87	4	53	0.1291
age_06	22.89	1	56	<.0001
marcat_06	6.85	2	55	0.0022
diabetes_06	3.64	1	56	0.0615
arthritis_06	2.04	1	56	0.1584
racecat	2.22	3	54	0.0966
edcat	0.03	3	54	0.9926

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		3.0384	1.1037	2.75	0.0079
ln_inc06		-0.0428	0.0733	-0.58	0.5613
selfrhealth_06	2	0.1799	0.5173	0.35	0.7294
selfrhealth_06	3	-0.2172	0.5130	-0.42	0.6737
selfrhealth_06	4	-0.3029	0.6171	-0.49	0.6255
selfrhealth_06	5	-1.2973	0.7174	-1.81	0.0759
age_06		-0.0519	0.0108	-4.78	<.0001
marcat_06	2	-0.7657	0.2714	-2.82	0.0066
marcat_06	3	-2.2658	0.7551	-3.00	0.0040
diabetes_06		-0.5591	0.2930	-1.91	0.0615
arthritis_06		0.4431	0.3099	1.43	0.1584
racecat	2	-0.7649	0.3304	-2.32	0.0243
racecat	3	-0.7076	0.3911	-1.81	0.0758
racecat	4	-1.1450	0.7126	-1.61	0.1137

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	0.0303	0.2476	0.12	0.9030
edcat	3	-0.00705	0.3073	-0.02	0.9818
edcat	4	-0.0918	0.3669	-0.25	0.8033
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	0.958	0.827	1.110
selfrhealth_06 2 vs 1	1.197	0.425	3.374
selfrhealth_06 3 vs 1	0.805	0.288	2.249
selfrhealth_06 4 vs 1	0.739	0.215	2.543
selfrhealth_06 5 vs 1	0.273	0.065	1.150
age_06	0.949	0.929	0.970
marcat_06 2 vs 1	0.465	0.270	0.801
marcat_06 3 vs 1	0.104	0.023	0.471
diabetes_06	0.572	0.318	1.028
arthritis_06	1.558	0.837	2.898
racecat 2 vs 1	0.465	0.240	0.902
racecat 3 vs 1	0.493	0.225	1.079
racecat 4 vs 1	0.318	0.076	1.326
edcat 2 vs 1	1.031	0.628	1.693
edcat 3 vs 1	0.993	0.537	1.838
edcat 4 vs 1	0.912	0.437	1.902
NOTE: The degrees of freedom in computing the confidence limits is 56.			

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	73.7	Somers' D	0.481
Percent Discordant	25.6	Gamma	0.485
Percent Tied	0.8	Tau-a	0.082
Pairs	155829	c	0.740

Response propensity model (2012), 110 Pattern (06,08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	9220
Number of Observations not in Domain	2569
Sum of Weights in Domain	42322021

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	

Model Information		
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	42322021
Sum of Weights Used	42322021

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	975	4063196
2	1	8245	38258825

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	26766061	25386275
SC	26766076	25386539
-2 Log L	26766059	25386241

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	86607.1	11.8470	663.43	<.0001
Score	9.63	16	41	<.0001
Wald	8.65	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3506 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.17	1	56	0.2831
selfrhealth_06	6.71	4	53	0.0002
age_06	100.13	1	56	<.0001
marcat_06	1.50	2	55	0.2330
diabetes_06	0.88	1	56	0.3520
arthritis_06	1.03	1	56	0.3142
racecat	2.39	3	54	0.0789
edcat	0.19	3	54	0.9027

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.9422	0.6019	11.53	<.0001
ln_inc06		-0.0421	0.0389	-1.08	0.2831
selfrhealth_06	2	-0.2737	0.1716	-1.59	0.1164
selfrhealth_06	3	-0.3708	0.1744	-2.13	0.0379
selfrhealth_06	4	-0.6410	0.1847	-3.47	0.0010
selfrhealth_06	5	-1.0594	0.2212	-4.79	<.0001
age_06		-0.0526	0.00526	-10.01	<.0001
marcat_06	2	-0.1396	0.0810	-1.72	0.0904
marcat_06	3	-0.0775	0.2756	-0.28	0.7797
diabetes_06		-0.0916	0.0976	-0.94	0.3520
arthritis_06		0.1036	0.1020	1.02	0.3142
racecat	2	-0.2481	0.1391	-1.78	0.0800
racecat	3	-0.3814	0.1415	-2.70	0.0093
racecat	4	0.0263	0.2234	0.12	0.9066
edcat	2	-0.0197	0.1025	-0.19	0.8486
edcat	3	-0.0856	0.1171	-0.73	0.4678
edcat	4	-0.0319	0.1259	-0.25	0.8006
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	0.959	0.887	1.036
selfrhealth_06 2 vs 1	0.761	0.539	1.073
selfrhealth_06 3 vs 1	0.690	0.487	0.979
selfrhealth_06 4 vs 1	0.527	0.364	0.763
selfrhealth_06 5 vs 1	0.347	0.223	0.540
age_06	0.949	0.939	0.959
marcat_06 2 vs 1	0.870	0.739	1.023
marcat_06 3 vs 1	0.925	0.533	1.607
diabetes_06	0.912	0.750	1.110
arthritis_06	1.109	0.904	1.361
racecat 2 vs 1	0.780	0.590	1.031

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
racecat	3 vs 1	0.683	0.514	0.907
racecat	4 vs 1	1.027	0.656	1.606
edcat	2 vs 1	0.981	0.799	1.204
edcat	3 vs 1	0.918	0.726	1.161
edcat	4 vs 1	0.969	0.753	1.246
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	66.8	Somers' D	0.346
Percent Discordant	32.2	Gamma	0.349
Percent Tied	0.9	Tau-a	0.065
Pairs	8038875	c	0.673

Response propensity model (2012), 110 Pattern (06,08,no 10)

The MEANS Procedure

Analysis Variable : phat12_110 Estimated Probability		
N	N Miss	Mean
11789	0	0.1252751

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	3229	12855026
2	1	8560	39700961

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	58475989	51716914
SC	58476004	51717182
-2 Log L	58475987	51716880

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	447567	11.2501	630.01	<.0001
Score	48.06	16	41	<.0001
Wald	35.25	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4222 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.36	1	56	0.5494
selfrhealth_06	51.89	4	53	<.0001
age_06	358.56	1	56	<.0001
marcat_06	4.04	2	55	0.0231
diabetes_06	13.45	1	56	0.0005
arthritis_06	21.69	1	56	<.0001
racecat	1.56	3	54	0.2099
edcat	0.10	3	54	0.9605

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.1667	0.3939	15.66	<.0001
ln_inc06		0.0145	0.0241	0.60	0.5494
selfrhealth_06	2	-0.2030	0.1061	-1.91	0.0608
selfrhealth_06	3	-0.4741	0.1102	-4.30	<.0001
selfrhealth_06	4	-0.8706	0.1097	-7.93	<.0001
selfrhealth_06	5	-1.5873	0.1395	-11.38	<.0001
age_06		-0.0660	0.00348	-18.94	<.0001
marcat_06	2	-0.1154	0.0602	-1.92	0.0603
marcat_06	3	-0.2831	0.1125	-2.52	0.0148
diabetes_06		-0.1684	0.0459	-3.67	0.0005
arthritis_06		0.2612	0.0561	4.66	<.0001
racecat	2	-0.2037	0.0929	-2.19	0.0325
racecat	3	-0.1793	0.1143	-1.57	0.1225
racecat	4	-0.1739	0.1903	-0.91	0.3646
edcat	2	0.0341	0.0677	0.50	0.6162
edcat	3	0.00588	0.0684	0.09	0.9318
edcat	4	0.0122	0.0719	0.17	0.8656
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.015	0.967	1.065
selfrhealth_06	2 vs 1	0.816	0.660	1.010
selfrhealth_06	3 vs 1	0.622	0.499	0.776
selfrhealth_06	4 vs 1	0.419	0.336	0.522
selfrhealth_06	5 vs 1	0.204	0.155	0.270
age_06		0.936	0.930	0.943
marcat_06	2 vs 1	0.891	0.790	1.005
marcat_06	3 vs 1	0.753	0.601	0.944
diabetes_06		0.845	0.771	0.926
arthritis_06		1.298	1.160	1.453
racecat	2 vs 1	0.816	0.677	0.983
racecat	3 vs 1	0.836	0.665	1.051
racecat	4 vs 1	0.840	0.574	1.230
edcat	2 vs 1	1.035	0.904	1.185
edcat	3 vs 1	1.006	0.877	1.154
edcat	4 vs 1	1.012	0.876	1.169
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	73.1	Somers' D	0.465
Percent Discordant	26.6	Gamma	0.467
Percent Tied	0.3	Tau-a	0.185
Pairs	27640240	c	0.733

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1033
Number of Observations not in Domain	10756
Sum of Weights in Domain	4032032.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	4032032
Sum of Weights Used	4032032

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	983	3823167.0
2	1	50	208865.0

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1643342.5	1256288.9
SC	1643355.7	1256513.5
-2 Log L	1643340.5	1256254.9

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	24792.1	12.2143	684.00	<.0001
Score	7.41	16	41	<.0001
Wald	3.77	16	41	0.0003
NOTE: Second-order Rao-Scott design correction 0.3099 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.27	1	56	0.6046
selfrhealth_06	5.37	4	53	0.0010
age_06	16.57	1	56	0.0001
marcat_06	1.24	2	55	0.2979
diabetes_06	0.00	1	56	0.9729
arthritis_06	0.07	1	56	0.7940
racecat	3.02	3	54	0.0374
edcat	1.14	3	54	0.3416

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.5677	1.9920	0.79	0.4346
ln_inc06		0.0792	0.1522	0.52	0.6046
selfrhealth_06	2	0.0332	0.5701	0.06	0.9538
selfrhealth_06	3	-1.5411	0.6558	-2.35	0.0223
selfrhealth_06	4	-1.7387	0.7354	-2.36	0.0216
selfrhealth_06	5	-2.1004	0.8660	-2.43	0.0185
age_06		-0.0550	0.0135	-4.07	0.0001
marcat_06	2	-0.6456	0.4176	-1.55	0.1278
marcat_06	3	-0.1815	0.6327	-0.29	0.7753
diabetes_06		-0.0193	0.5657	-0.03	0.9729
arthritis_06		0.0868	0.3308	0.26	0.7940
racecat	2	-0.8103	0.7599	-1.07	0.2909
racecat	3	0.6911	0.7056	0.98	0.3316
racecat	4	0.2037	0.9461	0.22	0.8303

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	-0.1429	0.6336	-0.23	0.8223
edcat	3	-0.2196	0.7437	-0.30	0.7689
edcat	4	0.4785	0.6908	0.69	0.4914
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	1.082	0.798	1.468
selfrhealth_06 2 vs 1	1.034	0.330	3.239
selfrhealth_06 3 vs 1	0.214	0.058	0.797
selfrhealth_06 4 vs 1	0.176	0.040	0.767
selfrhealth_06 5 vs 1	0.122	0.022	0.694
age_06	0.946	0.921	0.972
marcat_06 2 vs 1	0.524	0.227	1.210
marcat_06 3 vs 1	0.834	0.235	2.962
diabetes_06	0.981	0.316	3.046
arthritis_06	1.091	0.562	2.116
racecat 2 vs 1	0.445	0.097	2.038
racecat 3 vs 1	1.996	0.486	8.204
racecat 4 vs 1	1.226	0.184	8.158
edcat 2 vs 1	0.867	0.244	3.084
edcat 3 vs 1	0.803	0.181	3.562
edcat 4 vs 1	1.614	0.404	6.439
NOTE: The degrees of freedom in computing the confidence limits is 56.			

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	80.3	Somers' D	0.620
Percent Discordant	18.3	Gamma	0.628
Percent Tied	1.4	Tau-a	0.057
Pairs	49150	c	0.810

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	182
Number of Observations not in Domain	11607
Sum of Weights in Domain	910388.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	

Model Information		
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	910388
Sum of Weights Used	910388

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	44	212871.00
2	1	138	697517.00

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	990242.62	843291.77
SC	990254.34	843491.03
-2 Log L	990240.62	843257.77

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	8864.04	11.7554	658.30	<.0001
Score	1.03	16	41	0.4438
Wald	2.03	16	41	0.0343
NOTE: Second-order Rao-Scott design correction 0.3611 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.38	1	56	0.2447
selfrhealth_06	1.27	4	53	0.2916
age_06	0.48	1	56	0.4899
marcat_06	1.71	2	55	0.1903
diabetes_06	0.92	1	56	0.3419
arthritis_06	1.75	1	56	0.1911
racecat	2.25	3	54	0.0933
edcat	1.51	3	54	0.2234

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.4105	1.9785	0.71	0.4789
ln_inc06		0.1632	0.1388	1.18	0.2447
selfrhealth_06	2	0.8691	0.9398	0.92	0.3591
selfrhealth_06	3	0.1614	0.9404	0.17	0.8643
selfrhealth_06	4	0.0253	0.8400	0.03	0.9761
selfrhealth_06	5	1.4361	1.1199	1.28	0.2050
age_06		-0.0149	0.0215	-0.70	0.4899
marcat_06	2	-0.7220	0.4689	-1.54	0.1293
marcat_06	3	0.3602	1.1034	0.33	0.7453
diabetes_06		-0.4215	0.4397	-0.96	0.3419
arthritis_06		-0.6440	0.4867	-1.32	0.1911
racecat	2	-0.8599	0.7553	-1.14	0.2597
racecat	3	-0.4252	0.8983	-0.47	0.6378
racecat	4	-2.3458	0.9736	-2.41	0.0193
edcat	2	0.6592	0.5223	1.26	0.2121
edcat	3	0.5940	0.5405	1.10	0.2765
edcat	4	-0.3719	0.6760	-0.55	0.5844
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	1.177	0.891	1.555
selfrhealth_06 2 vs 1	2.385	0.363	15.670
selfrhealth_06 3 vs 1	1.175	0.179	7.731
selfrhealth_06 4 vs 1	1.026	0.191	5.518
selfrhealth_06 5 vs 1	4.204	0.446	39.623
age_06	0.985	0.944	1.029
marcat_06 2 vs 1	0.486	0.190	1.243
marcat_06 3 vs 1	1.434	0.157	13.073
diabetes_06	0.656	0.272	1.583
arthritis_06	0.525	0.198	1.392
racecat 2 vs 1	0.423	0.093	1.921

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
racecat	3 vs 1	0.654	0.108	3.952
racecat	4 vs 1	0.096	0.014	0.673
edcat	2 vs 1	1.933	0.679	5.504
edcat	3 vs 1	1.811	0.613	5.348
edcat	4 vs 1	0.689	0.178	2.671
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	67.1	Somers' D	0.347
Percent Discordant	32.5	Gamma	0.348
Percent Tied	0.4	Tau-a	0.128
Pairs	6072	c	0.673

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1354
Number of Observations not in Domain	10435
Sum of Weights in Domain	5291546.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	5291546
Sum of Weights Used	5291546

Response Profile			
Ordered Value	resp12	Total Frequency	Total Weight
1	0	1227	4755792.0
2	1	127	535754.0

Probability modeled is resp12=1.

Class Level Information						
Class	Value	Design Variables				
selfrhealth_06	1	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	1	0	0			
	2	1	0			
	3	0	1			
racecat	1	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	1	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	3469294.6	3066705.6
SC	3469308.1	3066934.8
-2 Log L	3469292.6	3066671.6

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	25799.1	11.5801	648.49	<.0001
Score	4.35	16	41	<.0001
Wald	4.96	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3817 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.34	1	56	0.5613
selfrhealth_06	1.87	4	53	0.1291
age_06	22.89	1	56	<.0001
marcat_06	6.85	2	55	0.0022
diabetes_06	3.64	1	56	0.0615
arthritis_06	2.04	1	56	0.1584
racecat	2.22	3	54	0.0966
edcat	0.03	3	54	0.9926

Analysis of Maximum Likelihood Estimates

Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		3.0384	1.1037	2.75	0.0079
ln_inc06		-0.0428	0.0733	-0.58	0.5613
selfrhealth_06	2	0.1799	0.5173	0.35	0.7294
selfrhealth_06	3	-0.2172	0.5130	-0.42	0.6737
selfrhealth_06	4	-0.3029	0.6171	-0.49	0.6255
selfrhealth_06	5	-1.2973	0.7174	-1.81	0.0759
age_06		-0.0519	0.0108	-4.78	<.0001
marcat_06	2	-0.7657	0.2714	-2.82	0.0066
marcat_06	3	-2.2658	0.7551	-3.00	0.0040
diabetes_06		-0.5591	0.2930	-1.91	0.0615
arthritis_06		0.4431	0.3099	1.43	0.1584
racecat	2	-0.7649	0.3304	-2.32	0.0243
racecat	3	-0.7076	0.3911	-1.81	0.0758
racecat	4	-1.1450	0.7126	-1.61	0.1137
edcat	2	0.0303	0.2476	0.12	0.9030
edcat	3	-0.00705	0.3073	-0.02	0.9818
edcat	4	-0.0918	0.3669	-0.25	0.8033
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
ln_inc06		0.958	0.827	1.110
selfrhealth_06	2 vs 1	1.197	0.425	3.374
selfrhealth_06	3 vs 1	0.805	0.288	2.249
selfrhealth_06	4 vs 1	0.739	0.215	2.543
selfrhealth_06	5 vs 1	0.273	0.065	1.150
age_06		0.949	0.929	0.970
marcat_06	2 vs 1	0.465	0.270	0.801
marcat_06	3 vs 1	0.104	0.023	0.471
diabetes_06		0.572	0.318	1.028
arthritis_06		1.558	0.837	2.898
racecat	2 vs 1	0.465	0.240	0.902
racecat	3 vs 1	0.493	0.225	1.079
racecat	4 vs 1	0.318	0.076	1.326
edcat	2 vs 1	1.031	0.628	1.693
edcat	3 vs 1	0.993	0.537	1.838
edcat	4 vs 1	0.912	0.437	1.902
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	73.7	Somers' D	0.481
Percent Discordant	25.6	Gamma	0.485
Percent Tied	0.8	Tau-a	0.082
Pairs	155829	c	0.740

Response propensity model (2012), 101 Pattern (06,no 08,10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	9220
Number of Observations not in Domain	2569
Sum of Weights in Domain	42322021

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	42322021
Sum of Weights Used	42322021

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	975	4063196
2	1	8245	38258825

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	26766061	25386275
SC	26766076	25386539
-2 Log L	26766059	25386241

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	86607.1	11.8470	663.43	<.0001
Score	9.63	16	41	<.0001
Wald	8.65	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3506 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.17	1	56	0.2831
selfrhealth_06	6.71	4	53	0.0002
age_06	100.13	1	56	<.0001
marcat_06	1.50	2	55	0.2330
diabetes_06	0.88	1	56	0.3520
arthritis_06	1.03	1	56	0.3142
racecat	2.39	3	54	0.0789
edcat	0.19	3	54	0.9027

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.9422	0.6019	11.53	<.0001
ln_inc06		-0.0421	0.0389	-1.08	0.2831
selfrhealth_06	2	-0.2737	0.1716	-1.59	0.1164
selfrhealth_06	3	-0.3708	0.1744	-2.13	0.0379
selfrhealth_06	4	-0.6410	0.1847	-3.47	0.0010
selfrhealth_06	5	-1.0594	0.2212	-4.79	<.0001
age_06		-0.0526	0.00526	-10.01	<.0001
marcat_06	2	-0.1396	0.0810	-1.72	0.0904
marcat_06	3	-0.0775	0.2756	-0.28	0.7797
diabetes_06		-0.0916	0.0976	-0.94	0.3520
arthritis_06		0.1036	0.1020	1.02	0.3142
racecat	2	-0.2481	0.1391	-1.78	0.0800
racecat	3	-0.3814	0.1415	-2.70	0.0093
racecat	4	0.0263	0.2234	0.12	0.9066

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	-0.0197	0.1025	-0.19	0.8486
edcat	3	-0.0856	0.1171	-0.73	0.4678
edcat	4	-0.0319	0.1259	-0.25	0.8006
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
ln_inc06		0.959	0.887	1.036
selfrhealth_06	2 vs 1	0.761	0.539	1.073
selfrhealth_06	3 vs 1	0.690	0.487	0.979
selfrhealth_06	4 vs 1	0.527	0.364	0.763
selfrhealth_06	5 vs 1	0.347	0.223	0.540
age_06		0.949	0.939	0.959
marcat_06	2 vs 1	0.870	0.739	1.023
marcat_06	3 vs 1	0.925	0.533	1.607
diabetes_06		0.912	0.750	1.110
arthritis_06		1.109	0.904	1.361
racecat	2 vs 1	0.780	0.590	1.031
racecat	3 vs 1	0.683	0.514	0.907
racecat	4 vs 1	1.027	0.656	1.606
edcat	2 vs 1	0.981	0.799	1.204
edcat	3 vs 1	0.918	0.726	1.161
edcat	4 vs 1	0.969	0.753	1.246
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	66.8	Somers' D	0.346
Percent Discordant	32.2	Gamma	0.349
Percent Tied	0.9	Tau-a	0.065
Pairs	8038875	c	0.673

Response propensity model (2012), 101 Pattern (06,no 08,10)

The MEANS Procedure

Analysis Variable : phat12_101 Estimated Probability			
N	N Miss	Mean	Std Error
11789	0	0.7265938	0.0015379

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	52555987
Sum of Weights Used	52555987

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	3229	12855026
2	1	8560	39700961

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	58475989	51716914
SC	58476004	51717182
-2 Log L	58475987	51716880

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	447567	11.2501	630.01	<.0001
Score	48.06	16	41	<.0001
Wald	35.25	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.4222 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.36	1	56	0.5494
selfrhealth_06	51.89	4	53	<.0001
age_06	358.56	1	56	<.0001
marcat_06	4.04	2	55	0.0231
diabetes_06	13.45	1	56	0.0005
arthritis_06	21.69	1	56	<.0001
racecat	1.56	3	54	0.2099
edcat	0.10	3	54	0.9605

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.1667	0.3939	15.66	<.0001
ln_inc06		0.0145	0.0241	0.60	0.5494
selfrhealth_06	2	-0.2030	0.1061	-1.91	0.0608
selfrhealth_06	3	-0.4741	0.1102	-4.30	<.0001
selfrhealth_06	4	-0.8706	0.1097	-7.93	<.0001
selfrhealth_06	5	-1.5873	0.1395	-11.38	<.0001
age_06		-0.0660	0.00348	-18.94	<.0001
marcat_06	2	-0.1154	0.0602	-1.92	0.0603
marcat_06	3	-0.2831	0.1125	-2.52	0.0148
diabetes_06		-0.1684	0.0459	-3.67	0.0005
arthritis_06		0.2612	0.0561	4.66	<.0001
racecat	2	-0.2037	0.0929	-2.19	0.0325
racecat	3	-0.1793	0.1143	-1.57	0.1225
racecat	4	-0.1739	0.1903	-0.91	0.3646
edcat	2	0.0341	0.0677	0.50	0.6162
edcat	3	0.00588	0.0684	0.09	0.9318
edcat	4	0.0122	0.0719	0.17	0.8656
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates

Effect		Point Estimate	95% Confidence Limits	
ln_inc06		1.015	0.967	1.065
selfrhealth_06	2 vs 1	0.816	0.660	1.010
selfrhealth_06	3 vs 1	0.622	0.499	0.776
selfrhealth_06	4 vs 1	0.419	0.336	0.522
selfrhealth_06	5 vs 1	0.204	0.155	0.270
age_06		0.936	0.930	0.943
marcat_06	2 vs 1	0.891	0.790	1.005
marcat_06	3 vs 1	0.753	0.601	0.944
diabetes_06		0.845	0.771	0.926
arthritis_06		1.298	1.160	1.453
racecat	2 vs 1	0.816	0.677	0.983
racecat	3 vs 1	0.836	0.665	1.051
racecat	4 vs 1	0.840	0.574	1.230
edcat	2 vs 1	1.035	0.904	1.185
edcat	3 vs 1	1.006	0.877	1.154
edcat	4 vs 1	1.012	0.876	1.169
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	73.1	Somers' D	0.465
Percent Discordant	26.6	Gamma	0.467
Percent Tied	0.3	Tau-a	0.185
Pairs	27640240	c	0.733

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1033
Number of Observations not in Domain	10756
Sum of Weights in Domain	4032032.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	4032032
Sum of Weights Used	4032032

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	983	3823167.0
2	1	50	208865.0

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1643342.5	1256288.9
SC	1643355.7	1256513.5
-2 Log L	1643340.5	1256254.9

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	24792.1	12.2143	684.00	<.0001
Score	7.41	16	41	<.0001
Wald	3.77	16	41	0.0003
NOTE: Second-order Rao-Scott design correction 0.3099 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.27	1	56	0.6046
selfrhealth_06	5.37	4	53	0.0010
age_06	16.57	1	56	0.0001
marcat_06	1.24	2	55	0.2979
diabetes_06	0.00	1	56	0.9729
arthritis_06	0.07	1	56	0.7940
racecat	3.02	3	54	0.0374
edcat	1.14	3	54	0.3416

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.5677	1.9920	0.79	0.4346
ln_inc06		0.0792	0.1522	0.52	0.6046
selfrhealth_06	2	0.0332	0.5701	0.06	0.9538
selfrhealth_06	3	-1.5411	0.6558	-2.35	0.0223
selfrhealth_06	4	-1.7387	0.7354	-2.36	0.0216
selfrhealth_06	5	-2.1004	0.8660	-2.43	0.0185
age_06		-0.0550	0.0135	-4.07	0.0001
marcat_06	2	-0.6456	0.4176	-1.55	0.1278
marcat_06	3	-0.1815	0.6327	-0.29	0.7753
diabetes_06		-0.0193	0.5657	-0.03	0.9729
arthritis_06		0.0868	0.3308	0.26	0.7940
racecat	2	-0.8103	0.7599	-1.07	0.2909
racecat	3	0.6911	0.7056	0.98	0.3316
racecat	4	0.2037	0.9461	0.22	0.8303

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	-0.1429	0.6336	-0.23	0.8223
edcat	3	-0.2196	0.7437	-0.30	0.7689
edcat	4	0.4785	0.6908	0.69	0.4914
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	1.082	0.798	1.468
selfrhealth_06 2 vs 1	1.034	0.330	3.239
selfrhealth_06 3 vs 1	0.214	0.058	0.797
selfrhealth_06 4 vs 1	0.176	0.040	0.767
selfrhealth_06 5 vs 1	0.122	0.022	0.694
age_06	0.946	0.921	0.972
marcat_06 2 vs 1	0.524	0.227	1.210
marcat_06 3 vs 1	0.834	0.235	2.962
diabetes_06	0.981	0.316	3.046
arthritis_06	1.091	0.562	2.116
racecat 2 vs 1	0.445	0.097	2.038
racecat 3 vs 1	1.996	0.486	8.204
racecat 4 vs 1	1.226	0.184	8.158
edcat 2 vs 1	0.867	0.244	3.084
edcat 3 vs 1	0.803	0.181	3.562
edcat 4 vs 1	1.614	0.404	6.439
NOTE: The degrees of freedom in computing the confidence limits is 56.			

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	80.3	Somers' D	0.620
Percent Discordant	18.3	Gamma	0.628
Percent Tied	1.4	Tau-a	0.057
Pairs	49150	c	0.810

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=0 resp10=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	182
Number of Observations not in Domain	11607
Sum of Weights in Domain	910388.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL

Model Information		
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	910388
Sum of Weights Used	910388

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	44	212871.00
2	1	138	697517.00

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	990242.62	843291.77
SC	990254.34	843491.03
-2 Log L	990240.62	843257.77

Testing Global Null Hypothesis: BETA=0

Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	8864.04	11.7554	658.30	<.0001
Score	1.03	16	41	0.4438
Wald	2.03	16	41	0.0343
NOTE: Second-order Rao-Scott design correction 0.3611 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.38	1	56	0.2447
selfrhealth_06	1.27	4	53	0.2916
age_06	0.48	1	56	0.4899
marcat_06	1.71	2	55	0.1903
diabetes_06	0.92	1	56	0.3419
arthritis_06	1.75	1	56	0.1911
racecat	2.25	3	54	0.0933
edcat	1.51	3	54	0.2234

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.4105	1.9785	0.71	0.4789
ln_inc06		0.1632	0.1388	1.18	0.2447
selfrhealth_06	2	0.8691	0.9398	0.92	0.3591
selfrhealth_06	3	0.1614	0.9404	0.17	0.8643
selfrhealth_06	4	0.0253	0.8400	0.03	0.9761
selfrhealth_06	5	1.4361	1.1199	1.28	0.2050
age_06		-0.0149	0.0215	-0.70	0.4899
marcat_06	2	-0.7220	0.4689	-1.54	0.1293
marcat_06	3	0.3602	1.1034	0.33	0.7453
diabetes_06		-0.4215	0.4397	-0.96	0.3419
arthritis_06		-0.6440	0.4867	-1.32	0.1911
racecat	2	-0.8599	0.7553	-1.14	0.2597
racecat	3	-0.4252	0.8983	-0.47	0.6378
racecat	4	-2.3458	0.9736	-2.41	0.0193
edcat	2	0.6592	0.5223	1.26	0.2121
edcat	3	0.5940	0.5405	1.10	0.2765
edcat	4	-0.3719	0.6760	-0.55	0.5844
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	1.177	0.891	1.555
selfrhealth_06 2 vs 1	2.385	0.363	15.670
selfrhealth_06 3 vs 1	1.175	0.179	7.731
selfrhealth_06 4 vs 1	1.026	0.191	5.518
selfrhealth_06 5 vs 1	4.204	0.446	39.623
age_06	0.985	0.944	1.029
marcat_06 2 vs 1	0.486	0.190	1.243
marcat_06 3 vs 1	1.434	0.157	13.073
diabetes_06	0.656	0.272	1.583
arthritis_06	0.525	0.198	1.392
racecat 2 vs 1	0.423	0.093	1.921
racecat 3 vs 1	0.654	0.108	3.952

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
racecat	4 vs 1	0.096	0.014	0.673
edcat	2 vs 1	1.933	0.679	5.504
edcat	3 vs 1	1.811	0.613	5.348
edcat	4 vs 1	0.689	0.178	2.671
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	67.1	Somers' D	0.347
Percent Discordant	32.5	Gamma	0.348
Percent Tied	0.4	Tau-a	0.128
Pairs	6072	c	0.673

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=0

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	1354
Number of Observations not in Domain	10435
Sum of Weights in Domain	5291546.0

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	5291546
Sum of Weights Used	5291546

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	1227	4755792.0
2	1	127	535754.0

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Class Level Information					
Class	Value	Design Variables			
edcat	1	0	0	0	
	2	1	0	0	
	3	0	1	0	
	4	0	0	1	

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	3469294.6	3066705.6
SC	3469308.1	3066934.8
-2 Log L	3469292.6	3066671.6

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	25799.1	11.5801	648.49	<.0001
Score	4.35	16	41	<.0001
Wald	4.96	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3817 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	0.34	1	56	0.5613
selfrhealth_06	1.87	4	53	0.1291
age_06	22.89	1	56	<.0001
marcat_06	6.85	2	55	0.0022
diabetes_06	3.64	1	56	0.0615
arthritis_06	2.04	1	56	0.1584
racecat	2.22	3	54	0.0966
edcat	0.03	3	54	0.9926

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		3.0384	1.1037	2.75	0.0079
ln_inc06		-0.0428	0.0733	-0.58	0.5613
selfrhealth_06	2	0.1799	0.5173	0.35	0.7294
selfrhealth_06	3	-0.2172	0.5130	-0.42	0.6737
selfrhealth_06	4	-0.3029	0.6171	-0.49	0.6255
selfrhealth_06	5	-1.2973	0.7174	-1.81	0.0759
age_06		-0.0519	0.0108	-4.78	<.0001
marcat_06	2	-0.7657	0.2714	-2.82	0.0066
marcat_06	3	-2.2658	0.7551	-3.00	0.0040
diabetes_06		-0.5591	0.2930	-1.91	0.0615
arthritis_06		0.4431	0.3099	1.43	0.1584
racecat	2	-0.7649	0.3304	-2.32	0.0243
racecat	3	-0.7076	0.3911	-1.81	0.0758
racecat	4	-1.1450	0.7126	-1.61	0.1137

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
edcat	2	0.0303	0.2476	0.12	0.9030
edcat	3	-0.00705	0.3073	-0.02	0.9818
edcat	4	-0.0918	0.3669	-0.25	0.8033
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	0.958	0.827	1.110
selfrhealth_06 2 vs 1	1.197	0.425	3.374
selfrhealth_06 3 vs 1	0.805	0.288	2.249
selfrhealth_06 4 vs 1	0.739	0.215	2.543
selfrhealth_06 5 vs 1	0.273	0.065	1.150
age_06	0.949	0.929	0.970
marcat_06 2 vs 1	0.465	0.270	0.801
marcat_06 3 vs 1	0.104	0.023	0.471
diabetes_06	0.572	0.318	1.028
arthritis_06	1.558	0.837	2.898
racecat 2 vs 1	0.465	0.240	0.902
racecat 3 vs 1	0.493	0.225	1.079
racecat 4 vs 1	0.318	0.076	1.326
edcat 2 vs 1	1.031	0.628	1.693
edcat 3 vs 1	0.993	0.537	1.838
edcat 4 vs 1	0.912	0.437	1.902
NOTE: The degrees of freedom in computing the confidence limits is 56.			

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	73.7	Somers' D	0.481
Percent Discordant	25.6	Gamma	0.485
Percent Tied	0.8	Tau-a	0.082
Pairs	155829	c	0.740

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The SURVEYLOGISTIC Procedure

Domain Analysis for domain resp08=1 resp10=1

Domain Summary	
Number of Observations	11789
Number of Observations in Domain	9220
Number of Observations not in Domain	2569
Sum of Weights in Domain	42322021

Model Information		
Data Set	WORK.HRS_2006_2012	
Response Variable	resp12	
Number of Response Levels	2	
Stratum Variable	STRATUM	STRATUM ID
Number of Strata	56	
Cluster Variable	SECU	SAMPLING ERROR COMPUTATION UNIT
Number of Clusters	112	
Weight Variable	KWGTR	2006 WEIGHT: RESPONDENT LEVEL

Model Information		
Model	Binary Logit	
Optimization Technique	Fisher's Scoring	
Variance Adjustment	Degrees of Freedom (DF)	

Variance Estimation	
Method	Taylor Series
Variance Adjustment	Degrees of Freedom (DF)

Number of Observations Read	11789
Number of Observations Used	11789
Sum of Weights Read	42322021
Sum of Weights Used	42322021

Response Profile			
Ordered Value	**resp12**	**Total Frequency**	**Total Weight**
1	0	975	4063196
2	1	8245	38258825

Probability modeled is resp12=1.

Class Level Information						
Class	**Value**	**Design Variables**				
selfrhealth_06	**1**	0	0	0	0	
	2	1	0	0	0	
	3	0	1	0	0	
	4	0	0	1	0	
	5	0	0	0	1	
marcat_06	**1**	0	0			
	2	1	0			
	3	0	1			
racecat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		
edcat	**1**	0	0	0		
	2	1	0	0		
	3	0	1	0		
	4	0	0	1		

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	26766061	25386275
SC	26766076	25386539
-2 Log L	26766059	25386241

Testing Global Null Hypothesis: BETA=0

Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	86607.1	11.8470	663.43	<.0001
Score	9.63	16	41	<.0001
Wald	8.65	16	41	<.0001
NOTE: Second-order Rao-Scott design correction 0.3506 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
ln_inc06	1.17	1	56	0.2831
selfrhealth_06	6.71	4	53	0.0002
age_06	100.13	1	56	<.0001
marcat_06	1.50	2	55	0.2330
diabetes_06	0.88	1	56	0.3520
arthritis_06	1.03	1	56	0.3142
racecat	2.39	3	54	0.0789
edcat	0.19	3	54	0.9027

Analysis of Maximum Likelihood Estimates					
Parameter		Estimate	Standard Error	t Value	Pr > |t|
Intercept		6.9422	0.6019	11.53	<.0001
ln_inc06		-0.0421	0.0389	-1.08	0.2831
selfrhealth_06	2	-0.2737	0.1716	-1.59	0.1164
selfrhealth_06	3	-0.3708	0.1744	-2.13	0.0379
selfrhealth_06	4	-0.6410	0.1847	-3.47	0.0010
selfrhealth_06	5	-1.0594	0.2212	-4.79	<.0001
age_06		-0.0526	0.00526	-10.01	<.0001
marcat_06	2	-0.1396	0.0810	-1.72	0.0904
marcat_06	3	-0.0775	0.2756	-0.28	0.7797
diabetes_06		-0.0916	0.0976	-0.94	0.3520
arthritis_06		0.1036	0.1020	1.02	0.3142
racecat	2	-0.2481	0.1391	-1.78	0.0800
racecat	3	-0.3814	0.1415	-2.70	0.0093
racecat	4	0.0263	0.2234	0.12	0.9066
edcat	2	-0.0197	0.1025	-0.19	0.8486
edcat	3	-0.0856	0.1171	-0.73	0.4678
edcat	4	-0.0319	0.1259	-0.25	0.8006
NOTE: The degrees of freedom for the t tests is 56.					

Odds Ratio Estimates			
Effect	Point Estimate	95% Confidence Limits	
ln_inc06	0.959	0.887	1.036
selfrhealth_06 2 vs 1	0.761	0.539	1.073
selfrhealth_06 3 vs 1	0.690	0.487	0.979
selfrhealth_06 4 vs 1	0.527	0.364	0.763
selfrhealth_06 5 vs 1	0.347	0.223	0.540
age_06	0.949	0.939	0.959
marcat_06 2 vs 1	0.870	0.739	1.023
marcat_06 3 vs 1	0.925	0.533	1.607
diabetes_06	0.912	0.750	1.110
arthritis_06	1.109	0.904	1.361
racecat 2 vs 1	0.780	0.590	1.031
racecat 3 vs 1	0.683	0.514	0.907

Odds Ratio Estimates				
Effect		Point Estimate	95% Confidence Limits	
racecat	4 vs 1	1.027	0.656	1.606
edcat	2 vs 1	0.981	0.799	1.204
edcat	3 vs 1	0.918	0.726	1.161
edcat	4 vs 1	0.969	0.753	1.246
NOTE: The degrees of freedom in computing the confidence limits is 56.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	66.8	Somers' D	0.346
Percent Discordant	32.2	Gamma	0.349
Percent Tied	0.9	Tau-a	0.065
Pairs	8038875	c	0.673

Response propensity model (2012), 100 Pattern (06,no 08,no 10)

The MEANS Procedure

Analysis Variable : phat12_100 Estimated Probability					
N	N Miss	Mean	Std Error	Lower 95% CL for Mean	Upper 95% CL for Mean
11789	0	0.0737554	0.000848665	0.0720919	0.0754190

The MEANS Procedure

Analysis Variable : cumprob_case					
N	N Miss	Mean	Std Dev	Minimum	Maximum
11789	0	0.5484638	0.3025298	0.000639373	0.9265652

The MEANS Procedure

Variable	Label	N	N Miss	Mean	Minimum	Maximum
GENDER	Gender 1=Male 2=Female	47156	0	1.5640852	1.0000000	2.0000000
SECU	SAMPLING ERROR COMPUTATION UNIT	47156	0	1.5029265	1.0000000	2.0000000
STRATUM	STRATUM ID	47156	0	30.6344898	1.0000000	56.0000000
marcat_06	Marital Status 1=Married 2=Previously Married 3=Never Married	47156	0	1.5744338	1.0000000	3.0000000
diabetes_06	1=Yes Diabetes 0=No Diabetes	47156	0	0.2129103	0	1.0000000
arthritis_06	Arthritis 1=Yes 0=No	47156	0	0.6252439	0	1.0000000
edcat	Education 1=0-11 Yrs 2=12 Yrs 3=13-15 Yrs 4=16+ Yrs	47156	0	2.3958775	1.0000000	4.0000000
racecat	Race 1=Hispanic 2=NH White 3=NH Black 4=NH Other	47156	0	2.1140046	1.0000000	4.0000000
cumprob_case		47156	0	0.5484638	0.000639373	0.9265652
ln_inc		40325	6831	10.2687984	0	17.9100947
year		47156	0	2.5000000	1.0000000	4.0000000
basewgt		47156	0	4458.05	924.0000000	17035.00
casewt		47156	0	37585.12	1067.56	8449395.40
yrssince06		47156	0	3.0000000	0	6.0000000
yrs06sq		47156	0	14.0000000	0	36.0000000
newid_num		47156	0	165563995	3010.00	502761010

GEE Model with Repeated Measures Per Individual (Financial Respondent), 2006-2012

The GENMOD Procedure

Model Information	
Data Set	WORK.HRS_LONG_1
Distribution	Normal
Link Function	Identity
Dependent Variable	ln_inc
Scale Weight Variable	casewt

Number of Observations Read	47156
Number of Observations Used	40325
Sum of Weights	1.0981E9
Missing Values	6831

Class Level Information		
Class	**Levels**	**Values**
GENDER	2	2 1
STRATUM	56	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 1
newid_num	11789	3010 10001010 10004010 10013010 10013040 10038010 10050010 10059030 10063010 10075020 10083020 10097040 10109030 10147010 10196010 10206010 10210010 10225010 10281010 10299010 10372010 10394010 10395010 10397010 10404010 10433010 10451010 10453010 ...
year	4	1 2 3 4

Parameter Information			
Parameter	**Effect**	**GENDER**	**STRATUM**
Prm1	Intercept		
Prm2	yrssince06		
Prm3	GENDER	2	
Prm4	GENDER	1	
Prm5	yrs06sq		
Prm6	yrssince06*GENDER	2	
Prm7	yrssince06*GENDER	1	
Prm8	yrs06sq*GENDER	2	
Prm9	yrs06sq*GENDER	1	
Prm10	STRATUM		2
Prm11	STRATUM		3
Prm12	STRATUM		4
Prm13	STRATUM		5
Prm14	STRATUM		6
Prm15	STRATUM		7
Prm16	STRATUM		8
Prm17	STRATUM		9
Prm18	STRATUM		10
Prm19	STRATUM		11
Prm20	STRATUM		12
Prm21	STRATUM		13
Prm22	STRATUM		14
Prm23	STRATUM		15
Prm24	STRATUM		16
Prm25	STRATUM		17
Prm26	STRATUM		18
Prm27	STRATUM		19
Prm28	STRATUM		20
Prm29	STRATUM		21

Parameter Information			
Parameter	**Effect**	**GENDER**	**STRATUM**
Prm30	STRATUM		22
Prm31	STRATUM		23
Prm32	STRATUM		24
Prm33	STRATUM		25
Prm34	STRATUM		26
Prm35	STRATUM		27
Prm36	STRATUM		28
Prm37	STRATUM		29
Prm38	STRATUM		30
Prm39	STRATUM		31
Prm40	STRATUM		32
Prm41	STRATUM		33
Prm42	STRATUM		34
Prm43	STRATUM		35
Prm44	STRATUM		36
Prm45	STRATUM		37
Prm46	STRATUM		38
Prm47	STRATUM		39
Prm48	STRATUM		40
Prm49	STRATUM		41
Prm50	STRATUM		42
Prm51	STRATUM		43
Prm52	STRATUM		44
Prm53	STRATUM		45
Prm54	STRATUM		46
Prm55	STRATUM		47
Prm56	STRATUM		48
Prm57	STRATUM		49
Prm58	STRATUM		50
Prm59	STRATUM		51
Prm60	STRATUM		52
Prm61	STRATUM		53
Prm62	STRATUM		54
Prm63	STRATUM		55
Prm64	STRATUM		56
Prm65	STRATUM		1

Algorithm converged.

GEE Model Information	
Correlation Structure	Exchangeable
Subject Effect	newid_num (11789 levels)
Number of Clusters	11789
Clusters With Missing Values	3544
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	1

Algorithm converged.

Working Correlation Matrix				
	Col1	**Col2**	**Col3**	**Col4**

Working Correlation Matrix				
	Col1	Col2	Col3	Col4
Row1	1.0000	0.2880	0.2880	0.2880
Row2	0.2880	1.0000	0.2880	0.2880
Row3	0.2880	0.2880	1.0000	0.2880
Row4	0.2880	0.2880	0.2880	1.0000

Exchangeable Working Correlation	
Correlation	0.2879509812

GEE Fit Criteria	
QIC	44712.6705
QICu	40386.0000

Analysis Of GEE Parameter Estimates							
Empirical Standard Error Estimates							
Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept		9.8188	0.4376	8.9611	10.6764	22.44	<.0001
yrssince06		-0.0868	0.0476	-0.1801	0.0066	-1.82	0.0685
GENDER	2	-0.6351	0.1026	-0.8363	-0.4340	-6.19	<.0001
GENDER	1	0.0000	0.0000	0.0000	0.0000	.	.
yrs06sq		0.0058	0.0083	-0.0105	0.0220	0.70	0.4844
yrssince06*GENDER	2	0.0993	0.0779	-0.0534	0.2520	1.27	0.2026
yrssince06*GENDER	1	0.0000	0.0000	0.0000	0.0000	.	.
yrs06sq*GENDER	2	-0.0112	0.0127	-0.0361	0.0138	-0.88	0.3800
yrs06sq*GENDER	1	0.0000	0.0000	0.0000	0.0000	.	.
STRATUM	2	0.2427	0.4943	-0.7261	1.2114	0.49	0.6234
STRATUM	3	0.7418	0.4870	-0.2126	1.6963	1.52	0.1276
STRATUM	4	-0.2777	1.1753	-2.5812	2.0259	-0.24	0.8132
STRATUM	5	0.7001	1.6461	-2.5261	3.9264	0.43	0.6706
STRATUM	6	0.8896	0.6169	-0.3195	2.0988	1.44	0.1493
STRATUM	7	1.4687	0.5121	0.4650	2.4723	2.87	0.0041
STRATUM	8	0.9225	0.4785	-0.0153	1.8603	1.93	0.0539
STRATUM	9	0.7111	0.5196	-0.3073	1.7296	1.37	0.1711
STRATUM	10	1.4763	0.4581	0.5784	2.3742	3.22	0.0013
STRATUM	11	0.2359	0.7802	-1.2932	1.7650	0.30	0.7623
STRATUM	12	1.1851	0.5437	0.1195	2.2507	2.18	0.0293
STRATUM	13	1.0377	0.5211	0.0162	2.0591	1.99	0.0465
STRATUM	14	0.9825	0.4701	0.0610	1.9039	2.09	0.0366
STRATUM	15	0.8009	0.5083	-0.1954	1.7972	1.58	0.1151
STRATUM	16	0.8322	0.4533	-0.0563	1.7207	1.84	0.0664
STRATUM	17	1.2766	0.4817	0.3325	2.2207	2.65	0.0080
STRATUM	18	1.3928	0.4915	0.4295	2.3561	2.83	0.0046
STRATUM	19	1.0644	0.6607	-0.2307	2.3594	1.61	0.1072
STRATUM	20	1.0715	0.7330	-0.3651	2.5081	1.46	0.1438
STRATUM	21	1.1674	0.4514	0.2825	2.0522	2.59	0.0097
STRATUM	22	1.1159	0.4895	0.1564	2.0753	2.28	0.0226
STRATUM	23	0.5561	0.5119	-0.4472	1.5595	1.09	0.2773
STRATUM	24	0.9593	0.5252	-0.0701	1.9887	1.83	0.0678
STRATUM	25	0.9158	0.4529	0.0282	1.8034	2.02	0.0432
STRATUM	26	1.2421	0.5337	0.1961	2.2881	2.33	0.0199
STRATUM	27	1.2184	0.4638	0.3094	2.1275	2.63	0.0086
STRATUM	28	0.9968	0.4627	0.0900	1.9036	2.15	0.0312

Analysis Of GEE Parameter Estimates							
Empirical Standard Error Estimates							
Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
STRATUM	29	1.2409	0.4700	0.3198	2.1620	2.64	0.0083
STRATUM	30	0.9706	0.4739	0.0418	1.8994	2.05	0.0405
STRATUM	31	1.1358	0.4622	0.2299	2.0416	2.46	0.0140
STRATUM	32	1.0034	0.6157	-0.2034	2.2102	1.63	0.1032
STRATUM	33	0.9324	0.5666	-0.1781	2.0428	1.65	0.0998
STRATUM	34	0.3852	0.4540	-0.5046	1.2750	0.85	0.3961
STRATUM	35	1.1234	0.5142	0.1156	2.1311	2.18	0.0289
STRATUM	36	0.7465	0.6137	-0.4563	1.9493	1.22	0.2238
STRATUM	37	0.7196	0.4518	-0.1659	1.6051	1.59	0.1112
STRATUM	38	1.3483	0.5322	0.3051	2.3914	2.53	0.0113
STRATUM	39	0.9578	0.4571	0.0619	1.8536	2.10	0.0361
STRATUM	40	1.4129	0.4549	0.5213	2.3045	3.11	0.0019
STRATUM	41	1.3107	0.5071	0.3168	2.3046	2.58	0.0097
STRATUM	42	0.6658	0.4648	-0.2453	1.5769	1.43	0.1521
STRATUM	43	1.0395	0.4763	0.1060	1.9730	2.18	0.0291
STRATUM	44	1.1563	0.4623	0.2501	2.0624	2.50	0.0124
STRATUM	45	1.3681	0.4568	0.4727	2.2635	2.99	0.0027
STRATUM	46	1.0715	0.4735	0.1435	1.9994	2.26	0.0236
STRATUM	47	0.6761	0.4517	-0.2093	1.5615	1.50	0.1345
STRATUM	48	0.9332	0.4566	0.0382	1.8281	2.04	0.0410
STRATUM	49	0.3539	0.6153	-0.8519	1.5598	0.58	0.5651
STRATUM	50	0.8027	0.4552	-0.0895	1.6949	1.76	0.0778
STRATUM	51	0.9628	0.4820	0.0181	1.9076	2.00	0.0458
STRATUM	52	0.0666	0.5013	-0.9160	1.0491	0.13	0.8944
STRATUM	53	0.9686	0.4794	0.0290	1.9082	2.02	0.0433
STRATUM	54	0.2857	0.6156	-0.9209	1.4924	0.46	0.6426
STRATUM	55	0.3075	0.5162	-0.7041	1.3192	0.60	0.5513
STRATUM	56	1.3300	0.4733	0.4023	2.2577	2.81	0.0050
STRATUM	1	0.0000	0.0000	0.0000	0.0000	.	.