**Financial Burden of Dementia in the Last 7 Years of Life**

*(****Note:*** *This is best viewed by copying & opening in NoteTab. The below includes raw code; check back for annotated code in the coming weeks, and please contact* [*katelyn.ferreira@mssm.edu*](mailto:katelyn.ferreira@mssm.edu) *with any questions.)*

= V4 Outline MultiLine NoSorting TabWidth=30

H="Project outline"

The Burden of Care for Adults with Dementia: Impact on Care Quality and Family Outcomes

10/9/17

H="set libraries"

libname clean 'D:\HRS\Shared\base\_data\hrs\_cleaned';

libname medi 'D:\HRS\Shared\raw\CMS\CMS\_DUA\_51675\_2014\Merged\SAS';

/\*rand data path\*/

libname rand 'D:\HRS\Shared\raw\HRS\hrs\_public\_2014\rand2014\main';

libname proj\_int 'D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data';

libname proj\_fin 'D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data';

libname proj\_ref 'D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\ref\_docs';

H="get index date"

/\*pull the date of death, assign as index date\*/

/\*

proc import datafile="E:\data\hrs\_cleaned\death\_date\_2014.dta" out=death\_date\_2014 dbms=stata replace; run;

data index;

set death\_date\_2014;

index\_date=death\_all;

index\_month=month(death\_all);

index\_year=year(death\_all);

if bid\_hrs\_21~='';

run;

data proj\_int.index (keep = id bid\_hrs\_21 index\_date index\_month index\_year);

set index;

run;

\*/

data proj\_int.index(keep=id bid\_hrs\_22 index\_date index\_month index\_year);

set clean.death\_date\_2015;

index\_date=death\_all;

index\_month=death\_month;

index\_year=death\_year;

if bid\_hrs\_22~='';

run;

proc export data=proj\_int.index outfile="D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\index\_dates.dta" dbms=stata replace; run;

H="get ffs before"

/\*determine Spouse ffs medicare before R's death using the

claims denominator files

Several sets of variables created, looking back 6m, 12m, 18m, 24m from R's death

Also pulls in spouse date of death where available in the claims s\_claims\_dod\*/

/\*sort claims denominator file\*/

proc sort data=medi.bqsf\_1998\_2015 out=dn nodupkey;

by bid\_hrs\_22 start\_dt;

run;

proc sort data=proj\_int.index out=index1 nodupkey;

by bid\_hrs\_22 index\_year;

run;

/\*get dn just for interview year\*/

proc sql;

create table dn\_index\_quarter as select

a.\*,b.ab\_mo\_cnt,b.start\_dt,b.end\_dt,b.hmo\_mo

from index1 a inner join

dn b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22))

and b.start\_dt<=a.index\_date<=b.end\_dt;

quit;

data all\_insurance\_0 (rename=(hmo\_mo=hmo0 ab\_mo\_cnt=ab0 buyin\_mo=buyin\_mo0));

set dn\_index\_quarter;

ffs0=ab\_mo\_cnt>=1 & hmo\_mo=0;

format index\_date date9.;

run;

data all\_insurance\_0b;

set all\_insurance\_0;

ab\_mos0=ab0;

buyin\_mos0=buyin0;

if ffs0=1 then ffs\_mos0=ab\_mos0;

if ffs0=0 then ffs\_mos0=0;

run;

%macro insyrs(numyrs=);

%let y=%eval(&numyrs.\*4);

%do i=1 %to &y.;

%let l=%eval(&i.-1);

proc sql;

create table dn&i. as select

a.\*,b.ab\_mo\_cnt,b.start\_dt,b.end\_dt,b.hmo\_mo, b.buyin\_mo

from index1 a inner join

dn b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22))

and b.start\_dt<=a.index\_date-(&i.\*(365.25/4))<=end\_dt;

quit;

data all\_insurance\_&i.(rename=(hmo\_mo=hmo&i. ab\_mo\_cnt=ab&i. buyin\_mo=buyin\_mo&i.));

set dn&i.;

ffs&i.=ab\_mo\_cnt>=1 & hmo\_mo=0;

format index\_date date9.;

run;

proc sql;

create table all\_insurance\_&i.2 as select \* from

all\_insurance\_&l.b a

left join

all\_insurance\_&i. b

on a.bid\_hrs\_22=b.bid\_hrs\_22;

quit;

data all\_insurance\_&i.b (drop=ab\_mos&l. ffs\_mos&l.);

set all\_insurance\_&i.2;

ab\_mos&i.=ab\_mos&l.+ab&i.;

if ffs&i.=. then ffs&i.=0;

if ffs&l.=0 then ffs&i.=0;

if ffs&i.=1 then ffs\_mos&i.=ab&i.+ffs\_mos&l.;

if ffs&i.=0 then ffs\_mos&i.=ffs\_mos&l.;

run;

%end;

data all\_insurance;

set all\_insurance\_&y.b;

cont\_ffs\_n\_mos=ffs\_mos&y.;

%mend;

%insyrs(numyrs=7);

data proj\_int.ffs\_before;

set all\_insurance;

run;

proc export data=proj\_int.ffs\_before outfile="D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\ffs\_before.dta" replace; run;

H="get claims before"

proc sort data=proj\_int.index out=index1 nodupkey;

by bid\_hrs\_22 id index\_date;

run;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* \*\*\*\*\*\*\*\*\*\*\*\*\*\* Claims Before Death \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*macro to get claims before death

saves datasets for each claim type / time window to the spo\_mc\_i directory\*/

%macro claimspre(days\_start=,days\_bef\_index=,source=,suf=);

/\*claims fully within x time of death date\*/

proc sql;

create table &source.\_meet\_1 as select a.\*,b.index\_date,b.id

from medi.&source.\_1998\_2015 a inner join

index1 b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22))

and &days\_start<=b.index\_date-a.admit\_date<=&days\_bef\_index ;

quit;

/\*claims that start earlier than x time but span into x time before death\*/

proc sql;

create table &source.\_meet\_2 as select a.\*,b.index\_date,b.id

from medi.&source.\_1998\_2015 a inner join

index1 b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22))

and b.index\_date-a.admit\_date>&days\_bef\_index and b.index\_date-a.disch\_date<=&days\_bef\_index;

quit;

data proj\_int.&source.\_meet\_&suf.(compress=yes);

set &source.\_meet\_1 &source.\_meet\_2;

run;

%mend;

/\*6m before death\*/

\*%claims(days\_start=0,days\_bef\_index=183,source=hh,suf=6m); /\*home health\*/

\*%claims(days\_start=0,days\_bef\_index=183,source=hs,suf=6m); /\*hospice\*/

\*%claims(days\_start=0,days\_bef\_index=183,source=mp,suf=6m); /\*medpar\*/

\*%claims(days\_start=0,days\_bef\_index=183,source=dm,suf=6m); /\*dme\*/

\*%claims(days\_start=0,days\_bef\_index=183,source=op,suf=6m); /\*outpatient\*/

\*%claims(days\_start=0,days\_bef\_index=183,source=pb,suf=6m); /\*carrier\*/

/\*12m before death\*/

%macro bef(time=);

%claimspre(days\_start=0,days\_bef\_index=365\*&time.,source=hh,suf=%eval(12\*&time.)m); /\*home health\*/

%claimspre(days\_start=0,days\_bef\_index=365\*&time.,source=hs,suf=%eval(12\*&time.)m); /\*hospice\*/

%claimspre(days\_start=0,days\_bef\_index=365\*&time.,source=mp,suf=%eval(12\*&time.)m); /\*medpar\*/

%claimspre(days\_start=0,days\_bef\_index=365\*&time.,source=dm,suf=%eval(12\*&time.)m); /\*dme\*/

%claimspre(days\_start=0,days\_bef\_index=365\*&time.,source=op,suf=%eval(12\*&time.)m); /\*outpatient\*/

%claimspre(days\_start=0,days\_bef\_index=365\*&time.,source=pb,suf=%eval(12\*&time.)m); /\*carrier\*/

%mend;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* \*\*\*\*\*\*\*\*\*\*\*\*\*\* S Claims After R's Death \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*macro to get claims after death

saves datasets for each claim type / time window to the spo\_mc\_i directory\*/

%macro claimspost(days\_start=,days\_aft\_index=,source=,suf=);

/\*claims fully within x time of death date\*/

proc sql;

create table &source.\_meet\_1 as select a.\*,b.index\_date,b.id

from medi.&source.\_1998\_2015 a inner join

index1 b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22))

and &days\_start<=a.admit\_date - b.index\_date<=&days\_aft\_index ;

quit;

/\*claims that start earlier than R's DOD but span after R's death\*/

proc sql;

create table &source.\_meet\_2 as select a.\*,b.index\_date,b.id

from medi.&source.\_1998\_2015 a inner join

index1 b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22))

and a.admit\_date<b.index\_date

and &days\_start<=a.disch\_date - b.index\_date;

quit;

data proj\_int.&source.\_meet\_&suf.(compress=yes);

set &source.\_meet\_1 &source.\_meet\_2;

format disch\_date date9.;

format admit\_date date9.;

run;

%mend;

%macro aft(time=);

%claimspost(days\_start=0,days\_aft\_index=365\*&time.,source=hh,suf=p%eval(12\*&time.)m); /\*home health\*/

%claimspost(days\_start=0,days\_aft\_index=365\*&time.,source=hs,suf=p%eval(12\*&time.)m); /\*hospice\*/

%claimspost(days\_start=0,days\_aft\_index=365\*&time.,source=mp,suf=p%eval(12\*&time.)m); /\*medpar\*/

%claimspost(days\_start=0,days\_aft\_index=365\*&time.,source=dm,suf=p%eval(12\*&time.)m); /\*dme\*/

%claimspost(days\_start=0,days\_aft\_index=365\*&time.,source=op,suf=p%eval(12\*&time.)m); /\*outpatient\*/

%claimspost(days\_start=0,days\_aft\_index=365\*&time.,source=pb,suf=p%eval(12\*&time.)m); /\*carrier\*/

%mend;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* S Diagnosis Lists \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

%macro dx\_time\_range(range1=, range2=, suf=);

/\*pulls just dx codes from carrier claims\*/

data pb\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.pb\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD12 index\_date);

array dx PDGNS\_CD DGNSCD01-DGNSCD12;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=pb\_last\_&range2.\_dx out=pb\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*outpatient claims\*/

data op\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.op\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD25 index\_date);

array dx PDGNS\_CD DGNSCD01-DGNSCD25 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=op\_last\_&range2.\_dx out=op\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*medpar claims\*/

data mp\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.mp\_meet\_&suf.(keep=bid\_hrs\_22 id AD\_DGNS DGNS\_CD01-DGNS\_CD25 index\_date );

array dx D\_DGNS DGNS\_CD01-DGNS\_CD25 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=mp\_last\_&range2.\_dx out=mp\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*dme claims\*/

data dm\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.dm\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD12 index\_date);

array dx PDGNS\_CD DGNSCD01-DGNSCD12 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=dm\_last\_&range2.\_dx out=dm\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*home health agency\*/

data hh\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.hh\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD25 index\_date);

array dx PDGNS\_CD DGNSCD01-DGNSCD25 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=hh\_last\_&range2.\_dx out=hh\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*hospice\*/

data hs\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.hs\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD25 index\_date);

array dx PDGNS\_CD DGNSCD01-DGNSCD25 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=hs\_last\_&range2.\_dx out=hs\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*set diag variable length = 7 chars since that's the max length from the mc claims

Need to do this because length varies across the different mc claim types\*/

data hs\_last\_&range2.\_dx3;

length diag $7;

set hs\_last\_&range2.\_dx2;

run;

data hh\_last\_&range2.\_dx3;

length diag $7;

set hh\_last\_&range2.\_dx2;

run;

data mp\_last\_&range2.\_dx3;

length diag $7;

set mp\_last\_&range2.\_dx2;

run;

data dm\_last\_&range2.\_dx3;

length diag $7;

set dm\_last\_&range2.\_dx2;

run;

data op\_last\_&range2.\_dx3;

length diag $7;

set op\_last\_&range2.\_dx2;

run;

data pb\_last\_&range2.\_dx3;

length diag $7;

set pb\_last\_&range2.\_dx2;

run;

data dx\_all\_last\_&range2.;

set hs\_last\_&range2.\_dx3

hh\_last\_&range2.\_dx3

mp\_last\_&range2.\_dx3

dm\_last\_&range2.\_dx3

op\_last\_&range2.\_dx3

pb\_last\_&range2.\_dx3;

run;

proc sort data=dx\_all\_last\_&range2.(where=(diag~="")) out=proj\_int.dx\_&range1.\_&range2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

%mend;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*medpar claims, time periods before R's death\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*macro for medpar claims, splits into costs for snf and ip claims

for time periods before r's death\*/

%macro mp(source=,equ=,name=);

data proj\_int.&source.\_meet\_&name.;

set proj\_int.mp\_meet\_&name.;

if (trim(left(SSLSSNF)))&equ.="N";

run;

%mend;

%macro mpsplit(time=);

%mp(source=ip,equ=~,name=%eval(12\*&i.)m);

%mp(source=snf,equ=,name=%eval(12\*&i.)m);

%mp(source=ip,equ=~,name=p%eval(12\*&i.)m);

%mp(source=snf,equ=,name=p%eval(12\*&i.)m);

%mend;

/\*run macros\*/

%macro runall(years=);

%do i=1 %to &years.;

%bef(time=&i.);

%aft(time=&i.);

%mpsplit(time=&i.);

%end;

%mend;

%runall(years=7);

/\*run macro to create data files proj\_int.dx\_0d\_n6m proj\_int.dx\_0d\_n12m and proj\_int.dx\_0d\_n24m \*/

\*%dx\_time\_range(range1=0d, range2=n6m, suf=6m);

%dx\_time\_range(range1=0d, range2=n12m, suf=12m);

\*%dx\_time\_range(range1=0d, range2=n24m, suf=24m);

/\*run for dx lists after R's death\*/

\*%dx\_time\_range(range1=0d, range2=p6m, suf=p6m);

\*%dx\_time\_range(range1=0d, range2=p12m, suf=p12m);

\*%dx\_time\_range(range1=0d, range2=p24m, suf=p24m);

/\*get spouse medicare costs by claim type and total, adjusted for inflation

to 2012$, monthly, 24m before and after R's death

begins with claims lists from "Get S MC claims lists..." section

final dataset is spo\_mc\_i.hrs\_elix\_cc\_pay\*/

H="get annual diagnoses before"

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* S Diagnosis Lists \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

%macro dx\_time\_range(range1=, range2=, startdate=, enddate=, suf=);

/\*pulls just dx codes from carrier claims\*/

data pb\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.pb\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD12 index\_date admit\_date);

if &startdate.<=(index\_date-admit\_date)/365.25<&enddate.;

array dx PDGNS\_CD DGNSCD01-DGNSCD12;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=pb\_last\_&range2.\_dx out=pb\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*outpatient claims\*/

data op\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.op\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD25 index\_date admit\_date);

if &startdate.<=(index\_date-admit\_date)/365.25<&enddate.;

array dx PDGNS\_CD DGNSCD01-DGNSCD25 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=op\_last\_&range2.\_dx out=op\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*medpar claims\*/

data mp\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.mp\_meet\_&suf.(keep=bid\_hrs\_22 id AD\_DGNS DGNS\_CD01-DGNS\_CD25 index\_date admit\_date);

if &startdate.<=(index\_date-admit\_date)/365.25<&enddate.;

array dx D\_DGNS DGNS\_CD01-DGNS\_CD25 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=mp\_last\_&range2.\_dx out=mp\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*dme claims\*/

data dm\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.dm\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD12 index\_date admit\_date);

if &startdate.<=(index\_date-admit\_date)/365.25<&enddate.;

array dx PDGNS\_CD DGNSCD01-DGNSCD12 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=dm\_last\_&range2.\_dx out=dm\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*home health agency\*/

data hh\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.hh\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD25 index\_date admit\_date);

if &startdate.<=(index\_date-admit\_date)/365.25<&enddate.;

array dx PDGNS\_CD DGNSCD01-DGNSCD25 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=hh\_last\_&range2.\_dx out=hh\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*hospice\*/

data hs\_last\_&range2.\_dx(keep=bid\_hrs\_22 id diag index\_date);

set proj\_int.hs\_meet\_&suf.(keep=bid\_hrs\_22 id PDGNS\_CD DGNSCD01-DGNSCD25 index\_date admit\_date);

if &startdate.<=(index\_date-admit\_date)/365.25<&enddate.;

array dx PDGNS\_CD DGNSCD01-DGNSCD25 ;

do over dx;

diag=dx ;

output;

end;

run;

proc sort data=hs\_last\_&range2.\_dx out=hs\_last\_&range2.\_dx2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

/\*set diag variable length = 7 chars since that's the max length from the mc claims

Need to do this because length varies across the different mc claim types\*/

data hs\_last\_&range2.\_dx3;

length diag $7;

set hs\_last\_&range2.\_dx2;

run;

data hh\_last\_&range2.\_dx3;

length diag $7;

set hh\_last\_&range2.\_dx2;

run;

data mp\_last\_&range2.\_dx3;

length diag $7;

set mp\_last\_&range2.\_dx2;

run;

data dm\_last\_&range2.\_dx3;

length diag $7;

set dm\_last\_&range2.\_dx2;

run;

data op\_last\_&range2.\_dx3;

length diag $7;

set op\_last\_&range2.\_dx2;

run;

data pb\_last\_&range2.\_dx3;

length diag $7;

set pb\_last\_&range2.\_dx2;

run;

data dx\_all\_last\_&range2.;

set hs\_last\_&range2.\_dx3

hh\_last\_&range2.\_dx3

mp\_last\_&range2.\_dx3

dm\_last\_&range2.\_dx3

op\_last\_&range2.\_dx3

pb\_last\_&range2.\_dx3;

run;

proc sort data=dx\_all\_last\_&range2.(where=(diag~="")) out=proj\_int.dx\_&range1.\_&range2 nodupkey;

by bid\_hrs\_22 id index\_date diag;

run;

%mend;

%macro rundx(years=);

%do i=1 %to &years.;

%let l=%eval(&i.-1);

%dx\_time\_range(range1=%eval(&l.\*12)m, range2=%eval(&i.\*12)m, startdate=&l., enddate=&i., suf=84m);

%end;

%mend;

%rundx(years=7);

H="Annual Elixhauser"

/\*

Created by: EBL

Date Created: 4/12/19

Updated by:

Date Updated:

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* Rename variables macro \*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

%macro rename(lib,dsn,pre);

options pageno=1 nodate;

proc contents data=&lib..&dsn;

title "Before Renaming All Variables";

run;

proc sql noprint;

select nvar into :num\_vars

from dictionary.tables

where libname="&LIB" and

memname="&DSN";

select distinct(name) into :var1-

:var%TRIM(%LEFT(&num\_vars))

from dictionary.columns

where libname="&LIB" and

memname="&DSN";

quit;

run;

proc datasets library=&LIB;

modify &DSN;

rename

%do i=1 %to &num\_vars;

&&var&i=&&var&i..\_&pre

%end;

;

quit;

run;

options pageno=1 nodate;

proc contents data=&lib..&dsn;

title "After Renaming All Variables";

run;

%mend rename;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* Elixhauser comorbidities macro \*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*Note elixhauser comorbidities diagnosis lists are modified for the

purposes of this project, do not copy and paste this Elixhauser code

for use in other projects!!\*/

%macro elixhauser(range1=, range2=);

data dx\_31\_comor;

set proj\_int.dx\_&range1.\_&range2.(rename=(diag=dx\_0));

dx=trim(left(dx\_0));

if dx~="" then do;

comorbi\_1=0;

comorbi\_2=0;

comorbi\_3=0;

comorbi\_4=0;

comorbi\_5=0;

comorbi\_6=0;

comorbi\_7=0;

comorbi\_8=0;

comorbi\_9=0;

comorbi\_10=0;

comorbi\_11=0;

comorbi\_12=0;

comorbi\_13=0;

comorbi\_14=0;

comorbi\_15=0;

comorbi\_16=0;

comorbi\_17=0;

comorbi\_18=0;

comorbi\_19=0;

comorbi\_20=0;

comorbi\_21=0;

comorbi\_22=0;

comorbi\_23=0;

comorbi\_24=0;

comorbi\_25=0;

comorbi\_26=0;

comorbi\_27=0;

comorbi\_28=0;

comorbi\_29=0;

comorbi\_30=0;

\*end of intialize of 30 binary variables;

\*add dementia and CAD and ALS;

dementia=0;

cad=0;

als=0;

renal\_dis=0;

\*do over dx;

\*Congestive Heart Failure;

if (substr(dx,1,5)='39891' or

substr(dx,1,5)='40211' or

substr(dx,1,5)='40291' or

substr(dx,1,5)='40411' or

substr(dx,1,5)='40413' or

substr(dx,1,5)='40491' or

substr(dx,1,5)='40493' or

substr(dx,1,3)='428')

and comorbi\_1=0

then comorbi\_1=1;\*add one binary variables here.;

if (substr(dx,1,4)='I099' or

substr(dx,1,4)='I110' or

substr(dx,1,4)='I130' or

substr(dx,1,4)='I132' or

substr(dx,1,4)='I255' or

substr(dx,1,4)='I420' or

substr(dx,1,4)='I425' or

substr(dx,1,4)='I426' or

substr(dx,1,4)='I427' or

substr(dx,1,4)='I428' or

substr(dx,1,4)='I429' or

substr(dx,1,3)='I43' or

substr(dx,1,4)='P290' or

substr(dx,1,3)='I50')

and comorbi\_1=0

then comorbi\_1=1;

\*Cariac Arrhythmias;

if (substr(dx,1,5)='42610' or

substr(dx,1,5)='42611' or

substr(dx,1,5)='42613' or

substr(dx,1,4)='4262' or

substr(dx,1,4)='4263' or

substr(dx,1,4)='4264' or

substr(dx,1,5)='42650' or

substr(dx,1,5)='42651' or

substr(dx,1,5)='42652' or

substr(dx,1,5)='42653' or

substr(dx,1,4)='4266' or

substr(dx,1,4)='4267' or

substr(dx,1,4)='4268' or

substr(dx,1,4)='4270' or

substr(dx,1,4)='4272' or

substr(dx,1,5)='42731' or

substr(dx,1,5)='42760' or

substr(dx,1,4)='4279' or

substr(dx,1,4)='7850' or

substr(dx,1,4)='V450' or

substr(dx,1,4)='V533')

and comorbi\_2=0

then comorbi\_2=1;

if (substr(dx,1,4)='I441' or

substr(dx,1,4)='I442' or

substr(dx,1,4)='I443' or

substr(dx,1,4)='I456' or

substr(dx,1,4)='I459' or

substr(dx,1,3)='I47' or

substr(dx,1,3)='I48' or

substr(dx,1,3)='I49' or

substr(dx,1,4)='ROOO' or

substr(dx,1,4)='ROO1' or

substr(dx,1,4)='ROO8' or

substr(dx,1,4)='R000' or

substr(dx,1,4)='R001' or

substr(dx,1,4)='R008' or

substr(dx,1,4)='T821' or

substr(dx,1,4)='Z450' or

substr(dx,1,4)='Z950')

and comorbi\_2=0

then comorbi\_2=1;

\* Valvular Disease ;

if (substr(dx,1,5)='09320' or

substr(dx,1,5)='09321' or

substr(dx,1,5)='09322' or

substr(dx,1,5)='09323' or

substr(dx,1,5)='09324' or

substr(dx,1,3)='394' or

substr(dx,1,3)='395' or

substr(dx,1,3)='396' or

substr(dx,1,4)='3970' or

substr(dx,1,4)='3971' or

substr(dx,1,4)='4240' or

substr(dx,1,4)='4241' or

substr(dx,1,4)='4242' or

substr(dx,1,4)='4243' or

substr(dx,1,4)='4244' or

substr(dx,1,4)='4245' or

substr(dx,1,4)='4246' or

substr(dx,1,4)='4247' or

substr(dx,1,4)='4248' or

substr(dx,1,5)='42490' or

substr(dx,1,5)='42491' or

substr(dx,1,4)='7463' or

substr(dx,1,4)='7464' or

substr(dx,1,4)='7465' or

substr(dx,1,4)='7466' or

substr(dx,1,4)='V422' or

substr(dx,1,4)='V433')

and comorbi\_3=0

then comorbi\_3=1;

if (substr(dx,1,4)='A520' or

substr(dx,1,4)='I05' or

substr(dx,1,3)='I06' or

substr(dx,1,3)='I07' or

substr(dx,1,3)='I08' or

substr(dx,1,4)='I091' or

substr(dx,1,4)='I098' or

substr(dx,1,3)='I34' or

substr(dx,1,3)='I35' or

substr(dx,1,3)='I36' or

substr(dx,1,3)='I37' or

substr(dx,1,3)='I38' or

substr(dx,1,3)='I39' or

substr(dx,1,4)='Q230' or

substr(dx,1,4)='Q231' or

substr(dx,1,4)='Q232' or

substr(dx,1,4)='Q233' or

substr(dx,1,4)='Z952' or

substr(dx,1,4)='Z954')

and comorbi\_3=0

then comorbi\_3=1;

\*Pulmonary Circulation Disorders;

if (substr(dx,1,3)='416' or

substr(dx,1,4)='4179')

and comorbi\_4=0

then comorbi\_4=1;

if (substr(dx,1,3)='I26' or

substr(dx,1,3)='I27' or

substr(dx,1,4)='I280' or

substr(dx,1,4)='I288' or

substr(dx,1,4)='I289')

and comorbi\_4=0

then comorbi\_4=1;

\*Peripheral Vascular Disorders;

if (substr(dx,1,3)='440' or

substr(dx,1,4)='4412' or

substr(dx,1,4)='4414' or

substr(dx,1,4)='4417' or

substr(dx,1,4)='4419' or

substr(dx,1,4)='4431' or

substr(dx,1,4)='4432' or

substr(dx,1,4)='4438' or

substr(dx,1,4)='4439' or

substr(dx,1,4)='4471' or

substr(dx,1,4)='5571' or

substr(dx,1,4)='5579' or

substr(dx,1,4)='V434')

and comorbi\_5=0

then comorbi\_5=1;

if (substr(dx,1,3)='I70' or

substr(dx,1,3)='I71' or

substr(dx,1,4)='I731' or

substr(dx,1,4)='I738' or

substr(dx,1,4)='I739' or

substr(dx,1,4)='I771' or

substr(dx,1,4)='I790' or

substr(dx,1,4)='I792' or

substr(dx,1,4)='K551' or

substr(dx,1,4)='K558' or

substr(dx,1,4)='K559' or

substr(dx,1,4)='X958' or

substr(dx,1,4)='Z959')

and comorbi\_5=0

then comorbi\_5=1;

\*Hypertension;

if ((substr(dx,1,4)='4011' or

substr(dx,1,4)='4019')) or

((substr(dx,1,5)='40210' or

substr(dx,1,5)='40290' or

substr(dx,1,5)='40410' or

substr(dx,1,5)='40490' or

substr(dx,1,5)='40511' or

substr(dx,1,5)='40519' or

substr(dx,1,5)='40591' or

substr(dx,1,5)='40599'))

and comorbi\_6=0

then comorbi\_6=1;

if (substr(dx,1,3)='I10' or

substr(dx,1,3)='I11' or

substr(dx,1,3)='I12' or

substr(dx,1,3)='I13' or

substr(dx,1,3)='I15')

and comorbi\_6=0

then comorbi\_6=1;

\*Paralysis;

if (substr(dx,1,4)='3420' or

substr(dx,1,5)='34210' or

substr(dx,1,5)='34211' or

substr(dx,1,5)='34212' or

substr(dx,1,4)='3429' or

substr(dx,1,3)='343' or

substr(dx,1,3)='344')

and comorbi\_7=0

then comorbi\_7=1;

if (substr(dx,1,4)='G041' or

substr(dx,1,4)='G114' or

substr(dx,1,4)='G801' or

substr(dx,1,4)='G802' or

substr(dx,1,3)='G81' or

substr(dx,1,3)='G82' or

substr(dx,1,4)='G830' or

substr(dx,1,4)='G831' or

substr(dx,1,4)='G832' or

substr(dx,1,4)='G833' or

substr(dx,1,4)='G834' or

substr(dx,1,4)='G839')

and comorbi\_7=0

then comorbi\_7=1;

\*Other Neurological Disorders;

if (substr(dx,1,4)='3319' or

substr(dx,1,4)='3320' or

substr(dx,1,4)='3334' or

substr(dx,1,4)='3335' or

substr(dx,1,3)='334' or

substr(dx,1,3)='335' or

substr(dx,1,3)='340' or

substr(dx,1,4)='3411' or

substr(dx,1,4)='3418' or

substr(dx,1,4)='3419' or

substr(dx,1,5)='34500' or

substr(dx,1,5)='34501' or

substr(dx,1,5)='34510' or

substr(dx,1,5)='34511' or

substr(dx,1,4)='3454' or

substr(dx,1,5)='34550' or

substr(dx,1,5)='34551' or

substr(dx,1,4)='3458' or

substr(dx,1,5)='34590' or

substr(dx,1,5)='34591' or

substr(dx,1,4)='3481' or

substr(dx,1,4)='3483' or

substr(dx,1,4)='7803' or

substr(dx,1,4)='7843')

and comorbi\_8=0

then comorbi\_8=1;

if (substr(dx,1,3)='G10' or

substr(dx,1,3)='G13' or

substr(dx,1,3)='G20' or

substr(dx,1,3)='G22' or

substr(dx,1,4)='G254' or

substr(dx,1,4)='G255' or

substr(dx,1,4)='G312' or

substr(dx,1,4)='G318' or

substr(dx,1,4)='G319' or

substr(dx,1,3)='G32' or

substr(dx,1,3)='G35' or

substr(dx,1,3)='G36' or

substr(dx,1,3)='G37' or

substr(dx,1,3)='G40' or

substr(dx,1,3)='G41' or

substr(dx,1,4)='G931' or

substr(dx,1,4)='G934' or

substr(dx,1,4)='R470' or

substr(dx,1,4)='R560')

and comorbi\_8=0

then comorbi\_8=1;

\*Chronic Pulmonary Disease;

if (substr(dx,1,3)='490' or

substr(dx,1,3)='491' or

substr(dx,1,3)='492' or

substr(dx,1,4)='4930' or

substr(dx,1,4)='4931' or

substr(dx,1,4)='4932' or

substr(dx,1,4)='4938' or

substr(dx,1,5)='49390' or

substr(dx,1,5)='49391' or

substr(dx,1,3)='494' or

substr(dx,1,3)='495' or

substr(dx,1,3)='496' or

substr(dx,1,3)='497' or

substr(dx,1,3)='498' or

substr(dx,1,3)='499' or

substr(dx,1,3)='500' or

substr(dx,1,3)='501' or

substr(dx,1,3)='502' or

substr(dx,1,3)='503' or

substr(dx,1,3)='504' or

substr(dx,1,3)='505' or

substr(dx,1,4)='5064')

and comorbi\_9=0

then comorbi\_9=1;

if (substr(dx,1,4)='I278' or

substr(dx,1,4)='I279' or

substr(dx,1,3)='J40' or

substr(dx,1,3)='J41' or

substr(dx,1,3)='J42' or

substr(dx,1,3)='J43' or

substr(dx,1,3)='J44' or

substr(dx,1,3)='J45' or

substr(dx,1,3)='J46' or

substr(dx,1,3)='J47' or

substr(dx,1,3)='J60' or

substr(dx,1,3)='J61' or

substr(dx,1,3)='J62' or

substr(dx,1,3)='J63' or

substr(dx,1,3)='J64' or

substr(dx,1,3)='J65' or

substr(dx,1,3)='J66' or

substr(dx,1,3)='J67' or

substr(dx,1,4)='J684' or

substr(dx,1,4)='J701' or

substr(dx,1,4)='J703')

and comorbi\_9=0

then comorbi\_9=1;

\*Diabetes, uncomplicated;

if (substr(dx,1,4)='2500' or

substr(dx,1,4)='2501' or

substr(dx,1,4)='2502' or

substr(dx,1,4)='2503')

and comorbi\_10=0

then comorbi\_10=1;

if (substr(dx,1,4)='E100' or

substr(dx,1,4)='E101' or

substr(dx,1,4)='E109' or

substr(dx,1,4)='E110' or

substr(dx,1,4)='E111' or

substr(dx,1,4)='E119' or

substr(dx,1,4)='E120' or

substr(dx,1,4)='E121' or

substr(dx,1,4)='E129' or

substr(dx,1,4)='E130' or

substr(dx,1,4)='E131' or

substr(dx,1,4)='E139' or

substr(dx,1,4)='E140' or

substr(dx,1,4)='E141' or

substr(dx,1,4)='E149')

and comorbi\_10=0

then comorbi\_10=1;

\*Diabetes, complicated;

if (substr(dx,1,4)='2504' or

substr(dx,1,4)='2505' or

substr(dx,1,4)='2506' or

substr(dx,1,4)='2507' or

substr(dx,1,4)='2509')

and comorbi\_11=0

then comorbi\_11=1;

if (substr(dx,1,4)='E102' or

substr(dx,1,4)='E103' or

substr(dx,1,4)='E104' or

substr(dx,1,4)='E105' or

substr(dx,1,4)='E106' or

substr(dx,1,4)='E107' or

substr(dx,1,4)='E108' or

substr(dx,1,4)='E112' or

substr(dx,1,4)='E113' or

substr(dx,1,4)='E114' or

substr(dx,1,4)='E115' or

substr(dx,1,4)='E116' or

substr(dx,1,4)='E117' or

substr(dx,1,4)='E118' or

substr(dx,1,4)='E122' or

substr(dx,1,4)='E123' or

substr(dx,1,4)='E124' or

substr(dx,1,4)='E125' or

substr(dx,1,4)='E126' or

substr(dx,1,4)='E127' or

substr(dx,1,4)='E128' or

substr(dx,1,4)='E132' or

substr(dx,1,4)='E133' or

substr(dx,1,4)='E134' or

substr(dx,1,4)='E135' or

substr(dx,1,4)='E136' or

substr(dx,1,4)='E137' or

substr(dx,1,4)='E138' or

substr(dx,1,4)='E142' or

substr(dx,1,4)='E143' or

substr(dx,1,4)='E144' or

substr(dx,1,4)='E145' or

substr(dx,1,4)='E146' or

substr(dx,1,4)='E147' or

substr(dx,1,4)='E148')

and comorbi\_11=0

then comorbi\_11=1;

\*Hypothyroidism;

if (substr(dx,1,3)='243' or

substr(dx,1,4)='2440' or

substr(dx,1,4)='2441' or

substr(dx,1,4)='2442' or

substr(dx,1,4)='2448' or

substr(dx,1,4)='2449')

and comorbi\_12=0

then comorbi\_12=1;

if (substr(dx,1,3)='E00' or

substr(dx,1,3)='E01' or

substr(dx,1,3)='E02' or

substr(dx,1,3)='E03' or

substr(dx,1,4)='E890')

and comorbi\_12=0

then comorbi\_12=1;

\*Renal Failure;

\*Original list modified to drop 2 codes 585 and V568;

if (substr(dx,1,5)='40311' or

substr(dx,1,5)='40391' or

substr(dx,1,5)='40412' or

substr(dx,1,5)='40492' or

substr(dx,1,3)='586' or

substr(dx,1,4)='V420' or

substr(dx,1,4)='V451' or

substr(dx,1,4)='V560')

and comorbi\_13=0

then comorbi\_13=1;

if (substr(dx,1,4)='I120' or

substr(dx,1,4)='I131' or

substr(dx,1,4)='N185' or

substr(dx,1,4)='N186' or

substr(dx,1,3)='N19' or

substr(dx,1,4)='N250' or

substr(dx,1,4)='Z490' or

substr(dx,1,4)='Z491' or

substr(dx,1,4)='Z492' or

substr(dx,1,4)='Z940' or

substr(dx,1,4)='Z992')

and comorbi\_13=0

then comorbi\_13=1;

\*Advanced Liver Disease or Cirrhosis;

\*Code list modified from orig Elix;

\*572.4 hepatorenal syndrome must be added;

\*Remove '07032' or – chronic hep B, '07033' or – chronic hep B, '07054' or – chronic hep C, '5713' or –

alcoholic liver damage, '5714' or – chronic hepatitis;

if (substr(dx,1,4)='4560' or

substr(dx,1,4)='4561' or

substr(dx,1,5)='45620' or

substr(dx,1,5)='45621' or

substr(dx,1,4)='5710' or

substr(dx,1,4)='5712' or

substr(dx,1,4)='5715' or

substr(dx,1,4)='5716' or

substr(dx,1,4)='5718' or

substr(dx,1,4)='5719' or

substr(dx,1,4)='5723' or

substr(dx,1,4)='5724' or

substr(dx,1,4)='5728' or

substr(dx,1,4)='V427')

and comorbi\_14=0

then comorbi\_14=1;

/\*1/25/19--changed liver to reflect just what we want in the ICD-10 codes\*/

if (substr(dx,1,5)='I8500'

or substr(dx,1,5)='I8501'

or substr(dx,1,5)='I8510'

or substr(dx,1,5)='I8511'

or substr(dx,1,4)='K702'

or substr(dx,1,5)='K7030'

or substr(dx,1,5)='K7031'

or substr(dx,1,5)='K7040'

or substr(dx,1,5)='K7041'

or substr(dx,1,5)='K7210'

or substr(dx,1,5)='K7290'

or substr(dx,1,4)='K740'

or substr(dx,1,4)='K741'

or substr(dx,1,4)='K742'

or substr(dx,1,4)='K743'

or substr(dx,1,4)='K744'

or substr(dx,1,4)='K745'

or substr(dx,1,5)='K7460'

or substr(dx,1,5)='K7469'

or substr(dx,1,4)='K766'

or substr(dx,1,4)='K767')

and comorbi\_14=0

then comorbi\_14=1;

\*Peptic Ulcer Disease excluding bleeding;

if (substr(dx,1,5)='53170' or

substr(dx,1,5)='53190' or

substr(dx,1,5)='53270' or

substr(dx,1,5)='53290' or

substr(dx,1,5)='53370' or

substr(dx,1,5)='53390' or

substr(dx,1,5)='53470' or

substr(dx,1,5)='53490' or

substr(dx,1,5)='V1271')

and comorbi\_15=0

then comorbi\_15=1;

if (substr(dx,1,4)='K257' or

substr(dx,1,4)='K259' or

substr(dx,1,4)='K267' or

substr(dx,1,4)='K269' or

substr(dx,1,4)='K277' or

substr(dx,1,4)='K279' or

substr(dx,1,4)='K287' or

substr(dx,1,4)='K289')

and comorbi\_15=0

then comorbi\_15=1;

\*AIDS;

if (substr(dx,1,3)='042' or

substr(dx,1,3)='043' or

substr(dx,1,3)='044')

and comorbi\_16=0

then comorbi\_16=1;

if (substr(dx,1,3)='B20' or

substr(dx,1,3)='B21' or

substr(dx,1,3)='B22' or

substr(dx,1,3)='B24')

and comorbi\_16=0

then comorbi\_16=1;

\*Lymphoma;

if (substr(dx,1,3)='200' or

substr(dx,1,3)='201' or

substr(dx,1,4)='2020' or

substr(dx,1,4)='2021' or

substr(dx,1,4)='2022' or

substr(dx,1,4)='2023' or

substr(dx,1,4)='2025' or

substr(dx,1,4)='2026' or

substr(dx,1,4)='2027' or

substr(dx,1,4)='2028' or

substr(dx,1,4)='2029' or

substr(dx,1,4)='2030' or

substr(dx,1,4)='2038' or

substr(dx,1,4)='2386' or

substr(dx,1,4)='2733' or

substr(dx,1,5)='V1071' or

substr(dx,1,5)='V1072' or

substr(dx,1,5)='V1079')

and comorbi\_17=0

then comorbi\_17=1;

if (substr(dx,1,3)='C81' or

substr(dx,1,3)='C82' or

substr(dx,1,3)='C83' or

substr(dx,1,3)='C84' or

substr(dx,1,3)='C85' or

substr(dx,1,3)='C88' or

substr(dx,1,3)='C96' or

substr(dx,1,4)='C900' or

substr(dx,1,4)='C902')

and comorbi\_17=0

then comorbi\_17=1;

\*Metastatic Cancer or Hematologic Cancer;

\*Modified to add lukemias;

if (substr(dx,1,3)='196' or

substr(dx,1,3)='197' or

substr(dx,1,3)='198' or

substr(dx,1,3)='199' or

substr(dx,1,3)='204' or

substr(dx,1,3)='205' or

substr(dx,1,3)='206' or

substr(dx,1,3)='207' or

substr(dx,1,3)='208')

and comorbi\_18=0

then comorbi\_18=1;

if (substr(dx,1,3)='C77' or

substr(dx,1,3)='C78' or

substr(dx,1,3)='C79' or

substr(dx,1,3)='C80')

and comorbi\_18=0

then comorbi\_18=1;

\*Solid Tumor without Metastisis;

if (substr(dx,1,2)='14' or

substr(dx,1,2)='15' or

substr(dx,1,2)='16' or

substr(dx,1,3)='170' or

substr(dx,1,3)='171' or

substr(dx,1,3)='172' or

substr(dx,1,3)='174' or

substr(dx,1,3)='175' or

substr(dx,1,3)='179' or

substr(dx,1,2)='18' or

substr(dx,1,3)='190' or

substr(dx,1,3)='191' or

substr(dx,1,3)='192' or

substr(dx,1,3)='193' or

substr(dx,1,3)='194' or

substr(dx,1,3)='195' or

substr(dx,1,3)='V10')

and comorbi\_19=0

then comorbi\_19=1;

if (substr(dx,1,2)='C0' or

substr(dx,1,2)='C1' or

substr(dx,1,3)='C20' or

substr(dx,1,3)='C21' or

substr(dx,1,3)='C22' or

substr(dx,1,3)='C23' or

substr(dx,1,3)='C24' or

substr(dx,1,3)='C25' or

substr(dx,1,3)='C26' or

substr(dx,1,3)='C30' or

substr(dx,1,3)='C31' or

substr(dx,1,3)='C32' or

substr(dx,1,3)='C33' or

substr(dx,1,3)='C34' or

substr(dx,1,3)='C37' or

substr(dx,1,3)='C38' or

substr(dx,1,3)='C39' or

substr(dx,1,3)='C40' or

substr(dx,1,3)='C41' or

substr(dx,1,3)='C43' or

substr(dx,1,3)='C45' or

substr(dx,1,3)='C46' or

substr(dx,1,3)='C47' or

substr(dx,1,3)='C48' or

substr(dx,1,3)='C49' or

substr(dx,1,3)='C50' or

substr(dx,1,3)='C51' or

substr(dx,1,3)='C52' or

substr(dx,1,3)='C53' or

substr(dx,1,3)='C54' or

substr(dx,1,3)='C55' or

substr(dx,1,3)='C56' or

substr(dx,1,3)='C57' or

substr(dx,1,3)='C58' or

substr(dx,1,3)='C60' or

substr(dx,1,3)='C61' or

substr(dx,1,3)='C62' or

substr(dx,1,3)='C63' or

substr(dx,1,3)='C64' or

substr(dx,1,3)='C65' or

substr(dx,1,3)='C66' or

substr(dx,1,3)='C67' or

substr(dx,1,3)='C68' or

substr(dx,1,3)='C69' or

substr(dx,1,3)='C70' or

substr(dx,1,3)='C71' or

substr(dx,1,3)='C72' or

substr(dx,1,3)='C73' or

substr(dx,1,3)='C74' or

substr(dx,1,3)='C75' or

substr(dx,1,3)='C76' or

substr(dx,1,3)='C97')

and comorbi\_19=0

then comorbi\_19=1;

\*Rheumatoid Arthritis/Collagen Vascular Diseases;

if (substr(dx,1,4)='7010' or

substr(dx,1,3)='710' or

substr(dx,1,3)='714' or

substr(dx,1,3)='720' or

substr(dx,1,3)='725')

and comorbi\_20=0

then comorbi\_20=1;

if (substr(dx,1,4)='L940' or

substr(dx,1,4)='L941' or

substr(dx,1,4)='L943' or

substr(dx,1,3)='M05' or

substr(dx,1,3)='M06' or

substr(dx,1,3)='M08' or

substr(dx,1,4)='M120' or

substr(dx,1,4)='M123' or

substr(dx,1,3)='M30' or

substr(dx,1,4)='M310' or

substr(dx,1,4)='M311' or

substr(dx,1,4)='M312' or

substr(dx,1,4)='M313' or

substr(dx,1,3)='M32' or

substr(dx,1,3)='M33' or

substr(dx,1,3)='M34' or

substr(dx,1,3)='M35' or

substr(dx,1,3)='M45' or

substr(dx,1,4)='M461' or

substr(dx,1,4)='M468' or

substr(dx,1,4)='M469')

and comorbi\_20=0

then comorbi\_20=1;

\*Coagulopathy;

\*Coagulopathy;

if (substr(dx,1,3)='286' or

substr(dx,1,4)='2871' or

substr(dx,1,4)='2873' or

substr(dx,1,4)='2874' or

substr(dx,1,4)='2875')

and comorbi\_21=0

then comorbi\_21=1;

if (substr(dx,1,3)='D65' or

substr(dx,1,3)='D66' or

substr(dx,1,3)='D67' or

substr(dx,1,3)='D68' or

substr(dx,1,4)='D691' or

substr(dx,1,4)='D693' or

substr(dx,1,4)='D694' or

substr(dx,1,4)='D695' or

substr(dx,1,4)='D696')

and comorbi\_21=0

then comorbi\_21=1;

\*Obesity;

if (substr(dx,1,4)='2780' or

substr(dx,1,3)='E66')

and comorbi\_22=0

then comorbi\_22=1;

\*Weight Loss;

if (substr(dx,1,3)='260' or

substr(dx,1,3)='261' or

substr(dx,1,3)='262' or

substr(dx,1,3)='263' or

substr(dx,1,3)='E40' or

substr(dx,1,3)='E41' or

substr(dx,1,3)='E42' or

substr(dx,1,3)='E43' or

substr(dx,1,3)='E44' or

substr(dx,1,3)='E45' or

substr(dx,1,3)='E46' or

substr(dx,1,4)='R634' or

substr(dx,1,3)='R64' )

and comorbi\_23=0

then comorbi\_23=1;

\*Fluid and Electrolyte Disorders;

if (substr(dx,1,3)='276' or

substr(dx,1,4)='E222' or

substr(dx,1,3)='E86' or

substr(dx,1,3)='E87' )

and comorbi\_24=0

then comorbi\_24=1;

\*Blood Loss Anemia;

if (substr(dx,1,4)='2800' or

substr(dx,1,4)='D500' )

and comorbi\_25=0

then comorbi\_25=1;

\*Deficiency Anemias;

if (substr(dx,1,4)='2801' or

substr(dx,1,4)='2808' or

substr(dx,1,4)='2809' or

substr(dx,1,4)='2859' or

substr(dx,1,4)='D508' or

substr(dx,1,3)='D509' or

substr(dx,1,3)='D51' or

substr(dx,1,3)='D52' or

substr(dx,1,3)='D53' )

and comorbi\_26=0

then comorbi\_26=1;

\*Alcohol Abuse;

if (substr(dx,1,4)='2911' or

substr(dx,1,4)='2912' or

substr(dx,1,4)='2915' or

substr(dx,1,4)='2918' or

substr(dx,1,4)='2919' or

substr(dx,1,4)='3039' or

substr(dx,1,4)='3050' or

substr(dx,1,4)='V113' or

substr(dx,1,3)='F10' or

substr(dx,1,3)='E52' or

substr(dx,1,4)='G621' or

substr(dx,1,4)='I426' or

substr(dx,1,4)='K292' or

substr(dx,1,4)='K700' or

substr(dx,1,4)='K703' or

substr(dx,1,4)='K709' or

substr(dx,1,3)='T51' or

substr(dx,1,4)='Z502' or

substr(dx,1,4)='Z715' or

substr(dx,1,4)='Z722')

and comorbi\_27=0

then comorbi\_27=1;

\*Drug Abuse;

if (substr(dx,1,4)='2920' or

substr(dx,1,5)='29282' or

substr(dx,1,5)='29283' or

substr(dx,1,5)='29284' or

substr(dx,1,5)='29289' or

substr(dx,1,4)='2929' or

substr(dx,1,3)='304' or

substr(dx,1,4)='3052' or

substr(dx,1,4)='3053' or

substr(dx,1,4)='3054' or

substr(dx,1,4)='3055' or

substr(dx,1,4)='3056' or

substr(dx,1,4)='3057' or

substr(dx,1,4)='3058' or

substr(dx,1,4)='3059' or

substr(dx,1,3)='F11' or

substr(dx,1,3)='F12' or

substr(dx,1,3)='F13' or

substr(dx,1,3)='F14' or

substr(dx,1,3)='F15' or

substr(dx,1,3)='F16' or

substr(dx,1,3)='F18' or

substr(dx,1,3)='F19' or

substr(dx,1,4)='Z715' or

substr(dx,1,4)='Z722')

and comorbi\_28=0

then comorbi\_28=1;

\*Psychoses;

if (substr(dx,1,3)='295' or

substr(dx,1,3)='296' or

substr(dx,1,3)='297' or

substr(dx,1,3)='298' or

substr(dx,1,4)='2991' or

substr(dx,1,3)='F20' or

substr(dx,1,3)='F22' or

substr(dx,1,3)='F23' or

substr(dx,1,3)='F24' or

substr(dx,1,3)='F25' or

substr(dx,1,3)='F28' or

substr(dx,1,3)='F29' or

substr(dx,1,4)='F302' or

substr(dx,1,4)='F312' or

substr(dx,1,4)='F315' )

and comorbi\_29=0

then comorbi\_29=1;

\*Depression;

if (substr(dx,1,4)='3004' or

substr(dx,1,5)='30112' or

substr(dx,1,4)='3090' or

substr(dx,1,4)='3091' or

substr(dx,1,3)='311' or

substr(dx,1,3)='294' or

substr(dx,1,4)='F313' or

substr(dx,1,4)='F314' or

substr(dx,1,4)='F315' or

substr(dx,1,3)='F32' or

substr(dx,1,3)='F33' or

substr(dx,1,4)='F341' or

substr(dx,1,4)='F412' or

substr(dx,1,4)='F432' )

and comorbi\_30=0

then comorbi\_30=1;

\*Dementia;

if (substr(dx,1,4) in ('3310','3311','3312','2900','2901',

'2902','2903','2912','2948','2949') or

substr(dx,1,5) in ('29410','29411','29040','29041','29042','29043'))

and dementia=0

then dementia=1;

/\*dementia\*/

if (substr(dx,1,5)='F0150'

or substr(dx,1,5)='F0151'

or substr(dx,1,5)='F0280'

or substr(dx,1,5)='F0281'

or substr(dx,1,5)='F0390'

or substr(dx,1,5)='F0391'

or substr(dx,1,4)='F051'

or substr(dx,1,5)='F1027'

or substr(dx,1,5)='F1097'

or substr(dx,1,4)='G300'

or substr(dx,1,4)='G301'

or substr(dx,1,4)='G308'

or substr(dx,1,4)='G309'

or substr(dx,1,5)='G3101'

or substr(dx,1,5)='G3109'

or substr(dx,1,4)='G311'

or substr(dx,1,5)='G3183'

or substr(dx,1,4)='A811'

or substr(dx,1,4)='A812'

or substr(dx,1,4)='A818'

or substr(dx,1,5)='A8100'

or substr(dx,1,5)='A8101'

or substr(dx,1,5)='A8109'

or substr(dx,1,5)='A8181'

or substr(dx,1,5)='A8182'

or substr(dx,1,5)='A8183'

)

and dementia=0

then dementia=1;

\*CAD coronary artery disease;

if (substr(dx,1,4) in ('4140','4142','4143','4148','4149') or

substr(dx,1,3) in ('410','411','412','413') or

substr(dx,1,5) in ('V4581','V4582'))

and cad=0

then cad=1;

\*ALS Amyotrophic lateral sclerosis;

if (substr(dx,1,5)='33520') and als=0

then als=1;

\*Renal Disease, new variable;

\*To identify diabetese with complications;

if (substr(dx,1,5)='40311' or

substr(dx,1,5)='40391' or

substr(dx,1,5)='40412' or

substr(dx,1,5)='40492' or

substr(dx,1,3)='585' or

substr(dx,1,3)='586' or

substr(dx,1,4)='V420' or

substr(dx,1,4)='V451' or

substr(dx,1,4)='V560' or

substr(dx,1,4)='V568')

and renal\_dis=0

then renal\_dis=1;

end;

run;

/\*get count of each comorbidity for each id-core year combination\*/

proc sql;

create table com\_test1 as

select distinct bid\_hrs\_22, index\_date,

sum(comorbi\_1) as com\_1,

sum(comorbi\_2) as com\_2,

sum(comorbi\_3) as com\_3,

sum(comorbi\_4) as com\_4,

sum(comorbi\_5) as com\_5,

sum(comorbi\_6) as com\_6,

sum(comorbi\_7) as com\_7,

sum(comorbi\_8) as com\_8,

sum(comorbi\_9) as com\_9,

sum(comorbi\_10) as com\_10,

sum(comorbi\_11) as com\_11,

sum(comorbi\_12) as com\_12,

sum(comorbi\_13) as com\_13,

sum(comorbi\_14) as com\_14,

sum(comorbi\_15) as com\_15,

sum(comorbi\_16) as com\_16,

sum(comorbi\_17) as com\_17,

sum(comorbi\_18) as com\_18,

sum(comorbi\_19) as com\_19,

sum(comorbi\_20) as com\_20,

sum(comorbi\_21) as com\_21,

sum(comorbi\_22) as com\_22,

sum(comorbi\_23) as com\_23,

sum(comorbi\_24) as com\_24,

sum(comorbi\_25) as com\_25,

sum(comorbi\_26) as com\_26,

sum(comorbi\_27) as com\_27,

sum(comorbi\_28) as com\_28,

sum(comorbi\_29) as com\_29,

sum(comorbi\_30) as com\_30,

sum(dementia) as dementia,

sum(cad) as cad,

sum(als) as als,

sum(renal\_dis) as renal\_dis

from dx\_31\_comor

group by bid\_hrs\_22, index\_date;

quit;

/\*convert counts of diagnoses for each comorbidity to indicator variables\*/

data comorbidity\_1(keep=bid\_hrs\_22 index\_date comorb\_1-comorb\_34 comorb\_all);

set com\_test1;

array list\_com com\_1-com\_30 dementia cad als renal\_dis;

array list\_com\_bin comorb\_1-comorb\_34 ;

do over list\_com;

list\_com\_bin=0;

if list\_com>0 then do;

list\_com\_bin=1;

end;

end;

/\*note this comorb\_all count does not include CAD or ALS or Renal disease\*/

comorb\_all=comorb\_1+comorb\_2+comorb\_3+comorb\_4+comorb\_5+comorb\_6+comorb\_7+comorb\_8+comorb\_9+comorb\_10

+comorb\_11+comorb\_12+comorb\_13+comorb\_14+comorb\_15+comorb\_16+comorb\_17+comorb\_18+comorb\_19+comorb\_20

+comorb\_21+comorb\_22+comorb\_23+comorb\_24+comorb\_25+comorb\_26+comorb\_27+comorb\_28+comorb\_29+comorb\_30

+comorb\_31;

run;

/\*merge in to list of core ivw dates for those with ffs mc, age=65+ \*/

proc sort data=comorbidity\_1 nodupkey;

by bid\_hrs\_22 index\_date;

run;

data elix\_&range1.\_&range2;

set comorbidity\_1 ;

label comorb\_1 ="Congestive Heart Failure";

label comorb\_2 ="Cardiac Arrhythmias";

label comorb\_3 ="Valvular Disease";

label comorb\_4 ="Pulmonary Circulation Disorders";

label comorb\_5 ="Peripheral Vascular Disorders";

label comorb\_6 ="Hypertension";

label comorb\_7 ="Paralysis";

label comorb\_8 ="Other Neurological Disorders";

label comorb\_9 ="Chronic Pulmonary Disease";

label comorb\_10 ="Diabetes, uncomplicated";

label comorb\_11 ="Diabetes, complicated";

label comorb\_12 ="Hypothyroidism";

label comorb\_13 ="Renal Failure";

label comorb\_14 ="Advanced Liver Disease or Cirrhosis";

label comorb\_15 ="Peptic Ulcer Disease excluding bleeding";

label comorb\_16 ="AIDS";

label comorb\_17 ="Lymphoma";

label comorb\_18 ="Metastatic or Hematologic Cancer";

label comorb\_19 ="Solid Tumor without Metastisis";

label comorb\_20 ="Rheumatoid Arthritis/Collagen Vascular Diseases";

label comorb\_21 ="Coagulopathy";

label comorb\_22 ="Obesity";

label comorb\_23 ="Weight Loss";

label comorb\_24 ="Fluid and Electrolyte Disorders";

label comorb\_25 ="Blood Loss Anemia";

label comorb\_26 ="Deficiency Anemias";

label comorb\_27 ="Alcohol Abuse";

label comorb\_28 ="Drug Abuse";

label comorb\_29 ="Psychoses";

label comorb\_30 ="Depression";

label comorb\_31 ="Dementia";

label comorb\_32 ="CAD";

label comorb\_33 ="ALS";

label comorb\_34 ="Renal Disease";

label comorb\_all ="Count of Elix comorbidities";

run;

data test;

set elix\_&range1.\_&range2;

run;

%rename(WORK,TEST,&range1.\_&range2);

data elix\_&range1.\_&range2.(rename =(bid\_hrs\_22\_&range1.\_&range2=bid\_hrs\_22

index\_date\_&range1.\_&range2=index\_date));

set test;

keep bid\_hrs\_22\_&range1.\_&range2 comorb: index\_date:;

run;

%mend;

/\*I do not understand why this doesn't work

%macro runelix(years=);

%do i=1 %to &years.;

%let l=%eval(&i.-1);

%elixhauser(range1=%eval(&l.\*12)m, range2=%eval(&i.\*12)m);

%end;

%mend;

%runelix(years=7);

\*/

%elixhauser(range1=0m, range2=12m);

%elixhauser(range1=12m, range2=24m);

%elixhauser(range1=24m, range2=36m);

%elixhauser(range1=36m, range2=48m);

%elixhauser(range1=48m, range2=60m);

%elixhauser(range1=60m, range2=72m);

%elixhauser(range1=72m, range2=84m);

proc sql;

create table proj\_int.elix as select \* from

proj\_int.index a

left join

elix\_0m\_12m b

on a.bid\_hrs\_22=b.bid\_hrs\_22 and a.index\_date=b.index\_date

left join

elix\_12m\_24m c

on a.bid\_hrs\_22=c.bid\_hrs\_22 and a.index\_date=c.index\_date

left join

elix\_24m\_36m d

on a.bid\_hrs\_22=d.bid\_hrs\_22 and a.index\_date=d.index\_date

left join

elix\_36m\_48m e

on a.bid\_hrs\_22=e.bid\_hrs\_22 and a.index\_date=e.index\_date

left join

elix\_48m\_60m f

on a.bid\_hrs\_22=f.bid\_hrs\_22 and a.index\_date=f.index\_date

left join

elix\_60m\_72m g

on a.bid\_hrs\_22=g.bid\_hrs\_22 and a.index\_date=g.index\_date

left join

elix\_72m\_84m h

on a.bid\_hrs\_22=h.bid\_hrs\_22 and a.index\_date=h.index\_date;

quit;

H="Charlson comorbidities"

/\*

Created by: EBL

Date Created: 2/8/19

Updated by: EBL

Date Updated: 2/13/19

Notes: Brings in Charlson charlsondities to R01 dataset, including ICD-10 Charlson.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

/\*Add indicator variables for the Charlson charlsondities

and Charlson weighted and unweighted index \*/

/\*Charlson code

This program reads through the diagnosis codes of patient abstract records in a hospital

file and identifies whether the record belongs to one (or more) of 17 different Charlson

charlsondity Index (CCI) groups. The groups are identified by using the Enhanced ICD-9-CM

diagnosis codes listed in Quan et al., "Coding Algorithms for Defining charlsondities

in ICD-9-CM and ICD-10 Administrative Data", Medical Care:43(11), Nov. 2005 p1130-1139.\*/

/\*final datasets to be merged are proj\_int.charls\_0\_1yr and proj\_int.charls\_0\_2yr\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* Rename variables macro \*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

%macro rename(lib,dsn,pre);

options pageno=1 nodate;

proc contents data=&lib..&dsn;

title "Before Renaming All Variables";

run;

proc sql noprint;

select nvar into :num\_vars

from dictionary.tables

where libname="&LIB" and

memname="&DSN";

select distinct(name) into :var1-

:var%TRIM(%LEFT(&num\_vars))

from dictionary.columns

where libname="&LIB" and

memname="&DSN";

quit;

run;

proc datasets library=&LIB;

modify &DSN;

rename

%do i=1 %to &num\_vars;

&&var&i=&&var&i..\_&pre

%end;

;

quit;

run;

options pageno=1 nodate;

proc contents data=&lib..&dsn;

title "After Renaming All Variables";

run;

%mend rename;

%macro charlson(range1=,range2=);

data dx\_charlson;

set proj\_int.dx\_&range1.\_&range2.(rename=(diag=dx\_0));

dx=trim(left(dx\_0));

if dx~="" then do;

\*initialize variables;

charlson\_1=0;

charlson\_2=0;

charlson\_3=0;

charlson\_4=0;

charlson\_5=0;

charlson\_6=0;

charlson\_7=0;

charlson\_8=0;

charlson\_9=0;

charlson\_10=0;

charlson\_11=0;

charlson\_12=0;

charlson\_13=0;

charlson\_14=0;

charlson\_15=0;

charlson\_16=0;

charlson\_17=0;

\*Myocardial Infarction;

if(substr(dx,1,3)='410' or

substr(dx,1,3)='412' or

substr(dx,1,3)='I21' or

substr(dx,1,3)='I22' or

substr(dx,1,4)='I252')

and charlson\_1=0

then charlson\_1=1;

\*Congestive Heart Failure;

if(substr(dx,1,3)='428' or

substr(dx,1,4)='I099' or

substr(dx,1,4)='I110' or

substr(dx,1,4)='I130' or

substr(dx,1,4)='I132' or

substr(dx,1,4)='I255' or

substr(dx,1,4)='I420' or

substr(dx,1,4)='I425' or

substr(dx,1,4)='I426' or

substr(dx,1,4)='I427' or

substr(dx,1,4)='I428' or

substr(dx,1,4)='I429' or

substr(dx,1,3)='I43' or

substr(dx,1,3)='I50' or

substr(dx,1,4)='P290')

and charlson\_2=0

then charlson\_2=1;\*add one binary variables here.;

\*Periphral Vascular Disease;

if(substr(dx,1,4)='0930' or

substr(dx,1,4)='4373' or

substr(dx,1,3)='440' or

substr(dx,1,3)='441' or

substr(dx,1,4)='4431' or

substr(dx,1,4)='4432' or

substr(dx,1,4)='4438' or

substr(dx,1,4)='4439' or

substr(dx,1,4)='4471' or

substr(dx,1,4)='5571' or

substr(dx,1,4)='5579' or

substr(dx,1,4)='V434' or

substr(dx,1,3)='I70' or

substr(dx,1,3)='I71' or

substr(dx,1,4)='I731' or

substr(dx,1,4)='I738' or

substr(dx,1,4)='I739' or

substr(dx,1,4)='I771' or

substr(dx,1,4)='I790' or

substr(dx,1,4)='I792' or

substr(dx,1,4)='K551' or

substr(dx,1,4)='K558' or

substr(dx,1,4)='K559' or

substr(dx,1,4)='Z958' or

substr(dx,1,4)='Z959')

and charlson\_3=0

then charlson\_3=1;

\*Cerebrovascular Disease ;

if(substr(dx,1,5)='36234' or

substr(dx,1,3)='430' or

substr(dx,1,3)='431' or

substr(dx,1,3)='432' or

substr(dx,1,3)='433' or

substr(dx,1,3)='434' or

substr(dx,1,3)='435' or

substr(dx,1,3)='436' or

substr(dx,1,3)='437' or

substr(dx,1,3)='438' or

substr(dx,1,3)='G45' or

substr(dx,1,3)='G46' or

substr(dx,1,4)='H340' or

substr(dx,1,3)='I60' or

substr(dx,1,3)='I61' or

substr(dx,1,3)='I62' or

substr(dx,1,3)='I63' or

substr(dx,1,3)='I64' or

substr(dx,1,3)='I65' or

substr(dx,1,3)='I66' or

substr(dx,1,3)='I67' or

substr(dx,1,3)='I68' or

substr(dx,1,3)='I69')

and charlson\_4=0

then charlson\_4=1;

\*Dementia ;

if(substr(dx,1,3)='290' or

substr(dx,1,4)='2941' or

substr(dx,1,4)='3312' or

substr(dx,1,3)='F00' or

substr(dx,1,3)='F01' or

substr(dx,1,3)='F02' or

substr(dx,1,3)='F03' or

substr(dx,1,4)='F051' or

substr(dx,1,3)='G30' or

substr(dx,1,4)='G311')

and charlson\_5=0

then charlson\_5=1;

\*Chronic Pulmonary Disease ;

if(substr(dx,1,4)='4168' or

substr(dx,1,4)='4169' or

substr(dx,1,3)='490' or

substr(dx,1,3)='491' or

substr(dx,1,3)='492' or

substr(dx,1,3)='493' or

substr(dx,1,3)='494' or

substr(dx,1,3)='495' or

substr(dx,1,3)='496' or

substr(dx,1,3)='500' or

substr(dx,1,3)='501' or

substr(dx,1,3)='502' or

substr(dx,1,3)='503' or

substr(dx,1,3)='504' or

substr(dx,1,3)='505' or

substr(dx,1,4)='5064' or

substr(dx,1,4)='5081' or

substr(dx,1,4)='5088' or

substr(dx,1,4)='I278' or

substr(dx,1,4)='I279' or

substr(dx,1,3)='J40' or

substr(dx,1,3)='J41' or

substr(dx,1,3)='J42' or

substr(dx,1,3)='J43' or

substr(dx,1,3)='J44' or

substr(dx,1,3)='J45' or

substr(dx,1,3)='J46' or

substr(dx,1,3)='J47' or

substr(dx,1,3)='J60' or

substr(dx,1,3)='J61' or

substr(dx,1,3)='J62' or

substr(dx,1,3)='J63' or

substr(dx,1,3)='J64' or

substr(dx,1,3)='J65' or

substr(dx,1,3)='J66' or

substr(dx,1,3)='J67' or

substr(dx,1,4)='J684' or

substr(dx,1,4)='J701' or

substr(dx,1,4)='J703')

and charlson\_6=0

then charlson\_6=1;

\*Connective Tissue Disease-Rheumatic Disease;

if(substr(dx,1,4)='4465' or

substr(dx,1,4)='7100' or

substr(dx,1,4)='7101' or

substr(dx,1,4)='7102' or

substr(dx,1,4)='7103' or

substr(dx,1,4)='7104' or

substr(dx,1,4)='7140' or

substr(dx,1,4)='7141' or

substr(dx,1,4)='7142' or

substr(dx,1,4)='7148' or

substr(dx,1,3)='725' or

substr(dx,1,3)='M05' or

substr(dx,1,3)='M06' or

substr(dx,1,4)='M315' or

substr(dx,1,3)='M32' or

substr(dx,1,3)='M33' or

substr(dx,1,3)='M34' or

substr(dx,1,4)='M351' or

substr(dx,1,4)='M353' or

substr(dx,1,4)='M360')

and charlson\_7=0

then charlson\_7=1;

\*Peptic Ulcer Disease;

if(substr(dx,1,3)='531' or

substr(dx,1,3)='532' or

substr(dx,1,3)='533' or

substr(dx,1,3)='534' or

substr(dx,1,3)='K25' or

substr(dx,1,3)='K26' or

substr(dx,1,3)='K27' or

substr(dx,1,3)='K28')

and charlson\_8=0

then charlson\_8=1;

\*Mild Liver Disease ;

if(substr(dx,1,5)='07022' or

substr(dx,1,5)='07023' or

substr(dx,1,5)='07032' or

substr(dx,1,5)='07033' or

substr(dx,1,5)='07044' or

substr(dx,1,5)='07054' or

substr(dx,1,4)='0706' or

substr(dx,1,4)='0709' or

substr(dx,1,3)='570' or

substr(dx,1,3)='571' or

substr(dx,1,4)='5733' or

substr(dx,1,4)='5734' or

substr(dx,1,4)='5738' or

substr(dx,1,4)='5739' or

substr(dx,1,4)='V427' or

substr(dx,1,3)='B18' or

substr(dx,1,4)='K700' or

substr(dx,1,4)='K701' or

substr(dx,1,4)='K702' or

substr(dx,1,4)='K703' or

substr(dx,1,4)='K709' or

substr(dx,1,4)='K713' or

substr(dx,1,4)='K714' or

substr(dx,1,4)='K715' or

substr(dx,1,4)='K717' or

substr(dx,1,3)='K73' or

substr(dx,1,3)='K74' or

substr(dx,1,4)='K76' or

substr(dx,1,4)='K762' or

substr(dx,1,4)='K763' or

substr(dx,1,4)='K764' or

substr(dx,1,4)='K768' or

substr(dx,1,4)='K769' or

substr(dx,1,4)='Z944')

and charlson\_9=0

then charlson\_9=1;

\*Diabetes without complications ;

if(substr(dx,1,4)='2500' or

substr(dx,1,4)='2501' or

substr(dx,1,4)='2502' or

substr(dx,1,4)='2503' or

substr(dx,1,4)='2508' or

substr(dx,1,4)='2509' or

substr(dx,1,4)='E100' or

substr(dx,1,4)='E101' or

substr(dx,1,4)='E106' or

substr(dx,1,4)='E108' or

substr(dx,1,4)='E109' or

substr(dx,1,4)='E110' or

substr(dx,1,4)='E111' or

substr(dx,1,4)='E116' or

substr(dx,1,4)='E118' or

substr(dx,1,4)='E119' or

substr(dx,1,4)='E120' or

substr(dx,1,4)='E121' or

substr(dx,1,4)='E126' or

substr(dx,1,4)='E128' or

substr(dx,1,4)='E129' or

substr(dx,1,4)='E130' or

substr(dx,1,4)='E131' or

substr(dx,1,4)='E136' or

substr(dx,1,4)='E138' or

substr(dx,1,4)='E139' or

substr(dx,1,4)='E140' or

substr(dx,1,4)='E141' or

substr(dx,1,4)='E146' or

substr(dx,1,4)='E148' or

substr(dx,1,4)='E149')

and charlson\_10=0

then charlson\_10=1;

\*Diabetes, complicated;

if (substr(dx,1,4)='2504' or

substr(dx,1,4)='2505' or

substr(dx,1,4)='2506' or

substr(dx,1,4)='2507' or

substr(dx,1,4)='E102' or

substr(dx,1,4)='E103' or

substr(dx,1,4)='E104' or

substr(dx,1,4)='E105' or

substr(dx,1,4)='E107' or

substr(dx,1,4)='E112' or

substr(dx,1,4)='E113' or

substr(dx,1,4)='E114' or

substr(dx,1,4)='E115' or

substr(dx,1,4)='E117' or

substr(dx,1,4)='E122' or

substr(dx,1,4)='E123' or

substr(dx,1,4)='E124' or

substr(dx,1,4)='E125' or

substr(dx,1,4)='E127' or

substr(dx,1,4)='E132' or

substr(dx,1,4)='E133' or

substr(dx,1,4)='E134' or

substr(dx,1,4)='E135' or

substr(dx,1,4)='E137' or

substr(dx,1,4)='E142' or

substr(dx,1,4)='E143' or

substr(dx,1,4)='E144' or

substr(dx,1,4)='E145' or

substr(dx,1,4)='E147')

and charlson\_11=0

then charlson\_11=1;

\*Paraplegia and Hemiplegia ;

if (substr(dx,1,4)='3341' or

substr(dx,1,3)='342' or

substr(dx,1,3)='343' or

substr(dx,1,4)='3440' or

substr(dx,1,4)='3441' or

substr(dx,1,4)='3442' or

substr(dx,1,4)='3443' or

substr(dx,1,4)='3444' or

substr(dx,1,4)='3445' or

substr(dx,1,4)='3446' or

substr(dx,1,4)='3449' or

substr(dx,1,4)='G041' or

substr(dx,1,4)='G114' or

substr(dx,1,4)='G801' or

substr(dx,1,4)='G802' or

substr(dx,1,3)='G81' or

substr(dx,1,3)='G82' or

substr(dx,1,4)='G830' or

substr(dx,1,4)='G834' or

substr(dx,1,4)='G839')

and charlson\_12=0

then charlson\_12=1;

\* Renal Disease ;

if (substr(dx,1,5)='40301' or

substr(dx,1,5)='40311' or

substr(dx,1,5)='40391' or

substr(dx,1,5)='40402' or

substr(dx,1,5)='40403' or

substr(dx,1,5)='40412' or

substr(dx,1,5)='40413' or

substr(dx,1,5)='40492' or

substr(dx,1,5)='40493' or

substr(dx,1,3)='582' or

substr(dx,1,4)='5830' or

substr(dx,1,4)='5831' or

substr(dx,1,4)='5832' or

substr(dx,1,4)='5834' or

substr(dx,1,4)='5836' or

substr(dx,1,4)='5837' or

substr(dx,1,3)='585' or

substr(dx,1,3)='586' or

substr(dx,1,4)='5880' or

substr(dx,1,4)='V420' or

substr(dx,1,4)='V451' or

substr(dx,1,3)='V56' or

substr(dx,1,4)='I120' or

substr(dx,1,4)='I131' or

substr(dx,1,4)='N032' or

substr(dx,1,4)='N033' or

substr(dx,1,4)='N034' or

substr(dx,1,4)='N035' or

substr(dx,1,4)='N036' or

substr(dx,1,4)='N037' or

substr(dx,1,4)='N052' or

substr(dx,1,4)='N053' or

substr(dx,1,4)='N054' or

substr(dx,1,4)='N055' or

substr(dx,1,4)='N056' or

substr(dx,1,4)='N057' or

substr(dx,1,3)='N18' or

substr(dx,1,3)='N19' or

substr(dx,1,4)='N250' or

substr(dx,1,4)='Z490' or

substr(dx,1,4)='Z491' or

substr(dx,1,4)='Z492' or

substr(dx,1,4)='Z940' or

substr(dx,1,4)='Z992' )

and charlson\_13=0

then charlson\_13=1;

\*Cancer ;

if (substr(dx,1,2)='14' or

substr(dx,1,2)='15' or

substr(dx,1,2)='16' or

substr(dx,1,3)='170' or

substr(dx,1,3)='171' or

substr(dx,1,3)='172' or

substr(dx,1,3)='174' or

substr(dx,1,3)='175' or

substr(dx,1,3)='176' or

substr(dx,1,3)='179' or

substr(dx,1,2)='18' or

substr(dx,1,3)='190' or

substr(dx,1,3)='191' or

substr(dx,1,3)='192' or

substr(dx,1,3)='193' or

substr(dx,1,3)='194' or

substr(dx,1,3)='195' or

substr(dx,1,3)='200' or

substr(dx,1,3)='201' or

substr(dx,1,3)='202' or

substr(dx,1,3)='203' or

substr(dx,1,3)='204' or

substr(dx,1,3)='205' or

substr(dx,1,3)='206' or

substr(dx,1,3)='207' or

substr(dx,1,3)='208' or

substr(dx,1,4)='2386' or

substr(dx,1,3)='C00' or

substr(dx,1,3)='C01' or

substr(dx,1,3)='C02' or

substr(dx,1,3)='C03' or

substr(dx,1,3)='C04' or

substr(dx,1,3)='C05' or

substr(dx,1,3)='C06' or

substr(dx,1,3)='C07' or

substr(dx,1,3)='C08' or

substr(dx,1,3)='C09' or

substr(dx,1,3)='C10' or

substr(dx,1,3)='C11' or

substr(dx,1,3)='C12' or

substr(dx,1,3)='C13' or

substr(dx,1,3)='C14' or

substr(dx,1,3)='C15' or

substr(dx,1,3)='C16' or

substr(dx,1,3)='C17' or

substr(dx,1,3)='C18' or

substr(dx,1,3)='C19' or

substr(dx,1,3)='C20' or

substr(dx,1,3)='C21' or

substr(dx,1,3)='C22' or

substr(dx,1,3)='C23' or

substr(dx,1,3)='C24' or

substr(dx,1,3)='C25' or

substr(dx,1,3)='C26' or

substr(dx,1,3)='C30' or

substr(dx,1,3)='C31' or

substr(dx,1,3)='C32' or

substr(dx,1,3)='C33' or

substr(dx,1,3)='C34' or

substr(dx,1,3)='C37' or

substr(dx,1,3)='C38' or

substr(dx,1,3)='C39' or

substr(dx,1,3)='C40' or

substr(dx,1,3)='C41' or

substr(dx,1,3)='C43' or

substr(dx,1,3)='C45' or

substr(dx,1,3)='C46' or

substr(dx,1,3)='C47' or

substr(dx,1,3)='C48' or

substr(dx,1,3)='C49' or

substr(dx,1,3)='C50' or

substr(dx,1,3)='C51' or

substr(dx,1,3)='C52' or

substr(dx,1,3)='C53' or

substr(dx,1,3)='C54' or

substr(dx,1,3)='C55' or

substr(dx,1,3)='C56' or

substr(dx,1,3)='C57' or

substr(dx,1,3)='C58' or

substr(dx,1,3)='C60' or

substr(dx,1,3)='C61' or

substr(dx,1,3)='C62' or

substr(dx,1,3)='C63' or

substr(dx,1,3)='C64' or

substr(dx,1,3)='C65' or

substr(dx,1,3)='C66' or

substr(dx,1,3)='C67' or

substr(dx,1,3)='C68' or

substr(dx,1,3)='C69' or

substr(dx,1,3)='C70' or

substr(dx,1,3)='C71' or

substr(dx,1,3)='C72' or

substr(dx,1,3)='C73' or

substr(dx,1,3)='C74' or

substr(dx,1,3)='C75' or

substr(dx,1,3)='C76' or

substr(dx,1,3)='C81' or

substr(dx,1,3)='C82' or

substr(dx,1,3)='C83' or

substr(dx,1,3)='C84' or

substr(dx,1,3)='C85' or

substr(dx,1,3)='C88' or

substr(dx,1,3)='C90' or

substr(dx,1,3)='C91' or

substr(dx,1,3)='C92' or

substr(dx,1,3)='C93' or

substr(dx,1,3)='C94' or

substr(dx,1,3)='C95' or

substr(dx,1,3)='C96' or

substr(dx,1,3)='C97')

and charlson\_14=0

then charlson\_14=1;

\* Moderate or Severe Liver Disease ;

if (substr(dx,1,4)='4560' or

substr(dx,1,4)='4561' or

substr(dx,1,4)='4562' or

substr(dx,1,4)='5722' or

substr(dx,1,4)='5723' or

substr(dx,1,4)='5724' or

substr(dx,1,4)='5728' or

substr(dx,1,4)='I850' or

substr(dx,1,4)='I859' or

substr(dx,1,4)='I864' or

substr(dx,1,4)='I982' or

substr(dx,1,4)='K704' or

substr(dx,1,4)='K711' or

substr(dx,1,4)='K721' or

substr(dx,1,4)='K729' or

substr(dx,1,4)='K765' or

substr(dx,1,4)='K766' or

substr(dx,1,4)='K767')

and charlson\_15=0

then charlson\_15=1;

\* Metastatic Carcinoma ;

if (substr(dx,1,3)='196' or

substr(dx,1,3)='197' or

substr(dx,1,3)='198' or

substr(dx,1,3)='199' OR

substr(dx,1,3)='C77' or

substr(dx,1,3)='C78' or

substr(dx,1,3)='C79' or

substr(dx,1,3)='C80' )

and charlson\_16=0

then charlson\_16=1;

\* AIDS/HIV ;

if (substr(dx,1,3)='042' or

substr(dx,1,3)='043' or

substr(dx,1,3)='044' or

substr(dx,1,3)='B20' or

substr(dx,1,3)='B21' or

substr(dx,1,3)='B22' or

substr(dx,1,3)='B24')

and charlson\_17=0

then charlson\_17=1;

end;

run;

/\*get count of each charlsondity for each id-core year combination\*/

proc sql;

create table cha\_test1 as

select distinct bid\_hrs\_22,index\_date,

sum(charlson\_1) as cha\_1,

sum(charlson\_2) as cha\_2,

sum(charlson\_3) as cha\_3,

sum(charlson\_4) as cha\_4,

sum(charlson\_5) as cha\_5,

sum(charlson\_6) as cha\_6,

sum(charlson\_7) as cha\_7,

sum(charlson\_8) as cha\_8,

sum(charlson\_9) as cha\_9,

sum(charlson\_10) as cha\_10,

sum(charlson\_11) as cha\_11,

sum(charlson\_12) as cha\_12,

sum(charlson\_13) as cha\_13,

sum(charlson\_14) as cha\_14,

sum(charlson\_15) as cha\_15,

sum(charlson\_16) as cha\_16,

sum(charlson\_17) as cha\_17

from dx\_charlson

group by bid\_hrs\_22,index\_date;

quit;

/\*convert counts of diagnoses for each charlsondity to indicator variables\*/

data charlson\_1(keep=bid\_hrs\_22 index\_date charls\_1-charls\_17 charls\_index charls\_index\_wt);

set cha\_test1;

array list\_cha cha\_1-cha\_17;

array list\_cha\_bin charls\_1-charls\_17 ;

do over list\_cha;

list\_cha\_bin=0;

if list\_cha>0 then do;

list\_cha\_bin=1;

end;

end;

/\*note this charls\_index count count is not weighted for morbidity\*/

charls\_index=charls\_1+charls\_2+charls\_3+charls\_4+charls\_5+charls\_6+charls\_7+charls\_8+charls\_9+charls\_10

+charls\_11+charls\_12+charls\_13+charls\_14+charls\_15+charls\_16+charls\_17;

/\*now morbidity weighted\*/

charls\_index\_wt=charls\_1+charls\_2+charls\_3+charls\_4+charls\_5+charls\_6+charls\_7+charls\_8+charls\_9+charls\_10

+2\*charls\_11+2\*charls\_12+2\*charls\_13+2\*charls\_14+3\*charls\_15+6\*charls\_16+6\*charls\_17;

label charls\_1 ="Myocardial infarction, Charlson";

label charls\_2 ="Congestive Heart Failure, Charlson";

label charls\_3 ="Peripheral Vascular Disease, Charlson";

label charls\_4 ="Cerebrovascular disease, Charlson";

label charls\_5 ="Dementia, Charlson";

label charls\_6 ="Chronic Pulmonary Disease, Charlson";

label charls\_7 ="Rheumatic disease, Charlson";

label charls\_8 ="Peptic ulcer disease, Charlson";

label charls\_9 ="Mild liver disease, Charlson";

label charls\_10 ="Diabetes, uncomplicated, Charlson";

label charls\_11 ="Diabetes, complicated, Charlson";

label charls\_12 ="Hemiplegia or paraplegia, Charlson";

label charls\_13 ="Renal disease, Charlson";

label charls\_14 ="Any malignancy except neoplasm of skin, Charlson";

label charls\_15 ="Mod or severe liver disease, Charlson";

label charls\_16 ="Metastatic solid tumor, Charlson";

label charls\_17 ="AIDS/HIV, Charlson";

label charls\_index ="Charlson score index, not weighted";

label charls\_index\_wt ="Charlson score index, weighted";

run;

/\*merge into list of obs with ffs mc 6m prior to ivw\*/

proc sort data=charlson\_1 out=test nodupkey;

by bid\_hrs\_22 index\_date;

run;

%rename(WORK,TEST,&range1.\_&range2);

data proj\_int.charls\_&range1.\_&range2.(rename =(bid\_hrs\_22\_&range1.\_&range2=bid\_hrs\_22

index\_date\_&range1.\_&range2=index\_date));

set test;

keep bid\_hrs\_22\_&range1.\_&range2 charls: index\_date:;

run;

proc sort data=proj\_int.charls\_&range1.\_&range2.;

by bid\_hrs\_22 index\_date;

run;

%mend;

%charlson(range1=0d, range2=n12m);

proc freq data=proj\_int.charls\_0d\_n12m;

table charls:;

run;

H="CCW CCs"

/\*

Created by: EBL

Date Created: 4/12/19

Updated by:

Date Updated:

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* Rename variables macro \*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

%macro rename(lib,dsn,pre);

options pageno=1 nodate;

proc contents data=&lib..&dsn;

title "Before Renaming All Variables";

run;

proc sql noprint;

select nvar into :num\_vars

from dictionary.tables

where libname="&LIB" and

memname="&DSN";

select distinct(name) into :var1-

:var%TRIM(%LEFT(&num\_vars))

from dictionary.columns

where libname="&LIB" and

memname="&DSN";

quit;

run;

proc datasets library=&LIB;

modify &DSN;

rename

%do i=1 %to &num\_vars;

&&var&i=&&var&i..\_&pre

%end;

;

quit;

run;

options pageno=1 nodate;

proc contents data=&lib..&dsn;

title "After Renaming All Variables";

run;

%mend rename;

%macro ccw(range1=,range2=);

data dx\_ccw;

set proj\_int.dx\_&range1.\_&range2.(rename=(diag=dx\_0));

dx=trim(left(dx\_0));

if dx~='' then do;

\*initialize variables;

ccw\_1=0;

ccw\_2=0;

ccw\_3=0;

ccw\_4=0;

ccw\_5=0;

ccw\_6=0;

ccw\_7=0;

ccw\_8=0;

ccw\_9=0;

ccw\_10=0;

ccw\_11=0;

ccw\_12=0;

ccw\_13=0;

ccw\_14=0;

ccw\_15=0;

ccw\_16=0;

ccw\_17=0;

ccw\_18=0;

ccw\_19=0;

ccw\_20=0;

ccw\_21=0;

ccw\_22=0;

ccw\_23=0;

ccw\_24=0;

ccw\_25=0;

ccw\_26=0;

ccw\_27=0;

\*do over dx;

\*Acquired Hypothyroidism;

if (substr(dx,1,4) = '2441'

or substr(dx,1,4) = '2442'

or substr(dx,1,4) = '2443'

or substr(dx,1,4) = '2448'

or substr(dx,1,4) = '2449'

or substr(dx,1,4) = '2440'

or substr(dx,1,4) = 'E018'

or substr(dx,1,3) = 'E02'

or substr(dx,1,4) = 'E032'

or substr(dx,1,4) = 'E033'

or substr(dx,1,4) = 'E038'

or substr(dx,1,4) = 'E039'

or substr(dx,1,4) = 'E890')

and ccw\_1=0

then ccw\_1=1;

\*AMI;

if (substr(dx,1,5) = '41001'

or substr(dx,1,5) = '41011'

or substr(dx,1,5) = '41021'

or substr(dx,1,5) = '41031'

or substr(dx,1,5) = '41041'

or substr(dx,1,5) = '41051'

or substr(dx,1,5) = '41061'

or substr(dx,1,5) = '41071'

or substr(dx,1,5) = '41081'

or substr(dx,1,5) = '41091'

or substr(dx,1,5) = 'I2101'

or substr(dx,1,5) = 'I2102'

or substr(dx,1,5) = 'I2109'

or substr(dx,1,5) = 'I2111'

or substr(dx,1,5) = 'I2119'

or substr(dx,1,5) = 'I2121'

or substr(dx,1,5) = 'I2129'

or substr(dx,1,4) = 'I213'

or substr(dx,1,4) = 'I214'

or substr(dx,1,4) = 'I219'

or substr(dx,1,5) = 'I21A1'

or substr(dx,1,5) = 'I21A9'

or substr(dx,1,4) = 'I220'

or substr(dx,1,4) = 'I221'

or substr(dx,1,4) = 'I222'

or substr(dx,1,4) = 'I228'

or substr(dx,1,4) = 'I229')

and ccw\_2=0

then ccw\_2=1;

\*Alzheimers Disease;

if (substr(dx,1,4) = '3310'

or substr(dx,1,4) = 'G300'

or substr(dx,1,4) = 'G301'

or substr(dx,1,4) = 'G308'

or substr(dx,1,4) = 'G309')

and ccw\_3=0

then ccw\_3=1;

\*Alzheimers and Related Disorders or Senile Dementia ;

if (substr(dx,1,5) = '29011'

or substr(dx,1,5) = '29012'

or substr(dx,1,5) = '29013'

or substr(dx,1,5) = '29010'

or substr(dx,1,5) = '29021'

or substr(dx,1,5) = '29020'

or substr(dx,1,4) = '2903'

or substr(dx,1,5) = '29041'

or substr(dx,1,5) = '29042'

or substr(dx,1,5) = '29043'

or substr(dx,1,5) = '29040'

or substr(dx,1,5) = '2900'

or substr(dx,1,5) = '29411'

or substr(dx,1,5) = '29410'

or substr(dx,1,5) = '29421'

or substr(dx,1,5) = '29420'

or substr(dx,1,4) = '2948'

or substr(dx,1,4) = '2940'

or substr(dx,1,5) = '33111'

or substr(dx,1,5) = '33119'

or substr(dx,1,4) = '3312'

or substr(dx,1,4) = '3317'

or substr(dx,1,4) = '3310'

or substr(dx,1,3) = '797'

or substr(dx,1,5) = 'F0150'

or substr(dx,1,5) = 'F0151'

or substr(dx,1,5) = 'F0280'

or substr(dx,1,5) = 'F0281'

or substr(dx,1,5) = 'F0390'

or substr(dx,1,5) = 'F0391'

or substr(dx,1,3) = 'F04'

or substr(dx,1,3) = 'F05'

or substr(dx,1,4) = 'F061'

or substr(dx,1,4) = 'F068'

or substr(dx,1,4) = 'G138'

or substr(dx,1,4) = 'G300'

or substr(dx,1,4) = 'G301'

or substr(dx,1,4) = 'G308'

or substr(dx,1,4) = 'G309'

or substr(dx,1,5) = 'G3101'

or substr(dx,1,5) = 'G3109'

or substr(dx,1,4) = 'G311'

or substr(dx,1,4) = 'G312'

or substr(dx,1,3) = 'G94'

or substr(dx,1,5) = 'R4181'

or substr(dx,1,3) = 'R54')

and ccw\_4=0

then ccw\_4=1;

\*Anemia ;

if (substr(dx,1,4) = '2801'

or substr(dx,1,4) = '2808'

or substr(dx,1,4) = '2809'

or substr(dx,1,4) = '2800'

or substr(dx,1,4) = '2811'

or substr(dx,1,4) = '2812'

or substr(dx,1,4) = '2813'

or substr(dx,1,4) = '2814'

or substr(dx,1,4) = '2818'

or substr(dx,1,4) = '2819'

or substr(dx,1,4) = '2810'

or substr(dx,1,4) = '2821'

or substr(dx,1,4) = '2822'

or substr(dx,1,4) = '2823'

or substr(dx,1,5) = '28241'

or substr(dx,1,5) = '28242'

or substr(dx,1,5) = '28243'

or substr(dx,1,5) = '28244'

or substr(dx,1,5) = '28245'

or substr(dx,1,5) = '28246'

or substr(dx,1,5) = '28247'

or substr(dx,1,5) = '28249'

or substr(dx,1,5) = '28240'

or substr(dx,1,4) = '2825'

or substr(dx,1,5) = '28261'

or substr(dx,1,5) = '28262'

or substr(dx,1,5) = '28263'

or substr(dx,1,5) = '28264'

or substr(dx,1,5) = '28268'

or substr(dx,1,5) = '28269'

or substr(dx,1,5) = '28260'

or substr(dx,1,4) = '2827'

or substr(dx,1,4) = '2828'

or substr(dx,1,4) = '2829'

or substr(dx,1,4) = '2820'

or substr(dx,1,5) = '28311'

or substr(dx,1,5) = '28319'

or substr(dx,1,4) = '2831'

or substr(dx,1,4) = '2832'

or substr(dx,1,4) = '2839'

or substr(dx,1,4) = '2830'

or substr(dx,1,5) = '28401'

or substr(dx,1,5) = '28409'

or substr(dx,1,5) = '28411'

or substr(dx,1,5) = '28412'

or substr(dx,1,5) = '28419'

or substr(dx,1,4) = '2842'

or substr(dx,1,5) = '28481'

or substr(dx,1,5) = '28489'

or substr(dx,1,4) = '2849'

or substr(dx,1,4) = '2851'

or substr(dx,1,5) = '28521'

or substr(dx,1,5) = '28522'

or substr(dx,1,5) = '28529'

or substr(dx,1,4) = '2853'

or substr(dx,1,4) = '2858'

or substr(dx,1,4) = '2859'

or substr(dx,1,4) = '2850'

or substr(dx,1,4) = 'D500'

or substr(dx,1,4) = 'D501'

or substr(dx,1,4) = 'D508'

or substr(dx,1,4) = 'D509'

or substr(dx,1,4) = 'D510'

or substr(dx,1,4) = 'D511'

or substr(dx,1,4) = 'D512'

or substr(dx,1,4) = 'D513'

or substr(dx,1,4) = 'D518'

or substr(dx,1,4) = 'D519'

or substr(dx,1,4) = 'D520'

or substr(dx,1,4) = 'D521'

or substr(dx,1,4) = 'D528'

or substr(dx,1,4) = 'D529'

or substr(dx,1,4) = 'D530'

or substr(dx,1,4) = 'D531'

or substr(dx,1,4) = 'D532'

or substr(dx,1,4) = 'D538'

or substr(dx,1,4) = 'D539'

or substr(dx,1,4) = 'D550'

or substr(dx,1,4) = 'D551'

or substr(dx,1,4) = 'D552'

or substr(dx,1,4) = 'D553'

or substr(dx,1,4) = 'D558'

or substr(dx,1,4) = 'D559'

or substr(dx,1,4) = 'D560'

or substr(dx,1,4) = 'D561'

or substr(dx,1,4) = 'D562'

or substr(dx,1,4) = 'D563'

or substr(dx,1,4) = 'D564'

or substr(dx,1,4) = 'D565'

or substr(dx,1,4) = 'D568'

or substr(dx,1,4) = 'D569'

or substr(dx,1,5) = 'D5700'

or substr(dx,1,5) = 'D5701'

or substr(dx,1,5) = 'D5702'

or substr(dx,1,4) = 'D571'

or substr(dx,1,5) = 'D5720'

or substr(dx,1,6) = 'D57211'

or substr(dx,1,6) = 'D57212'

or substr(dx,1,6) = 'D57219'

or substr(dx,1,4) = 'D573'

or substr(dx,1,5) = 'D5740'

or substr(dx,1,6) = 'D57411'

or substr(dx,1,6) = 'D57412'

or substr(dx,1,6) = 'D57419'

or substr(dx,1,5) = 'D5780'

or substr(dx,1,6) = 'D57811'

or substr(dx,1,6) = 'D57812'

or substr(dx,1,6) = 'D57819'

or substr(dx,1,4) = 'D580'

or substr(dx,1,4) = 'D581'

or substr(dx,1,4) = 'D582'

or substr(dx,1,4) = 'D588'

or substr(dx,1,4) = 'D589'

or substr(dx,1,4) = 'D590'

or substr(dx,1,4) = 'D591'

or substr(dx,1,4) = 'D592'

or substr(dx,1,4) = 'D593'

or substr(dx,1,4) = 'D594'

or substr(dx,1,4) = 'D595'

or substr(dx,1,4) = 'D596'

or substr(dx,1,4) = 'D598'

or substr(dx,1,4) = 'D599'

or substr(dx,1,4) = 'D600'

or substr(dx,1,4) = 'D601'

or substr(dx,1,4) = 'D608'

or substr(dx,1,4) = 'D609'

or substr(dx,1,5) = 'D6101'

or substr(dx,1,5) = 'D6109'

or substr(dx,1,4) = 'D611'

or substr(dx,1,4) = 'D612'

or substr(dx,1,4) = 'D613'

or substr(dx,1,6) = 'D61810'

or substr(dx,1,6) = 'D61811'

or substr(dx,1,6) = 'D61818'

or substr(dx,1,5) = 'D6182'

or substr(dx,1,5) = 'D6189'

or substr(dx,1,4) = 'D619'

or substr(dx,1,3) = 'D62'

or substr(dx,1,4) = 'D630'

or substr(dx,1,4) = 'D631'

or substr(dx,1,4) = 'D638'

or substr(dx,1,4) = 'D640'

or substr(dx,1,4) = 'D641'

or substr(dx,1,4) = 'D642'

or substr(dx,1,4) = 'D643'

or substr(dx,1,4) = 'D644'

or substr(dx,1,5) = 'D6481'

or substr(dx,1,5) = 'D6489'

or substr(dx,1,4) = 'D649')

and ccw\_5=0

then ccw\_5=1;

\*Asthma ;

if (substr(dx,1,5) = '49301'

or substr(dx,1,5) = '49302'

or substr(dx,1,5) = '49311'

or substr(dx,1,5) = '49312'

or substr(dx,1,5) = '49310'

or substr(dx,1,5) = '49321'

or substr(dx,1,5) = '49322'

or substr(dx,1,5) = '49320'

or substr(dx,1,5) = '49381'

or substr(dx,1,5) = '49382'

or substr(dx,1,5) = '49391'

or substr(dx,1,5) = '49392'

or substr(dx,1,5) = '49390'

or substr(dx,1,5) = '49300'

or substr(dx,1,5) = 'J4520'

or substr(dx,1,5) = 'J4521'

or substr(dx,1,5) = 'J4522'

or substr(dx,1,5) = 'J4530'

or substr(dx,1,5) = 'J4531'

or substr(dx,1,5) = 'J4532'

or substr(dx,1,5) = 'J4540'

or substr(dx,1,5) = 'J4541'

or substr(dx,1,5) = 'J4542'

or substr(dx,1,5) = 'J4550'

or substr(dx,1,5) = 'J4551'

or substr(dx,1,5) = 'J4552'

or substr(dx,1,6) = 'J45901'

or substr(dx,1,6) = 'J45902'

or substr(dx,1,6) = 'J45909'

or substr(dx,1,6) = 'J45990'

or substr(dx,1,6) = 'J45991'

or substr(dx,1,6) = 'J45998')

and ccw\_6=0

then ccw\_6=1;

\*Atrial Fibrillation;

if (substr(dx,1,5) = '42731'

or substr(dx,1,4) = 'I480'

or substr(dx,1,4) = 'I481'

or substr(dx,1,4) = 'I482'

or substr(dx,1,5) = 'I4891')

and ccw\_7=0

then ccw\_7=1;

\*Benign Prostatic Hyperplasia;

if (substr(dx,1,5) = '60001'

or substr(dx,1,5) = '60011'

or substr(dx,1,5) = '60010'

or substr(dx,1,5) = '60021'

or substr(dx,1,5) = '60020'

or substr(dx,1,5) = '60030'

or substr(dx,1,5) = '60091'

or substr(dx,1,5) = '60090'

or substr(dx,1,5) = '60000'

or substr(dx,1,4) = 'N400'

or substr(dx,1,4) = 'N401'

or substr(dx,1,4) = 'N402'

or substr(dx,1,4) = 'N403'

or substr(dx,1,5) = 'N4283')

and ccw\_8=0

then ccw\_8=1;

\*Cataract;

if (substr(dx,1,5) = '36601'

or substr(dx,1,5) = '36602'

or substr(dx,1,5) = '36603'

or substr(dx,1,5) = '36604'

or substr(dx,1,5) = '36609'

or substr(dx,1,5) = '36612'

or substr(dx,1,5) = '36613'

or substr(dx,1,5) = '36614'

or substr(dx,1,5) = '36615'

or substr(dx,1,5) = '36616'

or substr(dx,1,5) = '36617'

or substr(dx,1,5) = '36618'

or substr(dx,1,5) = '36619'

or substr(dx,1,5) = '36610'

or substr(dx,1,5) = '36621'

or substr(dx,1,5) = '36622'

or substr(dx,1,5) = '36623'

or substr(dx,1,5) = '36620'

or substr(dx,1,5) = '36630'

or substr(dx,1,5) = '36645'

or substr(dx,1,5) = '36646'

or substr(dx,1,5) = '36651'

or substr(dx,1,5) = '36652'

or substr(dx,1,5) = '36653'

or substr(dx,1,5) = '36650'

or substr(dx,1,4) = '3668'

or substr(dx,1,4) = '3669'

or substr(dx,1,5) = '37926'

or substr(dx,1,5) = '37931'

or substr(dx,1,5) = '37939'

or substr(dx,1,5) = '74331'

or substr(dx,1,5) = '74332'

or substr(dx,1,5) = '74333'

or substr(dx,1,4) = '7433'

or substr(dx,1,4) = 'V431'

or substr(dx,1,6) = 'H25011'

or substr(dx,1,6) = 'H25012'

or substr(dx,1,6) = 'H25013'

or substr(dx,1,6) = 'H25019'

or substr(dx,1,6) = 'H25031'

or substr(dx,1,6) = 'H25032'

or substr(dx,1,6) = 'H25033'

or substr(dx,1,6) = 'H25039'

or substr(dx,1,6) = 'H25041'

or substr(dx,1,6) = 'H25042'

or substr(dx,1,6) = 'H25043'

or substr(dx,1,6) = 'H25049'

or substr(dx,1,6) = 'H25091'

or substr(dx,1,6) = 'H25092'

or substr(dx,1,6) = 'H25093'

or substr(dx,1,6) = 'H25099'

or substr(dx,1,5) = 'H2510'

or substr(dx,1,5) = 'H2511'

or substr(dx,1,5) = 'H2512'

or substr(dx,1,5) = 'H2513'

or substr(dx,1,5) = 'H2520'

or substr(dx,1,5) = 'H2521'

or substr(dx,1,5) = 'H2522'

or substr(dx,1,5) = 'H2523'

or substr(dx,1,6) = 'H25811'

or substr(dx,1,6) = 'H25812'

or substr(dx,1,6) = 'H25813'

or substr(dx,1,6) = 'H25819'

or substr(dx,1,5) = 'H2589'

or substr(dx,1,4) = 'H259'

or substr(dx,1,6) = 'H26011'

or substr(dx,1,6) = 'H26012'

or substr(dx,1,6) = 'H26013'

or substr(dx,1,6) = 'H26019'

or substr(dx,1,6) = 'H26031'

or substr(dx,1,6) = 'H26032'

or substr(dx,1,6) = 'H26033'

or substr(dx,1,6) = 'H26039'

or substr(dx,1,6) = 'H26041'

or substr(dx,1,6) = 'H26042'

or substr(dx,1,6) = 'H26043'

or substr(dx,1,6) = 'H26049'

or substr(dx,1,6) = 'H26051'

or substr(dx,1,6) = 'H26052'

or substr(dx,1,6) = 'H26053'

or substr(dx,1,6) = 'H26059'

or substr(dx,1,6) = 'H26061'

or substr(dx,1,6) = 'H26062'

or substr(dx,1,6) = 'H26063'

or substr(dx,1,6) = 'H26069'

or substr(dx,1,5) = 'H2609'

or substr(dx,1,6) = 'H26101'

or substr(dx,1,6) = 'H26102'

or substr(dx,1,6) = 'H26103'

or substr(dx,1,6) = 'H26109'

or substr(dx,1,6) = 'H26111'

or substr(dx,1,6) = 'H26112'

or substr(dx,1,6) = 'H26113'

or substr(dx,1,6) = 'H26119'

or substr(dx,1,6) = 'H26121'

or substr(dx,1,6) = 'H26122'

or substr(dx,1,6) = 'H26123'

or substr(dx,1,6) = 'H26129'

or substr(dx,1,6) = 'H26131'

or substr(dx,1,6) = 'H26132'

or substr(dx,1,6) = 'H26133'

or substr(dx,1,6) = 'H26139'

or substr(dx,1,5) = 'H2620'

or substr(dx,1,6) = 'H26211'

or substr(dx,1,6) = 'H26212'

or substr(dx,1,6) = 'H26213'

or substr(dx,1,6) = 'H26219'

or substr(dx,1,5) = 'H2630'

or substr(dx,1,5) = 'H2631'

or substr(dx,1,5) = 'H2632'

or substr(dx,1,5) = 'H2633'

or substr(dx,1,5) = 'H2640'

or substr(dx,1,6) = 'H26411'

or substr(dx,1,6) = 'H26412'

or substr(dx,1,6) = 'H26413'

or substr(dx,1,6) = 'H26419'

or substr(dx,1,6) = 'H26491'

or substr(dx,1,6) = 'H26492'

or substr(dx,1,6) = 'H26493'

or substr(dx,1,6) = 'H26499'

or substr(dx,1,4) = 'H268'

or substr(dx,1,4) = 'H269'

or substr(dx,1,4) = 'Q120'

or substr(dx,1,4) = 'Z961')

and ccw\_9=0

then ccw\_9=1;

\*CKD ;

if (substr(dx,1,5) = '01601'

or substr(dx,1,5) = '01602'

or substr(dx,1,5) = '01603'

or substr(dx,1,5) = '01604'

or substr(dx,1,5) = '01605'

or substr(dx,1,5) = '01606'

or substr(dx,1,5) = '01600'

or substr(dx,1,4) = '1899'

or substr(dx,1,4) = '1890'

or substr(dx,1,4) = '2230'

or substr(dx,1,5) = '23691'

or substr(dx,1,5) = '24941'

or substr(dx,1,5) = '24940'

or substr(dx,1,5) = '25041'

or substr(dx,1,5) = '25042'

or substr(dx,1,5) = '25043'

or substr(dx,1,5) = '25040'

or substr(dx,1,4) = '2714'

or substr(dx,1,5) = '27410'

or substr(dx,1,5) = '28311'

or substr(dx,1,5) = '40301'

or substr(dx,1,5) = '40311'

or substr(dx,1,5) = '40391'

or substr(dx,1,5) = '40402'

or substr(dx,1,5) = '40403'

or substr(dx,1,5) = '40412'

or substr(dx,1,5) = '40413'

or substr(dx,1,5) = '40492'

or substr(dx,1,5) = '40493'

or substr(dx,1,4) = '4401'

or substr(dx,1,4) = '4421'

or substr(dx,1,4) = '5724'

or substr(dx,1,4) = '5804'

or substr(dx,1,5) = '58081'

or substr(dx,1,5) = '58089'

or substr(dx,1,4) = '5809'

or substr(dx,1,4) = '5800'

or substr(dx,1,4) = '5811'

or substr(dx,1,4) = '5812'

or substr(dx,1,4) = '5813'

or substr(dx,1,5) = '58181'

or substr(dx,1,5) = '58189'

or substr(dx,1,4) = '5819'

or substr(dx,1,4) = '5810'

or substr(dx,1,4) = '5821'

or substr(dx,1,4) = '5822'

or substr(dx,1,4) = '5824'

or substr(dx,1,5) = '58281'

or substr(dx,1,5) = '58289'

or substr(dx,1,4) = '5829'

or substr(dx,1,4) = '5820'

or substr(dx,1,4) = '5831'

or substr(dx,1,4) = '5832'

or substr(dx,1,4) = '5834'

or substr(dx,1,4) = '5836'

or substr(dx,1,4) = '5837'

or substr(dx,1,5) = '58381'

or substr(dx,1,5) = '58389'

or substr(dx,1,4) = '5839'

or substr(dx,1,4) = '5830'

or substr(dx,1,4) = '5845'

or substr(dx,1,4) = '5846'

or substr(dx,1,4) = '5847'

or substr(dx,1,4) = '5848'

or substr(dx,1,4) = '5849'

or substr(dx,1,4) = '5851'

or substr(dx,1,4) = '5852'

or substr(dx,1,4) = '5853'

or substr(dx,1,4) = '5854'

or substr(dx,1,4) = '5855'

or substr(dx,1,4) = '5856'

or substr(dx,1,4) = '5859'

or substr(dx,1,3) = '586'

or substr(dx,1,3) = '587'

or substr(dx,1,4) = '5881'

or substr(dx,1,5) = '58881'

or substr(dx,1,5) = '58889'

or substr(dx,1,4) = '5889'

or substr(dx,1,4) = '5880'

or substr(dx,1,3) = '591'

or substr(dx,1,5) = '75312'

or substr(dx,1,5) = '75313'

or substr(dx,1,5) = '75314'

or substr(dx,1,5) = '75315'

or substr(dx,1,5) = '75316'

or substr(dx,1,5) = '75317'

or substr(dx,1,5) = '75319'

or substr(dx,1,5) = '75321'

or substr(dx,1,5) = '75322'

or substr(dx,1,5) = '75323'

or substr(dx,1,5) = '75329'

or substr(dx,1,5) = '75320'

or substr(dx,1,4) = '7944'

or substr(dx,1,4) = '0954'

or substr(dx,1,5) = 'A1811'

or substr(dx,1,5) = 'A5275'

or substr(dx,1,4) = 'B520'

or substr(dx,1,4) = 'C641'

or substr(dx,1,4) = 'C642'

or substr(dx,1,4) = 'C649'

or substr(dx,1,4) = 'C689'

or substr(dx,1,5) = 'D3000'

or substr(dx,1,5) = 'D3001'

or substr(dx,1,5) = 'D3002'

or substr(dx,1,5) = 'D4100'

or substr(dx,1,5) = 'D4101'

or substr(dx,1,5) = 'D4102'

or substr(dx,1,5) = 'D4110'

or substr(dx,1,5) = 'D4111'

or substr(dx,1,5) = 'D4112'

or substr(dx,1,5) = 'D4120'

or substr(dx,1,5) = 'D4121'

or substr(dx,1,5) = 'D4122'

or substr(dx,1,4) = 'D593'

or substr(dx,1,5) = 'E0821'

or substr(dx,1,5) = 'E0822'

or substr(dx,1,5) = 'E0829'

or substr(dx,1,5) = 'E0865'

or substr(dx,1,5) = 'E0921'

or substr(dx,1,5) = 'E0922'

or substr(dx,1,5) = 'E0929'

or substr(dx,1,5) = 'E1021'

or substr(dx,1,5) = 'E1022'

or substr(dx,1,5) = 'E1029'

or substr(dx,1,5) = 'E1065'

or substr(dx,1,5) = 'E1121'

or substr(dx,1,5) = 'E1122'

or substr(dx,1,5) = 'E1129'

or substr(dx,1,5) = 'E1165'

or substr(dx,1,5) = 'E1321'

or substr(dx,1,5) = 'E1322'

or substr(dx,1,5) = 'E1329'

or substr(dx,1,4) = 'E748'

or substr(dx,1,4) = 'I120'

or substr(dx,1,4) = 'I129'

or substr(dx,1,4) = 'I130'

or substr(dx,1,5) = 'I1310'

or substr(dx,1,5) = 'I1311'

or substr(dx,1,4) = 'I132'

or substr(dx,1,4) = 'I701'

or substr(dx,1,4) = 'I722'

or substr(dx,1,4) = 'K767'

or substr(dx,1,5) = 'M1030'

or substr(dx,1,6) = 'M10311'

or substr(dx,1,6) = 'M10312'

or substr(dx,1,6) = 'M10319'

or substr(dx,1,6) = 'M10321'

or substr(dx,1,6) = 'M10322'

or substr(dx,1,6) = 'M10329'

or substr(dx,1,6) = 'M10331'

or substr(dx,1,6) = 'M10332'

or substr(dx,1,6) = 'M10339'

or substr(dx,1,6) = 'M10341'

or substr(dx,1,6) = 'M10342'

or substr(dx,1,6) = 'M10349'

or substr(dx,1,6) = 'M10351'

or substr(dx,1,6) = 'M10352'

or substr(dx,1,6) = 'M10359'

or substr(dx,1,6) = 'M10361'

or substr(dx,1,6) = 'M10362'

or substr(dx,1,6) = 'M10369'

or substr(dx,1,6) = 'M10371'

or substr(dx,1,6) = 'M10372'

or substr(dx,1,6) = 'M10379'

or substr(dx,1,5) = 'M1038'

or substr(dx,1,5) = 'M1039'

or substr(dx,1,5) = 'M3214'

or substr(dx,1,5) = 'M3215'

or substr(dx,1,5) = 'M3504'

or substr(dx,1,4) = 'N000'

or substr(dx,1,4) = 'N001'

or substr(dx,1,4) = 'N002'

or substr(dx,1,4) = 'N003'

or substr(dx,1,4) = 'N004'

or substr(dx,1,4) = 'N005'

or substr(dx,1,4) = 'N006'

or substr(dx,1,4) = 'N007'

or substr(dx,1,4) = 'N008'

or substr(dx,1,4) = 'N009'

or substr(dx,1,4) = 'N010'

or substr(dx,1,4) = 'N011'

or substr(dx,1,4) = 'N012'

or substr(dx,1,4) = 'N013'

or substr(dx,1,4) = 'N014'

or substr(dx,1,4) = 'N015'

or substr(dx,1,4) = 'N016'

or substr(dx,1,4) = 'N017'

or substr(dx,1,4) = 'N018'

or substr(dx,1,4) = 'N019'

or substr(dx,1,4) = 'N020'

or substr(dx,1,4) = 'N021'

or substr(dx,1,4) = 'N022'

or substr(dx,1,4) = 'N023'

or substr(dx,1,4) = 'N024'

or substr(dx,1,4) = 'N025'

or substr(dx,1,4) = 'N026'

or substr(dx,1,4) = 'N027'

or substr(dx,1,4) = 'N028'

or substr(dx,1,4) = 'N029'

or substr(dx,1,4) = 'N030'

or substr(dx,1,4) = 'N031'

or substr(dx,1,4) = 'N032'

or substr(dx,1,4) = 'N033'

or substr(dx,1,4) = 'N034'

or substr(dx,1,4) = 'N035'

or substr(dx,1,4) = 'N036'

or substr(dx,1,4) = 'N037'

or substr(dx,1,4) = 'N038'

or substr(dx,1,4) = 'N039'

or substr(dx,1,4) = 'N040'

or substr(dx,1,4) = 'N041'

or substr(dx,1,4) = 'N042'

or substr(dx,1,4) = 'N043'

or substr(dx,1,4) = 'N044'

or substr(dx,1,4) = 'N045'

or substr(dx,1,4) = 'N046'

or substr(dx,1,4) = 'N047'

or substr(dx,1,4) = 'N048'

or substr(dx,1,4) = 'N049'

or substr(dx,1,4) = 'N050'

or substr(dx,1,4) = 'N051'

or substr(dx,1,4) = 'N052'

or substr(dx,1,4) = 'N053'

or substr(dx,1,4) = 'N054'

or substr(dx,1,4) = 'N055'

or substr(dx,1,4) = 'N056'

or substr(dx,1,4) = 'N057'

or substr(dx,1,4) = 'N058'

or substr(dx,1,4) = 'N059'

or substr(dx,1,4) = 'N060'

or substr(dx,1,4) = 'N061'

or substr(dx,1,4) = 'N062'

or substr(dx,1,4) = 'N063'

or substr(dx,1,4) = 'N064'

or substr(dx,1,4) = 'N065'

or substr(dx,1,4) = 'N066'

or substr(dx,1,4) = 'N067'

or substr(dx,1,4) = 'N068'

or substr(dx,1,4) = 'N069'

or substr(dx,1,4) = 'N070'

or substr(dx,1,4) = 'N071'

or substr(dx,1,4) = 'N072'

or substr(dx,1,4) = 'N073'

or substr(dx,1,4) = 'N074'

or substr(dx,1,4) = 'N075'

or substr(dx,1,4) = 'N076'

or substr(dx,1,4) = 'N077'

or substr(dx,1,4) = 'N078'

or substr(dx,1,4) = 'N079'

or substr(dx,1,3) = 'N08'

or substr(dx,1,4) = 'N131'

or substr(dx,1,4) = 'N132'

or substr(dx,1,5) = 'N1330'

or substr(dx,1,5) = 'N1339'

or substr(dx,1,4) = 'N140'

or substr(dx,1,4) = 'N141'

or substr(dx,1,4) = 'N142'

or substr(dx,1,4) = 'N143'

or substr(dx,1,4) = 'N144'

or substr(dx,1,4) = 'N150'

or substr(dx,1,4) = 'N158'

or substr(dx,1,4) = 'N159'

or substr(dx,1,3) = 'N16'

or substr(dx,1,4) = 'N170'

or substr(dx,1,4) = 'N171'

or substr(dx,1,4) = 'N172'

or substr(dx,1,4) = 'N178'

or substr(dx,1,4) = 'N179'

or substr(dx,1,4) = 'N181'

or substr(dx,1,4) = 'N182'

or substr(dx,1,4) = 'N183'

or substr(dx,1,4) = 'N184'

or substr(dx,1,4) = 'N185'

or substr(dx,1,4) = 'N186'

or substr(dx,1,4) = 'N189'

or substr(dx,1,3) = 'N19'

or substr(dx,1,4) = 'N250'

or substr(dx,1,4) = 'N251'

or substr(dx,1,5) = 'N2581'

or substr(dx,1,5) = 'N2589'

or substr(dx,1,4) = 'N259'

or substr(dx,1,4) = 'N261'

or substr(dx,1,4) = 'N269'

or substr(dx,1,5) = 'Q6102'

or substr(dx,1,5) = 'Q6111'

or substr(dx,1,5) = 'Q6119'

or substr(dx,1,4) = 'Q612'

or substr(dx,1,4) = 'Q613'

or substr(dx,1,4) = 'Q614'

or substr(dx,1,4) = 'Q615'

or substr(dx,1,4) = 'Q618'

or substr(dx,1,4) = 'Q620'

or substr(dx,1,5) = 'Q6210'

or substr(dx,1,5) = 'Q6211'

or substr(dx,1,5) = 'Q6212'

or substr(dx,1,4) = 'Q622'

or substr(dx,1,5) = 'Q6231'

or substr(dx,1,5) = 'Q6232'

or substr(dx,1,5) = 'Q6239'

or substr(dx,1,4) = 'R944')

and ccw\_10=0

then ccw\_10=1;

\*COPD/Bronchitectasis;

if (substr(dx,1,3) = '490'

or substr(dx,1,4) = '4911'

or substr(dx,1,5) = '49121'

or substr(dx,1,5) = '49122'

or substr(dx,1,4) = '4912'

or substr(dx,1,4) = '4918'

or substr(dx,1,4) = '4919'

or substr(dx,1,4) = '4910'

or substr(dx,1,4) = '4928'

or substr(dx,1,4) = '4920'

or substr(dx,1,4) = '4941'

or substr(dx,1,4) = '4940'

or substr(dx,1,3) = '496'

or substr(dx,1,3) = 'J40'

or substr(dx,1,4) = 'J410'

or substr(dx,1,4) = 'J411'

or substr(dx,1,4) = 'J418'

or substr(dx,1,3) = 'J42'

or substr(dx,1,4) = 'J430'

or substr(dx,1,4) = 'J431'

or substr(dx,1,4) = 'J432'

or substr(dx,1,4) = 'J438'

or substr(dx,1,4) = 'J439'

or substr(dx,1,4) = 'J440'

or substr(dx,1,4) = 'J441'

or substr(dx,1,4) = 'J449'

or substr(dx,1,4) = 'J470'

or substr(dx,1,4) = 'J471'

or substr(dx,1,4) = 'J479')

and ccw\_11=0

then ccw\_11=1;

\*Depression ;

if (substr(dx,1,5) = '29621'

or substr(dx,1,5) = '29622'

or substr(dx,1,5) = '29623'

or substr(dx,1,5) = '29624'

or substr(dx,1,5) = '29625'

or substr(dx,1,5) = '29626'

or substr(dx,1,5) = '29620'

or substr(dx,1,5) = '29631'

or substr(dx,1,5) = '29632'

or substr(dx,1,5) = '29633'

or substr(dx,1,5) = '29634'

or substr(dx,1,5) = '29635'

or substr(dx,1,5) = '29636'

or substr(dx,1,5) = '29630'

or substr(dx,1,5) = '29651'

or substr(dx,1,5) = '29652'

or substr(dx,1,5) = '29653'

or substr(dx,1,5) = '29654'

or substr(dx,1,5) = '29655'

or substr(dx,1,5) = '29656'

or substr(dx,1,5) = '29661'

or substr(dx,1,5) = '29662'

or substr(dx,1,5) = '29663'

or substr(dx,1,5) = '29664'

or substr(dx,1,5) = '29665'

or substr(dx,1,5) = '29666'

or substr(dx,1,5) = '29660'

or substr(dx,1,5) = '29689'

or substr(dx,1,4) = '2980'

or substr(dx,1,4) = '3004'

or substr(dx,1,4) = '3091'

or substr(dx,1,3) = '311'

or substr(dx,1,5) = 'F3130'

or substr(dx,1,5) = 'F3131'

or substr(dx,1,5) = 'F3132'

or substr(dx,1,4) = 'F314'

or substr(dx,1,4) = 'F315'

or substr(dx,1,5) = 'F3160'

or substr(dx,1,5) = 'F3161'

or substr(dx,1,5) = 'F3162'

or substr(dx,1,5) = 'F3163'

or substr(dx,1,5) = 'F3164'

or substr(dx,1,5) = 'F3175'

or substr(dx,1,5) = 'F3176'

or substr(dx,1,5) = 'F3177'

or substr(dx,1,5) = 'F3178'

or substr(dx,1,5) = 'F3181'

or substr(dx,1,4) = 'F320'

or substr(dx,1,4) = 'F321'

or substr(dx,1,4) = 'F322'

or substr(dx,1,4) = 'F323'

or substr(dx,1,4) = 'F324'

or substr(dx,1,4) = 'F325'

or substr(dx,1,4) = 'F329'

or substr(dx,1,4) = 'F330'

or substr(dx,1,4) = 'F331'

or substr(dx,1,4) = 'F332'

or substr(dx,1,4) = 'F333'

or substr(dx,1,5) = 'F3340'

or substr(dx,1,5) = 'F3341'

or substr(dx,1,5) = 'F3342'

or substr(dx,1,4) = 'F338'

or substr(dx,1,4) = 'F339'

or substr(dx,1,4) = 'F341'

or substr(dx,1,5) = 'F4321'

or substr(dx,1,5) = 'F4323'

)

and ccw\_12=0

then ccw\_12=1;

\* Diabetes;

if (substr(dx,1,5) = '24901'

or substr(dx,1,5) = '24911'

or substr(dx,1,5) = '24910'

or substr(dx,1,5) = '24921'

or substr(dx,1,5) = '24920'

or substr(dx,1,5) = '24931'

or substr(dx,1,5) = '24930'

or substr(dx,1,5) = '24941'

or substr(dx,1,5) = '24940'

or substr(dx,1,5) = '24951'

or substr(dx,1,5) = '24950'

or substr(dx,1,5) = '24961'

or substr(dx,1,5) = '24960'

or substr(dx,1,5) = '24971'

or substr(dx,1,5) = '24970'

or substr(dx,1,5) = '24981'

or substr(dx,1,5) = '24980'

or substr(dx,1,5) = '24991'

or substr(dx,1,5) = '24990'

or substr(dx,1,5) = '24900'

or substr(dx,1,5) = '25001'

or substr(dx,1,5) = '25002'

or substr(dx,1,5) = '25003'

or substr(dx,1,5) = '25011'

or substr(dx,1,5) = '25012'

or substr(dx,1,5) = '25013'

or substr(dx,1,5) = '25010'

or substr(dx,1,5) = '25021'

or substr(dx,1,5) = '25022'

or substr(dx,1,5) = '25023'

or substr(dx,1,5) = '25020'

or substr(dx,1,5) = '25031'

or substr(dx,1,5) = '25032'

or substr(dx,1,5) = '25033'

or substr(dx,1,5) = '25030'

or substr(dx,1,5) = '25041'

or substr(dx,1,5) = '25042'

or substr(dx,1,5) = '25043'

or substr(dx,1,5) = '25040'

or substr(dx,1,5) = '25051'

or substr(dx,1,5) = '25052'

or substr(dx,1,5) = '25053'

or substr(dx,1,5) = '25050'

or substr(dx,1,5) = '25061'

or substr(dx,1,5) = '25062'

or substr(dx,1,5) = '25063'

or substr(dx,1,5) = '25060'

or substr(dx,1,5) = '25071'

or substr(dx,1,5) = '25072'

or substr(dx,1,5) = '25073'

or substr(dx,1,5) = '25070'

or substr(dx,1,5) = '25081'

or substr(dx,1,5) = '25082'

or substr(dx,1,5) = '25083'

or substr(dx,1,5) = '25080'

or substr(dx,1,5) = '25091'

or substr(dx,1,5) = '25092'

or substr(dx,1,5) = '25093'

or substr(dx,1,5) = '25090'

or substr(dx,1,5) = '25000'

or substr(dx,1,4) = '3572'

or substr(dx,1,5) = '36201'

or substr(dx,1,5) = '36202'

or substr(dx,1,5) = '36203'

or substr(dx,1,5) = '36204'

or substr(dx,1,5) = '36205'

or substr(dx,1,5) = '36206'

or substr(dx,1,5) = '36641'

or substr(dx,1,5) = 'E0800'

or substr(dx,1,5) = 'E0801'

or substr(dx,1,5) = 'E0810'

or substr(dx,1,5) = 'E0811'

or substr(dx,1,5) = 'E0821'

or substr(dx,1,5) = 'E0822'

or substr(dx,1,5) = 'E0829'

or substr(dx,1,6) = 'E08311'

or substr(dx,1,6) = 'E08319'

or substr(dx,1,7) = 'E083211'

or substr(dx,1,7) = 'E083212'

or substr(dx,1,7) = 'E083213'

or substr(dx,1,7) = 'E083219'

or substr(dx,1,6) = 'E08321'

or substr(dx,1,7) = 'E083291'

or substr(dx,1,7) = 'E083292'

or substr(dx,1,7) = 'E083293'

or substr(dx,1,7) = 'E083299'

or substr(dx,1,6) = 'E08329'

or substr(dx,1,7) = 'E083311'

or substr(dx,1,7) = 'E083312'

or substr(dx,1,7) = 'E083313'

or substr(dx,1,7) = 'E083319'

or substr(dx,1,6) = 'E08331'

or substr(dx,1,7) = 'E083391'

or substr(dx,1,7) = 'E083392'

or substr(dx,1,7) = 'E083393'

or substr(dx,1,7) = 'E083399'

or substr(dx,1,6) = 'E08339'

or substr(dx,1,7) = 'E083411'

or substr(dx,1,7) = 'E083412'

or substr(dx,1,7) = 'E083413'

or substr(dx,1,7) = 'E083419'

or substr(dx,1,6) = 'E08341'

or substr(dx,1,7) = 'E083491'

or substr(dx,1,7) = 'E083492'

or substr(dx,1,7) = 'E083493'

or substr(dx,1,7) = 'E083499'

or substr(dx,1,6) = 'E08349'

or substr(dx,1,7) = 'E083511'

or substr(dx,1,7) = 'E083512'

or substr(dx,1,7) = 'E083513'

or substr(dx,1,7) = 'E083519'

or substr(dx,1,6) = 'E08351'

or substr(dx,1,7) = 'E083521'

or substr(dx,1,7) = 'E083522'

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or substr(dx,1,7) = 'E0837X3'

or substr(dx,1,7) = 'E0837X9'

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or substr(dx,1,7) = 'E0937X9'

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or substr(dx,1,7) = 'E1137X3'

or substr(dx,1,7) = 'E1137X9'

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or substr(dx,1,5) = 'E1369'

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then ccw\_13=1;

\*Glaucoma ;

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or substr(dx,1,5) = '36511'

or substr(dx,1,5) = '36512'

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or substr(dx,1,7) = 'H4010X3'

or substr(dx,1,7) = 'H4010X4'

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or substr(dx,1,7) = 'H401111'

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or substr(dx,1,7) = 'H401130'

or substr(dx,1,7) = 'H401131'

or substr(dx,1,7) = 'H401132'

or substr(dx,1,7) = 'H401133'

or substr(dx,1,7) = 'H401134'

or substr(dx,1,7) = 'H401190'

or substr(dx,1,7) = 'H401191'

or substr(dx,1,7) = 'H401192'

or substr(dx,1,7) = 'H401193'

or substr(dx,1,7) = 'H401194'

or substr(dx,1,7) = 'H4011X0'

or substr(dx,1,7) = 'H4011X1'

or substr(dx,1,7) = 'H4011X2'

or substr(dx,1,7) = 'H4011X3'

or substr(dx,1,7) = 'H4011X4'

or substr(dx,1,7) = 'H401210'

or substr(dx,1,7) = 'H401211'

or substr(dx,1,7) = 'H401212'

or substr(dx,1,7) = 'H401213'

or substr(dx,1,7) = 'H401214'

or substr(dx,1,7) = 'H401220'

or substr(dx,1,7) = 'H401221'

or substr(dx,1,7) = 'H401222'

or substr(dx,1,7) = 'H401223'

or substr(dx,1,7) = 'H401224'

or substr(dx,1,7) = 'H401230'

or substr(dx,1,7) = 'H401231'

or substr(dx,1,7) = 'H401232'

or substr(dx,1,7) = 'H401233'

or substr(dx,1,7) = 'H401234'

or substr(dx,1,7) = 'H401290'

or substr(dx,1,7) = 'H401291'

or substr(dx,1,7) = 'H401292'

or substr(dx,1,7) = 'H401293'

or substr(dx,1,7) = 'H401294'

or substr(dx,1,7) = 'H401310'

or substr(dx,1,7) = 'H401311'

or substr(dx,1,7) = 'H401312'

or substr(dx,1,7) = 'H401313'

or substr(dx,1,7) = 'H401314'

or substr(dx,1,7) = 'H401320'

or substr(dx,1,7) = 'H401321'

or substr(dx,1,7) = 'H401322'

or substr(dx,1,7) = 'H401323'

or substr(dx,1,7) = 'H401324'

or substr(dx,1,7) = 'H401330'

or substr(dx,1,7) = 'H401331'

or substr(dx,1,7) = 'H401332'

or substr(dx,1,7) = 'H401333'

or substr(dx,1,7) = 'H401334'

or substr(dx,1,7) = 'H401390'

or substr(dx,1,7) = 'H401391'

or substr(dx,1,7) = 'H401392'

or substr(dx,1,7) = 'H401393'

or substr(dx,1,7) = 'H401394'

or substr(dx,1,7) = 'H401410'

or substr(dx,1,7) = 'H401411'

or substr(dx,1,7) = 'H401412'

or substr(dx,1,7) = 'H401413'

or substr(dx,1,7) = 'H401414'

or substr(dx,1,7) = 'H401420'

or substr(dx,1,7) = 'H401421'

or substr(dx,1,7) = 'H401422'

or substr(dx,1,7) = 'H401423'

or substr(dx,1,7) = 'H401424'

or substr(dx,1,7) = 'H401430'

or substr(dx,1,7) = 'H401431'

or substr(dx,1,7) = 'H401432'

or substr(dx,1,7) = 'H401433'

or substr(dx,1,7) = 'H401434'

or substr(dx,1,7) = 'H401490'

or substr(dx,1,7) = 'H401491'

or substr(dx,1,7) = 'H401492'

or substr(dx,1,7) = 'H401493'

or substr(dx,1,7) = 'H401494'

or substr(dx,1,6) = 'H40151'

or substr(dx,1,6) = 'H40152'

or substr(dx,1,6) = 'H40153'

or substr(dx,1,6) = 'H40159'

or substr(dx,1,7) = 'H4020X0'

or substr(dx,1,7) = 'H4020X1'

or substr(dx,1,7) = 'H4020X2'

or substr(dx,1,7) = 'H4020X3'

or substr(dx,1,7) = 'H4020X4'

or substr(dx,1,6) = 'H40211'

or substr(dx,1,6) = 'H40212'

or substr(dx,1,6) = 'H40213'

or substr(dx,1,6) = 'H40219'

or substr(dx,1,7) = 'H402210'

or substr(dx,1,7) = 'H402211'

or substr(dx,1,7) = 'H402212'

or substr(dx,1,7) = 'H402213'

or substr(dx,1,7) = 'H402214'

or substr(dx,1,7) = 'H402220'

or substr(dx,1,7) = 'H402221'

or substr(dx,1,7) = 'H402222'

or substr(dx,1,7) = 'H402223'

or substr(dx,1,7) = 'H402224'

or substr(dx,1,7) = 'H402230'

or substr(dx,1,7) = 'H402231'

or substr(dx,1,7) = 'H402232'

or substr(dx,1,7) = 'H402233'

or substr(dx,1,7) = 'H402234'

or substr(dx,1,7) = 'H402290'

or substr(dx,1,7) = 'H402291'

or substr(dx,1,7) = 'H402292'

or substr(dx,1,7) = 'H402293'

or substr(dx,1,7) = 'H402294'

or substr(dx,1,6) = 'H40231'

or substr(dx,1,6) = 'H40232'

or substr(dx,1,6) = 'H40233'

or substr(dx,1,6) = 'H40239'

or substr(dx,1,6) = 'H40241'

or substr(dx,1,6) = 'H40242'

or substr(dx,1,6) = 'H40243'

or substr(dx,1,6) = 'H40249'

or substr(dx,1,7) = 'H4030X0'

or substr(dx,1,7) = 'H4030X1'

or substr(dx,1,7) = 'H4030X2'

or substr(dx,1,7) = 'H4030X3'

or substr(dx,1,7) = 'H4030X4'

or substr(dx,1,7) = 'H4031X0'

or substr(dx,1,7) = 'H4031X1'

or substr(dx,1,7) = 'H4031X2'

or substr(dx,1,7) = 'H4031X3'

or substr(dx,1,7) = 'H4031X4'

or substr(dx,1,7) = 'H4032X0'

or substr(dx,1,7) = 'H4032X1'

or substr(dx,1,7) = 'H4032X2'

or substr(dx,1,7) = 'H4032X3'

or substr(dx,1,7) = 'H4032X4'

or substr(dx,1,7) = 'H4033X0'

or substr(dx,1,7) = 'H4033X1'

or substr(dx,1,7) = 'H4033X2'

or substr(dx,1,7) = 'H4033X3'

or substr(dx,1,7) = 'H4033X4'

or substr(dx,1,7) = 'H4040X0'

or substr(dx,1,7) = 'H4040X1'

or substr(dx,1,7) = 'H4040X2'

or substr(dx,1,7) = 'H4040X3'

or substr(dx,1,7) = 'H4040X4'

or substr(dx,1,7) = 'H4041X0'

or substr(dx,1,7) = 'H4041X1'

or substr(dx,1,7) = 'H4041X2'

or substr(dx,1,7) = 'H4041X3'

or substr(dx,1,7) = 'H4041X4'

or substr(dx,1,7) = 'H4042X0'

or substr(dx,1,7) = 'H4042X1'

or substr(dx,1,7) = 'H4042X2'

or substr(dx,1,7) = 'H4042X3'

or substr(dx,1,7) = 'H4042X4'

or substr(dx,1,7) = 'H4043X0'

or substr(dx,1,7) = 'H4043X1'

or substr(dx,1,7) = 'H4043X2'

or substr(dx,1,7) = 'H4043X3'

or substr(dx,1,7) = 'H4043X4'

or substr(dx,1,7) = 'H4050X0'

or substr(dx,1,7) = 'H4050X1'

or substr(dx,1,7) = 'H4050X2'

or substr(dx,1,7) = 'H4050X3'

or substr(dx,1,7) = 'H4050X4'

or substr(dx,1,7) = 'H4051X0'

or substr(dx,1,7) = 'H4051X1'

or substr(dx,1,7) = 'H4051X2'

or substr(dx,1,7) = 'H4051X3'

or substr(dx,1,7) = 'H4051X4'

or substr(dx,1,7) = 'H4052X0'

or substr(dx,1,7) = 'H4052X1'

or substr(dx,1,7) = 'H4052X2'

or substr(dx,1,7) = 'H4052X3'

or substr(dx,1,7) = 'H4052X4'

or substr(dx,1,7) = 'H4053X0'

or substr(dx,1,7) = 'H4053X1'

or substr(dx,1,7) = 'H4053X2'

or substr(dx,1,7) = 'H4053X3'

or substr(dx,1,7) = 'H4053X4'

or substr(dx,1,7) = 'H4060X0'

or substr(dx,1,7) = 'H4060X1'

or substr(dx,1,7) = 'H4060X2'

or substr(dx,1,7) = 'H4060X3'

or substr(dx,1,7) = 'H4060X4'

or substr(dx,1,7) = 'H4061X0'

or substr(dx,1,7) = 'H4061X1'

or substr(dx,1,7) = 'H4061X2'

or substr(dx,1,7) = 'H4061X3'

or substr(dx,1,7) = 'H4061X4'

or substr(dx,1,7) = 'H4062X0'

or substr(dx,1,7) = 'H4062X1'

or substr(dx,1,7) = 'H4062X2'

or substr(dx,1,7) = 'H4062X3'

or substr(dx,1,7) = 'H4062X4'

or substr(dx,1,7) = 'H4063X0'

or substr(dx,1,7) = 'H4063X1'

or substr(dx,1,7) = 'H4063X2'

or substr(dx,1,7) = 'H4063X3'

or substr(dx,1,7) = 'H4063X4'

or substr(dx,1,6) = 'H40811'

or substr(dx,1,6) = 'H40812'

or substr(dx,1,6) = 'H40813'

or substr(dx,1,6) = 'H40819'

or substr(dx,1,6) = 'H40821'

or substr(dx,1,6) = 'H40822'

or substr(dx,1,6) = 'H40823'

or substr(dx,1,6) = 'H40829'

or substr(dx,1,6) = 'H40831'

or substr(dx,1,6) = 'H40832'

or substr(dx,1,6) = 'H40833'

or substr(dx,1,6) = 'H40839'

or substr(dx,1,5) = 'H4089'

or substr(dx,1,4) = 'H409'

or substr(dx,1,3) = 'H42'

or substr(dx,1,6) = 'H44511'

or substr(dx,1,6) = 'H44512'

or substr(dx,1,6) = 'H44513'

or substr(dx,1,6) = 'H44519'

or substr(dx,1,6) = 'H47231'

or substr(dx,1,6) = 'H47232'

or substr(dx,1,6) = 'H47233'

or substr(dx,1,6) = 'H47239'

or substr(dx,1,4) = 'Q150')

and ccw\_14=0

then ccw\_14=1;

\* Heart Failure;

if (substr(dx,1,5) = '39891'

or substr(dx,1,5) = '40201'

or substr(dx,1,5) = '40211'

or substr(dx,1,5) = '40291'

or substr(dx,1,5) = '40401'

or substr(dx,1,5) = '40403'

or substr(dx,1,5) = '40411'

or substr(dx,1,5) = '40413'

or substr(dx,1,5) = '40491'

or substr(dx,1,5) = '40493'

or substr(dx,1,4) = '4281'

or substr(dx,1,5) = '42821'

or substr(dx,1,5) = '42822'

or substr(dx,1,5) = '42823'

or substr(dx,1,5) = '42820'

or substr(dx,1,5) = '42831'

or substr(dx,1,5) = '42832'

or substr(dx,1,5) = '42833'

or substr(dx,1,5) = '42830'

or substr(dx,1,5) = '42841'

or substr(dx,1,5) = '42842'

or substr(dx,1,5) = '42843'

or substr(dx,1,5) = '42840'

or substr(dx,1,4) = '4289'

or substr(dx,1,4) = '4280'

or substr(dx,1,5) = 'I0981'

or substr(dx,1,4) = 'I110'

or substr(dx,1,4) = 'I130'

or substr(dx,1,4) = 'I132'

or substr(dx,1,4) = 'I501'

or substr(dx,1,5) = 'I5020'

or substr(dx,1,5) = 'I5021'

or substr(dx,1,5) = 'I5022'

or substr(dx,1,5) = 'I5023'

or substr(dx,1,5) = 'I5030'

or substr(dx,1,5) = 'I5031'

or substr(dx,1,5) = 'I5032'

or substr(dx,1,5) = 'I5033'

or substr(dx,1,5) = 'I5040'

or substr(dx,1,5) = 'I5041'

or substr(dx,1,5) = 'I5042'

or substr(dx,1,5) = 'I5043'

or substr(dx,1,6) = 'I50810'

or substr(dx,1,6) = 'I50811'

or substr(dx,1,6) = 'I50812'

or substr(dx,1,6) = 'I50813'

or substr(dx,1,6) = 'I50814'

or substr(dx,1,5) = 'I5082'

or substr(dx,1,5) = 'I5083'

or substr(dx,1,5) = 'I5084'

or substr(dx,1,5) = 'I5089'

or substr(dx,1,4) = 'I509')

and ccw\_15=0

then ccw\_15=1;

\* Hip/Pelvic Fracture ;

if (substr(dx,1,5) = '73314'

or substr(dx,1,5) = '73315'

or substr(dx,1,5) = '73396'

or substr(dx,1,5) = '73397'

or substr(dx,1,5) = '73398'

or substr(dx,1,4) = '8081'

or substr(dx,1,4) = '8082'

or substr(dx,1,4) = '8083'

or substr(dx,1,5) = '80841'

or substr(dx,1,5) = '80842'

or substr(dx,1,5) = '80843'

or substr(dx,1,5) = '80844'

or substr(dx,1,5) = '80849'

or substr(dx,1,5) = '80851'

or substr(dx,1,5) = '80852'

or substr(dx,1,5) = '80853'

or substr(dx,1,5) = '80854'

or substr(dx,1,5) = '80859'

or substr(dx,1,4) = '8088'

or substr(dx,1,4) = '8089'

or substr(dx,1,4) = '8080'

or substr(dx,1,5) = '82001'

or substr(dx,1,5) = '82002'

or substr(dx,1,5) = '82003'

or substr(dx,1,5) = '82009'

or substr(dx,1,5) = '82011'

or substr(dx,1,5) = '82012'

or substr(dx,1,5) = '82013'

or substr(dx,1,5) = '82019'

or substr(dx,1,5) = '82010'

or substr(dx,1,5) = '82021'

or substr(dx,1,5) = '82022'

or substr(dx,1,5) = '82020'

or substr(dx,1,5) = '82031'

or substr(dx,1,5) = '82032'

or substr(dx,1,5) = '82030'

or substr(dx,1,4) = '8208'

or substr(dx,1,4) = '8209'

or substr(dx,1,5) = '82000'

or substr(dx,1,7) = 'M80051A'

or substr(dx,1,7) = 'M80052A'

or substr(dx,1,7) = 'M80059A'

or substr(dx,1,7) = 'M80851A'

or substr(dx,1,7) = 'M80852A'

or substr(dx,1,7) = 'M80859A'

or substr(dx,1,7) = 'M84350A'

or substr(dx,1,7) = 'M84351A'

or substr(dx,1,7) = 'M84352A'

or substr(dx,1,7) = 'M84353A'

or substr(dx,1,7) = 'M84359A'

or substr(dx,1,7) = 'M84451A'

or substr(dx,1,7) = 'M84452A'

or substr(dx,1,7) = 'M84453A'

or substr(dx,1,7) = 'M84459A'

or substr(dx,1,7) = 'M84550A'

or substr(dx,1,7) = 'M84551A'

or substr(dx,1,7) = 'M84552A'

or substr(dx,1,7) = 'M84553A'

or substr(dx,1,7) = 'M84559A'

or substr(dx,1,7) = 'M84650A'

or substr(dx,1,7) = 'M84651A'

or substr(dx,1,7) = 'M84652A'

or substr(dx,1,7) = 'M84653A'

or substr(dx,1,7) = 'M84659A'

or substr(dx,1,7) = 'S32301A'

or substr(dx,1,7) = 'S32301B'

or substr(dx,1,7) = 'S32302A'

or substr(dx,1,7) = 'S32302B'

or substr(dx,1,7) = 'S32309A'

or substr(dx,1,7) = 'S32309B'

or substr(dx,1,7) = 'S32311A'

or substr(dx,1,7) = 'S32311B'

or substr(dx,1,7) = 'S32312A'

or substr(dx,1,7) = 'S32312B'

or substr(dx,1,7) = 'S32313A'

or substr(dx,1,7) = 'S32313B'

or substr(dx,1,7) = 'S32314A'

or substr(dx,1,7) = 'S32314B'

or substr(dx,1,7) = 'S32315A'

or substr(dx,1,7) = 'S32315B'

or substr(dx,1,7) = 'S32316A'

or substr(dx,1,7) = 'S32316B'

or substr(dx,1,7) = 'S32391A'

or substr(dx,1,7) = 'S32391B'

or substr(dx,1,7) = 'S32392A'

or substr(dx,1,7) = 'S32392B'

or substr(dx,1,7) = 'S32399A'

or substr(dx,1,7) = 'S32399B'

or substr(dx,1,7) = 'S32401A'

or substr(dx,1,7) = 'S32401B'

or substr(dx,1,7) = 'S32402A'

or substr(dx,1,7) = 'S32402B'

or substr(dx,1,7) = 'S32409A'

or substr(dx,1,7) = 'S32409B'

or substr(dx,1,7) = 'S32411A'

or substr(dx,1,7) = 'S32411B'

or substr(dx,1,7) = 'S32412A'

or substr(dx,1,7) = 'S32412B'

or substr(dx,1,7) = 'S32413A'

or substr(dx,1,7) = 'S32413B'

or substr(dx,1,7) = 'S32414A'

or substr(dx,1,7) = 'S32414B'

or substr(dx,1,7) = 'S32415A'

or substr(dx,1,7) = 'S32415B'

or substr(dx,1,7) = 'S32416A'

or substr(dx,1,7) = 'S32416B'

or substr(dx,1,7) = 'S32421A'

or substr(dx,1,7) = 'S32421B'

or substr(dx,1,7) = 'S32422A'

or substr(dx,1,7) = 'S32422B'

or substr(dx,1,7) = 'S32423A'

or substr(dx,1,7) = 'S32423B'

or substr(dx,1,7) = 'S32424A'

or substr(dx,1,7) = 'S32424B'

or substr(dx,1,7) = 'S32425A'

or substr(dx,1,7) = 'S32425B'

or substr(dx,1,7) = 'S32426A'

or substr(dx,1,7) = 'S32426B'

or substr(dx,1,7) = 'S32431A'

or substr(dx,1,7) = 'S32431B'

or substr(dx,1,7) = 'S32432A'

or substr(dx,1,7) = 'S32432B'

or substr(dx,1,7) = 'S32433A'

or substr(dx,1,7) = 'S32433B'

or substr(dx,1,7) = 'S32434A'

or substr(dx,1,7) = 'S32434B'

or substr(dx,1,7) = 'S32435A'

or substr(dx,1,7) = 'S32435B'

or substr(dx,1,7) = 'S32436A'

or substr(dx,1,7) = 'S32436B'

or substr(dx,1,7) = 'S32441A'

or substr(dx,1,7) = 'S32441B'

or substr(dx,1,7) = 'S32442A'

or substr(dx,1,7) = 'S32442B'

or substr(dx,1,7) = 'S32443A'

or substr(dx,1,7) = 'S32443B'

or substr(dx,1,7) = 'S32444A'

or substr(dx,1,7) = 'S32444B'

or substr(dx,1,7) = 'S32445A'

or substr(dx,1,7) = 'S32445B'

or substr(dx,1,7) = 'S32446A'

or substr(dx,1,7) = 'S32446B'

or substr(dx,1,7) = 'S32451A'

or substr(dx,1,7) = 'S32451B'

or substr(dx,1,7) = 'S32452A'

or substr(dx,1,7) = 'S32452B'

or substr(dx,1,7) = 'S32453A'

or substr(dx,1,7) = 'S32453B'

or substr(dx,1,7) = 'S32454A'

or substr(dx,1,7) = 'S32454B'

or substr(dx,1,7) = 'S32455A'

or substr(dx,1,7) = 'S32455B'

or substr(dx,1,7) = 'S32456A'

or substr(dx,1,7) = 'S32456B'

or substr(dx,1,7) = 'S32461A'

or substr(dx,1,7) = 'S32461B'

or substr(dx,1,7) = 'S32462A'

or substr(dx,1,7) = 'S32462B'

or substr(dx,1,7) = 'S32463A'

or substr(dx,1,7) = 'S32463B'

or substr(dx,1,7) = 'S32464A'

or substr(dx,1,7) = 'S32464B'

or substr(dx,1,7) = 'S32465A'

or substr(dx,1,7) = 'S32465B'

or substr(dx,1,7) = 'S32466A'

or substr(dx,1,7) = 'S32466B'

or substr(dx,1,7) = 'S32471A'

or substr(dx,1,7) = 'S32471B'

or substr(dx,1,7) = 'S32472A'

or substr(dx,1,7) = 'S32472B'

or substr(dx,1,7) = 'S32473A'

or substr(dx,1,7) = 'S32473B'

or substr(dx,1,7) = 'S32474A'

or substr(dx,1,7) = 'S32474B'

or substr(dx,1,7) = 'S32475A'

or substr(dx,1,7) = 'S32475B'

or substr(dx,1,7) = 'S32476A'

or substr(dx,1,7) = 'S32476B'

or substr(dx,1,7) = 'S32481A'

or substr(dx,1,7) = 'S32481B'

or substr(dx,1,7) = 'S32482A'

or substr(dx,1,7) = 'S32482B'

or substr(dx,1,7) = 'S32483A'

or substr(dx,1,7) = 'S32483B'

or substr(dx,1,7) = 'S32484A'

or substr(dx,1,7) = 'S32484B'

or substr(dx,1,7) = 'S32485A'

or substr(dx,1,7) = 'S32485B'

or substr(dx,1,7) = 'S32486A'

or substr(dx,1,7) = 'S32486B'

or substr(dx,1,7) = 'S32491A'

or substr(dx,1,7) = 'S32491B'

or substr(dx,1,7) = 'S32492A'

or substr(dx,1,7) = 'S32492B'

or substr(dx,1,7) = 'S32499A'

or substr(dx,1,7) = 'S32499B'

or substr(dx,1,7) = 'S32501A'

or substr(dx,1,7) = 'S32501B'

or substr(dx,1,7) = 'S32502A'

or substr(dx,1,7) = 'S32502B'

or substr(dx,1,7) = 'S32509A'

or substr(dx,1,7) = 'S32509B'

or substr(dx,1,7) = 'S32511A'

or substr(dx,1,7) = 'S32511B'

or substr(dx,1,7) = 'S32512A'

or substr(dx,1,7) = 'S32512B'

or substr(dx,1,7) = 'S32519A'

or substr(dx,1,7) = 'S32519B'

or substr(dx,1,7) = 'S32591A'

or substr(dx,1,7) = 'S32591B'

or substr(dx,1,7) = 'S32592A'

or substr(dx,1,7) = 'S32592B'

or substr(dx,1,7) = 'S32599A'

or substr(dx,1,7) = 'S32599B'

or substr(dx,1,7) = 'S32601A'

or substr(dx,1,7) = 'S32601B'

or substr(dx,1,7) = 'S32602A'

or substr(dx,1,7) = 'S32602B'

or substr(dx,1,7) = 'S32609A'

or substr(dx,1,7) = 'S32609B'

or substr(dx,1,7) = 'S32611A'

or substr(dx,1,7) = 'S32611B'

or substr(dx,1,7) = 'S32612A'

or substr(dx,1,7) = 'S32612B'

or substr(dx,1,7) = 'S32613A'

or substr(dx,1,7) = 'S32613B'

or substr(dx,1,7) = 'S32614A'

or substr(dx,1,7) = 'S32614B'

or substr(dx,1,7) = 'S32615A'

or substr(dx,1,7) = 'S32615B'

or substr(dx,1,7) = 'S32616A'

or substr(dx,1,7) = 'S32616B'

or substr(dx,1,7) = 'S32691A'

or substr(dx,1,7) = 'S32691B'

or substr(dx,1,7) = 'S32692A'

or substr(dx,1,7) = 'S32692B'

or substr(dx,1,7) = 'S32699A'

or substr(dx,1,7) = 'S32699B'

or substr(dx,1,7) = 'S32810A'

or substr(dx,1,7) = 'S32810B'

or substr(dx,1,7) = 'S32811A'

or substr(dx,1,7) = 'S32811B'

or substr(dx,1,7) = 'S3282XA'

or substr(dx,1,7) = 'S3282XB'

or substr(dx,1,7) = 'S3289XA'

or substr(dx,1,7) = 'S3289XB'

or substr(dx,1,7) = 'S329XXA'

or substr(dx,1,7) = 'S329XXB'

or substr(dx,1,7) = 'S72001A'

or substr(dx,1,7) = 'S72001B'

or substr(dx,1,7) = 'S72001C'

or substr(dx,1,7) = 'S72002A'

or substr(dx,1,7) = 'S72002B'

or substr(dx,1,7) = 'S72002C'

or substr(dx,1,7) = 'S72009A'

or substr(dx,1,7) = 'S72009B'

or substr(dx,1,7) = 'S72009C'

or substr(dx,1,7) = 'S72011A'

or substr(dx,1,7) = 'S72011B'

or substr(dx,1,7) = 'S72011C'

or substr(dx,1,7) = 'S72012A'

or substr(dx,1,7) = 'S72012B'

or substr(dx,1,7) = 'S72012C'

or substr(dx,1,7) = 'S72019A'

or substr(dx,1,7) = 'S72019B'

or substr(dx,1,7) = 'S72019C'

or substr(dx,1,7) = 'S72021A'

or substr(dx,1,7) = 'S72021B'

or substr(dx,1,7) = 'S72021C'

or substr(dx,1,7) = 'S72022A'

or substr(dx,1,7) = 'S72022B'

or substr(dx,1,7) = 'S72022C'

or substr(dx,1,7) = 'S72023A'

or substr(dx,1,7) = 'S72023B'

or substr(dx,1,7) = 'S72023C'

or substr(dx,1,7) = 'S72024A'

or substr(dx,1,7) = 'S72024B'

or substr(dx,1,7) = 'S72024C'

or substr(dx,1,7) = 'S72025A'

or substr(dx,1,7) = 'S72025B'

or substr(dx,1,7) = 'S72025C'

or substr(dx,1,7) = 'S72026A'

or substr(dx,1,7) = 'S72026B'

or substr(dx,1,7) = 'S72026C'

or substr(dx,1,7) = 'S72031A'

or substr(dx,1,7) = 'S72031B'

or substr(dx,1,7) = 'S72031C'

or substr(dx,1,7) = 'S72032A'

or substr(dx,1,7) = 'S72032B'

or substr(dx,1,7) = 'S72032C'

or substr(dx,1,7) = 'S72033A'

or substr(dx,1,7) = 'S72033B'

or substr(dx,1,7) = 'S72033C'

or substr(dx,1,7) = 'S72034A'

or substr(dx,1,7) = 'S72034B'

or substr(dx,1,7) = 'S72034C'

or substr(dx,1,7) = 'S72035A'

or substr(dx,1,7) = 'S72035B'

or substr(dx,1,7) = 'S72035C'

or substr(dx,1,7) = 'S72036A'

or substr(dx,1,7) = 'S72036B'

or substr(dx,1,7) = 'S72036C'

or substr(dx,1,7) = 'S72041A'

or substr(dx,1,7) = 'S72041B'

or substr(dx,1,7) = 'S72041C'

or substr(dx,1,7) = 'S72042A'

or substr(dx,1,7) = 'S72042B'

or substr(dx,1,7) = 'S72042C'

or substr(dx,1,7) = 'S72043A'

or substr(dx,1,7) = 'S72043B'

or substr(dx,1,7) = 'S72043C'

or substr(dx,1,7) = 'S72044A'

or substr(dx,1,7) = 'S72044B'

or substr(dx,1,7) = 'S72044C'

or substr(dx,1,7) = 'S72045A'

or substr(dx,1,7) = 'S72045B'

or substr(dx,1,7) = 'S72045C'

or substr(dx,1,7) = 'S72046A'

or substr(dx,1,7) = 'S72046B'

or substr(dx,1,7) = 'S72046C'

or substr(dx,1,7) = 'S72051A'

or substr(dx,1,7) = 'S72051B'

or substr(dx,1,7) = 'S72051C'

or substr(dx,1,7) = 'S72052A'

or substr(dx,1,7) = 'S72052B'

or substr(dx,1,7) = 'S72052C'

or substr(dx,1,7) = 'S72059A'

or substr(dx,1,7) = 'S72059B'

or substr(dx,1,7) = 'S72059C'

or substr(dx,1,7) = 'S72061A'

or substr(dx,1,7) = 'S72061B'

or substr(dx,1,7) = 'S72061C'

or substr(dx,1,7) = 'S72062A'

or substr(dx,1,7) = 'S72062B'

or substr(dx,1,7) = 'S72062C'

or substr(dx,1,7) = 'S72063A'

or substr(dx,1,7) = 'S72063B'

or substr(dx,1,7) = 'S72063C'

or substr(dx,1,7) = 'S72064A'

or substr(dx,1,7) = 'S72064B'

or substr(dx,1,7) = 'S72064C'

or substr(dx,1,7) = 'S72065A'

or substr(dx,1,7) = 'S72065B'

or substr(dx,1,7) = 'S72065C'

or substr(dx,1,7) = 'S72066A'

or substr(dx,1,7) = 'S72066B'

or substr(dx,1,7) = 'S72066C'

or substr(dx,1,7) = 'S72091A'

or substr(dx,1,7) = 'S72091B'

or substr(dx,1,7) = 'S72091C'

or substr(dx,1,7) = 'S72092A'

or substr(dx,1,7) = 'S72092B'

or substr(dx,1,7) = 'S72092C'

or substr(dx,1,7) = 'S72099A'

or substr(dx,1,7) = 'S72099B'

or substr(dx,1,7) = 'S72099C'

or substr(dx,1,7) = 'S72101A'

or substr(dx,1,7) = 'S72101B'

or substr(dx,1,7) = 'S72101C'

or substr(dx,1,7) = 'S72102A'

or substr(dx,1,7) = 'S72102B'

or substr(dx,1,7) = 'S72102C'

or substr(dx,1,7) = 'S72109A'

or substr(dx,1,7) = 'S72109B'

or substr(dx,1,7) = 'S72109C'

or substr(dx,1,7) = 'S72111A'

or substr(dx,1,7) = 'S72111B'

or substr(dx,1,7) = 'S72111C'

or substr(dx,1,7) = 'S72112A'

or substr(dx,1,7) = 'S72112B'

or substr(dx,1,7) = 'S72112C'

or substr(dx,1,7) = 'S72113A'

or substr(dx,1,7) = 'S72113B'

or substr(dx,1,7) = 'S72113C'

or substr(dx,1,7) = 'S72114A'

or substr(dx,1,7) = 'S72114B'

or substr(dx,1,7) = 'S72114C'

or substr(dx,1,7) = 'S72115A'

or substr(dx,1,7) = 'S72115B'

or substr(dx,1,7) = 'S72115C'

or substr(dx,1,7) = 'S72116A'

or substr(dx,1,7) = 'S72116B'

or substr(dx,1,7) = 'S72116C'

or substr(dx,1,7) = 'S72121A'

or substr(dx,1,7) = 'S72121B'

or substr(dx,1,7) = 'S72121C'

or substr(dx,1,7) = 'S72122A'

or substr(dx,1,7) = 'S72122B'

or substr(dx,1,7) = 'S72122C'

or substr(dx,1,7) = 'S72123A'

or substr(dx,1,7) = 'S72123B'

or substr(dx,1,7) = 'S72123C'

or substr(dx,1,7) = 'S72124A'

or substr(dx,1,7) = 'S72124B'

or substr(dx,1,7) = 'S72124C'

or substr(dx,1,7) = 'S72125A'

or substr(dx,1,7) = 'S72125B'

or substr(dx,1,7) = 'S72125C'

or substr(dx,1,7) = 'S72126A'

or substr(dx,1,7) = 'S72126B'

or substr(dx,1,7) = 'S72126C'

or substr(dx,1,7) = 'S72131A'

or substr(dx,1,7) = 'S72131B'

or substr(dx,1,7) = 'S72131C'

or substr(dx,1,7) = 'S72132A'

or substr(dx,1,7) = 'S72132B'

or substr(dx,1,7) = 'S72132C'

or substr(dx,1,7) = 'S72133A'

or substr(dx,1,7) = 'S72133B'

or substr(dx,1,7) = 'S72133C'

or substr(dx,1,7) = 'S72134A'

or substr(dx,1,7) = 'S72134B'

or substr(dx,1,7) = 'S72134C'

or substr(dx,1,7) = 'S72135A'

or substr(dx,1,7) = 'S72135B'

or substr(dx,1,7) = 'S72135C'

or substr(dx,1,7) = 'S72136A'

or substr(dx,1,7) = 'S72136B'

or substr(dx,1,7) = 'S72136C'

or substr(dx,1,7) = 'S72141A'

or substr(dx,1,7) = 'S72141B'

or substr(dx,1,7) = 'S72141C'

or substr(dx,1,7) = 'S72142A'

or substr(dx,1,7) = 'S72142B'

or substr(dx,1,7) = 'S72142C'

or substr(dx,1,7) = 'S72143A'

or substr(dx,1,7) = 'S72143B'

or substr(dx,1,7) = 'S72143C'

or substr(dx,1,7) = 'S72144A'

or substr(dx,1,7) = 'S72144B'

or substr(dx,1,7) = 'S72144C'

or substr(dx,1,7) = 'S72145A'

or substr(dx,1,7) = 'S72145B'

or substr(dx,1,7) = 'S72145C'

or substr(dx,1,7) = 'S72146A'

or substr(dx,1,7) = 'S72146B'

or substr(dx,1,7) = 'S72146C'

or substr(dx,1,7) = 'S7221XA'

or substr(dx,1,7) = 'S7221XB'

or substr(dx,1,7) = 'S7221XC'

or substr(dx,1,7) = 'S7222XA'

or substr(dx,1,7) = 'S7222XB'

or substr(dx,1,7) = 'S7222XC'

or substr(dx,1,7) = 'S7223XA'

or substr(dx,1,7) = 'S7223XB'

or substr(dx,1,7) = 'S7223XC'

or substr(dx,1,7) = 'S7224XA'

or substr(dx,1,7) = 'S7224XB'

or substr(dx,1,7) = 'S7224XC'

or substr(dx,1,7) = 'S7225XA'

or substr(dx,1,7) = 'S7225XB'

or substr(dx,1,7) = 'S7225XC'

or substr(dx,1,7) = 'S7226XA'

or substr(dx,1,7) = 'S7226XB'

or substr(dx,1,7) = 'S7226XC'

or substr(dx,1,7) = 'S79001A'

or substr(dx,1,7) = 'S79002A'

or substr(dx,1,7) = 'S79009A'

or substr(dx,1,7) = 'S79011A'

or substr(dx,1,7) = 'S79012A'

or substr(dx,1,7) = 'S79019A'

or substr(dx,1,7) = 'S79091A'

or substr(dx,1,7) = 'S79092A'

or substr(dx,1,7) = 'S79099A')

and ccw\_16=0

then ccw\_16=1;

\* Hyperlipidemia ;

if (substr(dx,1,4) = '2721'

or substr(dx,1,4) = '2722'

or substr(dx,1,4) = '2723'

or substr(dx,1,4) = '2724'

or substr(dx,1,4) = '2720'

or substr(dx,1,4) = 'E780'

or substr(dx,1,4) = 'E781'

or substr(dx,1,4) = 'E782'

or substr(dx,1,4) = 'E783'

or substr(dx,1,4) = 'E784'

or substr(dx,1,4) = 'E785' )

and ccw\_17=0

then ccw\_17=1;

\* Hypertension ;

if (substr(dx,1,5) = '36211'

or substr(dx,1,4) = '4011'

or substr(dx,1,4) = '4019'

or substr(dx,1,4) = '4010'

or substr(dx,1,5) = '40201'

or substr(dx,1,5) = '40211'

or substr(dx,1,5) = '40210'

or substr(dx,1,5) = '40291'

or substr(dx,1,5) = '40290'

or substr(dx,1,5) = '40200'

or substr(dx,1,5) = '40301'

or substr(dx,1,5) = '40311'

or substr(dx,1,5) = '40310'

or substr(dx,1,5) = '40391'

or substr(dx,1,5) = '40390'

or substr(dx,1,5) = '40300'

or substr(dx,1,5) = '40401'

or substr(dx,1,5) = '40402'

or substr(dx,1,5) = '40403'

or substr(dx,1,5) = '40411'

or substr(dx,1,5) = '40412'

or substr(dx,1,5) = '40413'

or substr(dx,1,5) = '40410'

or substr(dx,1,5) = '40491'

or substr(dx,1,5) = '40492'

or substr(dx,1,5) = '40493'

or substr(dx,1,5) = '40490'

or substr(dx,1,5) = '40400'

or substr(dx,1,5) = '40501'

or substr(dx,1,5) = '40509'

or substr(dx,1,5) = '40511'

or substr(dx,1,5) = '40519'

or substr(dx,1,5) = '40591'

or substr(dx,1,5) = '40599'

or substr(dx,1,4) = '4372'

or substr(dx,1,6) = 'H35031'

or substr(dx,1,6) = 'H35032'

or substr(dx,1,6) = 'H35033'

or substr(dx,1,6) = 'H35039'

or substr(dx,1,3) = 'I10'

or substr(dx,1,4) = 'I110'

or substr(dx,1,4) = 'I119'

or substr(dx,1,4) = 'I120'

or substr(dx,1,4) = 'I129'

or substr(dx,1,4) = 'I130'

or substr(dx,1,5) = 'I1310'

or substr(dx,1,5) = 'I1311'

or substr(dx,1,4) = 'I132'

or substr(dx,1,4) = 'I150'

or substr(dx,1,4) = 'I151'

or substr(dx,1,4) = 'I152'

or substr(dx,1,4) = 'I158'

or substr(dx,1,4) = 'I159'

or substr(dx,1,4) = 'I674'

or substr(dx,1,4) = 'N262' )

and ccw\_18=0

then ccw\_18=1;

\* Ischemic Heart Disease ;

if (substr(dx,1,5) = '41001'

or substr(dx,1,5) = '41002'

or substr(dx,1,5) = '41011'

or substr(dx,1,5) = '41012'

or substr(dx,1,5) = '41010'

or substr(dx,1,5) = '41021'

or substr(dx,1,5) = '41022'

or substr(dx,1,5) = '41020'

or substr(dx,1,5) = '41031'

or substr(dx,1,5) = '41032'

or substr(dx,1,5) = '41030'

or substr(dx,1,5) = '41041'

or substr(dx,1,5) = '41042'

or substr(dx,1,5) = '41040'

or substr(dx,1,5) = '41051'

or substr(dx,1,5) = '41052'

or substr(dx,1,5) = '41050'

or substr(dx,1,5) = '41061'

or substr(dx,1,5) = '41062'

or substr(dx,1,5) = '41060'

or substr(dx,1,5) = '41071'

or substr(dx,1,5) = '41072'

or substr(dx,1,5) = '41070'

or substr(dx,1,5) = '41081'

or substr(dx,1,5) = '41082'

or substr(dx,1,5) = '41080'

or substr(dx,1,5) = '41091'

or substr(dx,1,5) = '41092'

or substr(dx,1,5) = '41090'

or substr(dx,1,5) = '41000'

or substr(dx,1,4) = '4111'

or substr(dx,1,5) = '41181'

or substr(dx,1,5) = '41189'

or substr(dx,1,4) = '4110'

or substr(dx,1,3) = '412'

or substr(dx,1,4) = '4131'

or substr(dx,1,4) = '4139'

or substr(dx,1,4) = '4130'

or substr(dx,1,5) = '41401'

or substr(dx,1,5) = '41402'

or substr(dx,1,5) = '41403'

or substr(dx,1,5) = '41404'

or substr(dx,1,5) = '41405'

or substr(dx,1,5) = '41406'

or substr(dx,1,5) = '41407'

or substr(dx,1,5) = '41412'

or substr(dx,1,4) = '4142'

or substr(dx,1,4) = '4143'

or substr(dx,1,4) = '4144'

or substr(dx,1,4) = '4148'

or substr(dx,1,4) = '4149'

or substr(dx,1,3) = '414'

or substr(dx,1,4) = 'I200'

or substr(dx,1,4) = 'I201'

or substr(dx,1,4) = 'I208'

or substr(dx,1,4) = 'I209'

or substr(dx,1,5) = 'I2101'

or substr(dx,1,5) = 'I2102'

or substr(dx,1,5) = 'I2109'

or substr(dx,1,5) = 'I2111'

or substr(dx,1,5) = 'I2119'

or substr(dx,1,5) = 'I2121'

or substr(dx,1,5) = 'I2129'

or substr(dx,1,4) = 'I213'

or substr(dx,1,4) = 'I214'

or substr(dx,1,5) = 'I21A1'

or substr(dx,1,5) = 'I21A9'

or substr(dx,1,4) = 'I220'

or substr(dx,1,4) = 'I221'

or substr(dx,1,4) = 'I222'

or substr(dx,1,4) = 'I228'

or substr(dx,1,4) = 'I229'

or substr(dx,1,4) = 'I230'

or substr(dx,1,4) = 'I231'

or substr(dx,1,4) = 'I232'

or substr(dx,1,4) = 'I233'

or substr(dx,1,4) = 'I234'

or substr(dx,1,4) = 'I235'

or substr(dx,1,4) = 'I236'

or substr(dx,1,4) = 'I237'

or substr(dx,1,4) = 'I238'

or substr(dx,1,4) = 'I240'

or substr(dx,1,4) = 'I241'

or substr(dx,1,4) = 'I248'

or substr(dx,1,4) = 'I249'

or substr(dx,1,5) = 'I2510'

or substr(dx,1,6) = 'I25110'

or substr(dx,1,6) = 'I25111'

or substr(dx,1,6) = 'I25118'

or substr(dx,1,6) = 'I25119'

or substr(dx,1,4) = 'I252'

or substr(dx,1,4) = 'I253'

or substr(dx,1,5) = 'I2541'

or substr(dx,1,5) = 'I2542'

or substr(dx,1,4) = 'I255'

or substr(dx,1,4) = 'I256'

or substr(dx,1,6) = 'I25700'

or substr(dx,1,6) = 'I25701'

or substr(dx,1,6) = 'I25708'

or substr(dx,1,6) = 'I25709'

or substr(dx,1,6) = 'I25710'

or substr(dx,1,6) = 'I25711'

or substr(dx,1,6) = 'I25718'

or substr(dx,1,6) = 'I25719'

or substr(dx,1,6) = 'I25720'

or substr(dx,1,6) = 'I25721'

or substr(dx,1,6) = 'I25728'

or substr(dx,1,6) = 'I25729'

or substr(dx,1,6) = 'I25730'

or substr(dx,1,6) = 'I25731'

or substr(dx,1,6) = 'I25738'

or substr(dx,1,6) = 'I25739'

or substr(dx,1,6) = 'I25750'

or substr(dx,1,6) = 'I25751'

or substr(dx,1,6) = 'I25758'

or substr(dx,1,6) = 'I25759'

or substr(dx,1,6) = 'I25760'

or substr(dx,1,6) = 'I25761'

or substr(dx,1,6) = 'I25768'

or substr(dx,1,6) = 'I25769'

or substr(dx,1,6) = 'I25790'

or substr(dx,1,6) = 'I25791'

or substr(dx,1,6) = 'I25798'

or substr(dx,1,6) = 'I25799'

or substr(dx,1,6) = 'I25810'

or substr(dx,1,6) = 'I25811'

or substr(dx,1,6) = 'I25812'

or substr(dx,1,5) = 'I2582'

or substr(dx,1,5) = 'I2583'

or substr(dx,1,5) = 'I2584'

or substr(dx,1,5) = 'I2589'

or substr(dx,1,4) = 'I259')

and ccw\_19=0

then ccw\_19=1;

\* Osteoporosis ;

if (substr(dx,1,5) = '73301'

or substr(dx,1,5) = '73302'

or substr(dx,1,5) = '73303'

or substr(dx,1,5) = '73309'

or substr(dx,1,5) = '73300'

or substr(dx,1,4) = 'M810'

or substr(dx,1,4) = 'M816'

or substr(dx,1,4) = 'M818')

and ccw\_20=0

then ccw\_20=1;

\* RA/OA ;

if (substr(dx,1,4) = '7141'

or substr(dx,1,4) = '7142'

or substr(dx,1,5) = '71431'

or substr(dx,1,5) = '71432'

or substr(dx,1,5) = '71433'

or substr(dx,1,5) = '71430'

or substr(dx,1,4) = '7140'

or substr(dx,1,5) = '71504'

or substr(dx,1,5) = '71509'

or substr(dx,1,5) = '71511'

or substr(dx,1,5) = '71512'

or substr(dx,1,5) = '71513'

or substr(dx,1,5) = '71514'

or substr(dx,1,5) = '71515'

or substr(dx,1,5) = '71516'

or substr(dx,1,5) = '71517'

or substr(dx,1,5) = '71518'

or substr(dx,1,5) = '71510'

or substr(dx,1,5) = '71521'

or substr(dx,1,5) = '71522'

or substr(dx,1,5) = '71523'

or substr(dx,1,5) = '71524'

or substr(dx,1,5) = '71525'

or substr(dx,1,5) = '71526'

or substr(dx,1,5) = '71527'

or substr(dx,1,5) = '71528'

or substr(dx,1,5) = '71520'

or substr(dx,1,5) = '71531'

or substr(dx,1,5) = '71532'

or substr(dx,1,5) = '71533'

or substr(dx,1,5) = '71534'

or substr(dx,1,5) = '71535'

or substr(dx,1,5) = '71536'

or substr(dx,1,5) = '71537'

or substr(dx,1,5) = '71538'

or substr(dx,1,5) = '71530'

or substr(dx,1,5) = '71589'

or substr(dx,1,5) = '71580'

or substr(dx,1,5) = '71591'

or substr(dx,1,5) = '71592'

or substr(dx,1,5) = '71593'

or substr(dx,1,5) = '71594'

or substr(dx,1,5) = '71595'

or substr(dx,1,5) = '71596'

or substr(dx,1,5) = '71597'

or substr(dx,1,5) = '71598'

or substr(dx,1,5) = '71590'

or substr(dx,1,5) = '71500'

or substr(dx,1,4) = '7200'

or substr(dx,1,4) = '7211'

or substr(dx,1,4) = '7212'

or substr(dx,1,4) = '7213'

or substr(dx,1,5) = '72191'

or substr(dx,1,5) = '72190'

or substr(dx,1,4) = '7210'

or substr(dx,1,5) = 'M0500'

or substr(dx,1,6) = 'M05011'

or substr(dx,1,6) = 'M05012'

or substr(dx,1,6) = 'M05019'

or substr(dx,1,6) = 'M05021'

or substr(dx,1,6) = 'M05022'

or substr(dx,1,6) = 'M05029'

or substr(dx,1,6) = 'M05031'

or substr(dx,1,6) = 'M05032'

or substr(dx,1,6) = 'M05039'

or substr(dx,1,6) = 'M05041'

or substr(dx,1,6) = 'M05042'

or substr(dx,1,6) = 'M05049'

or substr(dx,1,6) = 'M05051'

or substr(dx,1,6) = 'M05052'

or substr(dx,1,6) = 'M05059'

or substr(dx,1,6) = 'M05061'

or substr(dx,1,6) = 'M05062'

or substr(dx,1,6) = 'M05069'

or substr(dx,1,6) = 'M05071'

or substr(dx,1,6) = 'M05072'

or substr(dx,1,6) = 'M05079'

or substr(dx,1,5) = 'M0509'

or substr(dx,1,5) = 'M0520'

or substr(dx,1,6) = 'M05211'

or substr(dx,1,6) = 'M05212'

or substr(dx,1,6) = 'M05219'

or substr(dx,1,6) = 'M05221'

or substr(dx,1,6) = 'M05222'

or substr(dx,1,6) = 'M05229'

or substr(dx,1,6) = 'M05231'

or substr(dx,1,6) = 'M05232'

or substr(dx,1,6) = 'M05239'

or substr(dx,1,6) = 'M05241'

or substr(dx,1,6) = 'M05242'

or substr(dx,1,6) = 'M05249'

or substr(dx,1,6) = 'M05251'

or substr(dx,1,6) = 'M05252'

or substr(dx,1,6) = 'M05259'

or substr(dx,1,6) = 'M05261'

or substr(dx,1,6) = 'M05262'

or substr(dx,1,6) = 'M05269'

or substr(dx,1,6) = 'M05271'

or substr(dx,1,6) = 'M05272'

or substr(dx,1,6) = 'M05279'

or substr(dx,1,5) = 'M0529'

or substr(dx,1,5) = 'M0530'

or substr(dx,1,6) = 'M05311'

or substr(dx,1,6) = 'M05312'

or substr(dx,1,6) = 'M05319'

or substr(dx,1,6) = 'M05321'

or substr(dx,1,6) = 'M05322'

or substr(dx,1,6) = 'M05329'

or substr(dx,1,6) = 'M05331'

or substr(dx,1,6) = 'M05332'

or substr(dx,1,6) = 'M05339'

or substr(dx,1,6) = 'M05341'

or substr(dx,1,6) = 'M05342'

or substr(dx,1,6) = 'M05349'

or substr(dx,1,6) = 'M05351'

or substr(dx,1,6) = 'M05352'

or substr(dx,1,6) = 'M05359'

or substr(dx,1,6) = 'M05361'

or substr(dx,1,6) = 'M05362'

or substr(dx,1,6) = 'M05369'

or substr(dx,1,6) = 'M05371'

or substr(dx,1,6) = 'M05372'

or substr(dx,1,6) = 'M05379'

or substr(dx,1,5) = 'M0539'

or substr(dx,1,5) = 'M0540'

or substr(dx,1,6) = 'M05411'

or substr(dx,1,6) = 'M05412'

or substr(dx,1,6) = 'M05419'

or substr(dx,1,6) = 'M05421'

or substr(dx,1,6) = 'M05422'

or substr(dx,1,6) = 'M05429'

or substr(dx,1,6) = 'M05431'

or substr(dx,1,6) = 'M05432'

or substr(dx,1,6) = 'M05439'

or substr(dx,1,6) = 'M05441'

or substr(dx,1,6) = 'M05442'

or substr(dx,1,6) = 'M05449'

or substr(dx,1,6) = 'M05451'

or substr(dx,1,6) = 'M05452'

or substr(dx,1,6) = 'M05459'

or substr(dx,1,6) = 'M05461'

or substr(dx,1,6) = 'M05462'

or substr(dx,1,6) = 'M05469'

or substr(dx,1,6) = 'M05471'

or substr(dx,1,6) = 'M05472'

or substr(dx,1,6) = 'M05479'

or substr(dx,1,5) = 'M0549'

or substr(dx,1,5) = 'M0550'

or substr(dx,1,6) = 'M05511'

or substr(dx,1,6) = 'M05512'

or substr(dx,1,6) = 'M05519'

or substr(dx,1,6) = 'M05521'

or substr(dx,1,6) = 'M05522'

or substr(dx,1,6) = 'M05529'

or substr(dx,1,6) = 'M05531'

or substr(dx,1,6) = 'M05532'

or substr(dx,1,6) = 'M05539'

or substr(dx,1,6) = 'M05541'

or substr(dx,1,6) = 'M05542'

or substr(dx,1,6) = 'M05549'

or substr(dx,1,6) = 'M05551'

or substr(dx,1,6) = 'M05552'

or substr(dx,1,6) = 'M05559'

or substr(dx,1,6) = 'M05561'

or substr(dx,1,6) = 'M05562'

or substr(dx,1,6) = 'M05569'

or substr(dx,1,6) = 'M05571'

or substr(dx,1,6) = 'M05572'

or substr(dx,1,6) = 'M05579'

or substr(dx,1,5) = 'M0559'

or substr(dx,1,5) = 'M0560'

or substr(dx,1,6) = 'M05611'

or substr(dx,1,6) = 'M05612'

or substr(dx,1,6) = 'M05619'

or substr(dx,1,6) = 'M05621'

or substr(dx,1,6) = 'M05622'

or substr(dx,1,6) = 'M05629'

or substr(dx,1,6) = 'M05631'

or substr(dx,1,6) = 'M05632'

or substr(dx,1,6) = 'M05639'

or substr(dx,1,6) = 'M05641'

or substr(dx,1,6) = 'M05642'

or substr(dx,1,6) = 'M05649'

or substr(dx,1,6) = 'M05651'

or substr(dx,1,6) = 'M05652'

or substr(dx,1,6) = 'M05659'

or substr(dx,1,6) = 'M05661'

or substr(dx,1,6) = 'M05662'

or substr(dx,1,6) = 'M05669'

or substr(dx,1,6) = 'M05671'

or substr(dx,1,6) = 'M05672'

or substr(dx,1,6) = 'M05679'

or substr(dx,1,5) = 'M0569'

or substr(dx,1,5) = 'M0570'

or substr(dx,1,6) = 'M05711'

or substr(dx,1,6) = 'M05712'

or substr(dx,1,6) = 'M05719'

or substr(dx,1,6) = 'M05721'

or substr(dx,1,6) = 'M05722'

or substr(dx,1,6) = 'M05729'

or substr(dx,1,6) = 'M05731'

or substr(dx,1,6) = 'M05732'

or substr(dx,1,6) = 'M05739'

or substr(dx,1,6) = 'M05741'

or substr(dx,1,6) = 'M05742'

or substr(dx,1,6) = 'M05749'

or substr(dx,1,6) = 'M05751'

or substr(dx,1,6) = 'M05752'

or substr(dx,1,6) = 'M05759'

or substr(dx,1,6) = 'M05761'

or substr(dx,1,6) = 'M05762'

or substr(dx,1,6) = 'M05769'

or substr(dx,1,6) = 'M05771'

or substr(dx,1,6) = 'M05772'

or substr(dx,1,6) = 'M05779'

or substr(dx,1,5) = 'M0579'

or substr(dx,1,5) = 'M0580'

or substr(dx,1,6) = 'M05811'

or substr(dx,1,6) = 'M05812'

or substr(dx,1,6) = 'M05819'

or substr(dx,1,6) = 'M05821'

or substr(dx,1,6) = 'M05822'

or substr(dx,1,6) = 'M05829'

or substr(dx,1,6) = 'M05831'

or substr(dx,1,6) = 'M05832'

or substr(dx,1,6) = 'M05839'

or substr(dx,1,6) = 'M05841'

or substr(dx,1,6) = 'M05842'

or substr(dx,1,6) = 'M05849'

or substr(dx,1,6) = 'M05851'

or substr(dx,1,6) = 'M05852'

or substr(dx,1,6) = 'M05859'

or substr(dx,1,6) = 'M05861'

or substr(dx,1,6) = 'M05862'

or substr(dx,1,6) = 'M05869'

or substr(dx,1,6) = 'M05871'

or substr(dx,1,6) = 'M05872'

or substr(dx,1,6) = 'M05879'

or substr(dx,1,5) = 'M0589'

or substr(dx,1,4) = 'M059'

or substr(dx,1,5) = 'M0600'

or substr(dx,1,6) = 'M06011'

or substr(dx,1,6) = 'M06012'

or substr(dx,1,6) = 'M06019'

or substr(dx,1,6) = 'M06021'

or substr(dx,1,6) = 'M06022'

or substr(dx,1,6) = 'M06029'

or substr(dx,1,6) = 'M06031'

or substr(dx,1,6) = 'M06032'

or substr(dx,1,6) = 'M06039'

or substr(dx,1,6) = 'M06041'

or substr(dx,1,6) = 'M06042'

or substr(dx,1,6) = 'M06049'

or substr(dx,1,6) = 'M06051'

or substr(dx,1,6) = 'M06052'

or substr(dx,1,6) = 'M06059'

or substr(dx,1,6) = 'M06061'

or substr(dx,1,6) = 'M06062'

or substr(dx,1,6) = 'M06069'

or substr(dx,1,6) = 'M06071'

or substr(dx,1,6) = 'M06072'

or substr(dx,1,6) = 'M06079'

or substr(dx,1,5) = 'M0608'

or substr(dx,1,5) = 'M0609'

or substr(dx,1,4) = 'M061'

or substr(dx,1,5) = 'M0620'

or substr(dx,1,6) = 'M06211'

or substr(dx,1,6) = 'M06212'

or substr(dx,1,6) = 'M06219'

or substr(dx,1,6) = 'M06221'

or substr(dx,1,6) = 'M06222'

or substr(dx,1,6) = 'M06229'

or substr(dx,1,6) = 'M06231'

or substr(dx,1,6) = 'M06232'

or substr(dx,1,6) = 'M06239'

or substr(dx,1,6) = 'M06241'

or substr(dx,1,6) = 'M06242'

or substr(dx,1,6) = 'M06249'

or substr(dx,1,6) = 'M06251'

or substr(dx,1,6) = 'M06252'

or substr(dx,1,6) = 'M06259'

or substr(dx,1,6) = 'M06261'

or substr(dx,1,6) = 'M06262'

or substr(dx,1,6) = 'M06269'

or substr(dx,1,6) = 'M06271'

or substr(dx,1,6) = 'M06272'

or substr(dx,1,6) = 'M06279'

or substr(dx,1,5) = 'M0628'

or substr(dx,1,5) = 'M0629'

or substr(dx,1,5) = 'M0630'

or substr(dx,1,6) = 'M06311'

or substr(dx,1,6) = 'M06312'

or substr(dx,1,6) = 'M06319'

or substr(dx,1,6) = 'M06321'

or substr(dx,1,6) = 'M06322'

or substr(dx,1,6) = 'M06329'

or substr(dx,1,6) = 'M06331'

or substr(dx,1,6) = 'M06332'

or substr(dx,1,6) = 'M06339'

or substr(dx,1,6) = 'M06341'

or substr(dx,1,6) = 'M06342'

or substr(dx,1,6) = 'M06349'

or substr(dx,1,6) = 'M06351'

or substr(dx,1,6) = 'M06352'

or substr(dx,1,6) = 'M06359'

or substr(dx,1,6) = 'M06361'

or substr(dx,1,6) = 'M06362'

or substr(dx,1,6) = 'M06369'

or substr(dx,1,6) = 'M06371'

or substr(dx,1,6) = 'M06372'

or substr(dx,1,6) = 'M06379'

or substr(dx,1,5) = 'M0638'

or substr(dx,1,5) = 'M0639'

or substr(dx,1,5) = 'M0680'

or substr(dx,1,6) = 'M06811'

or substr(dx,1,6) = 'M06812'

or substr(dx,1,6) = 'M06819'

or substr(dx,1,6) = 'M06821'

or substr(dx,1,6) = 'M06822'

or substr(dx,1,6) = 'M06829'

or substr(dx,1,6) = 'M06831'

or substr(dx,1,6) = 'M06832'

or substr(dx,1,6) = 'M06839'

or substr(dx,1,6) = 'M06841'

or substr(dx,1,6) = 'M06842'

or substr(dx,1,6) = 'M06849'

or substr(dx,1,6) = 'M06851'

or substr(dx,1,6) = 'M06852'

or substr(dx,1,6) = 'M06859'

or substr(dx,1,6) = 'M06861'

or substr(dx,1,6) = 'M06862'

or substr(dx,1,6) = 'M06869'

or substr(dx,1,6) = 'M06871'

or substr(dx,1,6) = 'M06872'

or substr(dx,1,6) = 'M06879'

or substr(dx,1,5) = 'M0688'

or substr(dx,1,5) = 'M0689'

or substr(dx,1,4) = 'M069'

or substr(dx,1,5) = 'M0800'

or substr(dx,1,6) = 'M08011'

or substr(dx,1,6) = 'M08012'

or substr(dx,1,6) = 'M08019'

or substr(dx,1,6) = 'M08021'

or substr(dx,1,6) = 'M08022'

or substr(dx,1,6) = 'M08029'

or substr(dx,1,6) = 'M08031'

or substr(dx,1,6) = 'M08032'

or substr(dx,1,6) = 'M08039'

or substr(dx,1,6) = 'M08041'

or substr(dx,1,6) = 'M08042'

or substr(dx,1,6) = 'M08049'

or substr(dx,1,6) = 'M08051'

or substr(dx,1,6) = 'M08052'

or substr(dx,1,6) = 'M08059'

or substr(dx,1,6) = 'M08061'

or substr(dx,1,6) = 'M08062'

or substr(dx,1,6) = 'M08069'

or substr(dx,1,6) = 'M08071'

or substr(dx,1,6) = 'M08072'

or substr(dx,1,6) = 'M08079'

or substr(dx,1,5) = 'M0808'

or substr(dx,1,5) = 'M0809'

or substr(dx,1,4) = 'M081'

or substr(dx,1,5) = 'M0820'

or substr(dx,1,6) = 'M08211'

or substr(dx,1,6) = 'M08212'

or substr(dx,1,6) = 'M08219'

or substr(dx,1,6) = 'M08221'

or substr(dx,1,6) = 'M08222'

or substr(dx,1,6) = 'M08229'

or substr(dx,1,6) = 'M08231'

or substr(dx,1,6) = 'M08232'

or substr(dx,1,6) = 'M08239'

or substr(dx,1,6) = 'M08241'

or substr(dx,1,6) = 'M08242'

or substr(dx,1,6) = 'M08249'

or substr(dx,1,6) = 'M08251'

or substr(dx,1,6) = 'M08252'

or substr(dx,1,6) = 'M08259'

or substr(dx,1,6) = 'M08261'

or substr(dx,1,6) = 'M08262'

or substr(dx,1,6) = 'M08269'

or substr(dx,1,6) = 'M08271'

or substr(dx,1,6) = 'M08272'

or substr(dx,1,6) = 'M08279'

or substr(dx,1,5) = 'M0828'

or substr(dx,1,5) = 'M0829'

or substr(dx,1,4) = 'M083'

or substr(dx,1,5) = 'M0840'

or substr(dx,1,6) = 'M08411'

or substr(dx,1,6) = 'M08412'

or substr(dx,1,6) = 'M08419'

or substr(dx,1,6) = 'M08421'

or substr(dx,1,6) = 'M08422'

or substr(dx,1,6) = 'M08429'

or substr(dx,1,6) = 'M08431'

or substr(dx,1,6) = 'M08432'

or substr(dx,1,6) = 'M08439'

or substr(dx,1,6) = 'M08441'

or substr(dx,1,6) = 'M08442'

or substr(dx,1,6) = 'M08449'

or substr(dx,1,6) = 'M08451'

or substr(dx,1,6) = 'M08452'

or substr(dx,1,6) = 'M08459'

or substr(dx,1,6) = 'M08461'

or substr(dx,1,6) = 'M08462'

or substr(dx,1,6) = 'M08469'

or substr(dx,1,6) = 'M08471'

or substr(dx,1,6) = 'M08472'

or substr(dx,1,6) = 'M08479'

or substr(dx,1,5) = 'M0848'

or substr(dx,1,5) = 'M0880'

or substr(dx,1,6) = 'M08811'

or substr(dx,1,6) = 'M08812'

or substr(dx,1,6) = 'M08819'

or substr(dx,1,6) = 'M08821'

or substr(dx,1,6) = 'M08822'

or substr(dx,1,6) = 'M08829'

or substr(dx,1,6) = 'M08831'

or substr(dx,1,6) = 'M08832'

or substr(dx,1,6) = 'M08839'

or substr(dx,1,6) = 'M08841'

or substr(dx,1,6) = 'M08842'

or substr(dx,1,6) = 'M08849'

or substr(dx,1,6) = 'M08851'

or substr(dx,1,6) = 'M08852'

or substr(dx,1,6) = 'M08859'

or substr(dx,1,6) = 'M08861'

or substr(dx,1,6) = 'M08862'

or substr(dx,1,6) = 'M08869'

or substr(dx,1,6) = 'M08871'

or substr(dx,1,6) = 'M08872'

or substr(dx,1,6) = 'M08879'

or substr(dx,1,5) = 'M0888'

or substr(dx,1,5) = 'M0889'

or substr(dx,1,5) = 'M0890'

or substr(dx,1,6) = 'M08911'

or substr(dx,1,6) = 'M08912'

or substr(dx,1,6) = 'M08919'

or substr(dx,1,6) = 'M08921'

or substr(dx,1,6) = 'M08922'

or substr(dx,1,6) = 'M08929'

or substr(dx,1,6) = 'M08931'

or substr(dx,1,6) = 'M08932'

or substr(dx,1,6) = 'M08939'

or substr(dx,1,6) = 'M08941'

or substr(dx,1,6) = 'M08942'

or substr(dx,1,6) = 'M08949'

or substr(dx,1,6) = 'M08951'

or substr(dx,1,6) = 'M08952'

or substr(dx,1,6) = 'M08959'

or substr(dx,1,6) = 'M08961'

or substr(dx,1,6) = 'M08962'

or substr(dx,1,6) = 'M08969'

or substr(dx,1,6) = 'M08971'

or substr(dx,1,6) = 'M08972'

or substr(dx,1,6) = 'M08979'

or substr(dx,1,5) = 'M0898'

or substr(dx,1,5) = 'M0899'

or substr(dx,1,4) = 'M150'

or substr(dx,1,4) = 'M151'

or substr(dx,1,4) = 'M152'

or substr(dx,1,4) = 'M153'

or substr(dx,1,4) = 'M154'

or substr(dx,1,4) = 'M158'

or substr(dx,1,4) = 'M159'

or substr(dx,1,4) = 'M160'

or substr(dx,1,5) = 'M1610'

or substr(dx,1,5) = 'M1611'

or substr(dx,1,5) = 'M1612'

or substr(dx,1,4) = 'M162'

or substr(dx,1,5) = 'M1630'

or substr(dx,1,5) = 'M1631'

or substr(dx,1,5) = 'M1632'

or substr(dx,1,4) = 'M164'

or substr(dx,1,5) = 'M1650'

or substr(dx,1,5) = 'M1651'

or substr(dx,1,5) = 'M1652'

or substr(dx,1,4) = 'M166'

or substr(dx,1,4) = 'M167'

or substr(dx,1,4) = 'M169'

or substr(dx,1,4) = 'M170'

or substr(dx,1,5) = 'M1710'

or substr(dx,1,5) = 'M1711'

or substr(dx,1,5) = 'M1712'

or substr(dx,1,4) = 'M172'

or substr(dx,1,5) = 'M1730'

or substr(dx,1,5) = 'M1731'

or substr(dx,1,5) = 'M1732'

or substr(dx,1,4) = 'M174'

or substr(dx,1,4) = 'M175'

or substr(dx,1,4) = 'M179'

or substr(dx,1,4) = 'M180'

or substr(dx,1,5) = 'M1810'

or substr(dx,1,5) = 'M1811'

or substr(dx,1,5) = 'M1812'

or substr(dx,1,4) = 'M182'

or substr(dx,1,5) = 'M1830'

or substr(dx,1,5) = 'M1831'

or substr(dx,1,5) = 'M1832'

or substr(dx,1,4) = 'M184'

or substr(dx,1,5) = 'M1850'

or substr(dx,1,5) = 'M1851'

or substr(dx,1,5) = 'M1852'

or substr(dx,1,4) = 'M189'

or substr(dx,1,6) = 'M19011'

or substr(dx,1,6) = 'M19012'

or substr(dx,1,6) = 'M19019'

or substr(dx,1,6) = 'M19021'

or substr(dx,1,6) = 'M19022'

or substr(dx,1,6) = 'M19029'

or substr(dx,1,6) = 'M19031'

or substr(dx,1,6) = 'M19032'

or substr(dx,1,6) = 'M19039'

or substr(dx,1,6) = 'M19041'

or substr(dx,1,6) = 'M19042'

or substr(dx,1,6) = 'M19049'

or substr(dx,1,6) = 'M19071'

or substr(dx,1,6) = 'M19072'

or substr(dx,1,6) = 'M19079'

or substr(dx,1,6) = 'M19111'

or substr(dx,1,6) = 'M19112'

or substr(dx,1,6) = 'M19119'

or substr(dx,1,6) = 'M19121'

or substr(dx,1,6) = 'M19122'

or substr(dx,1,6) = 'M19129'

or substr(dx,1,6) = 'M19131'

or substr(dx,1,6) = 'M19132'

or substr(dx,1,6) = 'M19139'

or substr(dx,1,6) = 'M19141'

or substr(dx,1,6) = 'M19142'

or substr(dx,1,6) = 'M19149'

or substr(dx,1,6) = 'M19171'

or substr(dx,1,6) = 'M19172'

or substr(dx,1,6) = 'M19179'

or substr(dx,1,6) = 'M19211'

or substr(dx,1,6) = 'M19212'

or substr(dx,1,6) = 'M19219'

or substr(dx,1,6) = 'M19221'

or substr(dx,1,6) = 'M19222'

or substr(dx,1,6) = 'M19229'

or substr(dx,1,6) = 'M19231'

or substr(dx,1,6) = 'M19232'

or substr(dx,1,6) = 'M19239'

or substr(dx,1,6) = 'M19241'

or substr(dx,1,6) = 'M19242'

or substr(dx,1,6) = 'M19249'

or substr(dx,1,6) = 'M19271'

or substr(dx,1,6) = 'M19272'

or substr(dx,1,6) = 'M19279'

or substr(dx,1,5) = 'M1990'

or substr(dx,1,5) = 'M1991'

or substr(dx,1,5) = 'M1992'

or substr(dx,1,5) = 'M1993'

or substr(dx,1,4) = 'M450'

or substr(dx,1,4) = 'M451'

or substr(dx,1,4) = 'M452'

or substr(dx,1,4) = 'M453'

or substr(dx,1,4) = 'M454'

or substr(dx,1,4) = 'M455'

or substr(dx,1,4) = 'M456'

or substr(dx,1,4) = 'M457'

or substr(dx,1,4) = 'M458'

or substr(dx,1,4) = 'M459'

or substr(dx,1,6) = 'M47011'

or substr(dx,1,6) = 'M47012'

or substr(dx,1,6) = 'M47013'

or substr(dx,1,6) = 'M47014'

or substr(dx,1,6) = 'M47015'

or substr(dx,1,6) = 'M47016'

or substr(dx,1,6) = 'M47019'

or substr(dx,1,6) = 'M47021'

or substr(dx,1,6) = 'M47022'

or substr(dx,1,6) = 'M47029'

or substr(dx,1,5) = 'M4710'

or substr(dx,1,5) = 'M4711'

or substr(dx,1,5) = 'M4712'

or substr(dx,1,5) = 'M4713'

or substr(dx,1,5) = 'M4720'

or substr(dx,1,5) = 'M4721'

or substr(dx,1,5) = 'M4722'

or substr(dx,1,5) = 'M4723'

or substr(dx,1,5) = 'M4724'

or substr(dx,1,5) = 'M4725'

or substr(dx,1,5) = 'M4726'

or substr(dx,1,5) = 'M4727'

or substr(dx,1,5) = 'M4728'

or substr(dx,1,6) = 'M47811'

or substr(dx,1,6) = 'M47812'

or substr(dx,1,6) = 'M47813'

or substr(dx,1,6) = 'M47814'

or substr(dx,1,6) = 'M47815'

or substr(dx,1,6) = 'M47816'

or substr(dx,1,6) = 'M47817'

or substr(dx,1,6) = 'M47818'

or substr(dx,1,6) = 'M47819'

or substr(dx,1,6) = 'M47891'

or substr(dx,1,6) = 'M47892'

or substr(dx,1,6) = 'M47893'

or substr(dx,1,6) = 'M47894'

or substr(dx,1,6) = 'M47895'

or substr(dx,1,6) = 'M47896'

or substr(dx,1,6) = 'M47897'

or substr(dx,1,6) = 'M47898'

or substr(dx,1,6) = 'M47899'

or substr(dx,1,4) = 'M479'

or substr(dx,1,6) = 'M488X1'

or substr(dx,1,6) = 'M488X2'

or substr(dx,1,6) = 'M488X3'

or substr(dx,1,6) = 'M488X4'

or substr(dx,1,6) = 'M488X5'

or substr(dx,1,6) = 'M488X6'

or substr(dx,1,6) = 'M488X7'

or substr(dx,1,6) = 'M488X8'

or substr(dx,1,6) = 'M488X9')

and ccw\_21=0

then ccw\_21=1;

\* Stroke ;

if (substr(dx,1,3) = '430'

or substr(dx,1,3) = '431'

or substr(dx,1,5) = '43301'

or substr(dx,1,5) = '43311'

or substr(dx,1,5) = '43321'

or substr(dx,1,5) = '43331'

or substr(dx,1,5) = '43381'

or substr(dx,1,5) = '43391'

or substr(dx,1,5) = '43401'

or substr(dx,1,5) = '43411'

or substr(dx,1,5) = '43410'

or substr(dx,1,5) = '43491'

or substr(dx,1,5) = '43490'

or substr(dx,1,5) = '43400'

or substr(dx,1,4) = '4351'

or substr(dx,1,4) = '4353'

or substr(dx,1,4) = '4358'

or substr(dx,1,4) = '4359'

or substr(dx,1,4) = '4350'

or substr(dx,1,3) = '436'

or substr(dx,1,5) = '99702'

or substr(dx,1,4) = 'G450'

or substr(dx,1,4) = 'G451'

or substr(dx,1,4) = 'G452'

or substr(dx,1,4) = 'G458'

or substr(dx,1,4) = 'G459'

or substr(dx,1,4) = 'G460'

or substr(dx,1,4) = 'G461'

or substr(dx,1,4) = 'G462'

or substr(dx,1,4) = 'G463'

or substr(dx,1,4) = 'G464'

or substr(dx,1,4) = 'G465'

or substr(dx,1,4) = 'G466'

or substr(dx,1,4) = 'G467'

or substr(dx,1,4) = 'G468'

or substr(dx,1,5) = 'G9731'

or substr(dx,1,5) = 'G9732'

or substr(dx,1,5) = 'I6000'

or substr(dx,1,5) = 'I6001'

or substr(dx,1,5) = 'I6002'

or substr(dx,1,5) = 'I6010'

or substr(dx,1,5) = 'I6011'

or substr(dx,1,5) = 'I6012'

or substr(dx,1,5) = 'I6020'

or substr(dx,1,5) = 'I6021'

or substr(dx,1,5) = 'I6022'

or substr(dx,1,5) = 'I6030'

or substr(dx,1,5) = 'I6031'

or substr(dx,1,5) = 'I6032'

or substr(dx,1,4) = 'I604'

or substr(dx,1,5) = 'I6050'

or substr(dx,1,5) = 'I6051'

or substr(dx,1,5) = 'I6052'

or substr(dx,1,4) = 'I606'

or substr(dx,1,4) = 'I607'

or substr(dx,1,4) = 'I608'

or substr(dx,1,4) = 'I609'

or substr(dx,1,4) = 'I610'

or substr(dx,1,4) = 'I611'

or substr(dx,1,4) = 'I612'

or substr(dx,1,4) = 'I613'

or substr(dx,1,4) = 'I614'

or substr(dx,1,4) = 'I615'

or substr(dx,1,4) = 'I616'

or substr(dx,1,4) = 'I618'

or substr(dx,1,4) = 'I619'

or substr(dx,1,5) = 'I6300'

or substr(dx,1,6) = 'I63011'

or substr(dx,1,6) = 'I63012'

or substr(dx,1,6) = 'I63013'

or substr(dx,1,6) = 'I63019'

or substr(dx,1,5) = 'I6302'

or substr(dx,1,5) = 'I6302'

or substr(dx,1,6) = 'I63031'

or substr(dx,1,6) = 'I63032'

or substr(dx,1,6) = 'I63039'

or substr(dx,1,5) = 'I6309'

or substr(dx,1,5) = 'I6310'

or substr(dx,1,6) = 'I63111'

or substr(dx,1,6) = 'I63112'

or substr(dx,1,6) = 'I63119'

or substr(dx,1,5) = 'I6312'

or substr(dx,1,6) = 'I63131'

or substr(dx,1,6) = 'I63132'

or substr(dx,1,6) = 'I63139'

or substr(dx,1,5) = 'I6319'

or substr(dx,1,5) = 'I6320'

or substr(dx,1,6) = 'I63211'

or substr(dx,1,6) = 'I63212'

or substr(dx,1,6) = 'I63213'

or substr(dx,1,6) = 'I63219'

or substr(dx,1,5) = 'I6322'

or substr(dx,1,6) = 'I63231'

or substr(dx,1,6) = 'I63232'

or substr(dx,1,6) = 'I63233'

or substr(dx,1,6) = 'I63239'

or substr(dx,1,5) = 'I6329'

or substr(dx,1,5) = 'I6330'

or substr(dx,1,6) = 'I63311'

or substr(dx,1,6) = 'I63312'

or substr(dx,1,6) = 'I63313'

or substr(dx,1,6) = 'I63319'

or substr(dx,1,6) = 'I63321'

or substr(dx,1,6) = 'I63322'

or substr(dx,1,6) = 'I63323'

or substr(dx,1,6) = 'I63329'

or substr(dx,1,6) = 'I63331'

or substr(dx,1,6) = 'I63332'

or substr(dx,1,6) = 'I63333'

or substr(dx,1,6) = 'I63339'

or substr(dx,1,6) = 'I63341'

or substr(dx,1,6) = 'I63342'

or substr(dx,1,6) = 'I63343'

or substr(dx,1,6) = 'I63349'

or substr(dx,1,5) = 'I6339'

or substr(dx,1,5) = 'I6340'

or substr(dx,1,6) = 'I63411'

or substr(dx,1,6) = 'I63412'

or substr(dx,1,6) = 'I63413'

or substr(dx,1,6) = 'I63419'

or substr(dx,1,6) = 'I63421'

or substr(dx,1,6) = 'I63422'

or substr(dx,1,6) = 'I63423'

or substr(dx,1,6) = 'I63429'

or substr(dx,1,6) = 'I63431'

or substr(dx,1,6) = 'I63432'

or substr(dx,1,6) = 'I63433'

or substr(dx,1,6) = 'I63439'

or substr(dx,1,6) = 'I63441'

or substr(dx,1,6) = 'I63442'

or substr(dx,1,6) = 'I63443'

or substr(dx,1,6) = 'I63449'

or substr(dx,1,5) = 'I6349'

or substr(dx,1,5) = 'I6350'

or substr(dx,1,6) = 'I63511'

or substr(dx,1,6) = 'I63512'

or substr(dx,1,6) = 'I63513'

or substr(dx,1,6) = 'I63519'

or substr(dx,1,6) = 'I63521'

or substr(dx,1,6) = 'I63522'

or substr(dx,1,6) = 'I63523'

or substr(dx,1,6) = 'I63529'

or substr(dx,1,6) = 'I63531'

or substr(dx,1,6) = 'I63532'

or substr(dx,1,6) = 'I63533'

or substr(dx,1,6) = 'I63539'

or substr(dx,1,6) = 'I63541'

or substr(dx,1,6) = 'I63542'

or substr(dx,1,6) = 'I63543'

or substr(dx,1,6) = 'I63549'

or substr(dx,1,5) = 'I6359'

or substr(dx,1,4) = 'I636'

or substr(dx,1,4) = 'I638'

or substr(dx,1,4) = 'I639'

or substr(dx,1,5) = 'I6601'

or substr(dx,1,5) = 'I6602'

or substr(dx,1,5) = 'I6603'

or substr(dx,1,5) = 'I6609'

or substr(dx,1,5) = 'I6611'

or substr(dx,1,5) = 'I6612'

or substr(dx,1,5) = 'I6613'

or substr(dx,1,5) = 'I6619'

or substr(dx,1,5) = 'I6621'

or substr(dx,1,5) = 'I6622'

or substr(dx,1,5) = 'I6623'

or substr(dx,1,5) = 'I6629'

or substr(dx,1,4) = 'I663'

or substr(dx,1,4) = 'I668'

or substr(dx,1,4) = 'I669'

or substr(dx,1,6) = 'I67841'

or substr(dx,1,6) = 'I67848'

or substr(dx,1,5) = 'I6789'

or substr(dx,1,6) = 'I97810'

or substr(dx,1,6) = 'I97811'

or substr(dx,1,6) = 'I97820'

or substr(dx,1,6) = 'I97821')

and ccw\_22=0

then ccw\_22=1;

\* Colorectal Cancer ;

if (substr(dx,1,4) = '1531'

or substr(dx,1,4) = '1532'

or substr(dx,1,4) = '1533'

or substr(dx,1,4) = '1534'

or substr(dx,1,4) = '1535'

or substr(dx,1,4) = '1536'

or substr(dx,1,4) = '1537'

or substr(dx,1,4) = '1538'

or substr(dx,1,4) = '1539'

or substr(dx,1,4) = '1540'

or substr(dx,1,4) = '1541'

or substr(dx,1,4) = '1530'

or substr(dx,1,4) = '2303'

or substr(dx,1,4) = '2304'

or substr(dx,1,5) = 'V1005'

or substr(dx,1,5) = 'V1006'

or substr(dx,1,4) = 'C180'

or substr(dx,1,4) = 'C181'

or substr(dx,1,4) = 'C182'

or substr(dx,1,4) = 'C183'

or substr(dx,1,4) = 'C184'

or substr(dx,1,4) = 'C185'

or substr(dx,1,4) = 'C186'

or substr(dx,1,4) = 'C187'

or substr(dx,1,4) = 'C188'

or substr(dx,1,4) = 'C189'

or substr(dx,1,3) = 'C19'

or substr(dx,1,3) = 'C20'

or substr(dx,1,4) = 'D010'

or substr(dx,1,4) = 'D011'

or substr(dx,1,4) = 'D012'

or substr(dx,1,6) = 'Z85038'

or substr(dx,1,6) = 'Z85040'

or substr(dx,1,6) = 'Z85048')

and ccw\_23=0

then ccw\_23=1;

\* Endometrial Cancer ;

if (substr(dx,1,4) = '1820'

or substr(dx,1,4) = '2332'

or substr(dx,1,5) = 'V1042'

or substr(dx,1,4) = 'C541'

or substr(dx,1,4) = 'C542'

or substr(dx,1,4) = 'C543'

or substr(dx,1,4) = 'C548'

or substr(dx,1,4) = 'C549'

or substr(dx,1,4) = 'D070'

or substr(dx,1,5) = 'Z8542')

and ccw\_24=0

then ccw\_24=1;

\* Breast Cancer ;

if (substr(dx,1,4) = '1741'

or substr(dx,1,4) = '1742'

or substr(dx,1,4) = '1743'

or substr(dx,1,4) = '1744'

or substr(dx,1,4) = '1745'

or substr(dx,1,4) = '1746'

or substr(dx,1,4) = '1748'

or substr(dx,1,4) = '1749'

or substr(dx,1,4) = '1740'

or substr(dx,1,4) = '1759'

or substr(dx,1,4) = '1750'

or substr(dx,1,4) = '2330'

or substr(dx,1,4) = 'V103'

or substr(dx,1,6) = 'C50011'

or substr(dx,1,6) = 'C50012'

or substr(dx,1,6) = 'C50019'

or substr(dx,1,6) = 'C50021'

or substr(dx,1,6) = 'C50022'

or substr(dx,1,6) = 'C50029'

or substr(dx,1,6) = 'C50111'

or substr(dx,1,6) = 'C50112'

or substr(dx,1,6) = 'C50119'

or substr(dx,1,6) = 'C50121'

or substr(dx,1,6) = 'C50122'

or substr(dx,1,6) = 'C50129'

or substr(dx,1,6) = 'C50211'

or substr(dx,1,6) = 'C50212'

or substr(dx,1,6) = 'C50219'

or substr(dx,1,6) = 'C50221'

or substr(dx,1,6) = 'C50222'

or substr(dx,1,6) = 'C50229'

or substr(dx,1,6) = 'C50311'

or substr(dx,1,6) = 'C50312'

or substr(dx,1,6) = 'C50319'

or substr(dx,1,6) = 'C50321'

or substr(dx,1,6) = 'C50322'

or substr(dx,1,6) = 'C50329'

or substr(dx,1,6) = 'C50411'

or substr(dx,1,6) = 'C50412'

or substr(dx,1,6) = 'C50419'

or substr(dx,1,6) = 'C50421'

or substr(dx,1,6) = 'C50422'

or substr(dx,1,6) = 'C50429'

or substr(dx,1,6) = 'C50511'

or substr(dx,1,6) = 'C50512'

or substr(dx,1,6) = 'C50519'

or substr(dx,1,6) = 'C50521'

or substr(dx,1,6) = 'C50522'

or substr(dx,1,6) = 'C50529'

or substr(dx,1,6) = 'C50611'

or substr(dx,1,6) = 'C50612'

or substr(dx,1,6) = 'C50619'

or substr(dx,1,6) = 'C50621'

or substr(dx,1,6) = 'C50622'

or substr(dx,1,6) = 'C50629'

or substr(dx,1,6) = 'C50811'

or substr(dx,1,6) = 'C50812'

or substr(dx,1,6) = 'C50819'

or substr(dx,1,6) = 'C50821'

or substr(dx,1,6) = 'C50822'

or substr(dx,1,6) = 'C50829'

or substr(dx,1,6) = 'C50911'

or substr(dx,1,6) = 'C50912'

or substr(dx,1,6) = 'C50919'

or substr(dx,1,6) = 'C50921'

or substr(dx,1,6) = 'C50922'

or substr(dx,1,6) = 'C50929'

or substr(dx,1,5) = 'D0500'

or substr(dx,1,5) = 'D0501'

or substr(dx,1,5) = 'D0502'

or substr(dx,1,5) = 'D0510'

or substr(dx,1,5) = 'D0511'

or substr(dx,1,5) = 'D0512'

or substr(dx,1,5) = 'D0580'

or substr(dx,1,5) = 'D0581'

or substr(dx,1,5) = 'D0582'

or substr(dx,1,5) = 'D0590'

or substr(dx,1,5) = 'D0591'

or substr(dx,1,5) = 'D0592'

or substr(dx,1,4) = 'Z853' )

and ccw\_25=0

then ccw\_25=1;

\* Lung Cancer ;

if (substr(dx,1,4) = '1622'

or substr(dx,1,4) = '1623'

or substr(dx,1,4) = '1624'

or substr(dx,1,4) = '1625'

or substr(dx,1,4) = '1628'

or substr(dx,1,4) = '1629'

or substr(dx,1,4) = '2312'

or substr(dx,1,5) = 'V1011'

or substr(dx,1,5) = 'C3400'

or substr(dx,1,5) = 'C3401'

or substr(dx,1,5) = 'C3402'

or substr(dx,1,5) = 'C3410'

or substr(dx,1,5) = 'C3411'

or substr(dx,1,5) = 'C3412'

or substr(dx,1,4) = 'C342'

or substr(dx,1,5) = 'C3430'

or substr(dx,1,5) = 'C3431'

or substr(dx,1,5) = 'C3432'

or substr(dx,1,5) = 'C3480'

or substr(dx,1,5) = 'C3481'

or substr(dx,1,5) = 'C3482'

or substr(dx,1,5) = 'C3490'

or substr(dx,1,5) = 'C3491'

or substr(dx,1,5) = 'C3492'

or substr(dx,1,5) = 'D0220'

or substr(dx,1,5) = 'D0221'

or substr(dx,1,5) = 'D0222'

or substr(dx,1,6) = 'Z85110'

or substr(dx,1,6) = 'Z85118')

and ccw\_26=0

then ccw\_26=1;

\* Prostate Cancer ;

if (substr(dx,1,3) = '185'

or substr(dx,1,4) = '2334'

or substr(dx,1,5) = 'V1046'

or substr(dx,1,3) = 'C61'

or substr(dx,1,4) = 'D075'

or substr(dx,1,5) = 'Z8546')

and ccw\_27=0

then ccw\_27=1;

end;

run;

/\*get count of each comorbidity for each id-core year combination\*/

proc sql;

create table cnt\_test1 as

select distinct bid\_hrs\_22,index\_date,

sum(ccw\_1) as cnt\_1,

sum(ccw\_2) as cnt\_2,

sum(ccw\_3) as cnt\_3,

sum(ccw\_4) as cnt\_4,

sum(ccw\_5) as cnt\_5,

sum(ccw\_6) as cnt\_6,

sum(ccw\_7) as cnt\_7,

sum(ccw\_8) as cnt\_8,

sum(ccw\_9) as cnt\_9,

sum(ccw\_10) as cnt\_10,

sum(ccw\_11) as cnt\_11,

sum(ccw\_12) as cnt\_12,

sum(ccw\_13) as cnt\_13,

sum(ccw\_14) as cnt\_14,

sum(ccw\_15) as cnt\_15,

sum(ccw\_16) as cnt\_16,

sum(ccw\_17) as cnt\_17,

sum(ccw\_18) as cnt\_18,

sum(ccw\_19) as cnt\_19,

sum(ccw\_20) as cnt\_20,

sum(ccw\_21) as cnt\_21,

sum(ccw\_22) as cnt\_22,

sum(ccw\_23) as cnt\_23,

sum(ccw\_24) as cnt\_24,

sum(ccw\_25) as cnt\_25,

sum(ccw\_26) as cnt\_26,

sum(ccw\_27) as cnt\_27

from dx\_ccw

group by bid\_hrs\_22,index\_date;

quit;

/\*convert counts of diagnoses for each comorbidity to indicator variables\*/

data ccw\_1(keep=bid\_hrs\_22 index\_date ccw\_1-ccw\_27 ccw\_index);

set cnt\_test1;

array list\_cha cnt\_1-cnt\_27;

array list\_cnt\_bin ccw\_1-ccw\_27 ;

do over list\_cha;

list\_cnt\_bin=0;

if list\_cha>0 then do;

list\_cnt\_bin=1;

end;

end;

/\*note this ccw\_index count count is not weighted for morbidity\*/

ccw\_index=ccw\_1+ccw\_2+ccw\_3+ccw\_4+ccw\_5+ccw\_6+ccw\_7+ccw\_8+ccw\_9+ccw\_10

+ccw\_11+ccw\_12+ccw\_13+ccw\_14+ccw\_15+ccw\_16+ccw\_17+ccw\_18+ccw\_19+ccw\_20

+ccw\_21+ccw\_22+ccw\_23+ccw\_24+ccw\_25+ccw\_26+ccw\_27;

label ccw\_1 ='Acquired Hypothyroidism, CCW';

label ccw\_2 ='AMI, CCW';

label ccw\_3 ="Alzheimer's";

label ccw\_4 ="Alzheimer's & Related/Dementia";

label ccw\_5 ='Anemia';

label ccw\_6 ='Asthma';

label ccw\_7 ='Atrial Fibrillation';

label ccw\_8 ='Benign Prostatic Hyperplasia';

label ccw\_9 ='Cataract';

label ccw\_10 ='CKD';

label ccw\_11 ='COPD/Bronchiectasis';

label ccw\_12 ='Depression';

label ccw\_13 ='Diabetes';

label ccw\_14 ='Glaucoma';

label ccw\_15 ='Heart Failure';

label ccw\_16 ='Hip/Pelvic Fracture';

label ccw\_17 ='Hyperlipidemia';

label ccw\_18 ='Hypertension';

label ccw\_19 ='Ischemic Heart Disease';

label ccw\_20 ='Osteoporosis';

label ccw\_21 ='RA/OA';

label ccw\_22 ='Stroke/Transient Ischemic Attack';

label ccw\_23 ='Colorectal Cancer';

label ccw\_24 ='Endometrial Cancer';

label ccw\_25 ='Breast Cancer';

label ccw\_26 ='Lung Cancer';

label ccw\_27 ='Prostate Cancer';

label ccw\_index ='Count of CCs (out of 27)';

run;

/\*merge into list of obs with ffs mc 6m prior to ivw\*/

proc sort data=ccw\_1 out=test nodupkey;

by bid\_hrs\_22 index\_date;

run;

%rename(WORK,TEST,&range1.\_&range2);

data ccw\_&range1.\_&range2.(rename =(bid\_hrs\_22\_&range1.\_&range2=bid\_hrs\_22

index\_date\_&range1.\_&range2=index\_date));

set test;

keep bid\_hrs\_22\_&range1.\_&range2 ccw: index\_date:;

run;

proc sort data=ccw\_&range1.\_&range2.;

by bid\_hrs\_22 index\_date;

run;

%mend;

%ccw(range1=0m, range2=12m);

%ccw(range1=12m, range2=24m);

%ccw(range1=24m, range2=36m);

%ccw(range1=36m, range2=48m);

%ccw(range1=48m, range2=60m);

%ccw(range1=60m, range2=72m);

%ccw(range1=72m, range2=84m);

proc sql;

create table proj\_int.ccw as select \* from

proj\_int.index a

left join

ccw\_0m\_12m b

on a.bid\_hrs\_22=b.bid\_hrs\_22 and a.index\_date=b.index\_date

left join

ccw\_12m\_24m c

on a.bid\_hrs\_22=c.bid\_hrs\_22 and a.index\_date=c.index\_date

left join

ccw\_24m\_36m d

on a.bid\_hrs\_22=d.bid\_hrs\_22 and a.index\_date=d.index\_date

left join

ccw\_36m\_48m e

on a.bid\_hrs\_22=e.bid\_hrs\_22 and a.index\_date=e.index\_date

left join

ccw\_48m\_60m f

on a.bid\_hrs\_22=f.bid\_hrs\_22 and a.index\_date=f.index\_date

left join

ccw\_60m\_72m g

on a.bid\_hrs\_22=g.bid\_hrs\_22 and a.index\_date=g.index\_date

left join

ccw\_72m\_84m h

on a.bid\_hrs\_22=h.bid\_hrs\_22 and a.index\_date=h.index\_date;

quit;

H="MC Spending"

%macro mp\_index\_dt(source=);

\*get claims that overlap with date of death;

data &source.\_meet\_admit;

set proj\_int.&source.\_meet\_84m;

if index\_date=admit\_date and admit\_date~=disch\_date;

admit\_on\_index\_date=1;

run;

data &source.\_meet\_both;

set proj\_int.&source.\_meet\_84m;

if index\_date=disch\_date and admit\_date=disch\_date;

admit\_on\_index\_date=1;

disch\_on\_index\_date=1;

run;

data &source.\_cost;

set &source.\_meet\_admit &source.\_meet\_both;

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

end;

if year(admit\_date)=2016 then rate=1;

if year(admit\_date)=2015 then rate=1.01262;

if year(admit\_date)=2014 then rate=1.01382;

if year(admit\_date)=2013 then rate=1.03026;

if year(admit\_date)=2012 then rate=1.04535;

if year(admit\_date)=2011 then rate=1.06699;

if year(admit\_date)=2010 then rate=1.10067;

if year(admit\_date)=2009 then rate=1.11872;

if year(admit\_date)=2008 then rate=1.11474;

if year(admit\_date)=2007 then rate=1.15754;

if year(admit\_date)=2006 then rate=1.19051;

if year(admit\_date)=2005 then rate=1.22891;

if year(admit\_date)=2004 then rate=1.27055;

if year(admit\_date)=2003 then rate=1.30439;

if year(admit\_date)=2002 then rate=1.33411;

if year(admit\_date)=2001 then rate=1.35521;

if year(admit\_date)=2000 then rate=1.39377;

if year(admit\_date)=1999 then rate=1.44062;

if year(admit\_date)=1998 then rate=1.47244;

&source.\_paid\_by\_mc=rate\*(pmt\_amt+passthru);

&source.\_paid\_by\_mc\_index\_dt=(1/(disch\_date-admit\_date+1))\*&source.\_paid\_by\_mc;

run;

proc sql;

create table &source.\_pay as select distinct bid\_hrs\_22,index\_date,

sum(&source.\_paid\_by\_mc\_index\_dt) as &source.\_paid\_by\_mc\_index\_dt,

sum(admit\_on\_index\_date) as &source.\_admit\_dod, sum(disch\_on\_index\_date) as &source.\_disch\_dod

from &source.\_cost group by bid\_hrs\_22,index\_date;

quit;

proc sort data=&source.\_pay;

by bid\_hrs\_22 index\_date;

run;

%mend;

%mp\_index\_dt(source=ip);

%mp\_index\_dt(source=snf);

%macro claims\_index\_dt(source=);

\*get claims that start with date of death;

data &source.\_meet\_admit;

set proj\_int.&source.\_meet\_84m;

if index\_date=admit\_date;

run;

data &source.\_cost;

set &source.\_meet\_admit;

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

end;

if year(admit\_date)=2016 then rate=1;

if year(admit\_date)=2015 then rate=1.01262;

if year(admit\_date)=2014 then rate=1.01382;

if year(admit\_date)=2013 then rate=1.03026;

if year(admit\_date)=2012 then rate=1.04535;

if year(admit\_date)=2011 then rate=1.06699;

if year(admit\_date)=2010 then rate=1.10067;

if year(admit\_date)=2009 then rate=1.11872;

if year(admit\_date)=2008 then rate=1.11474;

if year(admit\_date)=2007 then rate=1.15754;

if year(admit\_date)=2006 then rate=1.19051;

if year(admit\_date)=2005 then rate=1.22891;

if year(admit\_date)=2004 then rate=1.27055;

if year(admit\_date)=2003 then rate=1.30439;

if year(admit\_date)=2002 then rate=1.33411;

if year(admit\_date)=2001 then rate=1.35521;

if year(admit\_date)=2000 then rate=1.39377;

if year(admit\_date)=1999 then rate=1.44062;

if year(admit\_date)=1998 then rate=1.47244;

&source.\_paid\_by\_mc\_index\_dt=rate\*(pmt\_amt);

run;

proc sql;

create table &source.\_pay as select distinct bid\_hrs\_22,index\_date,

sum(&source.\_paid\_by\_mc\_index\_dt) as &source.\_paid\_by\_mc\_index\_dt

from &source.\_cost group by bid\_hrs\_22,index\_date;

quit;

proc sort data=&source.\_pay;

by bid\_hrs\_22 index\_date;

run;

%mend;

%claims\_index\_dt(source=op);

%claims\_index\_dt(source=pb);

%claims\_index\_dt(source=hh);

%claims\_index\_dt(source=hs);

%claims\_index\_dt(source=dm);

data mc\_costs\_doda;

merge ip\_pay snf\_pay op\_pay pb\_pay hh\_pay hs\_pay dm\_pay ;

bid\_hrs\_22=bid\_hrs\_22;

by bid\_hrs\_22 index\_date;

run;

data mc\_costs\_dod;

set mc\_costs\_doda;

tot\_paid\_by\_mc\_index\_dt=ip\_paid\_by\_mc\_index\_dt+snf\_paid\_by\_mc\_index\_dt+op\_paid\_by\_mc\_index\_dt +

pb\_paid\_by\_mc\_index\_dt+hs\_paid\_by\_mc\_index\_dt+dm\_paid\_by\_mc\_index\_dt;

run;

%macro mp\_claims(days\_start=,days\_bef\_index=,source=,name=);

\*first get claims lists for the specific claims type, snf or ip;

data &source.\_meet;

set proj\_int.&source.\_meet\_84m;

win\_start\_dt=index\_date-&days\_bef\_index;

win\_stop\_dt=index\_date-&days\_start;

format admit\_date disch\_date win\_start\_dt win\_stop\_dt date9.;

run;

/\*identify claims where entire claim is within the x months prior to death\*/

data &source.\_meet\_1;

set &source.\_meet;

if win\_start\_dt<=admit\_date<win\_stop\_dt and

win\_start\_dt<=disch\_date<win\_stop\_dt;

run;

/\*identify claims where start before window but end during window\*/

data &source.\_meet\_2;

set &source.\_meet;

if win\_start\_dt>admit\_date and

win\_start\_dt<=disch\_date<win\_stop\_dt;

run;

/\*identify fraction of claims to be attributed to period before death

by just using the fraction of time that was included in the time window\*/

data &source.\_meet\_3;

set &source.\_meet\_2;

pct\_xm=(disch\_date-win\_start\_dt)/(disch\_date-admit\_date+1);

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

/\*scale the partial claims by the time within the x month period\*/

list=list\*pct\_xm;

end;

run;

/\*claims where start within window but end after R's death\*/

data &source.\_meet\_4;

set &source.\_meet;

if win\_start\_dt<=admit\_date<win\_stop\_dt and

disch\_date>=win\_stop\_dt;

run;

/\*again fraction to attribute to window\*/

data &source.\_meet\_5;

set &source.\_meet\_4;

pct\_xm=(win\_stop\_dt-admit\_date+1)/(disch\_date-admit\_date+1);

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

/\*scale the partial claims by the time within the x month period\*/

list=list\*pct\_xm;

end;

run;

/\*claims where start before and end after window\*/

data &source.\_meet\_6;

set &source.\_meet;

if win\_start\_dt>admit\_date and

disch\_date>=win\_stop\_dt;

run;

/\*again fraction to attribute to window\*/

data &source.\_meet\_7;

set &source.\_meet\_6;

pct\_xm=(win\_stop\_dt-win\_start\_dt)/(disch\_date-admit\_date+1);

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

/\*scale the partial claims by the time within the x month period\*/

list=list\*pct\_xm;

end;

run;

/\*merge claims into single dataset, adjust for inflation

xxxxxUses CPI for Medical Services from BLS website, accessed 5/4/2015

Uses CPI from BLS website, accessed 11/28/2018\*/

data &source.\_cost;

set &source.\_meet\_1 &source.\_meet\_3 &source.\_meet\_5 &source.\_meet\_7;

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

end;

if year(admit\_date)=2016 then rate=1;

if year(admit\_date)=2015 then rate=1.01262;

if year(admit\_date)=2014 then rate=1.01382;

if year(admit\_date)=2013 then rate=1.03026;

if year(admit\_date)=2012 then rate=1.04535;

if year(admit\_date)=2011 then rate=1.06699;

if year(admit\_date)=2010 then rate=1.10067;

if year(admit\_date)=2009 then rate=1.11872;

if year(admit\_date)=2008 then rate=1.11474;

if year(admit\_date)=2007 then rate=1.15754;

if year(admit\_date)=2006 then rate=1.19051;

if year(admit\_date)=2005 then rate=1.22891;

if year(admit\_date)=2004 then rate=1.27055;

if year(admit\_date)=2003 then rate=1.30439;

if year(admit\_date)=2002 then rate=1.33411;

if year(admit\_date)=2001 then rate=1.35521;

if year(admit\_date)=2000 then rate=1.39377;

if year(admit\_date)=1999 then rate=1.44062;

if year(admit\_date)=1998 then rate=1.47244;

&source.\_paid\_by\_mc=rate\*(pmt\_amt+passthru);

run;

\*calculates total of mc charges for the claim type by hrs bid;

proc sql;

create table &source.\_pay as select distinct bid\_hrs\_22,index\_date,

sum(&source.\_paid\_by\_mc) as &source.\_paid\_by\_mc

from &source.\_cost group by bid\_hrs\_22,index\_date;

quit;

/\*merge into a full bid list of those s's with ffs mc 6m or more\*/

proc sql;

create table &source.\_&name. as select

a.bid\_hrs\_22,a.index\_date,coalesce(b.&source.\_paid\_by\_mc,0) as &source.\_paid\_by\_mc\_&name.

from proj\_int.index a

left join

&source.\_pay b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22)) and a.index\_date=b.index\_date;

quit;

proc sort data=&source.\_&name.; by bid\_hrs\_22 index\_date; run;

%mend;

%macro claims(days\_start=,days\_bef\_index=,source=,name=);

\*first get claims lists for the specific claims type, not snf or ip;

data &source.\_meet;

set proj\_int.&source.\_meet\_84m;

win\_start\_dt=index\_date-&days\_bef\_index;

win\_stop\_dt=index\_date-&days\_start;

format admit\_date disch\_date win\_start\_dt win\_stop\_dt date9.;

run;

/\*identify claims where start of claim is within the x months prior to death\*/

data proj\_int.&source.\_meet&name.;

set &source.\_meet;

if win\_start\_dt<=admit\_date<win\_stop\_dt;

run;

/\*adjust for inflation

xxxxxUses CPI for Medical Services from BLS website, accessed 5/4/2015

Uses CPI from BLS website, accessed 11/28/2018\*/

data &source.\_cost;

set proj\_int.&source.\_meet&name.;

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

end;

if year(admit\_date)=2016 then rate=1;

if year(admit\_date)=2015 then rate=1.01262;

if year(admit\_date)=2014 then rate=1.01382;

if year(admit\_date)=2013 then rate=1.03026;

if year(admit\_date)=2012 then rate=1.04535;

if year(admit\_date)=2011 then rate=1.06699;

if year(admit\_date)=2010 then rate=1.10067;

if year(admit\_date)=2009 then rate=1.11872;

if year(admit\_date)=2008 then rate=1.11474;

if year(admit\_date)=2007 then rate=1.15754;

if year(admit\_date)=2006 then rate=1.19051;

if year(admit\_date)=2005 then rate=1.22891;

if year(admit\_date)=2004 then rate=1.27055;

if year(admit\_date)=2003 then rate=1.30439;

if year(admit\_date)=2002 then rate=1.33411;

if year(admit\_date)=2001 then rate=1.35521;

if year(admit\_date)=2000 then rate=1.39377;

if year(admit\_date)=1999 then rate=1.44062;

if year(admit\_date)=1998 then rate=1.47244;

&source.\_paid\_by\_mc=rate\*(pmt\_amt);

run;

\*calculates total of mc charges for the claim type by hrs bid;

proc sql;

create table &source.\_pay as select distinct bid\_hrs\_22,index\_date,

sum(&source.\_paid\_by\_mc) as &source.\_paid\_by\_mc

from &source.\_cost group by bid\_hrs\_22,index\_date;

quit;

/\*merge into a full bid list of those s's with ffs at death\*/

proc sql;

create table &source.\_&name. as select

a.bid\_hrs\_22,a.index\_date,coalesce(b.&source.\_paid\_by\_mc,0) as &source.\_paid\_by\_mc\_&name.

from proj\_int.index a

left join

&source.\_pay b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22)) and a.index\_date=b.index\_date;

quit;

proc sort data=&source.\_&name.; by bid\_hrs\_22 index\_date; run;

%mend;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*all claims, time periods after R's death\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

%macro mp\_claims\_p(days\_start=,days\_aft\_index=,source=,name=);

\*first get claims lists for the specific claims type, snf or ip;

data &source.\_meet;

set proj\_int.&source.\_meet\_p84m;

win\_end\_dt=index\_date+&days\_aft\_index;

win\_start\_dt=index\_date+&days\_start;

format admit\_date disch\_date win\_end\_dt win\_start\_dt date9.;

run;

/\*identify claims where entire claim is within the x months after death\*/

data &source.\_meet\_1;

set &source.\_meet;

if win\_start\_dt<admit\_date<=win\_end\_dt and

win\_start\_dt<disch\_date<=win\_end\_dt;

run;

/\*identify claims where start before window but end during window\*/

data &source.\_meet\_2;

set &source.\_meet;

if win\_start\_dt>=admit\_date and

win\_start\_dt<disch\_date<=win\_end\_dt;

run;

/\*identify fraction of claims to be attributed to period after death

by just using the fraction of time that was included in the time window\*/

data &source.\_meet\_3;

set &source.\_meet\_2;

pct\_xm=(disch\_date-win\_start\_dt)/(disch\_date-admit\_date+1);

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

/\*scale the partial claims by the time within the x month period\*/

list=list\*pct\_xm;

end;

run;

/\*claims where start within window but end after window\*/

data &source.\_meet\_4;

set &source.\_meet;

if win\_start\_dt<admit\_date<=win\_end\_dt and

disch\_date>win\_end\_dt ;

run;

/\*again fraction to attribute to window\*/

data &source.\_meet\_5;

set &source.\_meet\_4;

pct\_xm=(win\_end\_dt-admit\_date+1)/(disch\_date-admit\_date+1);

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

/\*scale the partial claims by the time within the x month period\*/

list=list\*pct\_xm;

end;

run;

/\*claims where start before window but end after window\*/

data &source.\_meet\_6;

set &source.\_meet;

if win\_start\_dt>=admit\_date and

disch\_date>win\_end\_dt ;

run;

/\*again fraction to attribute to window\*/

data &source.\_meet\_7;

set &source.\_meet\_6;

pct\_xm=(win\_end\_dt -win\_start\_dt)/(disch\_date-admit\_date+1);

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

/\*scale the partial claims by the time within the x month period\*/

list=list\*pct\_xm;

end;

run;

/\*merge claims into single dataset, adjust for inflation\*/

data &source.\_cost;

set &source.\_meet\_1 &source.\_meet\_3 &source.\_meet\_5 &source.\_meet\_7;

array list pmt\_amt passthru;

do over list;

if list=. then list=0;

end;

if year(admit\_date)=2016 then rate=1;

if year(admit\_date)=2015 then rate=1.01262;

if year(admit\_date)=2014 then rate=1.01382;

if year(admit\_date)=2013 then rate=1.03026;

if year(admit\_date)=2012 then rate=1.04535;

if year(admit\_date)=2011 then rate=1.06699;

if year(admit\_date)=2010 then rate=1.10067;

if year(admit\_date)=2009 then rate=1.11872;

if year(admit\_date)=2008 then rate=1.11474;

if year(admit\_date)=2007 then rate=1.15754;

if year(admit\_date)=2006 then rate=1.19051;

if year(admit\_date)=2005 then rate=1.22891;

if year(admit\_date)=2004 then rate=1.27055;

if year(admit\_date)=2003 then rate=1.30439;

if year(admit\_date)=2002 then rate=1.33411;

if year(admit\_date)=2001 then rate=1.35521;

if year(admit\_date)=2000 then rate=1.39377;

if year(admit\_date)=1999 then rate=1.44062;

if year(admit\_date)=1998 then rate=1.47244;

&source.\_paid\_by\_mc=rate\*(pmt\_amt+passthru);

run;

\*calculates total of mc charges for the claim type by hrs bid;

proc sql;

create table &source.\_pay as select distinct bid\_hrs\_22,index\_date,

sum(&source.\_paid\_by\_mc) as &source.\_paid\_by\_mc

from &source.\_cost group by bid\_hrs\_22,index\_date;

quit;

/\*merge into a full bid list of those s's with ffs mc at death\*/

proc sql;

create table &source.\_&name. as select

a.bid\_hrs\_22,a.index\_date,coalesce(b.&source.\_paid\_by\_mc,0) as &source.\_paid\_by\_mc\_&name.

from proj\_int.index a

left join

&source.\_pay b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22)) and a.index\_date=b.index\_date;

quit;

proc sort data=&source.\_&name.; by bid\_hrs\_22 index\_date; run;

%mend;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*all claims, time periods after R's death\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

%macro claims\_p(days\_start=,days\_aft\_index=,source=,name=);

\*first get claims lists for the specific claims type, snf or ip;

data &source.\_meet;

set proj\_int.&source.\_meet\_p84m;

win\_end\_dt=index\_date+&days\_aft\_index;

win\_start\_dt=index\_date+&days\_start;

format admit\_date disch\_date win\_end\_dt win\_start\_dt date9.;

run;

/\*identify claims where entire claim is within the x months after death\*/

data proj\_int.&source.\_meet&name.;

set &source.\_meet;

if win\_start\_dt<admit\_date<=win\_end\_dt;

run;

/\*adjust for inflation\*/

data &source.\_cost;

set proj\_int.&source.\_meet&name.;

array list pmt\_amt;

do over list;

if list=. then list=0;

end;

if year(admit\_date)=2016 then rate=1;

if year(admit\_date)=2015 then rate=1.01262;

if year(admit\_date)=2014 then rate=1.01382;

if year(admit\_date)=2013 then rate=1.03026;

if year(admit\_date)=2012 then rate=1.04535;

if year(admit\_date)=2011 then rate=1.06699;

if year(admit\_date)=2010 then rate=1.10067;

if year(admit\_date)=2009 then rate=1.11872;

if year(admit\_date)=2008 then rate=1.11474;

if year(admit\_date)=2007 then rate=1.15754;

if year(admit\_date)=2006 then rate=1.19051;

if year(admit\_date)=2005 then rate=1.22891;

if year(admit\_date)=2004 then rate=1.27055;

if year(admit\_date)=2003 then rate=1.30439;

if year(admit\_date)=2002 then rate=1.33411;

if year(admit\_date)=2001 then rate=1.35521;

if year(admit\_date)=2000 then rate=1.39377;

if year(admit\_date)=1999 then rate=1.44062;

if year(admit\_date)=1998 then rate=1.47244;

&source.\_paid\_by\_mc=rate\*(pmt\_amt);

run;

\*calculates total of mc charges for the claim type by hrs bid;

proc sql;

create table &source.\_pay as select distinct bid\_hrs\_22,index\_date,

sum(&source.\_paid\_by\_mc) as &source.\_paid\_by\_mc

from &source.\_cost group by bid\_hrs\_22,index\_date;

quit;

/\*merge into a full bid list of those s's with ffs mc at death\*/

proc sql;

create table &source.\_&name. as select

a.bid\_hrs\_22,a.index\_date,coalesce(b.&source.\_paid\_by\_mc,0) as &source.\_paid\_by\_mc\_&name.

from proj\_int.index a

left join

&source.\_pay b

on trim(left(a.bid\_hrs\_22))=trim(left(b.bid\_hrs\_22)) and a.index\_date=b.index\_date;

quit;

proc sort data=&source.\_&name.; by bid\_hrs\_22 index\_date; run;

%mend;

%macro days\_nesting();

%do i=1 %to 7 ;

%mp\_claims(days\_start=floor((&i.-1)\*365),days\_bef\_index=floor(&i.\*365), source=snf, name=%eval(12\*&i.)m);

%mp\_claims(days\_start=floor((&i.-1)\*365),days\_bef\_index=floor(&i.\*365), source=ip, name=%eval(12\*&i.)m);

%claims(days\_start=floor((&i.-1)\*365),days\_bef\_index=floor(&i.\*365), source=pb, name=%eval(12\*&i.)m);

%claims(days\_start=floor((&i.-1)\*365),days\_bef\_index=floor(&i.\*365), source=op, name=%eval(12\*&i.)m);

%claims(days\_start=floor((&i.-1)\*365),days\_bef\_index=floor(&i.\*365), source=hh, name=%eval(12\*&i.)m);

%claims(days\_start=floor((&i.-1)\*365),days\_bef\_index=floor(&i.\*365), source=hs, name=%eval(12\*&i.)m);

%claims(days\_start=floor((&i.-1)\*365),days\_bef\_index=floor(&i.\*365), source=dm, name=%eval(12\*&i.)m);

%mp\_claims\_p(days\_start=floor((&i.-1)\*365),days\_aft\_index=floor(&i.\*365), source=snf, name=p%eval(12\*&i.)m);

%mp\_claims\_p(days\_start=floor((&i.-1)\*365),days\_aft\_index=floor(&i.\*365), source=ip, name=p%eval(12\*&i.)m);

%claims\_p(days\_start=floor((&i.-1)\*365),days\_aft\_index=floor(&i.\*365), source=op, name=p%eval(12\*&i.)m);

%claims\_p(days\_start=floor((&i.-1)\*365),days\_aft\_index=floor(&i.\*365), source=pb, name=p%eval(12\*&i.)m);

%claims\_p(days\_start=floor((&i.-1)\*365),days\_aft\_index=floor(&i.\*365), source=hh, name=p%eval(12\*&i.)m);

%claims\_p(days\_start=floor((&i.-1)\*365),days\_aft\_index=floor(&i.\*365), source=hs, name=p%eval(12\*&i.)m);

%claims\_p(days\_start=floor((&i.-1)\*365),days\_aft\_index=floor(&i.\*365), source=dm, name=p%eval(12\*&i.)m);

%end;

%mend;

%days\_nesting();

%macro merge(l=,source=,time=,p=);

data &source.\_&time.\_12m;

set &source.\_&p.12m;

run;

%do i=24 %to 84 %by 12;

%let l = %eval(&i.-12) ;

data &source.\_&time.\_&i.m;

merge &source.\_&time.\_&l.m &source.\_&p.&i.m;

run;

%end;

data &source.\_&time.;

set &source.\_&time.\_84m;

run;

proc sort data=&source.\_&time.;

by bid\_hrs\_22 index\_date;

run;

%mend;

%merge(source=ip,time=bef,p=);

%merge(source=ip,time=aft,p=p);

%merge(source=snf,time=bef,p=);

%merge(source=snf,time=aft,p=p);

%merge(source=op,time=bef,p=);

%merge(source=op,time=aft,p=p);

%merge(source=pb,time=bef,p=);

%merge(source=pb,time=aft,p=p);

%merge(source=hh,time=bef,p=);

%merge(source=hh,time=aft,p=p);

%merge(source=hs,time=bef,p=);

%merge(source=hs,time=aft,p=p);

%merge(source=dm,time=bef,p=);

%merge(source=dm,time=aft,p=p);

/\*now merge into single dataset of MC costs and get totals for each time window\*/

data mc\_costs\_all;

merge ip\_bef snf\_bef op\_bef pb\_bef hh\_bef hs\_bef dm\_bef

ip\_aft snf\_aft op\_aft pb\_aft hh\_aft hs\_aft dm\_aft;

by bid\_hrs\_22 index\_date;

run;

%macro total();

data mc\_costs\_all2;

set mc\_costs\_all;

%do i=12 %to 84 %by 12;

tot\_paid\_by\_mc\_&i.m=ip\_paid\_by\_mc\_&i.m + snf\_paid\_by\_mc\_&i.m + op\_paid\_by\_mc\_&i.m +

pb\_paid\_by\_mc\_&i.m + hh\_paid\_by\_mc\_&i.m + hs\_paid\_by\_mc\_&i.m + dm\_paid\_by\_mc\_&i.m;

tot\_paid\_by\_mc\_p&i.m=ip\_paid\_by\_mc\_p&i.m + snf\_paid\_by\_mc\_p&i.m + op\_paid\_by\_mc\_p&i.m +

pb\_paid\_by\_mc\_p&i.m + hh\_paid\_by\_mc\_p&i.m + hs\_paid\_by\_mc\_p&i.m + dm\_paid\_by\_mc\_p&i.m;

%end;

run;

proc sort data=mc\_costs\_all2;

by bid\_hrs\_22 index\_date;

run;

%mend;

%total();

data mc\_costs\_all3;

merge mc\_costs\_all2 mc\_costs\_dod;

by bid\_hrs\_22 index\_date;

run;

/\*save permanent dataset\*/

data proj\_int.mc\_costs\_yearly;

set mc\_costs\_all3;

run;

H="SNF days"

%macro snfnights (name=);

data snf\_&i(keep=bid\_hrs\_22 los index\_date);

set proj\_int.snf\_meet\_&name.;

if (&i.\*365)>=index\_date-admit\_date>=((&i.-1)\*365)

or (&i.\*365)>=index\_date-admit\_date>=((&i.-1)\*365)

or index\_date-admit\_date>=&i.\*365>=index\_date-disch\_date;

if admit\_date<index\_date-(&i.\*365) then admit\_date=index\_date-(&i.\*365);

if disch\_date>index\_date-((&i.-1)\*365) then disch\_date=index\_date-((&i.-1)\*365);

los=disch\_date-admit\_date;

if los=0 then los=1;

run;

proc sql;

create table snf\_&i.b as select distinct bid\_hrs\_22,

index\_date, sum(los) as n\_snf\_days\_y&i.

from snf\_&i.

group by bid\_hrs\_22, index\_date;

quit;

%mend;

/\*need to set index dataset as snf 0 for the loop\*/

data snf\_0c;

set proj\_int.index;

run;

/\*run macros\*/

%macro runall(years=);

%do i=1 %to &years.;

%let l=%eval(&i.-1);

%snfnights(name=%eval(12\*&i.)m);

proc sql;

create table snf\_&i.c as select \* from

snf\_&l.c a

left join

snf\_&i.b b

on a.bid\_hrs\_22=b.bid\_hrs\_22;

quit;

%end;

%mend;

%runall(years=7);

data proj\_int.snf\_nights;

set snf\_7c;

run;

H="combine with interviews into one dataset"

data index;

set proj\_int.index;

run;

proc sql;

create table tomerge as select \* from

proj\_int.index a left join

proj\_int.ffs\_before b

on a.bid\_hrs\_22=b.bid\_hrs\_22 and a.index\_year=b.index\_year

left join

proj\_int.mc\_costs\_yearly c

on a.bid\_hrs\_22=c.bid\_hrs\_22 and a.index\_date=c.index\_date

left join

proj\_int.charls\_0d\_n12m d

on a.bid\_hrs\_22=d.bid\_hrs\_22 and a.index\_date=d.index\_date

left join

proj\_int.snf\_nights e

on a.bid\_hrs\_22=e.bid\_hrs\_22 and a.index\_date=e.index\_date

left join

proj\_int.elix f

on a.bid\_hrs\_22=f.bid\_hrs\_22 and a.index\_date=f.index\_date

left join

proj\_int.ccw g

on a.bid\_hrs\_22=g.bid\_hrs\_22 and a.index\_date=g.index\_date;

quit;

proc sql;

create table proj\_int.decedent\_dataset as select \* from

proj\_int.index a

left join

tomerge b

on a.id=b.id and a.index\_year=b.index\_year;

quit;

proc export data=proj\_int.decedent\_dataset outfile="D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\decedent\_dataset.dta" replace; run;

H="Model Medicaid spending & NH nights"

set more off

capture log close

version 15

clear all

local medipath "D:\HRS\Shared\base\_data\hrs\_cms\Stata"

local logpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\logs"

local datapath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

local hrspath "D:\HRS\Shared\base\_data\hrs\_cleaned"

local restrpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\ref\_docs"

cd `medipath'

//pull in medicaid generosity

import excel "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\ref\_docs\Medicaid generosity.xlsx", ///

sheet("Sheet1") firstrow case(lower) clear

rename location stateusps

tempfile generosity

save `generosity'

//pull HRS ivw dates--going to assign the following core/exit to the year

use `hrspath'\core\_00\_to\_14

append using `hrspath'\exit\_02\_to\_16\_dt

gen ivw\_date=c\_ivw\_date

replace ivw\_date=e\_ivw\_date if missing(ivw\_date)

replace ivw\_date=td(01jan2016) if missing(ivw\_date)

gen ivw\_year=year(ivw\_date)

replace nh\_nights=nh\_nights\_exit if missing(nh\_nights)

tempfile hrs

save `hrs'

keep id ivw\_\*

reshape wide ivw\_date, i(id) j(ivw\_year)

tempfile hrswide

save `hrswide'

//get state and demo for re model

use "D:\HRS\Shared\base\_data\hrs\_cleaned\restr\_tracker\_v2014.dta", clear

gen stateusps16=stateusps14

keep hhid pn stateus\* birth\_date hisp\_eth white black other\_na degree

rename stateusps0\* stateusps200\*

rename stateusps1\* stateusps201\*

rename stateusps9\* stateusps199\*

reshape long stateusps, i(hhid pn) j(year)

drop if year<1998

expand 2, gen(dup)

replace year=year+1 if dup

gen id=hhid+pn

sort id year

by id: carryforward state, replace

gsort id -year

by id: carryforward state, replace

drop dup

drop if missing(id)

tempfile track

save `track'

//pull Medicaid

use hrs\_max\_asf\_1999\_2012, clear

merge m:1 bid using Medicaid2016Xref, keepusing(hhid pn) nogen

gen id=hhid+pn

gen rate=1 if year==2016

quietly replace rate=1.01262 if year==2015

quietly replace rate=1.01382 if year==2014

quietly replace rate=1.03026 if year==2013

quietly replace rate=1.04535 if year==2012

quietly replace rate=1.06699 if year==2011

quietly replace rate=1.10067 if year==2010

quietly replace rate=1.11872 if year==2009

quietly replace rate=1.11474 if year==2008

quietly replace rate=1.15754 if year==2007

quietly replace rate=1.19051 if year==2006

quietly replace rate=1.22891 if year==2005

quietly replace rate=1.27055 if year==2004

quietly replace rate=1.30439 if year==2003

quietly replace rate=1.33411 if year==2002

quietly replace rate=1.35521 if year==2001

quietly replace rate=1.39377 if year==2000

quietly replace rate=1.44062 if year==1999

quietly replace rate=1.47244 if year==1998

by bid, sort: egen ly=max(year)

drop if ly<2004

foreach x in ffs hmo php pccm {

gen `x'exp=mdcd\_`x'\_amt\*rate

label var `x'exp "Annual `x' Medicaid Expenditures (2016$)"

}

egen mcaidexp=rowtotal(\*exp)

label var mcaidexp "Total Annual Medicaid Expenditures (2016$)"

keep id bid \*exp mdcd\_nf\_days\_all year

tempfile mcaid

save `mcaid'

//pull annual expenditures for medicare

use hhid pn BID\_HRS\_22 using xref2015medicare, clear

rename \*, l

tempfile xwalk

save `xwalk'

use bid start\_dt ab\_mo\_cnt hmo\_mo buyin\_mo snf\_covdys using basf\_1998\_2015 if buyin\_mo>=1 & ab\_mo\_cnt>=1 & hmo\_mo==0, clear

gen year=year(start\_dt)

drop start\_dt

by bid, sort: egen ly=max(year)

drop if ly<2004

merge m:1 bid using `xwalk', keep(match) nogen

drop ly

tempfile mbsf

save `mbsf'

foreach x in dm hh hs ip snf op pb {

di "`x'"

use bid\_hrs\_22 pmt\_amt admit\_date disch\_date using `x'\_1998\_2015

gen year=year(admit\_date)

merge m:1 bid year using `mbsf', keep(match)

gen rate=1 if year==2016

quietly replace rate=1.01262 if year==2015

quietly replace rate=1.01382 if year==2014

quietly replace rate=1.03026 if year==2013

quietly replace rate=1.04535 if year==2012

quietly replace rate=1.06699 if year==2011

quietly replace rate=1.10067 if year==2010

quietly replace rate=1.11872 if year==2009

quietly replace rate=1.11474 if year==2008

quietly replace rate=1.15754 if year==2007

quietly replace rate=1.19051 if year==2006

quietly replace rate=1.22891 if year==2005

quietly replace rate=1.27055 if year==2004

quietly replace rate=1.30439 if year==2003

quietly replace rate=1.33411 if year==2002

quietly replace rate=1.35521 if year==2001

quietly replace rate=1.39377 if year==2000

quietly replace rate=1.44062 if year==1999

quietly replace rate=1.47244 if year==1998

replace pmt\_amt=pmt\_amt\*rate

by bid year, sort: egen `x'exp=total(pmt\_amt)

label var `x'exp "Annual `x' expenditures (2016$)"

keep bid year `x'exp

duplicates drop

tempfile `x'

save ``x''

}

use `mbsf'

foreach x in dm hh hs ip snf op pb {

merge 1:1 bid year using ``x'', gen(`x'm)

}

gen id=hhid+pn

merge 1:1 id year using `mcaid', keep(match master) gen(mcmcm)

order id bid\* year \*exp\*

merge m:1 id using `hrswide', keep(match) gen(hrsm)

//find the closest ivw during or after the year

gen ivw\_date2001=.

gen ivw\_date=ivw\_date2016

forvalues i=2015(-1)1998 {

replace ivw\_date=ivw\_date`i' if year<=`i' & !missing(ivw\_date`i')

drop ivw\_date`i'

}

drop if missing(ivw\_date)

merge m:1 id ivw\_date using `hrs', nogen keep(match master)

gen ivw\_type=0

replace ivw\_type=1 if !missing(exit\_year)

label define ivw\_type 0 "Core" 1 "Exit"

label values ivw\_type ivw\_type

merge 1:1 id year using `track', gen(trackm) keep(match master)

//generate variables for use in model

//# months w/ MC but no Medicaid

gen m\_no\_mcaid=ab\_mo-buyin\_mo

replace m\_no\_mcaid=0 if m\_no\_mcaid<0

//state will be panel variable

encode stateusps, gen(state)

xtset state

//demovars

rename other\_na other\_race

gen ind\_hs\_educ=degree>=2 if !inlist(degree,9,.)

label var ind\_hs\_educ "Education: HS+ (excl. GED)"

gen age=year-year(birth\_date)

label var age "Age on Dec. 31st"

gen age2=age^2

replace nhres=0 if missing(nhres)

replace adl\_independent=adl\_independent\_core if missing(adl\_independent)

replace adl\_independent=0 if missing(adl\_independent)

replace medicaid=0 if missing(medicaid)

//total mc expenditures

egen mcexp=rowtotal(\*exp)

label var mcexp "Total Annual Medicare Expenditures (2016$)"

//merge in medicaid generosity

merge m:1 stateusps using `generosity', keep(match master) gen(gm)

local modelvars nhres age age2 black hisp\_eth other\_race ind\_hs\_educ ///

ab\_mo m\_no\_mcaid adl\_independent married medicaid

foreach x of local modelvars {

replace `x'=0 if missing(`x')

}

reg mcaidexp mcexp `modelvars' generous

estimates store est0

//drop other race & education & mcaid generosity

local modelvars nhres age age2 black hisp\_eth ///

ab\_mo m\_no\_mcaid adl\_independent married medicaid

reg mcaidexp mcexp `modelvars'

estimates store est1

lrtest est1 est0

//still drop hispanics

local modelvars nhres married age age2 black ///

ab\_mo m\_no\_mcaid adl\_independent medicaid ivw\_type year

reg mcaidexp mcexp `modelvars'

estimates store est2

lrtest est2 est0

local xn : word count `modelvars'

local mn=1

forvalues i=1/`xn' {

di `i'

local v : word `i' of `modelvars'

local mvincl`i' `mvincl`=`i'-1'' `v'

foreach x of local modelvars {

di "`x'"

if "`x'"!="`v'" local mvexcl`i' `mvexcl`i'' `x'

}

foreach y in incl excl {

qui reg mcaidexp mcexp `mv`y'`i'' i.state

estimates store est`v'`y'`i'

local ests`v'`y' `ests`v'`y'' est`v'`y'`i'

lrtest est0 est`v'`y'`i'

}

}

preserve

gen proxy=proxy\_core

replace proxy=proxy\_exit if missing(proxy)

xtreg mcaidexp mcexp `modelvars' , fe

predict pfe

capture log close

log using "`logpath'\predicted\_annual\_medicaid\_costs`c(current\_date)'", replace

set seed 12345

gen norm=rnormal()

sort norm

gen testsamp=\_n<=\_N/2

tab testsamp

tab testsamp if !missing(mcaidexp)

local modelvars nhres married c.age##c.age black ///

ab\_mo m\_no\_mcaid adl\_independent medicaid ivw\_type proxy year

reg mcaidexp mcexp `modelvars' if testsamp==1

predict pols

xtreg mcaidexp mcexp `modelvars' if testsamp==1, re

predict pre

twopm mcaidexp mcexp `modelvars' if testsamp==1, firstpart(logit) secondpart(regress)

predict ptwopart

estimates store est1

twopm mcaidexp mcexp `modelvars' i.state , firstpart(logit) secondpart(regress)

predict ptptwithstates

estimates store est2

log close

log using "`logpath'\predicted\_annual\_medicaid\_costs\_quick\_compare`c(current\_date)'", replace

foreach x in re two tpt {

di "In sample"

reg mcaidexp p`x' if testsamp

di "Out of sample"

reg mcaidexp p`x' if !testsamp

}

log close

twopm mcaidexp mcexp `modelvars', firstpart(logit) secondpart(regress)

predict pmcaid

gen ind\_mcaid\_imputed=missing(mcaidexp) & !missing(pmcaid)

replace mcaidexp=pmcaid if missing(mcaidexp)

local modelvars nhres age age2 black ///

ab\_mo m\_no\_mcaid adl\_independent married medicaid

local modelvars nhres age age2 black ///

ind\_hs\_educ ab\_mo m\_no\_mcaid adl\_independent married medicaid ///

ivw\_type proxy year generous

//predict medicaid nights

replace nh\_nights=0 if missing(nh\_nights)

replace nh\_nights=365 if nh\_nights>365

twopm mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if testsamp==1 & nh\_nights, ///

firstpart(logit) secondpart(regress)

predict ptwopnhn

twopm mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if testsamp==1 & nh\_nights, ///

firstpart(logit) secondpart(glm, fam(gamma) link(log))

predict ptwopnhnglm

poisson mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if testsamp==1 & nh\_nights

predict ppois

local modelvars nhres age ///

ab\_mo m\_no\_mcaid adl\_independent ///

ivw\_type proxy

/\*

cap program drop hplogitLL

program hplogitLL

args lnf beta1 beta2

qui tempvar pi mu

qui gen double `mu' = exp(`beta1')

qui gen double `pi' = exp(`beta2')

qui replace `lnf' = cond($ML\_y1=0, ln(`pi'/(1+`pi')), ln(1/(1+`pi')) - `mu' ///

+ $ML\_y1 \* `beta1' - lngamma($ML\_y1+1) - ln(1-exp(-`mu')))

end

ml model lf hplogitLL (cnd: count = child camper persons) ///

(logit:count\_nonzero=child camper persons) ///

ml maximize, search(on) nolog title("hplogit") difficult

predict xb1, eq(#1)

predict xb2, eq(#2)

generate phat2= 1/(1+exp(xb2))

generate tyhat2=exp(xb1)

gen yhat2=phat2\*tyhat2

\*/

local modelvars nhres married c.age##c.age black ///

ab\_mo m\_no\_mcaid adl\_independent medicaid ivw\_type proxy

poisson mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if testsamp==1 & nh\_nights ///

& mdcd\_nf\_days\_all

predict pnb

zinb mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if testsamp==1 & nh\_nights, ///

inflate( snf\_covdys nh\_nights `modelvars')

predict pzinb

logit mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if testsamp==1 & nh\_nights

predict plogit

poisson mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if testsamp==1 & nh\_nights ///

& mdcd\_nf\_days\_all

predict ppoisson

gen phurdle=plogit\*ppoisson

poisson mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if testsamp==1 & nh\_nights

twopm mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if nh\_nights , ///

firstpart(logit) secondpart(glm, fam(gamma) link(log))

predict p2plog

drop plogit pnb

logit mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if nh\_nights

predict plogit

nbreg mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if nh\_nights ///

& mdcd\_nf\_days\_all, dispersion(mean)

predict pnb1

nbreg mdcd\_nf\_days\_all snf\_covdys nh\_nights `modelvars' if nh\_nights ///

& mdcd\_nf\_days\_all, dispersion(constant)

predict pnb2

gen phnb1=plogit\*pnb1

gen phnb2=plogit\*pnb2

replace mdcd\_nf\_days\_all=phnb1 if missing(mdcd\_nf\_days\_all)

save D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\predicted\_annual\_medicaid\_costs.dta, replace

translate "`logpath'\predicted\_annual\_medicaid\_costs`c(current\_date)'.smcl" ///

"`logpath'\predicted\_annual\_medicaid\_costs`c(current\_date)'.pdf", replace

H="Pull Medicaid costs and days"

libname merged 'E:\data\CMS\_DUA\_51675\_2014\Medicaid\_merged';

proc import datafile="D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\decedent\_dataset.dta" out=R01 (keep = id index\_month index\_year index\_date) dbms=stata replace; run;

proc import datafile="E:\data\CMS\_DUA\_51675\_2014\Medicaid\_merged\MedicaidXref2012\_old.dta" out=maid\_xwalk (keep = hhidpn bid\_hrs\_23) dbms=stata replace; run;

proc sql;

create table r01\_merged as select a.\*, b.bid\_hrs\_23

from R01 a

inner join maid\_xwalk b

on a.id = b.hhidpn;

quit;

data r01;

set r01\_merged;

format index\_date date9.;

run;

/\*\*\* Get HH + SNF days & cost + Total Maid cost \*\*\*\*\*/

data month\_breakdown (keep = bid\_hrs\_23 year month mdcd\_ffs\_amt mdcd\_hmo\_amt mdcd\_php\_amt mdcd\_pccm\_amt mdcd\_nf\_days\_all mdcd\_nf\_days\_hcbs\_all mdcd\_nf\_amt mdcd\_nf\_amt\_hcbs mdcd\_hh\_amt mdcd\_hh\_amt\_hcbs mdcd\_hh\_days\_all mdcd\_hh\_days\_hcbs\_all mdcd\_hh\_days\_ffs mdcd\_nf\_days\_ffs);

set merged.hrs\_max\_msf\_1999\_2012;

run;

data month\_breakdown (drop = mdcd\_ffs\_amt mdcd\_hmo\_amt mdcd\_php\_amt mdcd\_pccm\_amt mdcd\_nf\_days\_all mdcd\_nf\_days\_hcbs\_all mdcd\_nf\_amt mdcd\_nf\_amt\_hcbs mdcd\_hh\_amt mdcd\_hh\_amt\_hcbs mdcd\_hh\_days\_all mdcd\_hh\_days\_hcbs\_all);

set month\_breakdown;

paid\_maid = sum(mdcd\_ffs\_amt, mdcd\_hmo\_amt, mdcd\_php\_amt, mdcd\_pccm\_amt); /\*total paid medicaid \*/

nf\_days\_maid = sum(mdcd\_nf\_days\_all);

nf\_ffs\_days\_maid = sum(mdcd\_nf\_days\_ffs);

nf\_cost\_maid = sum(mdcd\_nf\_amt);

hh\_days\_maid = sum(mdcd\_hh\_days\_all);

hh\_ffs\_days\_maid = sum(mdcd\_hh\_days\_ffs);

hh\_cost\_maid = sum(mdcd\_hh\_amt);

run;

proc sort data=month\_breakdown; by bid\_hrs\_23 year; run;

proc transpose data=month\_breakdown out=month\_breakdown\_wide; by bid\_hrs\_23 year; id month; run;

proc sql;

create table r01\_b as select a.\*, b.\*

from r01 a

left join month\_breakdown\_wide b

on a.bid\_hrs\_23=b.bid\_hrs\_23;

quit;

proc export data=r01\_b outfile="D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\medicaid\_cost\_hh\_snf.dta" dbms=stata replace; run;

H="Calculate SNF/HH Medicaid cost+days "

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\predicted\_annual\_medicaid\_costs.dta", clear

merge m:1 id using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\decedent\_dataset.dta", ///

keep(match) keepusing(index\*) nogen

drop \_\*

forvalues i=1/12 {

gen \_`i'=mcaidexp/12

}

gen \_name\_="paid\_maid"

expand 2, gen(dup)

forvalues i=1/12 {

replace \_`i'=mdcd\_nf\_days\_all/12 if dup==1

}

replace \_name\_="nf\_days\_maid" if dup==1

keep id year \_\* ind\_mcaid\_imp index\*

tempfile pmcaid

save `pmcaid'

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\medicaid\_cost\_hh\_snf.dta", clear

\*drop if index\_year>2012 | index\_year<=2005

/\* inflation adjustment \*/

gen rate = .

replace rate = 1 if year==2016

replace rate=1.01262 if year==2015

replace rate=1.01382 if year==2014

replace rate=1.03026 if year==2013

replace rate=1.04535 if year==2012

replace rate=1.06699 if year==2011

replace rate=1.10067 if year==2010

replace rate=1.11872 if year==2009

replace rate=1.11474 if year==2008

replace rate=1.15754 if year==2007

replace rate=1.19051 if year==2006

replace rate=1.22891 if year==2005

replace rate=1.27055 if year==2004

replace rate=1.30439 if year==2003

replace rate=1.33411 if year==2002

replace rate=1.35521 if year==2001

replace rate=1.39377 if year==2000

replace rate=1.44062 if year==1999

replace rate=1.47244 if year==1998

gen cost = 0

replace cost = 1 if (\_name\_=="hh\_cost\_maid" | \_name\_=="nf\_cost\_maid" | \_name\_=="paid\_maid")

forvalues p = 1/12 {

replace \_`p' = \_`p'\*rate if cost==1

}

merge m:1 id year \_name\_ using `pmcaid', gen(pmcaidm) update

/\*Flag year markers, n1=[0,-12], n2=[-12,-24], n3=[-24,-36], etc. \*/

forvalues i=1/7 {

gen n`i'\_flag = 0

replace n`i'\_flag = 1 if (year==index\_year-`=`i'-1') | (year==index\_year-`i')

}

gen index\_day = day(index\_date)

save "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\medicaid\_cost\_inflation.dta", replace

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

levelsof \_name\_, local(namevars)

return list

foreach x of local namevars {

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\medicaid\_cost\_inflation.dta", clear

keep if \_name\_=="`x'"

forvalues t=1/12 {

preserve

keep if index\_month==`t'

forvalues i=1/7 {

gen sum\_n`i'\_cyr= 0 if n`i'\_flag==1 /\*sum months before index month in current year\*/

local j = index\_month

local k = 1

while `k' <= `j' { // while current month less than or equal index, add to past value

while `k' < `j' {

replace sum\_n`i'\_cyr = sum\_n`i'\_cyr + \_`k' if sum\_n`i'\_cyr!=.

local ++k

}

replace sum\_n`i'\_cyr = sum\_n`i'\_cyr + (\_`k')\*(index\_day/30.4) if sum\_n`i'\_cyr!=. // if current month = index, then prorate it

local ++k

}

gen sum\_n`i'\_b4yr = 0 if n`i'\_flag==1

local r = index\_month

local s = 12

while `s' >=`r' { // count backwards to get months before index in previous year

while `s' > `r' {

replace sum\_n`i'\_b4yr = sum\_n`i'\_b4yr + \_`s' if sum\_n`i'\_b4yr!=.

local --s

}

replace sum\_n`i'\_b4yr = sum\_n`i'\_b4yr + (\_`s')\*(1-(index\_day/30.4)) if sum\_n`i'\_b4yr!=.

local --s

}

}

keep if n1\_flag | n2\_flag | n3\_flag | n4\_flag | n5\_flag | n6\_flag | n7\_flag

gsort +id +year

forvalues i=1/7 {

gen tot\_`x'\_n`i' = sum\_n`i'\_cyr + sum\_n`i'\_b4yr[\_n-1]

}

\*keep id index\_date bid\_hrs\_23 index\_year year n\*\_flag tot\_`x'\_n\*

sort id year

by id: carryforward tot\_\*, replace

by id: keep if \_n==\_N

keep id index\_date bid\_hrs\_23 tot\_`x'\_n\*

save mc\_`x'\_`t'.dta, replace

restore

}

}

foreach x of local namevars {

use mc\_`x'\_1.dta, clear

forvalues i = 2/12 {

append using mc\_`x'\_`i'.dta

save tot\_`x'.dta, replace

}

}

foreach x of local namevars {

use tot\_paid\_maid.dta, clear

cap drop \_m

merge 1:1 id using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\tot\_`x'.dta", ///

keepus(tot\_`x'\_n1 tot\_`x'\_n2 tot\_`x'\_n3 tot\_`x'\_n4 tot\_`x'\_n5 tot\_`x'\_n6 tot\_`x'\_n7)

save tot\_paid\_maid.dta, replace

}

label var tot\_paid\_maid\_n1 "Total Medicaid Spending N1"

label var tot\_paid\_maid\_n2 "Total Medicaid Spending N2"

label var tot\_paid\_maid\_n3 "Total Medicaid Spending N3"

label var tot\_paid\_maid\_n4 "Total Medicaid Spending N4"

label var tot\_paid\_maid\_n5 "Total Medicaid Spending N5"

label var tot\_paid\_maid\_n6 "Total Medicaid Spending N6"

label var tot\_paid\_maid\_n7 "Total Medicaid Spending N7"

label var tot\_hh\_cost\_maid\_n1 "Total HH (FFS) Medicaid Spending N1"

label var tot\_hh\_cost\_maid\_n2 "Total HH (FFS) Medicaid Spending N2"

label var tot\_hh\_cost\_maid\_n3 "Total HH (FFS) Medicaid Spending N3"

label var tot\_hh\_cost\_maid\_n4 "Total HH (FFS) Medicaid Spending N4"

label var tot\_hh\_cost\_maid\_n5 "Total HH (FFS) Medicaid Spending N5"

label var tot\_hh\_cost\_maid\_n6 "Total HH (FFS) Medicaid Spending N6"

label var tot\_hh\_cost\_maid\_n7 "Total HH (FFS) Medicaid Spending N7"

label var tot\_hh\_days\_maid\_n1 "Total HH Medicaid Days N1"

label var tot\_hh\_days\_maid\_n2 "Total HH Medicaid Days N2"

label var tot\_hh\_days\_maid\_n3 "Total HH Medicaid Days N3"

label var tot\_hh\_days\_maid\_n4 "Total HH Medicaid Days N4"

label var tot\_hh\_days\_maid\_n5 "Total HH Medicaid Days N5"

label var tot\_hh\_days\_maid\_n6 "Total HH Medicaid Days N6"

label var tot\_hh\_days\_maid\_n7 "Total HH Medicaid Days N7"

label var tot\_hh\_ffs\_days\_maid\_n1 "Total HH (FFS) Medicaid Days N1"

label var tot\_hh\_ffs\_days\_maid\_n2 "Total HH (FFS) Medicaid Days N2"

label var tot\_hh\_ffs\_days\_maid\_n3 "Total HH (FFS) Medicaid Days N3"

label var tot\_hh\_ffs\_days\_maid\_n4 "Total HH (FFS) Medicaid Days N4"

label var tot\_hh\_ffs\_days\_maid\_n5 "Total HH (FFS) Medicaid Days N5"

label var tot\_hh\_ffs\_days\_maid\_n6 "Total HH (FFS) Medicaid Days N6"

label var tot\_hh\_ffs\_days\_maid\_n7 "Total HH (FFS) Medicaid Days N7"

label var tot\_nf\_cost\_maid\_n1 "Total SNF (FFS) Medicaid Spending N1"

label var tot\_nf\_cost\_maid\_n2 "Total SNF (FFS) Medicaid Spending N2"

label var tot\_nf\_cost\_maid\_n3 "Total SNF (FFS) Medicaid Spending N3"

label var tot\_nf\_cost\_maid\_n4 "Total SNF (FFS) Medicaid Spending N4"

label var tot\_nf\_cost\_maid\_n5 "Total SNF (FFS) Medicaid Spending N5"

label var tot\_nf\_cost\_maid\_n6 "Total SNF (FFS) Medicaid Spending N6"

label var tot\_nf\_cost\_maid\_n7 "Total SNF (FFS) Medicaid Spending N7"

label var tot\_nf\_days\_maid\_n1 "Total SNF Medicaid Days N1"

label var tot\_nf\_days\_maid\_n2 "Total SNF Medicaid Days N2"

label var tot\_nf\_days\_maid\_n3 "Total SNF Medicaid Days N3"

label var tot\_nf\_days\_maid\_n4 "Total SNF Medicaid Days N4"

label var tot\_nf\_days\_maid\_n5 "Total SNF Medicaid Days N5"

label var tot\_nf\_days\_maid\_n6 "Total SNF Medicaid Days N6"

label var tot\_nf\_days\_maid\_n7 "Total SNF Medicaid Days N7"

label var tot\_nf\_ffs\_days\_maid\_n1 "Total SNF (FFS) Medicaid Days N1"

label var tot\_nf\_ffs\_days\_maid\_n2 "Total SNF (FFS) Medicaid Days N2"

label var tot\_nf\_ffs\_days\_maid\_n3 "Total SNF (FFS) Medicaid Days N3"

label var tot\_nf\_ffs\_days\_maid\_n4 "Total SNF (FFS) Medicaid Days N4"

label var tot\_nf\_ffs\_days\_maid\_n5 "Total SNF (FFS) Medicaid Days N5"

label var tot\_nf\_ffs\_days\_maid\_n6 "Total SNF (FFS) Medicaid Days N6"

label var tot\_nf\_ffs\_days\_maid\_n7 "Total SNF (FFS) Medicaid Days N7"

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

/\*

forvalues i = 1/5 {

qui twoway scatter tot\_nf\_cost\_maid\_n`i' tot\_nf\_ffs\_days\_maid\_n`i'

graph export SNF\_n`i'.pdf, as(pdf) replace

qui twoway scatter tot\_hh\_cost\_maid\_n`i' tot\_hh\_ffs\_days\_maid\_n`i'

graph export HH\_n`i'.pdf, as(pdf) replace

}

\*/

\*preserve

\*keep if year(index\_date)>=2005 & year(index\_date)<=2012

local cost tot\_paid\_maid\_n1 tot\_paid\_maid\_n2 tot\_paid\_maid\_n3 tot\_paid\_maid\_n4 tot\_paid\_maid\_n5 tot\_paid\_maid\_n6 tot\_paid\_maid\_n7 tot\_hh\_cost\_maid\_n1 tot\_hh\_cost\_maid\_n2 tot\_hh\_cost\_maid\_n3 tot\_hh\_cost\_maid\_n4 tot\_hh\_cost\_maid\_n5 tot\_hh\_cost\_maid\_n6 tot\_hh\_cost\_maid\_n7 tot\_nf\_cost\_maid\_n1 tot\_nf\_cost\_maid\_n2 tot\_nf\_cost\_maid\_n3 tot\_nf\_cost\_maid\_n4 tot\_nf\_cost\_maid\_n5 tot\_nf\_cost\_maid\_n6 tot\_nf\_cost\_maid\_n7

local days tot\_hh\_days\_maid\_n1 tot\_hh\_days\_maid\_n2 tot\_hh\_days\_maid\_n3 tot\_hh\_days\_maid\_n4 tot\_hh\_days\_maid\_n5 tot\_hh\_days\_maid\_n6 tot\_hh\_days\_maid\_n7 tot\_nf\_days\_maid\_n1 tot\_nf\_days\_maid\_n2 tot\_nf\_days\_maid\_n3 tot\_nf\_days\_maid\_n4 tot\_nf\_days\_maid\_n5 tot\_nf\_days\_maid\_n6 tot\_nf\_days\_maid\_n7 tot\_hh\_ffs\_days\_maid\_n1 tot\_hh\_ffs\_days\_maid\_n2 tot\_hh\_ffs\_days\_maid\_n3 tot\_hh\_ffs\_days\_maid\_n4 tot\_hh\_ffs\_days\_maid\_n5 ///

tot\_hh\_ffs\_days\_maid\_n6 tot\_hh\_ffs\_days\_maid\_n7 tot\_nf\_ffs\_days\_maid\_n1 tot\_nf\_ffs\_days\_maid\_n2 tot\_nf\_ffs\_days\_maid\_n3 tot\_nf\_ffs\_days\_maid\_n4 tot\_nf\_ffs\_days\_maid\_n5 tot\_nf\_ffs\_days\_maid\_n6 tot\_nf\_ffs\_days\_maid\_n7

local full `cost' `days'

local rd: word count `full' 1

di `rd'

mat tab1= J(`rd',9,.)

local r = 1

foreach x of local full {

sum `x'

mat tab1[`r',1] = r(mean)

sum `x' if `x'>0, d

mat tab1[`r',2]= r(mean)

mat tab1[`r',3] = r(min)

mat tab1[`r',4]= r(p25)

mat tab1[`r',5] = r(p50)

mat tab1[`r',6]= r(p75)

mat tab1[`r',7] = r(p99)

mat tab1[`r',8] = r(max)

cap drop zero

gen zero = .

replace zero = 1 if `x'==0

sum zero, d

mat tab1[`r',9]= r(N)

local ++r

}

sum `x'

mat tab1[`r',9] = 1422

mat list tab1

mat rownames tab1 = `full' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\MAX\_summary.doc", replace statmat(tab1) landscape a4 ///

varlabels title("MAX Summary Statistics For R01 Sample (includes all deceased, regardless of age or dementia)") ctitles("Variables" "Ave." "Ave (non-zero)" "Minimum" "25th percentile" "Median" "75th percentile" "99th percentile" "Maximum" "# of zero's") sdec(2) ///

note("Costs have been pro-rated and inflation adjusted to 2012 dollars. The Percentiles exclude zeros")

H="CCW CCs following actual methodology"

//get chronic condition indicators using actual CCW methodology

/\*

Basic Structure

-look back over a certain time frame (1-3 years, depending on the condition) some

distance away from an already identified index date

-pull the dx codes separately for each relevant claim type and period for each condition

\*/

/\*First, make smaller versions of each claim type by matching only to sample and

keeping only id, index date, admit date, and diagnoses\*/

use "E:\data\hrs\_cleaned\death\_date\_2015.dta" if !missing(bid\_hrs\_22) & year(death\_all)>=2004, clear

rename death\_all index\_date

keep id bid\_hrs\_22 index\_date

tempfile index

save `index'

foreach type in ip op pb hh snf dm hs {

use bid\_hrs\_22 admit\_date dgnscd\* using "E:/data/CMS\_DUA\_51675\_2014/Merged/Stata/`type'\_1998\_2015.dta", clear

merge m:1 bid\_hrs\_22 using `index', keep(match using) nogen

gen clmnum=\_n

rename dgnscd0\* dgnscd\*

forvalues i=1/9 {

preserve

keep if inrange(admit\_date,index\_date-floor(`i'\*365.25),index\_date-floor((`i'-1)\*365.25))

reshape long dgnscd, i(clmnum) j(num)

drop if missing(dgnscd)

duplicates drop id clmnum dgnscd, force

tempfile `type'`i'

save ``type'`i''

restore

}

use ``type'1', clear

forvalues i=2/9 {

append using ``type'`i''

}

tempfile `type'

save ``type''

}

//2nd, set condition diagnosis locals

foreach time in condition {

local ccw1 (substr(dgnscd,1,4) == "2441" | substr(dgnscd,1,4) == "2442" ///

| substr(dgnscd,1,4) == "2443" | substr(dgnscd,1,4) == "2448" ///

| substr(dgnscd,1,4) == "2449" | substr(dgnscd,1,4) == "2440" ///

| substr(dgnscd,1,4) == "E018" | substr(dgnscd,1,3) == "E02" ///

| substr(dgnscd,1,4) == "E032" | substr(dgnscd,1,4) == "E033" ///

| substr(dgnscd,1,4) == "E038" | substr(dgnscd,1,4) == "E039" ///

| substr(dgnscd,1,4) == "E890")

local ccw2 (substr(dgnscd,1,5) == "41001" ///

| substr(dgnscd,1,5) == "41011" ///

| substr(dgnscd,1,5) == "41021" ///

| substr(dgnscd,1,5) == "41031" ///

| substr(dgnscd,1,5) == "41041" ///

| substr(dgnscd,1,5) == "41051" ///

| substr(dgnscd,1,5) == "41061" ///

| substr(dgnscd,1,5) == "41071" ///

| substr(dgnscd,1,5) == "41081" ///

| substr(dgnscd,1,5) == "41091" ///

| substr(dgnscd,1,5) == "I2101" ///

| substr(dgnscd,1,5) == "I2102" ///

| substr(dgnscd,1,5) == "I2109" ///

| substr(dgnscd,1,5) == "I2111" ///

| substr(dgnscd,1,5) == "I2119" ///

| substr(dgnscd,1,5) == "I2121" ///

| substr(dgnscd,1,5) == "I2129" ///

| substr(dgnscd,1,4) == "I213" ///

| substr(dgnscd,1,4) == "I214" ///

| substr(dgnscd,1,4) == "I219" ///

| substr(dgnscd,1,5) == "I21A1" ///

| substr(dgnscd,1,5) == "I21A9" ///

| substr(dgnscd,1,4) == "I220" ///

| substr(dgnscd,1,4) == "I221" ///

| substr(dgnscd,1,4) == "I222" ///

| substr(dgnscd,1,4) == "I228" ///

| substr(dgnscd,1,4) == "I229")

local ccw3 (substr(dgnscd,1,4) == "3310" ///

| substr(dgnscd,1,4) == "G300" ///

| substr(dgnscd,1,4) == "G301" ///

| substr(dgnscd,1,4) == "G308" ///

| substr(dgnscd,1,4) == "G309")

local ccw4 (substr(dgnscd,1,5) == "29011" ///

| substr(dgnscd,1,5) == "29012" ///

| substr(dgnscd,1,5) == "29013" ///

| substr(dgnscd,1,5) == "29010" ///

| substr(dgnscd,1,5) == "29021" ///

| substr(dgnscd,1,5) == "29020" ///

| substr(dgnscd,1,4) == "2903" ///

| substr(dgnscd,1,5) == "29041" ///

| substr(dgnscd,1,5) == "29042" ///

| substr(dgnscd,1,5) == "29043" ///

| substr(dgnscd,1,5) == "29040" ///

| substr(dgnscd,1,4) == "2900" ///

| substr(dgnscd,1,5) == "29410" ///

| substr(dgnscd,1,5) == "29411" ///

| substr(dgnscd,1,5) == "29420" ///

| substr(dgnscd,1,5) == "29421" ///

| substr(dgnscd,1,4) == "2940" ///

| substr(dgnscd,1,4) == "2948" ///

| substr(dgnscd,1,5) == "33111" ///

| substr(dgnscd,1,5) == "33119" ///

| substr(dgnscd,1,4) == "3312" ///

| substr(dgnscd,1,4) == "3317" ///

| substr(dgnscd,1,4) == "3310" ///

| substr(dgnscd,1,3) == "797" ///

| substr(dgnscd,1,5) == "F0150" ///

| substr(dgnscd,1,5) == "F0151" ///

| substr(dgnscd,1,5) == "F0280" ///

| substr(dgnscd,1,5) == "F0281" ///

| substr(dgnscd,1,5) == "F0390" ///

| substr(dgnscd,1,5) == "F0391" ///

| substr(dgnscd,1,3) == "F04" ///

| substr(dgnscd,1,3) == "F05" ///

| substr(dgnscd,1,4) == "F061" ///

| substr(dgnscd,1,4) == "F068" ///

| substr(dgnscd,1,4) == "G138" ///

| substr(dgnscd,1,4) == "G300" ///

| substr(dgnscd,1,4) == "G301" ///

| substr(dgnscd,1,4) == "G308" ///

| substr(dgnscd,1,4) == "G309" ///

| substr(dgnscd,1,5) == "G3101" ///

| substr(dgnscd,1,5) == "G3109" ///

| substr(dgnscd,1,4) == "G311" ///

| substr(dgnscd,1,4) == "G312" ///

| substr(dgnscd,1,3) == "G94" ///

| substr(dgnscd,1,5) == "R4181" ///

| substr(dgnscd,1,3) == "R54")

local ccw5 (substr(dgnscd,1,4) == "2801" ///

| substr(dgnscd,1,4) == "2808" ///

| substr(dgnscd,1,4) == "2809" ///

| substr(dgnscd,1,4) == "2800" ///

| substr(dgnscd,1,4) == "2811" ///

| substr(dgnscd,1,4) == "2812" ///

| substr(dgnscd,1,4) == "2813" ///

| substr(dgnscd,1,4) == "2814" ///

| substr(dgnscd,1,4) == "2818" ///

| substr(dgnscd,1,4) == "2819" ///

| substr(dgnscd,1,4) == "2810" ///

| substr(dgnscd,1,4) == "2821" ///

| substr(dgnscd,1,4) == "2822" ///

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| substr(dgnscd,1,4) == "I509")

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| substr(dgnscd,1,5) == "73398" ///

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| substr(dgnscd,1,7) == "S32424B" ///

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| substr(dgnscd,1,7) == "S32612B" ///

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| substr(dgnscd,1,7) == "S72113A" ///

| substr(dgnscd,1,7) == "S72113B" ///

| substr(dgnscd,1,7) == "S72113C" ///

| substr(dgnscd,1,7) == "S72114A" ///

| substr(dgnscd,1,7) == "S72114B" ///

| substr(dgnscd,1,7) == "S72114C" ///

| substr(dgnscd,1,7) == "S72115A" ///

| substr(dgnscd,1,7) == "S72115B" ///

| substr(dgnscd,1,7) == "S72115C" ///

| substr(dgnscd,1,7) == "S72116A" ///

| substr(dgnscd,1,7) == "S72116B" ///

| substr(dgnscd,1,7) == "S72116C" ///

| substr(dgnscd,1,7) == "S72121A" ///

| substr(dgnscd,1,7) == "S72121B" ///

| substr(dgnscd,1,7) == "S72121C" ///

| substr(dgnscd,1,7) == "S72122A" ///

| substr(dgnscd,1,7) == "S72122B" ///

| substr(dgnscd,1,7) == "S72122C" ///

| substr(dgnscd,1,7) == "S72123A" ///

| substr(dgnscd,1,7) == "S72123B" ///

| substr(dgnscd,1,7) == "S72123C")

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| substr(dgnscd,1,7) == "S72125A" ///

| substr(dgnscd,1,7) == "S72125B" ///

| substr(dgnscd,1,7) == "S72125C" ///

| substr(dgnscd,1,7) == "S72126A" ///

| substr(dgnscd,1,7) == "S72126B" ///

| substr(dgnscd,1,7) == "S72126C" ///

| substr(dgnscd,1,7) == "S72131A" ///

| substr(dgnscd,1,7) == "S72131B" ///

| substr(dgnscd,1,7) == "S72131C" ///

| substr(dgnscd,1,7) == "S72132A" ///

| substr(dgnscd,1,7) == "S72132B" ///

| substr(dgnscd,1,7) == "S72132C" ///

| substr(dgnscd,1,7) == "S72133A" ///

| substr(dgnscd,1,7) == "S72133B" ///

| substr(dgnscd,1,7) == "S72133C" ///

| substr(dgnscd,1,7) == "S72134A" ///

| substr(dgnscd,1,7) == "S72134B" ///

| substr(dgnscd,1,7) == "S72134C" ///

| substr(dgnscd,1,7) == "S72135A" ///

| substr(dgnscd,1,7) == "S72135B" ///

| substr(dgnscd,1,7) == "S72135C" ///

| substr(dgnscd,1,7) == "S72136A" ///

| substr(dgnscd,1,7) == "S72136B" ///

| substr(dgnscd,1,7) == "S72136C" ///

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| substr(dgnscd,1,7) == "S72145A" ///

| substr(dgnscd,1,7) == "S72145B" ///

| substr(dgnscd,1,7) == "S72145C" ///

| substr(dgnscd,1,7) == "S72146A" ///

| substr(dgnscd,1,7) == "S72146B" ///

| substr(dgnscd,1,7) == "S72146C" ///

| substr(dgnscd,1,7) == "S7221XA" ///

| substr(dgnscd,1,7) == "S7221XB" ///

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| substr(dgnscd,1,7) == "S7222XB" ///

| substr(dgnscd,1,7) == "S7222XC" ///

| substr(dgnscd,1,7) == "S7223XA" ///

| substr(dgnscd,1,7) == "S7223XB" ///

| substr(dgnscd,1,7) == "S7223XC" ///

| substr(dgnscd,1,7) == "S7224XA" ///

| substr(dgnscd,1,7) == "S7224XB" ///

| substr(dgnscd,1,7) == "S7224XC" ///

| substr(dgnscd,1,7) == "S7225XA" ///

| substr(dgnscd,1,7) == "S7225XB" ///

| substr(dgnscd,1,7) == "S7225XC" ///

| substr(dgnscd,1,7) == "S7226XA" ///

| substr(dgnscd,1,7) == "S7226XB" ///

| substr(dgnscd,1,7) == "S7226XC" ///

| substr(dgnscd,1,7) == "S79001A" ///

| substr(dgnscd,1,7) == "S79002A" ///

| substr(dgnscd,1,7) == "S79009A" ///

| substr(dgnscd,1,7) == "S79011A" ///

| substr(dgnscd,1,7) == "S79012A" ///

| substr(dgnscd,1,7) == "S79019A" ///

| substr(dgnscd,1,7) == "S79091A" ///

| substr(dgnscd,1,7) == "S79092A" ///

| substr(dgnscd,1,7) == "S79099A")

local ccw17 (substr(dgnscd,1,4) == "2721" ///

| substr(dgnscd,1,4) == "2722" ///

| substr(dgnscd,1,4) == "2723" ///

| substr(dgnscd,1,4) == "2724" ///

| substr(dgnscd,1,4) == "2720" ///

| substr(dgnscd,1,4) == "E780" ///

| substr(dgnscd,1,4) == "E781" ///

| substr(dgnscd,1,4) == "E782" ///

| substr(dgnscd,1,4) == "E783" ///

| substr(dgnscd,1,4) == "E784" ///

| substr(dgnscd,1,4) == "E785")

local ccw18 (substr(dgnscd,1,5) == "36211" ///

| substr(dgnscd,1,4) == "4011" ///

| substr(dgnscd,1,4) == "4019" ///

| substr(dgnscd,1,4) == "4010" ///

| substr(dgnscd,1,5) == "40201" ///

| substr(dgnscd,1,5) == "40211" ///

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| substr(dgnscd,1,5) == "40291" ///

| substr(dgnscd,1,5) == "40290" ///

| substr(dgnscd,1,5) == "40200" ///

| substr(dgnscd,1,5) == "40301" ///

| substr(dgnscd,1,5) == "40311" ///

| substr(dgnscd,1,5) == "40310" ///

| substr(dgnscd,1,5) == "40391" ///

| substr(dgnscd,1,5) == "40390" ///

| substr(dgnscd,1,5) == "40300" ///

| substr(dgnscd,1,5) == "40401" ///

| substr(dgnscd,1,5) == "40402" ///

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| substr(dgnscd,1,4) == "4372" ///

| substr(dgnscd,1,6) == "H35031" ///

| substr(dgnscd,1,6) == "H35032" ///

| substr(dgnscd,1,6) == "H35033" ///

| substr(dgnscd,1,6) == "H35039" ///

| substr(dgnscd,1,3) == "I10" ///

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| substr(dgnscd,1,4) == "I120" ///

| substr(dgnscd,1,4) == "I129" ///

| substr(dgnscd,1,4) == "I130" ///

| substr(dgnscd,1,5) == "I1310" ///

| substr(dgnscd,1,5) == "I1311" ///

| substr(dgnscd,1,4) == "I132" ///

| substr(dgnscd,1,4) == "I150" ///

| substr(dgnscd,1,4) == "I151" ///

| substr(dgnscd,1,4) == "I152" ///

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| substr(dgnscd,1,4) == "I159" ///

| substr(dgnscd,1,4) == "I674" ///

| substr(dgnscd,1,4) == "N262")

local ccw19 (substr(dgnscd,1,5) == "41001" ///

| substr(dgnscd,1,5) == "41002" ///

| substr(dgnscd,1,5) == "41011" ///

| substr(dgnscd,1,5) == "41012" ///

| substr(dgnscd,1,5) == "41010" ///

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| substr(dgnscd,1,5) == "41031" ///

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| substr(dgnscd,1,5) == "41030" ///

| substr(dgnscd,1,5) == "41041" ///

| substr(dgnscd,1,5) == "41042" ///

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| substr(dgnscd,1,5) == "41051" ///

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| substr(dgnscd,1,5) == "41070" ///

| substr(dgnscd,1,5) == "41081" ///

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| substr(dgnscd,1,5) == "41080" ///

| substr(dgnscd,1,5) == "41091" ///

| substr(dgnscd,1,5) == "41092" ///

| substr(dgnscd,1,5) == "41090" ///

| substr(dgnscd,1,5) == "41000" ///

| substr(dgnscd,1,4) == "4111" ///

| substr(dgnscd,1,5) == "41181" ///

| substr(dgnscd,1,5) == "41189" ///

| substr(dgnscd,1,4) == "4110" ///

| substr(dgnscd,1,3) == "412" ///

| substr(dgnscd,1,4) == "4131" ///

| substr(dgnscd,1,4) == "4139" ///

| substr(dgnscd,1,4) == "4130" ///

| substr(dgnscd,1,5) == "41401" ///

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| substr(dgnscd,1,5) == "41404" ///

| substr(dgnscd,1,5) == "41405" ///

| substr(dgnscd,1,5) == "41406" ///

| substr(dgnscd,1,5) == "41407" ///

| substr(dgnscd,1,5) == "41412" ///

| substr(dgnscd,1,4) == "4142" ///

| substr(dgnscd,1,4) == "4143" ///

| substr(dgnscd,1,4) == "4144" ///

| substr(dgnscd,1,4) == "4148" ///

| substr(dgnscd,1,4) == "4149" ///

| substr(dgnscd,1,5) == "41400" ///

| substr(dgnscd,1,4) == "I200" ///

| substr(dgnscd,1,4) == "I201" ///

| substr(dgnscd,1,4) == "I208" ///

| substr(dgnscd,1,4) == "I209" ///

| substr(dgnscd,1,5) == "I2101" ///

| substr(dgnscd,1,5) == "I2102" ///

| substr(dgnscd,1,5) == "I2109" ///

| substr(dgnscd,1,5) == "I2111" ///

| substr(dgnscd,1,5) == "I2119" ///

| substr(dgnscd,1,5) == "I2121" ///

| substr(dgnscd,1,5) == "I2129" ///

| substr(dgnscd,1,4) == "I213" ///

| substr(dgnscd,1,4) == "I214" ///

| substr(dgnscd,1,5) == "I21A1" ///

| substr(dgnscd,1,5) == "I21A9" ///

| substr(dgnscd,1,4) == "I220" ///

| substr(dgnscd,1,4) == "I221" ///

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| substr(dgnscd,1,4) == "I248" ///

| substr(dgnscd,1,4) == "I249" ///

| substr(dgnscd,1,5) == "I2510" ///

| substr(dgnscd,1,6) == "I25110" ///

| substr(dgnscd,1,6) == "I25111" ///

| substr(dgnscd,1,6) == "I25118" ///

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| substr(dgnscd,1,4) == "I252" ///

| substr(dgnscd,1,4) == "I253" ///

| substr(dgnscd,1,5) == "I2541" ///

| substr(dgnscd,1,5) == "I2542" ///

| substr(dgnscd,1,4) == "I255" ///

| substr(dgnscd,1,4) == "I256" ///

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| substr(dgnscd,1,6) == "I25701" ///

| substr(dgnscd,1,6) == "I25708" ///

| substr(dgnscd,1,6) == "I25709" ///

| substr(dgnscd,1,6) == "I25710" ///

| substr(dgnscd,1,6) == "I25711" ///

| substr(dgnscd,1,6) == "I25718" ///

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| substr(dgnscd,1,6) == "I25751" ///

| substr(dgnscd,1,6) == "I25758" ///

| substr(dgnscd,1,6) == "I25759" ///

| substr(dgnscd,1,6) == "I25760" ///

| substr(dgnscd,1,6) == "I25761" ///

| substr(dgnscd,1,6) == "I25768" ///

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| substr(dgnscd,1,6) == "I25790" ///

| substr(dgnscd,1,6) == "I25791" ///

| substr(dgnscd,1,6) == "I25798" ///

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| substr(dgnscd,1,6) == "I25810" ///

| substr(dgnscd,1,6) == "I25811" ///

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| substr(dgnscd,1,5) == "I2583" ///

| substr(dgnscd,1,5) == "I2584" ///

| substr(dgnscd,1,5) == "I2589" ///

| substr(dgnscd,1,4) == "I259")

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| substr(dgnscd,1,5) == "73302" ///

| substr(dgnscd,1,5) == "73303" ///

| substr(dgnscd,1,5) == "73309" ///

| substr(dgnscd,1,5) == "73300" ///

| substr(dgnscd,1,4) == "M810" ///

| substr(dgnscd,1,4) == "M816" ///

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| substr(dgnscd,1,4) == "7142" ///

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| substr(dgnscd,1,5) == "71511" ///

| substr(dgnscd,1,5) == "71512" ///

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| substr(dgnscd,1,4) == "7200" ///

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| substr(dgnscd,1,6) == "M05232" ///

| substr(dgnscd,1,6) == "M05239" ///

| substr(dgnscd,1,6) == "M05241" ///

| substr(dgnscd,1,6) == "M05242" ///

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| substr(dgnscd,1,6) == "C50121" ///

| substr(dgnscd,1,6) == "C50122" ///

| substr(dgnscd,1,6) == "C50129" ///

| substr(dgnscd,1,6) == "C50211" ///

| substr(dgnscd,1,6) == "C50212" ///

| substr(dgnscd,1,6) == "C50219" ///

| substr(dgnscd,1,6) == "C50221" ///

| substr(dgnscd,1,6) == "C50222" ///

| substr(dgnscd,1,6) == "C50229" ///

| substr(dgnscd,1,6) == "C50311" ///

| substr(dgnscd,1,6) == "C50312" ///

| substr(dgnscd,1,6) == "C50319" ///

| substr(dgnscd,1,6) == "C50321" ///

| substr(dgnscd,1,6) == "C50322" ///

| substr(dgnscd,1,6) == "C50329" ///

| substr(dgnscd,1,6) == "C50411" ///

| substr(dgnscd,1,6) == "C50412" ///

| substr(dgnscd,1,6) == "C50419" ///

| substr(dgnscd,1,6) == "C50421" ///

| substr(dgnscd,1,6) == "C50422" ///

| substr(dgnscd,1,6) == "C50429" ///

| substr(dgnscd,1,6) == "C50511" ///

| substr(dgnscd,1,6) == "C50512" ///

| substr(dgnscd,1,6) == "C50519" ///

| substr(dgnscd,1,6) == "C50521" ///

| substr(dgnscd,1,6) == "C50522" ///

| substr(dgnscd,1,6) == "C50529" ///

| substr(dgnscd,1,6) == "C50611" ///

| substr(dgnscd,1,6) == "C50612" ///

| substr(dgnscd,1,6) == "C50619" ///

| substr(dgnscd,1,6) == "C50621" ///

| substr(dgnscd,1,6) == "C50622" ///

| substr(dgnscd,1,6) == "C50629" ///

| substr(dgnscd,1,6) == "C50811" ///

| substr(dgnscd,1,6) == "C50812" ///

| substr(dgnscd,1,6) == "C50819" ///

| substr(dgnscd,1,6) == "C50821" ///

| substr(dgnscd,1,6) == "C50822" ///

| substr(dgnscd,1,6) == "C50829" ///

| substr(dgnscd,1,6) == "C50911" ///

| substr(dgnscd,1,6) == "C50912" ///

| substr(dgnscd,1,6) == "C50919" ///

| substr(dgnscd,1,6) == "C50921" ///

| substr(dgnscd,1,6) == "C50922" ///

| substr(dgnscd,1,6) == "C50929" ///

| substr(dgnscd,1,5) == "D0500" ///

| substr(dgnscd,1,5) == "D0501" ///

| substr(dgnscd,1,5) == "D0502" ///

| substr(dgnscd,1,5) == "D0510" ///

| substr(dgnscd,1,5) == "D0511" ///

| substr(dgnscd,1,5) == "D0512" ///

| substr(dgnscd,1,5) == "D0580" ///

| substr(dgnscd,1,5) == "D0581" ///

| substr(dgnscd,1,5) == "D0582" ///

| substr(dgnscd,1,5) == "D0590" ///

| substr(dgnscd,1,5) == "D0591" ///

| substr(dgnscd,1,5) == "D0592" ///

| substr(dgnscd,1,4) == "Z853")

local ccw24 (substr(dgnscd,1,4) =="1530" | substr(dgnscd,1,4) == "1531" ///

| substr(dgnscd,1,4) == "1532" | substr(dgnscd,1,4) == "1533" ///

| substr(dgnscd,1,4) == "1534" | substr(dgnscd,1,4) == "1535" ///

| substr(dgnscd,1,4) == "1536" | substr(dgnscd,1,4) == "1537" ///

| substr(dgnscd,1,4) == "1538" | substr(dgnscd,1,4) == "1539" ///

| substr(dgnscd,1,4) == "1540" | substr(dgnscd,1,4) == "1541" ///

| substr(dgnscd,1,4) == "2303" | substr(dgnscd,1,4) == "2304" ///

| substr(dgnscd,1,5) == "V1005" | substr(dgnscd,1,5) == "V1006" ///

| substr(dgnscd,1,4) == "C180" | substr(dgnscd,1,4) == "C181" ///

| substr(dgnscd,1,4) == "C182" | substr(dgnscd,1,4) == "C183" ///

| substr(dgnscd,1,4) == "C184" | substr(dgnscd,1,4) == "C185" ///

| substr(dgnscd,1,4) == "C186" | substr(dgnscd,1,4) == "C187" ///

| substr(dgnscd,1,4) == "C188" | substr(dgnscd,1,4) == "C189" ///

| substr(dgnscd,1,3) == "C19" | substr(dgnscd,1,3) == "C20" ///

| substr(dgnscd,1,4) == "D010" | substr(dgnscd,1,4) == "D011" ///

| substr(dgnscd,1,4) == "D012" | substr(dgnscd,1,6) == "Z85038" ///

| substr(dgnscd,1,6) == "Z85040" | substr(dgnscd,1,6) == "Z85048")

local ccw25 substr(dgnscd,1,3)=="185" | substr(dgnscd,1,4) == "2334" | substr(dgnscd,1,5) == "V1046" ///

| substr(dgnscd,1,3) == "C61" | substr(dgnscd,1,4) == "D075" | substr(dgnscd,1,5) == "Z8546"

local ccw26 (substr(dgnscd,1,4) == "1622" | substr(dgnscd,1,4) == "1623" ///

| substr(dgnscd,1,4) == "1624" | substr(dgnscd,1,4) == "1625" ///

| substr(dgnscd,1,4) == "1628" | substr(dgnscd,1,4) == "1629" ///

| substr(dgnscd,1,4) == "2312" | substr(dgnscd,1,5) == "V1011" ///

| substr(dgnscd,1,5) == "C3400" | substr(dgnscd,1,5) == "C3401" ///

| substr(dgnscd,1,5) == "C3402" | substr(dgnscd,1,5) == "C3410" ///

| substr(dgnscd,1,5) == "C3411" | substr(dgnscd,1,5) == "C3412" ///

| substr(dgnscd,1,4) == "C342" | substr(dgnscd,1,5) == "C3430" ///

| substr(dgnscd,1,5) == "C3431" | substr(dgnscd,1,5) == "C3432" ///

| substr(dgnscd,1,5) == "C3480" | substr(dgnscd,1,5) == "C3481" ///

| substr(dgnscd,1,5) == "C3482" | substr(dgnscd,1,5) == "C3490" ///

| substr(dgnscd,1,5) == "C3491" | substr(dgnscd,1,5) == "C3492" ///

| substr(dgnscd,1,5) == "D0220" | substr(dgnscd,1,5) == "D0221" ///

| substr(dgnscd,1,5) == "D0222" | substr(dgnscd,1,6) == "Z85110" | substr(dgnscd,1,6) == "Z85118")

local ccw27 substr(dgnscd,1,4) == "1820" | substr(dgnscd,1,4) == "2332" ///

| substr(dgnscd,1,5) == "V1042" | substr(dgnscd,1,4) == "C541" ///

| substr(dgnscd,1,4) == "C542" | substr(dgnscd,1,4) == "C543" ///

| substr(dgnscd,1,4) == "C548" | substr(dgnscd,1,4) == "C549" ///

| substr(dgnscd,1,4) == "D070" | substr(dgnscd,1,5) == "Z8542"

}

//3rd, get condition codes

use `index', clear

forvalues year=1/7 {

/\*Acquired Hypothyroidism

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw1=`ccw1'

by id, sort: egen ccw1a=max(ccw1)

keep id ccw1a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw1=`ccw1'

by id, sort: egen n\_ccw1=total(ccw1)

gen ccw1b=n\_ccw1>=2 & !missing(n\_ccw1)

keep id ccw1b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_1\_y`year'=rowmax(ccw1\*)

drop ccw1\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_1\_y`year' "Acquired Hypothyroidism, CCW, `=`year'-1'-`year' year pre-death"

/\*AMI

-1 year look back

-1 IP

-dx 1 or 2 only

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

keep if num<3

gen ccw2=`ccw2'

by id, sort: egen ccw\_2\_y`year'=max(ccw2)

keep id ccw\_2\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_2\_y`year' "AMI, CCW, `=`year'-1'-`year' year pre-death"

/\*Alzheimer's

-3 year look back

-1 IP/SNF/HH/OP/PB

-any dx

\*/

di "CCW 3"

di "year `year'"

preserve

use `pb' if inrange(admit\_date,index\_date-floor((`year'+2)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `ip'

append using `op'

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor((`year'+2)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw3=`ccw3'

by id, sort: egen ccw\_3\_y`year'=max(ccw3)

keep id ccw\_3\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_3\_y`year' "Alzheimer's, CCW, `=`year'-1'-`year' year pre-death"

/\*Alzheimer's Disease & Related Disorders or Senile Dementia

-3 year look back

-1 IP/SNF/HH/OP/PB

-any dx

\*/

preserve

use `pb' if inrange(admit\_date,index\_date-floor((`year'+2)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `ip'

append using `op'

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor((`year'+2)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw4=`ccw4'

by id, sort: egen ccw\_4\_y`year'=max(ccw4)

keep id ccw\_4\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_4\_y`year' "Alzheimer's & Related/Dementia, CCW, `=`year'-1'-`year' year pre-death"

/\*Anemia

-1 year look back

-1 IP/SNF/HH/OP/PB

-any dx

\*/

preserve

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `ip'

append using `op'

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw5=`ccw5'

by id, sort: egen ccw\_5\_y`year'=max(ccw5)

keep id ccw\_5\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_5\_y`year' "Anemia, CCW, `=`year'-1'-`year' year pre-death"

/\*Asthma

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

di "CCW 6"

di "year `year'"

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw6=`ccw6'

by id, sort: egen ccw6a=max(ccw6)

keep id ccw6a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw6=`ccw6'

by id, sort: egen n\_ccw6=total(ccw6)

gen ccw6b=n\_ccw6>=2 & !missing(n\_ccw6)

keep id ccw6b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_6\_y`year'=rowmax(ccw6\*)

drop ccw6\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_6\_y`year' "Asthma, CCW, `=`year'-1'-`year' year pre-death"

/\*Atrial Fibrillation

-1 year look back

-1 IP or 2 OP/PB

-only 1st or 2nd dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

keep if num<=2

gen ccw7=`ccw7'

by id, sort: egen ccw7a=max(ccw7)

keep id ccw7a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

keep if num<3

gen ccw7=`ccw7'

by id, sort: egen n\_ccw7=total(ccw7)

gen ccw7b=n\_ccw7>=2 & !missing(n\_ccw7)

keep id ccw7b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_7\_y`year'=rowmax(ccw7\*)

drop ccw7\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_7\_y`year' "Atrial Fibrillation, CCW, `=`year'-1'-`year' year pre-death"

/\*Benign Prostatic Hyperplasia

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

di "CCW 8"

di "year `year'"

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw8=`ccw8'

//exclusion

replace ccw8=0 if inlist(substr(dgnscd,1,4),"2222","D291")

by id, sort: egen ccw8a=max(ccw8)

keep id ccw8a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw8=`ccw8'

//exclusion

replace ccw8=0 if inlist(substr(dgnscd,1,4),"2222","D291")

by id, sort: egen n\_ccw8=total(ccw8)

gen ccw8b=n\_ccw8>=2 & !missing(n\_ccw8)

keep id ccw8b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_8\_y`year'=rowmax(ccw8\*)

drop ccw8\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_8\_y`year' "Benign Prostatic Hyperplasia, CCW, `=`year'-1'-`year' year pre-death"

/\*Cataract

-1 year look back

-1 OP/PB

-dx1 only

\*/

preserve

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

keep if num==1

gen ccw9=`ccw9'

by id, sort: egen ccw\_9\_y`year'=max(ccw9)

keep id ccw\_9\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_9\_y`year' "Cataract, CCW, `=`year'-1'-`year' year pre-death"

/\*CKD

-2 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year+1'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw10=`ccw10a'

replace ccw10=1 if `ccw10b'

by id, sort: egen ccw10a=max(ccw10)

keep id ccw10a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw10=`ccw10a'

replace ccw10=1 if `ccw10b'

by id, sort: egen n\_ccw10=total(ccw10)

gen ccw10b=n\_ccw10>=2 & !missing(n\_ccw10)

keep id ccw10b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_10\_y`year'=rowmax(ccw10\*)

drop ccw10\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_10\_y`year' "CKD, CCW, `=`year'-1'-`year' year pre-death"

/\*COPD and Bronchiectasis

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

di "CCW 11"

di "year `year'"

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw11=`ccw11'

by id, sort: egen ccw11a=max(ccw11)

keep id ccw11a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw11=`ccw11'

by id, sort: egen n\_ccw11=total(ccw11)

gen ccw11b=n\_ccw11>=2 & !missing(n\_ccw11)

keep id ccw11b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_11\_y`year'=rowmax(ccw11\*)

drop ccw11\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_11\_y`year' "COPD/Bronchiectasis, CCW, `=`year'-1'-`year' year pre-death"

/\*Depression

-1 year look back

-1 IP/SNF/HH/OP/PB

-any dx

\*/

preserve

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `ip'

append using `op'

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw12=`ccw12'

by id, sort: egen ccw\_12\_y`year'=max(ccw12)

keep id ccw\_12\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_12\_y`year' "Depression, CCW, `=`year'-1'-`year' year pre-death"

/\*Diabetes

-2 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw13=`ccw13a'

replace ccw13=1 if `ccw13b'

replace ccw13=1 if `ccw13c'

by id, sort: egen ccw13a=max(ccw13)

keep id ccw13a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw13=`ccw13a'

replace ccw13=1 if `ccw13b'

replace ccw13=1 if `ccw13c'

by id, sort: egen n\_ccw13=total(ccw13)

gen ccw13b=n\_ccw13>=2 & !missing(n\_ccw13)

keep id ccw13b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_13\_y`year'=rowmax(ccw13\*)

drop ccw13\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_13\_y`year' "Diabetes, CCW, `=`year'-1'-`year' year pre-death"

/\*Glaucoma

-1 year look back

-1 PB

-dx1 only

\*/

preserve

di "CCW 14"

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

keep if num==1

gen ccw14=`ccw14a'

replace ccw14=1 if `ccw14b'

by id, sort: egen ccw\_14\_y`year'=max(ccw14)

keep id ccw\_14\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_14\_y`year' "Glaucoma, CCW, `=`year'-1'-`year' year pre-death"

/\*Heart Failure

-2 year look back

-1 IP/OP/PB

-any dx

\*/

preserve

di "CCW 15"

di "year `year'"

use `pb' if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `ip'

append using `op'

keep if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw15=`ccw15'

by id, sort: egen ccw\_15\_y`year'=max(ccw15)

keep id ccw\_15\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_15\_y`year' "Heart Failure, CCW, `=`year'-1'-`year' year pre-death"

/\*Hip/Pelvic Fracture

-1 year look back

-1 IP/SNF/HH/OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw16=`ccw16a'

replace ccw16=1 if `ccw16b'

replace ccw16=1 if `ccw16c'

by id, sort: egen ccw\_16\_y`year'=max(ccw16)

keep id ccw\_16\_y`year'

duplicates drop

tempfile t1

save `t1'

restore

merge 1:1 id using `t1', nogen

label var ccw\_16\_y`year' "Hip/Pelvic Fracture, CCW, `=`year'-1'-`year' year pre-death"

/\*Hyperlipidemia

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw17=`ccw17'

by id, sort: egen ccw17a=max(ccw17)

keep id ccw17a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw17= `ccw17'

by id, sort: egen n\_ccw17=total(ccw17)

gen ccw17b=n\_ccw17>=2 & !missing(n\_ccw17)

keep id ccw17b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_17\_y`year'=rowmax(ccw17\*)

drop ccw17\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_17\_y`year' "Hyperlipidemia, CCW, `=`year'-1'-`year' year pre-death"

/\*Hypertension

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

di "CCW 18"

di "year `year'"

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw18=`ccw18'

by id, sort: egen ccw18a=max(ccw18)

keep id ccw18a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw18=`ccw18'

by id, sort: egen n\_ccw18=total(ccw18)

gen ccw18b=n\_ccw18>=2 & !missing(n\_ccw18)

keep id ccw18b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_18\_y`year'=rowmax(ccw18\*)

drop ccw18\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_18\_y`year' "Hypertension, CCW, `=`year'-1'-`year' year pre-death"

/\*Ischemic Heart Disease

-2 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw19=`ccw19'

by id, sort: egen ccw19a=max(ccw19)

keep id ccw19a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw19=`ccw19'

by id, sort: egen n\_ccw19=total(ccw19)

gen ccw19b=n\_ccw19>=2 & !missing(n\_ccw19)

keep id ccw19b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_19\_y`year'=rowmax(ccw19\*)

drop ccw19\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_19\_y`year' "Ischemic Heart Disease, CCW, `=`year'-1'-`year' year pre-death"

/\*Osteoporosis

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw20=`ccw20'

by id, sort: egen ccw20a=max(ccw20)

keep id ccw20a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw20=`ccw20'

by id, sort: egen n\_ccw20=total(ccw20)

gen ccw20b=n\_ccw20>=2 & !missing(n\_ccw20)

keep id ccw20b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_20\_y`year'=rowmax(ccw20\*)

drop ccw20\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_20\_y`year' "Osteoporosis, CCW, `=`year'-1'-`year' year pre-death"

/\*RA/OA

-2 year look back

-2 IP/SNF/HH/OP/PB

-any dx

\*/

di "CCW 21"

di "year `year'"

preserve

use `pb' if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

append using `ip'

append using `hh'

append using `snf'

keep if inrange(admit\_date,index\_date-floor((`year'+1)\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw21=`ccw21a'

replace ccw21=1 if `ccw21b'

replace ccw21=1 if `ccw21c'

replace ccw21=1 if `ccw21d'

by id, sort: egen n\_ccw21=total(ccw21)

gen ccw\_21\_y`year'=n\_ccw21>=2 & !missing(n\_ccw21)

keep id ccw\_21\_y`year'

duplicates drop

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_21\_y`year' "RA/OA, CCW, `=`year'-1'-`year' year pre-death"

/\*Stroke/Transient Ischemic Attack

-1 year look back

-1 IP or 2 OP/PB

-any dx, with exclusions

\*/

di "CCW22"

di "year `year'"

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

gen ccw22=`ccw22a'

replace ccw22=1 if `ccw22b'

foreach x of varlist dgnscd\* {

replace ccw22=0 if (substr(`x',1,2)=="80" & inlist(substr(`x',3,1),"1","2","3","4")) ///

| (substr(`x',1,2)=="85" & (inlist(substr(`x',3,1),"0","1","2","3") ///

| ((substr(`x',3,1)=="4" & inlist(substr(`x',4,1),"0","1")))))

replace ccw22=0 if (substr(`x',1,7) =="S0190XA" ///

| substr(`x',1,7) =="S020XXA" ///

| substr(`x',1,7) =="S020XXB" ///

| substr(`x',1,7) =="S0210XA" ///

| substr(`x',1,7) =="S0210XB" ///

| substr(`x',1,7) =="S02101A" ///

| substr(`x',1,7) =="S02101B" ///

| substr(`x',1,7) =="S02102A" ///

| substr(`x',1,7) =="S02102B" ///

| substr(`x',1,7) =="S02109A" ///

| substr(`x',1,7) =="S02109B" ///

| substr(`x',1,7) =="S0211GA" ///

| substr(`x',1,7) =="S0211GB" ///

| substr(`x',1,7) =="S0211HA" ///

| substr(`x',1,7) =="S0211HB" ///

| substr(`x',1,7) =="S02110A" ///

| substr(`x',1,7) =="S02111A" ///

| substr(`x',1,7) =="S02112A" ///

| substr(`x',1,7) =="S02113A" ///

| substr(`x',1,7) =="S02110B" ///

| substr(`x',1,7) =="S02111B" ///

| substr(`x',1,7) =="S02112B" ///

| substr(`x',1,7) =="S02113B" ///

| substr(`x',1,7) =="S02118A" ///

| substr(`x',1,7) =="S02118B" ///

| substr(`x',1,7) =="S02119A" ///

| substr(`x',1,7) =="S02119B" ///

| substr(`x',1,7) =="S0219XA" ///

| substr(`x',1,7) =="S0219XB" ///

| substr(`x',1,7) =="S022XXA" ///

| substr(`x',1,7) =="S022XXB" ///

| substr(`x',1,7) =="S023XXA" ///

| substr(`x',1,7) =="S0230XA" ///

| substr(`x',1,7) =="S023XXB" ///

| substr(`x',1,7) =="S0230XB" ///

| substr(`x',1,7) =="S0231XA" ///

| substr(`x',1,7) =="S0231XB" ///

| substr(`x',1,7) =="S0232XA" ///

| substr(`x',1,7) =="S0232XB" ///

| substr(`x',1,7) =="S0240AA" ///

| substr(`x',1,7) =="S0240AB" ///

| substr(`x',1,7) =="S0240BA" ///

| substr(`x',1,7) =="S0240BB" ///

| substr(`x',1,7) =="S0240CA" ///

| substr(`x',1,7) =="S0240CB" ///

| substr(`x',1,7) =="S0240DA" ///

| substr(`x',1,7) =="S0240DB" ///

| substr(`x',1,7) =="S0240EA" ///

| substr(`x',1,7) =="S0240EB" ///

| substr(`x',1,7) =="S0240FA" ///

| substr(`x',1,7) =="S0240FB" ///

| substr(`x',1,7) =="S02400A" ///

| substr(`x',1,7) =="S02400B" ///

| substr(`x',1,7) =="S02401A" ///

| substr(`x',1,7) =="S02401B" ///

| substr(`x',1,7) =="S02402A" ///

| substr(`x',1,7) =="S02402B" ///

| substr(`x',1,7) =="S02411A" ///

| substr(`x',1,7) =="S02411B" ///

| substr(`x',1,7) =="S02412A" ///

| substr(`x',1,7) =="S02412B" ///

| substr(`x',1,7) =="S02413A" ///

| substr(`x',1,7) =="S02413B" ///

| substr(`x',1,7) =="S0242XA" ///

| substr(`x',1,7) =="S0242XB" ///

| substr(`x',1,7) =="S02600A" ///

| substr(`x',1,7) =="S02600B" ///

| substr(`x',1,7) =="S02601A" ///

| substr(`x',1,7) =="S02601B" ///

| substr(`x',1,7) =="S02602A" ///

| substr(`x',1,7) =="S02602B" ///

| substr(`x',1,7) =="S02609A" ///

| substr(`x',1,7) =="S02609B" ///

| substr(`x',1,7) =="S0261XA" ///

| substr(`x',1,7) =="S02610A" ///

| substr(`x',1,7) =="S02610B" ///

| substr(`x',1,7) =="S02611A" ///

| substr(`x',1,7) =="S02611B" ///

| substr(`x',1,7) =="S02612A" ///

| substr(`x',1,7) =="S02612B" ///

| substr(`x',1,7) =="S0262XA" ///

| substr(`x',1,7) =="S02620A" ///

| substr(`x',1,7) =="S0262XB" ///

| substr(`x',1,7) =="S02620B" ///

| substr(`x',1,7) =="S02621A" ///

| substr(`x',1,7) =="S02621B" ///

| substr(`x',1,7) =="S02622A" ///

| substr(`x',1,7) =="S02622B" ///

| substr(`x',1,7) =="S0263XA" ///

| substr(`x',1,7) =="S02630A" ///

| substr(`x',1,7) =="S0263XB" ///

| substr(`x',1,7) =="S02630B" ///

| substr(`x',1,7) =="S02631A" ///

| substr(`x',1,7) =="S02631B" ///

| substr(`x',1,7) =="S02632A" ///

| substr(`x',1,7) =="S02632B" ///

| substr(`x',1,7) =="S0264XA" ///

| substr(`x',1,7) =="S02640A" ///

| substr(`x',1,7) =="S0264XB" ///

| substr(`x',1,7) =="S02640B" ///

| substr(`x',1,7) =="S02641A" ///

| substr(`x',1,7) =="S02641B" ///

| substr(`x',1,7) =="S02642A" ///

| substr(`x',1,7) =="S02642B" ///

| substr(`x',1,7) =="S0265XA" ///

| substr(`x',1,7) =="S02650A" ///

| substr(`x',1,7) =="S0265XB" ///

| substr(`x',1,7) =="S02650B" ///

| substr(`x',1,7) =="S02651A" ///

| substr(`x',1,7) =="S02651B" ///

| substr(`x',1,7) =="S02652A" ///

| substr(`x',1,7) =="S02652B" ///

| substr(`x',1,7) =="S0266XA" ///

| substr(`x',1,7) =="S0266XB" ///

| substr(`x',1,7) =="S0267XA" ///

| substr(`x',1,7) =="S02670A" ///

| substr(`x',1,7) =="S02670B" ///

| substr(`x',1,7) =="S02671A" ///

| substr(`x',1,7) =="S02671B" ///

| substr(`x',1,7) =="S02672A" ///

| substr(`x',1,7) =="S02672B" ///

| substr(`x',1,7) =="S0269XA" ///

| substr(`x',1,7) =="S0261XB" ///

| substr(`x',1,7) =="S0262XA" ///

| substr(`x',1,7) =="S0263XA" ///

| substr(`x',1,7) =="S0264XA" ///

| substr(`x',1,7) =="S0265XA" ///

| substr(`x',1,7) =="S0266XA" ///

| substr(`x',1,7) =="S0267XB" ///

| substr(`x',1,7) =="S0269XB" ///

| substr(`x',1,7) =="S028XXA" ///

| substr(`x',1,7) =="S0280XA" ///

| substr(`x',1,7) =="S028XXB" ///

| substr(`x',1,7) =="S0280XB" ///

| substr(`x',1,7) =="S0281XA" ///

| substr(`x',1,7) =="S0281XB" ///

| substr(`x',1,7) =="S0282XA" ///

| substr(`x',1,7) =="S0282XB" ///

| substr(`x',1,7) =="S0291XA" ///

| substr(`x',1,7) =="S0291XB" ///

| substr(`x',1,7) =="S0292XA" ///

| substr(`x',1,7) =="S0292XB" ///

| substr(`x',1,7) =="S060X0A" ///

| substr(`x',1,7) =="S060X1A" ///

| substr(`x',1,7) =="S060X2A" ///

| substr(`x',1,7) =="S060X3A" ///

| substr(`x',1,7) =="S060X4A" ///

| substr(`x',1,7) =="S060X5A" ///

| substr(`x',1,7) =="S060X6A" ///

| substr(`x',1,7) =="S060X7A" ///

| substr(`x',1,7) =="S060X8A" ///

| substr(`x',1,7) =="S060X9A" ///

| substr(`x',1,7) =="S061X0A" ///

| substr(`x',1,7) =="S061X1A" ///

| substr(`x',1,7) =="S061X2A" ///

| substr(`x',1,7) =="S061X3A" ///

| substr(`x',1,7) =="S061X4A" ///

| substr(`x',1,7) =="S061X5A" ///

| substr(`x',1,7) =="S061X6A" ///

| substr(`x',1,7) =="S061X7A" ///

| substr(`x',1,7) =="S061X8A" ///

| substr(`x',1,7) =="S061X9A" ///

| substr(`x',1,7) =="S062X0A" ///

| substr(`x',1,7) =="S062X1A" ///

| substr(`x',1,7) =="S062X2A" ///

| substr(`x',1,7) =="S062X3A" ///

| substr(`x',1,7) =="S062X4A" ///

| substr(`x',1,7) =="S062X5A" ///

| substr(`x',1,7) =="S062X6A" ///

| substr(`x',1,7) =="S062X7A" ///

| substr(`x',1,7) =="S062X8A" ///

| substr(`x',1,7) =="S062X9A" ///

| substr(`x',1,7) =="S062X0B" ///

| substr(`x',1,7) =="S062X1B" ///

| substr(`x',1,7) =="S062X2B" ///

| substr(`x',1,7) =="S062X3B" ///

| substr(`x',1,7) =="S062X4B" ///

| substr(`x',1,7) =="S062X5B" ///

| substr(`x',1,7) =="S062X6B" ///

| substr(`x',1,7) =="S062X7B" ///

| substr(`x',1,7) =="S062X8B" ///

| substr(`x',1,7) =="S062X9B" ///

| substr(`x',1,7) =="S06300A" ///

| substr(`x',1,7) =="S06301A" ///

| substr(`x',1,7) =="S06302A" ///

| substr(`x',1,7) =="S06303A" ///

| substr(`x',1,7) =="S06304A" ///

| substr(`x',1,7) =="S06305A" ///

| substr(`x',1,7) =="S06306A" ///

| substr(`x',1,7) =="S06307A" ///

| substr(`x',1,7) =="S06308A" ///

| substr(`x',1,7) =="S06309A" ///

| substr(`x',1,7) =="S06310A" ///

| substr(`x',1,7) =="S06311A" ///

| substr(`x',1,7) =="S06312A" ///

| substr(`x',1,7) =="S06313A" ///

| substr(`x',1,7) =="S06314A" ///

| substr(`x',1,7) =="S06315A")

replace ccw22=0 if (substr(`x',1,7) =="S06316A" ///

| substr(`x',1,7) =="S06317A" ///

| substr(`x',1,7) =="S06318A" ///

| substr(`x',1,7) =="S06319A" ///

| substr(`x',1,7) =="S06320A" ///

| substr(`x',1,7) =="S06321A" ///

| substr(`x',1,7) =="S06322A" ///

| substr(`x',1,7) =="S06323A" ///

| substr(`x',1,7) =="S06324A" ///

| substr(`x',1,7) =="S06325A" ///

| substr(`x',1,7) =="S06326A" ///

| substr(`x',1,7) =="S06327A" ///

| substr(`x',1,7) =="S06328A" ///

| substr(`x',1,7) =="S06329A" ///

| substr(`x',1,7) =="S06330A" ///

| substr(`x',1,7) =="S06331A" ///

| substr(`x',1,7) =="S06332A" ///

| substr(`x',1,7) =="S06333A" ///

| substr(`x',1,7) =="S06334A" ///

| substr(`x',1,7) =="S06335A" ///

| substr(`x',1,7) =="S06336A" ///

| substr(`x',1,7) =="S06337A" ///

| substr(`x',1,7) =="S06338A" ///

| substr(`x',1,7) =="S06339A" ///

| substr(`x',1,7) =="S06340A" ///

| substr(`x',1,7) =="S06341A" ///

| substr(`x',1,7) =="S06342A" ///

| substr(`x',1,7) =="S06343A" ///

| substr(`x',1,7) =="S06344A" ///

| substr(`x',1,7) =="S06345A" ///

| substr(`x',1,7) =="S06346A" ///

| substr(`x',1,7) =="S06347A" ///

| substr(`x',1,7) =="S06348A" ///

| substr(`x',1,7) =="S06349A" ///

| substr(`x',1,7) =="S06350A" ///

| substr(`x',1,7) =="S06351A" ///

| substr(`x',1,7) =="S06352A" ///

| substr(`x',1,7) =="S06353A" ///

| substr(`x',1,7) =="S06354A" ///

| substr(`x',1,7) =="S06355A" ///

| substr(`x',1,7) =="S06356A" ///

| substr(`x',1,7) =="S06357A" ///

| substr(`x',1,7) =="S06358A" ///

| substr(`x',1,7) =="S06359A" ///

| substr(`x',1,7) =="S06360A" ///

| substr(`x',1,7) =="S06361A" ///

| substr(`x',1,7) =="S06362A" ///

| substr(`x',1,7) =="S06363A" ///

| substr(`x',1,7) =="S06364A" ///

| substr(`x',1,7) =="S06365A" ///

| substr(`x',1,7) =="S06366A" ///

| substr(`x',1,7) =="S06367A" ///

| substr(`x',1,7) =="S06368A" ///

| substr(`x',1,7) =="S06369A" ///

| substr(`x',1,7) =="S06370A" ///

| substr(`x',1,7) =="S06371A" ///

| substr(`x',1,7) =="S06372A" ///

| substr(`x',1,7) =="S06373A" ///

| substr(`x',1,7) =="S06374A" ///

| substr(`x',1,7) =="S06375A" ///

| substr(`x',1,7) =="S06376A" ///

| substr(`x',1,7) =="S06377A" ///

| substr(`x',1,7) =="S06378A" ///

| substr(`x',1,7) =="S06379A" ///

| substr(`x',1,7) =="S06380A" ///

| substr(`x',1,7) =="S06381A" ///

| substr(`x',1,7) =="S06382A" ///

| substr(`x',1,7) =="S06383A" ///

| substr(`x',1,7) =="S06384A" ///

| substr(`x',1,7) =="S06385A" ///

| substr(`x',1,7) =="S06386A" ///

| substr(`x',1,7) =="S06387A" ///

| substr(`x',1,7) =="S06388A" ///

| substr(`x',1,7) =="S06389A" ///

| substr(`x',1,7) =="S064X0A" ///

| substr(`x',1,7) =="S064X1A" ///

| substr(`x',1,7) =="S064X2A" ///

| substr(`x',1,7) =="S064X3A" ///

| substr(`x',1,7) =="S064X4A" ///

| substr(`x',1,7) =="S064X5A" ///

| substr(`x',1,7) =="S064X6A" ///

| substr(`x',1,7) =="S064X7A" ///

| substr(`x',1,7) =="S064X8A" ///

| substr(`x',1,7) =="S064X9A" ///

| substr(`x',1,7) =="S065X0A" ///

| substr(`x',1,7) =="S065X1A" ///

| substr(`x',1,7) =="S065X2A" ///

| substr(`x',1,7) =="S065X3A" ///

| substr(`x',1,7) =="S065X4A" ///

| substr(`x',1,7) =="S065X5A" ///

| substr(`x',1,7) =="S065X6A" ///

| substr(`x',1,7) =="S065X7A" ///

| substr(`x',1,7) =="S065X8A" ///

| substr(`x',1,7) =="S065X9A" ///

| substr(`x',1,7) =="S066X0A" ///

| substr(`x',1,7) =="S066X1A" ///

| substr(`x',1,7) =="S066X2A" ///

| substr(`x',1,7) =="S066X3A" ///

| substr(`x',1,7) =="S066X4A" ///

| substr(`x',1,7) =="S066X5A" ///

| substr(`x',1,7) =="S066X6A" ///

| substr(`x',1,7) =="S066X7A" ///

| substr(`x',1,7) =="S066X8A" ///

| substr(`x',1,7) =="S066X9A" ///

| substr(`x',1,7) =="S06810A" ///

| substr(`x',1,7) =="S06811A" ///

| substr(`x',1,7) =="S06812A" ///

| substr(`x',1,7) =="S06813A" ///

| substr(`x',1,7) =="S06814A" ///

| substr(`x',1,7) =="S06815A" ///

| substr(`x',1,7) =="S06816A" ///

| substr(`x',1,7) =="S06817A" ///

| substr(`x',1,7) =="S06818A" ///

| substr(`x',1,7) =="S06819A" ///

| substr(`x',1,7) =="S06820A" ///

| substr(`x',1,7) =="S06821A" ///

| substr(`x',1,7) =="S06822A" ///

| substr(`x',1,7) =="S06823A" ///

| substr(`x',1,7) =="S06824A" ///

| substr(`x',1,7) =="S06825A" ///

| substr(`x',1,7) =="S06826A" ///

| substr(`x',1,7) =="S06827A" ///

| substr(`x',1,7) =="S06828A" ///

| substr(`x',1,7) =="S06829A" ///

| substr(`x',1,7) =="S06890A" ///

| substr(`x',1,7) =="S06891A" ///

| substr(`x',1,7) =="S06892A" ///

| substr(`x',1,7) =="S06893A" ///

| substr(`x',1,7) =="S06894A" ///

| substr(`x',1,7) =="S06895A" ///

| substr(`x',1,7) =="S06896A" ///

| substr(`x',1,7) =="S06897A" ///

| substr(`x',1,7) =="S06898A" ///

| substr(`x',1,7) =="S06899A" ///

| substr(`x',1,7) =="S069X0A" ///

| substr(`x',1,7) =="S069X1A" ///

| substr(`x',1,7) =="S069X2A" ///

| substr(`x',1,7) =="S069X3A" ///

| substr(`x',1,7) =="S069X4A" ///

| substr(`x',1,7) =="S069X5A" ///

| substr(`x',1,7) =="S069X6A" ///

| substr(`x',1,7) =="S069X7A" ///

| substr(`x',1,7) =="S069X8A" ///

| substr(`x',1,7) =="S069X9A")

}

replace ccw22=0 if (substr(dgnscd,1,3)=="V57" | substr(dgnscd,1,5)=="Z5189") & num==1

by id, sort: egen ccw22a=max(ccw22)

keep id ccw22a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw22=`ccw22a'

replace ccw22=1 if `ccw22b'

foreach x of varlist dgnscd\* {

replace ccw22=0 if (substr(`x',1,2)=="80" & inlist(substr(`x',3,1),"1","2","3","4")) ///

| (substr(`x',1,2)=="85" & (inlist(substr(`x',3,1),"0","1","2","3") ///

| ((substr(`x',3,1)=="4" & inlist(substr(`x',4,1),"0","1")))))

replace ccw22=0 if (substr(`x',1,7) =="S0190XA" ///

| substr(`x',1,7) =="S020XXA" ///

| substr(`x',1,7) =="S020XXB" ///

| substr(`x',1,7) =="S0210XA" ///

| substr(`x',1,7) =="S0210XB" ///

| substr(`x',1,7) =="S02101A" ///

| substr(`x',1,7) =="S02101B" ///

| substr(`x',1,7) =="S02102A" ///

| substr(`x',1,7) =="S02102B" ///

| substr(`x',1,7) =="S02109A" ///

| substr(`x',1,7) =="S02109B" ///

| substr(`x',1,7) =="S0211GA" ///

| substr(`x',1,7) =="S0211GB" ///

| substr(`x',1,7) =="S0211HA" ///

| substr(`x',1,7) =="S0211HB" ///

| substr(`x',1,7) =="S02110A" ///

| substr(`x',1,7) =="S02111A" ///

| substr(`x',1,7) =="S02112A" ///

| substr(`x',1,7) =="S02113A" ///

| substr(`x',1,7) =="S02110B" ///

| substr(`x',1,7) =="S02111B" ///

| substr(`x',1,7) =="S02112B" ///

| substr(`x',1,7) =="S02113B" ///

| substr(`x',1,7) =="S02118A" ///

| substr(`x',1,7) =="S02118B" ///

| substr(`x',1,7) =="S02119A" ///

| substr(`x',1,7) =="S02119B" ///

| substr(`x',1,7) =="S0219XA" ///

| substr(`x',1,7) =="S0219XB" ///

| substr(`x',1,7) =="S022XXA" ///

| substr(`x',1,7) =="S022XXB" ///

| substr(`x',1,7) =="S023XXA" ///

| substr(`x',1,7) =="S0230XA" ///

| substr(`x',1,7) =="S023XXB" ///

| substr(`x',1,7) =="S0230XB" ///

| substr(`x',1,7) =="S0231XA" ///

| substr(`x',1,7) =="S0231XB" ///

| substr(`x',1,7) =="S0232XA" ///

| substr(`x',1,7) =="S0232XB" ///

| substr(`x',1,7) =="S0240AA" ///

| substr(`x',1,7) =="S0240AB" ///

| substr(`x',1,7) =="S0240BA" ///

| substr(`x',1,7) =="S0240BB" ///

| substr(`x',1,7) =="S0240CA" ///

| substr(`x',1,7) =="S0240CB" ///

| substr(`x',1,7) =="S0240DA" ///

| substr(`x',1,7) =="S0240DB" ///

| substr(`x',1,7) =="S0240EA" ///

| substr(`x',1,7) =="S0240EB" ///

| substr(`x',1,7) =="S0240FA" ///

| substr(`x',1,7) =="S0240FB" ///

| substr(`x',1,7) =="S02400A" ///

| substr(`x',1,7) =="S02400B" ///

| substr(`x',1,7) =="S02401A" ///

| substr(`x',1,7) =="S02401B" ///

| substr(`x',1,7) =="S02402A" ///

| substr(`x',1,7) =="S02402B" ///

| substr(`x',1,7) =="S02411A" ///

| substr(`x',1,7) =="S02411B" ///

| substr(`x',1,7) =="S02412A" ///

| substr(`x',1,7) =="S02412B" ///

| substr(`x',1,7) =="S02413A" ///

| substr(`x',1,7) =="S02413B" ///

| substr(`x',1,7) =="S0242XA" ///

| substr(`x',1,7) =="S0242XB" ///

| substr(`x',1,7) =="S02600A" ///

| substr(`x',1,7) =="S02600B" ///

| substr(`x',1,7) =="S02601A" ///

| substr(`x',1,7) =="S02601B" ///

| substr(`x',1,7) =="S02602A" ///

| substr(`x',1,7) =="S02602B" ///

| substr(`x',1,7) =="S02609A" ///

| substr(`x',1,7) =="S02609B" ///

| substr(`x',1,7) =="S0261XA" ///

| substr(`x',1,7) =="S02610A" ///

| substr(`x',1,7) =="S02610B" ///

| substr(`x',1,7) =="S02611A" ///

| substr(`x',1,7) =="S02611B" ///

| substr(`x',1,7) =="S02612A" ///

| substr(`x',1,7) =="S02612B" ///

| substr(`x',1,7) =="S0262XA" ///

| substr(`x',1,7) =="S02620A" ///

| substr(`x',1,7) =="S0262XB" ///

| substr(`x',1,7) =="S02620B" ///

| substr(`x',1,7) =="S02621A" ///

| substr(`x',1,7) =="S02621B" ///

| substr(`x',1,7) =="S02622A" ///

| substr(`x',1,7) =="S02622B" ///

| substr(`x',1,7) =="S0263XA" ///

| substr(`x',1,7) =="S02630A" ///

| substr(`x',1,7) =="S0263XB" ///

| substr(`x',1,7) =="S02630B" ///

| substr(`x',1,7) =="S02631A" ///

| substr(`x',1,7) =="S02631B" ///

| substr(`x',1,7) =="S02632A" ///

| substr(`x',1,7) =="S02632B" ///

| substr(`x',1,7) =="S0264XA" ///

| substr(`x',1,7) =="S02640A" ///

| substr(`x',1,7) =="S0264XB" ///

| substr(`x',1,7) =="S02640B" ///

| substr(`x',1,7) =="S02641A" ///

| substr(`x',1,7) =="S02641B" ///

| substr(`x',1,7) =="S02642A" ///

| substr(`x',1,7) =="S02642B" ///

| substr(`x',1,7) =="S0265XA" ///

| substr(`x',1,7) =="S02650A" ///

| substr(`x',1,7) =="S0265XB" ///

| substr(`x',1,7) =="S02650B" ///

| substr(`x',1,7) =="S02651A" ///

| substr(`x',1,7) =="S02651B" ///

| substr(`x',1,7) =="S02652A" ///

| substr(`x',1,7) =="S02652B" ///

| substr(`x',1,7) =="S0266XA" ///

| substr(`x',1,7) =="S0266XB" ///

| substr(`x',1,7) =="S0267XA" ///

| substr(`x',1,7) =="S02670A" ///

| substr(`x',1,7) =="S02670B" ///

| substr(`x',1,7) =="S02671A" ///

| substr(`x',1,7) =="S02671B" ///

| substr(`x',1,7) =="S02672A" ///

| substr(`x',1,7) =="S02672B" ///

| substr(`x',1,7) =="S0269XA" ///

| substr(`x',1,7) =="S0261XB" ///

| substr(`x',1,7) =="S0262XA" ///

| substr(`x',1,7) =="S0263XA" ///

| substr(`x',1,7) =="S0264XA" ///

| substr(`x',1,7) =="S0265XA" ///

| substr(`x',1,7) =="S0266XA" ///

| substr(`x',1,7) =="S0267XB" ///

| substr(`x',1,7) =="S0269XB" ///

| substr(`x',1,7) =="S028XXA" ///

| substr(`x',1,7) =="S0280XA" ///

| substr(`x',1,7) =="S028XXB" ///

| substr(`x',1,7) =="S0280XB" ///

| substr(`x',1,7) =="S0281XA" ///

| substr(`x',1,7) =="S0281XB" ///

| substr(`x',1,7) =="S0282XA" ///

| substr(`x',1,7) =="S0282XB" ///

| substr(`x',1,7) =="S0291XA" ///

| substr(`x',1,7) =="S0291XB" ///

| substr(`x',1,7) =="S0292XA" ///

| substr(`x',1,7) =="S0292XB" ///

| substr(`x',1,7) =="S060X0A" ///

| substr(`x',1,7) =="S060X1A" ///

| substr(`x',1,7) =="S060X2A" ///

| substr(`x',1,7) =="S060X3A" ///

| substr(`x',1,7) =="S060X4A" ///

| substr(`x',1,7) =="S060X5A" ///

| substr(`x',1,7) =="S060X6A" ///

| substr(`x',1,7) =="S060X7A" ///

| substr(`x',1,7) =="S060X8A" ///

| substr(`x',1,7) =="S060X9A" ///

| substr(`x',1,7) =="S061X0A" ///

| substr(`x',1,7) =="S061X1A" ///

| substr(`x',1,7) =="S061X2A" ///

| substr(`x',1,7) =="S061X3A" ///

| substr(`x',1,7) =="S061X4A" ///

| substr(`x',1,7) =="S061X5A" ///

| substr(`x',1,7) =="S061X6A" ///

| substr(`x',1,7) =="S061X7A" ///

| substr(`x',1,7) =="S061X8A" ///

| substr(`x',1,7) =="S061X9A" ///

| substr(`x',1,7) =="S062X0A" ///

| substr(`x',1,7) =="S062X1A" ///

| substr(`x',1,7) =="S062X2A" ///

| substr(`x',1,7) =="S062X3A" ///

| substr(`x',1,7) =="S062X4A" ///

| substr(`x',1,7) =="S062X5A" ///

| substr(`x',1,7) =="S062X6A" ///

| substr(`x',1,7) =="S062X7A" ///

| substr(`x',1,7) =="S062X8A" ///

| substr(`x',1,7) =="S062X9A" ///

| substr(`x',1,7) =="S062X0B" ///

| substr(`x',1,7) =="S062X1B" ///

| substr(`x',1,7) =="S062X2B" ///

| substr(`x',1,7) =="S062X3B" ///

| substr(`x',1,7) =="S062X4B" ///

| substr(`x',1,7) =="S062X5B" ///

| substr(`x',1,7) =="S062X6B" ///

| substr(`x',1,7) =="S062X7B" ///

| substr(`x',1,7) =="S062X8B" ///

| substr(`x',1,7) =="S062X9B" ///

| substr(`x',1,7) =="S06300A" ///

| substr(`x',1,7) =="S06301A" ///

| substr(`x',1,7) =="S06302A" ///

| substr(`x',1,7) =="S06303A" ///

| substr(`x',1,7) =="S06304A" ///

| substr(`x',1,7) =="S06305A" ///

| substr(`x',1,7) =="S06306A" ///

| substr(`x',1,7) =="S06307A" ///

| substr(`x',1,7) =="S06308A" ///

| substr(`x',1,7) =="S06309A" ///

| substr(`x',1,7) =="S06310A" ///

| substr(`x',1,7) =="S06311A" ///

| substr(`x',1,7) =="S06312A" ///

| substr(`x',1,7) =="S06313A" ///

| substr(`x',1,7) =="S06314A" ///

| substr(`x',1,7) =="S06315A")

replace ccw22=0 if (substr(`x',1,7) =="S06316A" ///

| substr(`x',1,7) =="S06317A" ///

| substr(`x',1,7) =="S06318A" ///

| substr(`x',1,7) =="S06319A" ///

| substr(`x',1,7) =="S06320A" ///

| substr(`x',1,7) =="S06321A" ///

| substr(`x',1,7) =="S06322A" ///

| substr(`x',1,7) =="S06323A" ///

| substr(`x',1,7) =="S06324A" ///

| substr(`x',1,7) =="S06325A" ///

| substr(`x',1,7) =="S06326A" ///

| substr(`x',1,7) =="S06327A" ///

| substr(`x',1,7) =="S06328A" ///

| substr(`x',1,7) =="S06329A" ///

| substr(`x',1,7) =="S06330A" ///

| substr(`x',1,7) =="S06331A" ///

| substr(`x',1,7) =="S06332A" ///

| substr(`x',1,7) =="S06333A" ///

| substr(`x',1,7) =="S06334A" ///

| substr(`x',1,7) =="S06335A" ///

| substr(`x',1,7) =="S06336A" ///

| substr(`x',1,7) =="S06337A" ///

| substr(`x',1,7) =="S06338A" ///

| substr(`x',1,7) =="S06339A" ///

| substr(`x',1,7) =="S06340A" ///

| substr(`x',1,7) =="S06341A" ///

| substr(`x',1,7) =="S06342A" ///

| substr(`x',1,7) =="S06343A" ///

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| substr(`x',1,7) =="S06346A" ///

| substr(`x',1,7) =="S06347A" ///

| substr(`x',1,7) =="S06348A" ///

| substr(`x',1,7) =="S06349A" ///

| substr(`x',1,7) =="S06350A" ///

| substr(`x',1,7) =="S06351A" ///

| substr(`x',1,7) =="S06352A" ///

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| substr(`x',1,7) =="S06358A" ///

| substr(`x',1,7) =="S06359A" ///

| substr(`x',1,7) =="S06360A" ///

| substr(`x',1,7) =="S06361A" ///

| substr(`x',1,7) =="S06362A" ///

| substr(`x',1,7) =="S06363A" ///

| substr(`x',1,7) =="S06364A" ///

| substr(`x',1,7) =="S06365A" ///

| substr(`x',1,7) =="S06366A" ///

| substr(`x',1,7) =="S06367A" ///

| substr(`x',1,7) =="S06368A" ///

| substr(`x',1,7) =="S06369A" ///

| substr(`x',1,7) =="S06370A" ///

| substr(`x',1,7) =="S06371A" ///

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| substr(`x',1,7) =="S06376A" ///

| substr(`x',1,7) =="S06377A" ///

| substr(`x',1,7) =="S06378A" ///

| substr(`x',1,7) =="S06379A" ///

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| substr(`x',1,7) =="S06385A" ///

| substr(`x',1,7) =="S06386A" ///

| substr(`x',1,7) =="S06387A" ///

| substr(`x',1,7) =="S06388A" ///

| substr(`x',1,7) =="S06389A" ///

| substr(`x',1,7) =="S064X0A" ///

| substr(`x',1,7) =="S064X1A" ///

| substr(`x',1,7) =="S064X2A" ///

| substr(`x',1,7) =="S064X3A" ///

| substr(`x',1,7) =="S064X4A" ///

| substr(`x',1,7) =="S064X5A" ///

| substr(`x',1,7) =="S064X6A" ///

| substr(`x',1,7) =="S064X7A" ///

| substr(`x',1,7) =="S064X8A" ///

| substr(`x',1,7) =="S064X9A" ///

| substr(`x',1,7) =="S065X0A" ///

| substr(`x',1,7) =="S065X1A" ///

| substr(`x',1,7) =="S065X2A" ///

| substr(`x',1,7) =="S065X3A" ///

| substr(`x',1,7) =="S065X4A" ///

| substr(`x',1,7) =="S065X5A" ///

| substr(`x',1,7) =="S065X6A" ///

| substr(`x',1,7) =="S065X7A" ///

| substr(`x',1,7) =="S065X8A" ///

| substr(`x',1,7) =="S065X9A" ///

| substr(`x',1,7) =="S066X0A" ///

| substr(`x',1,7) =="S066X1A" ///

| substr(`x',1,7) =="S066X2A" ///

| substr(`x',1,7) =="S066X3A" ///

| substr(`x',1,7) =="S066X4A" ///

| substr(`x',1,7) =="S066X5A" ///

| substr(`x',1,7) =="S066X6A" ///

| substr(`x',1,7) =="S066X7A" ///

| substr(`x',1,7) =="S066X8A" ///

| substr(`x',1,7) =="S066X9A" ///

| substr(`x',1,7) =="S06810A" ///

| substr(`x',1,7) =="S06811A" ///

| substr(`x',1,7) =="S06812A" ///

| substr(`x',1,7) =="S06813A" ///

| substr(`x',1,7) =="S06814A" ///

| substr(`x',1,7) =="S06815A" ///

| substr(`x',1,7) =="S06816A" ///

| substr(`x',1,7) =="S06817A" ///

| substr(`x',1,7) =="S06818A" ///

| substr(`x',1,7) =="S06819A" ///

| substr(`x',1,7) =="S06820A" ///

| substr(`x',1,7) =="S06821A" ///

| substr(`x',1,7) =="S06822A" ///

| substr(`x',1,7) =="S06823A" ///

| substr(`x',1,7) =="S06824A" ///

| substr(`x',1,7) =="S06825A" ///

| substr(`x',1,7) =="S06826A" ///

| substr(`x',1,7) =="S06827A" ///

| substr(`x',1,7) =="S06828A" ///

| substr(`x',1,7) =="S06829A" ///

| substr(`x',1,7) =="S06890A" ///

| substr(`x',1,7) =="S06891A" ///

| substr(`x',1,7) =="S06892A" ///

| substr(`x',1,7) =="S06893A" ///

| substr(`x',1,7) =="S06894A" ///

| substr(`x',1,7) =="S06895A" ///

| substr(`x',1,7) =="S06896A" ///

| substr(`x',1,7) =="S06897A" ///

| substr(`x',1,7) =="S06898A" ///

| substr(`x',1,7) =="S06899A" ///

| substr(`x',1,7) =="S069X0A" ///

| substr(`x',1,7) =="S069X1A" ///

| substr(`x',1,7) =="S069X2A" ///

| substr(`x',1,7) =="S069X3A" ///

| substr(`x',1,7) =="S069X4A" ///

| substr(`x',1,7) =="S069X5A" ///

| substr(`x',1,7) =="S069X6A" ///

| substr(`x',1,7) =="S069X7A" ///

| substr(`x',1,7) =="S069X8A" ///

| substr(`x',1,7) =="S069X9A" )

}

replace ccw22=0 if (substr(dgnscd,1,3)=="V57" | substr(dgnscd,1,5)=="Z5189") & num==1

by id, sort: egen n\_ccw22=total(ccw22)

gen ccw22b=n\_ccw22>=2 & !missing(n\_ccw22)

keep id ccw22b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_22\_y`year'=rowmax(ccw22\*)

drop ccw22\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_22\_y`year' "Stroke/TIA, CCW, `=`year'-1'-`year' year pre-death"

/\*Female/Male Breast Cancer

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw23=`ccw23'

by id, sort: egen ccw23a=max(ccw23)

keep id ccw23a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw23=`ccw23'

by id, sort: egen n\_ccw23=total(ccw23)

gen ccw23b=n\_ccw23>=2 & !missing(n\_ccw23)

keep id ccw23b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_23\_y`year'=rowmax(ccw23\*)

drop ccw23\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_23\_y`year' "F/M Breast Cancer, CCW, `=`year'-1'-`year' year pre-death"

/\*Colorectal Cancer

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw24=`ccw24'

by id, sort: egen ccw24a=max(ccw24)

keep id ccw24a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw24=`ccw24'

by id, sort: egen n\_ccw24=total(ccw24)

gen ccw24b=n\_ccw24>=2 & !missing(n\_ccw24)

keep id ccw24b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_24\_y`year'=rowmax(ccw24\*)

drop ccw24\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_24\_y`year' "Colorectal Cancer, CCW, `=`year'-1'-`year' year pre-death"

/\*Prostate Cancer

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw25=`ccw25'

by id, sort: egen ccw25a=max(ccw25)

keep id ccw25a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw25=`ccw25'

by id, sort: egen n\_ccw25=total(ccw25)

gen ccw25b=n\_ccw25>=2 & !missing(n\_ccw25)

keep id ccw25b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_25\_y`year'=rowmax(ccw25\*)

drop ccw25\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_25\_y`year' "Prostate Cancer, CCW, `=`year'-1'-`year' year pre-death"

/\*Lung Cancer

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw26=`ccw26'

by id, sort: egen ccw26a=max(ccw26)

keep id ccw26a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw26=`ccw26'

by id, sort: egen n\_ccw26=total(ccw26)

gen ccw26b=n\_ccw26>=2 & !missing(n\_ccw26)

keep id ccw26b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_26\_y`year'=rowmax(ccw26\*)

drop ccw26\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_26\_y`year' "Lung Cancer, CCW, `=`year'-1'-`year' year pre-death"

/\*Endometrial Cancer

-1 year look back

-1 IP/SNF/HH or 2 OP/PB

-any dx

\*/

preserve

use `ip' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `snf'

append using `hh'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw27=`ccw27'

by id, sort: egen ccw27a=max(ccw27)

keep id ccw27a

duplicates drop

tempfile t1

save `t1'

use `pb' if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25)), clear

append using `op'

keep if inrange(admit\_date,index\_date-floor(`year'\*365.25),index\_date-floor((`year'-1)\*365.25))

gen ccw27=`ccw27'

by id, sort: egen n\_ccw27=total(ccw27)

gen ccw27b=n\_ccw27>=2 & !missing(n\_ccw27)

keep id ccw27b

duplicates drop

merge 1:1 id using `t1', nogen

egen ccw\_27\_y`year'=rowmax(ccw27\*)

drop ccw27\*

tempfile t2

save `t2'

restore

merge 1:1 id using `t2', nogen

label var ccw\_27\_y`year' "Endometrial Cancer, CCW, `=`year'-1'-`year' year pre-death"

forvalues i=1/27 {

replace ccw\_`i'\_y`year'=0 if missing(ccw\_`i'\_y`year')

}

egen ccw\_index\_y`year'=rowtotal(ccw\*y`year')

replace ccw\_index\_y`year'=ccw\_index\_y`year'-ccw\_3\_y`year'

label var ccw\_index\_y`year' "Index of conditions (excluding Alz for double-counting) `=`year'-1'-`year' yr pre-death"

gen ccw\_ge3\_y`year'=ccw\_index\_y`year'>=3

label var ccw\_ge3\_y`year' "3+ chronic conditions `=`year'-1'-`year' yr pre-death"

}

save "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\ccw\_annual.dta", replace

H="Cleaning/Merging/Data aggregation"

clear all

capture log close

global datapath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

local logpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs"

global ooppath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\oopdata"

global output "E:\projects\burden\_dementia\archive logs"

\*log using `logpath'\R01\_aggregate.txt, text replace

\* Constructs aggregate dataset and variables for R01 before people are dropped

\* search "to be dropped" to find sample exclusion variables

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* START WITH EXIT \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

use "D:\HRS\Shared\base\_data\hrs\_cleaned\exit\_02\_to\_16\_dt.dta", clear

foreach x of varlist \* {

rename `x' `x'\_exit

}

rename id\_exit id

gen nflag = 0

cap drop \_m

gen year = exit\_year\_exit

save $datapath\exit.dta, replace // all exit interviews 2002-14

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* MERGE TRACKER WITH DECEDENT DATASET \*\*\*\*\*\*\*\*\*\*\*/

cd $datapath

use D:\HRS\Shared\base\_data\hrs\_cleaned\restr\_tracker\_v2014.dta, clear

drop id

gen id=hhid+pn

keep birthday birthmo birthyr birth\_date race hisp\_eth degree gender id

tempfile tracker

save `tracker'

use decedent\_dataset.dta if inrange(index\_year,2004,2015), clear

cap drop \_m

format %td index\_date

merge m:1 id using `tracker'

keep if \_m==3

replace birth\_date=mdy(6,birthd,birthy) if missing(birth\_date)

cap drop death\_date

gen death\_date = index\_date

gen age\_at\_death=floor((death\_date-birth\_date)/365.25)

cap drop \_m

merge 1:1 id using exit.dta

gen age\_lt\_72 = 1 if age\_at\_death<72

gen age\_lt\_70 = 1 if age\_at\_death<70

label var age\_lt\_72 "Age <72 at death, to be dropped"

label var age\_lt\_70 "Age <70 at death, to be dropped"

gen no\_exit=1 if \_m==1

label var no\_exit "Decedents with no exit ivw 2002-16, to be dropped"

drop if \_m==2

cap drop \_m

save r01\_a.dta, replace

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* MERGE WITH CORE INTERVIEW \*\*\*\*\*\*\*\*\*\*\*\*\*\*/

use r01\_a.dta, clear

keep id index\_date index\_year exit\_year\_exit e\_ivw\_date\_exit

tempfile id

save `id' //decedents with exit

use "D:\HRS\Shared\base\_data\hrs\_cleaned\core\_00\_to\_14.dta", clear

merge m:1 id using "`id'", keepus(index\_date index\_year exit\_year\_exit e\_ivw\_date\_exit)

levelsof id if \_m==2, local(nocore)

global nocore1 "`nocore'"

keep if \_m==3

cap drop \_m

gsort id -core\_year

by id: gen obs=\_n

keep if obs<=5 // keeping last 5 core interviews (N1 - N4 + Baseline)

\* I'm creating a single ivw date variable that has both the core ivw date and exit ivw date

gen ivw\_date = c\_ivw\_date

\* data is sorted in descending order by core year. I am carrying the date & year //

\* of the previous (chronologically) interview into the current row

\*by id: gen next\_ivw\_date\_old = ivw\_date[\_n+1]

by id: gen next\_ivw\_year = core\_year[\_n+1]

by id: gen diff = core\_year - core\_year[\_n-1] // -4 or higher denotes a gap year

bysort id: egen gap = min(diff) // using min because diff is negative

replace gap = abs(gap) // max number of years between consecutive core

levelsof id if gap>4, local(misscore)

gen miss\_core = .

label var miss\_core "Missing consecutive core ivw, to be dropped"

foreach x of local misscore {

replace miss\_core = 1 if id=="`x'"

}

drop obs gap diff

gen year = core\_year // combines exit\_year & core\_year into a single variable

\* Merge with dementia dataset

merge 1:1 id core\_year using "D:\HRS\Shared\raw\HRS\hrs\_public\_2014\dementia\pdem\_withvarnames\_00\_14.dta", keepus(pdem)

drop if \_m==2

gsort id -core\_year

by id: replace pdem = pdem[\_n+1] if pdem==.

gen dementia = 0 if pdem!=.

replace dementia = 1 if pdem>=.5 & pdem!=.

cap drop \_m

tempfile core

save `core'

use r01\_a.dta, clear

append using "`core'" // appending to exit/tracker

gen no\_core = .

label var no\_core "No core ivw 2000-14, to be dropped"

foreach x of global nocore1 {

replace no\_core = 1 if id=="`x'"

}

\* Data is currently in long form, with one row for exit and a row for each core

save r01\_b.dta, replace

/\*\*\*\*\*\* Imputing core for people with a 4 year gap between ivws \*\*\*\*\*\*\*/

use r01\_b.dta, clear

levelsof id if no\_exit==1, local(noexit)

foreach x of local noexit {

replace no\_exit = 1 if id=="`x'"

}

gen year\_ci = core\_year

replace year\_ci = index\_year if nflag==0

label var year\_ci "core\_year(if nflag>0) or index\_year(if nflag=0)"

gsort id -year

by id: gen obs=\_n

cap drop nflag

gen nflag = obs - 1

label var nflag "Interview type, 0 = exit, 1 = N1, etc."

gen dem\_cohort = 0 if dementia!=.

label var dem\_cohort "Probable Dementia at N1"

levelsof id if dementia==1 & nflag==1, local(demlist)

foreach x of local demlist {

replace dem\_cohort = 1 if id=="`x'"

}

gen core\_4yr = index\_date - c\_ivw\_date if obs==2

replace core\_4yr = 4 if core\_4yr<=1460 & core\_4yr>=0

/\*

\* Final R01 dataset requires everyone to have a core ivw within 4 (calendar) years of death

\* But their exit ivw may be further away. The date of exit is irrelevant for ivw spacing

\* so will use their date of death instead

Funky stuff: People who have a core ivw after they have died

keep if core\_4yr < 0

c\_ivw\_date > index\_date \*/

preserve

keep if c\_ivw\_date > index\_date & c\_ivw\_date!=. // people with core dates after ivw

keep id index\_date c\_ivw\_date core\_year proxy\_core no\_exit female birth\_date bid\_hrs\_22

save check\_id\_xwalk.dta, replace

restore

levelsof id if (core\_4yr>4 & core\_4yr!=.) | core\_4yr<0, local(nocore4yr)

gen nocore4yr = .

label var nocore4yr "No Core ivw within 4 years of death, to be dropped"

gen death\_b4\_core = .

label var death\_b4\_core "Has NDI/Bene DOD before Core Ivw"

levelsof id if c\_ivw\_date > index\_date & c\_ivw\_date!=., local(diedb4core)

foreach x of local diedb4core {

replace death\_b4\_core = 1 if id=="`x'"

}

foreach x of local nocore4yr {

replace nocore4yr = 1 if id=="`x'"

}

gsort id -year

by id: gen diff = year\_ci - year\_ci[\_n-1] // -4 or higher denotes a gap year

drop obs nflag

gsort id -year

by id: gen nflag = \_n

replace nflag = nflag - 1

\*replace year = year\_ci if nflag>0

label var year "core\_year(if nflag>0), exit\_year(if nflag=0), includes imputed cores"

levelsof id if miss\_core==1, local(misscore)

foreach x of local misscore {

replace miss\_core = 1 if id=="`x'"

}

\*drop if no\_exit==1 & nflag==0 & imputed==1

save R01\_d.dta, replace

/\*\*\*\*\*\*\*\*\*\* Final Calculations For Sample Derivation \*\*\*\*\*\*\*\*\*/

use R01\_d.dta, clear

replace nh\_nights = nh\_nights\_exit\_exit if nflag==0

gsort id nflag

by id: gen next\_ivw\_date = ivw\_date[\_n+1] // bringing forward date from prior core away from death

format %td next\_ivw\_date

gen n1\_2\_death = index\_date - c\_ivw\_date if nflag==1

replace n1\_2\_death = n1\_2\_death \* 0.0329

replace n1\_2\_death = ceil(n1\_2\_death)

replace n1\_2\_death = 1 if n1\_2\_death<=0

gen core\_b4\_death = 0

replace core\_b4\_death = 1 if nflag==1

gsort id -core\_b4\_death

gen n1\_ivw\_date = c\_ivw\_date if nflag==1

by id: carryforward n1\_2\_death n1\_ivw\_date, replace

gen ivw\_time = ivw\_date - next\_ivw\_date

replace ivw\_time = ivw\_time \* 0.0329

label var ivw\_time "Months between previous ivw & current ivw"

gen n1\_2\_ivw = n1\_ivw\_date - ivw\_date

replace n1\_2\_ivw = n1\_2\_ivw \* 0.0329

label var n1\_2\_ivw "Months between current ivw & N1 interview"

gen last\_core = 1 if ivw\_time==. & nflag>0

label var last\_core "Last observable core, ivw\_time imputed at 24 months"

replace ivw\_time = 24 if ivw\_time==. & nflag>0

sum ivw\_time if nflag>0

/\*Average time between core ivws is 24 months. So if we subtract ivw date from death,

only need it to be >=60 since interview data extends ~24 months back \*/

gen months\_obs = n1\_2\_ivw + ivw\_time + n1\_2\_death

replace months\_obs = ceil(months\_obs) // round up to keep integers. Makes subsequent math easier

label var months\_obs "# of months person is observed in sample"

gen hrs\_gte\_84m = 0

replace hrs\_gte\_84m = 1 if months\_obs>=83.5 & months\_obs!=.

label var hrs\_gte\_84m ">=84 months of HRS ivw data"

gen hrs\_gte\_60m = 0

replace hrs\_gte\_60m = 1 if months\_obs>=60 & months\_obs!=.

levelsof id if hrs\_gte\_60m, local(moredata)

foreach x of local moredata {

replace hrs\_gte\_60m = 1 if id=="`x'"

}

gen hrs\_lt\_60m = .

replace hrs\_lt\_60m = 1 if hrs\_gte\_60m==0

label var hrs\_lt\_60m "<60m of HRS ivw data, to be dropped"

levelsof id if hrs\_gte\_84m, local(havedata)

foreach x of local havedata {

replace hrs\_gte\_84m = 1 if id=="`x'"

}

gen hrs\_lt\_84m = .

replace hrs\_lt\_84m = 1 if hrs\_gte\_84m==0

label var hrs\_lt\_84m "<84 months of HRS ivw data, to be dropped"

gen ffs\_84m = 0

replace ffs\_84m = 1 if cont\_ffs\_n\_mos>=84 & cont\_ffs\_n\_mos!=. & nflag==0

label var ffs\_84m "84 months of continuous FFS prior to death"

gen ffs\_60m = 0

replace ffs\_60m = 1 if cont\_ffs\_n\_mos>=60 & cont\_ffs\_n\_mos!=. & nflag==0

label var ffs\_84m "60 months of continuous FFS prior to death"

levelsof id if dem\_cohort==0, local(demb)

foreach x of local demb {

replace dem\_cohort=0 if id=="`x'"

}

levelsof id if dem\_cohort==1, local(demc)

foreach x of local demc {

replace dem\_cohort=1 if id=="`x'"

}

local samplevars age\_lt\_72 age\_lt\_70 no\_exit miss\_core no\_core nocore4yr hrs\_lt\_84m hrs\_lt\_60m death\_b4\_core ffs\_84m ffs\_60m

foreach x of local samplevars {

levelsof id if `x'==1, local(samp)

foreach y of local samp {

replace `x'=1 if id=="`y'"

replace `x'=0 if `x'!=1

}

}

save R01\_e.dta, replace

/\*\*\*\*\*\*\*\*\*\*\*\*\*\* Get State information \*\*\*\*\*\*\*\*\*\*\*\*\*/

use R01\_e.dta, clear

keep id

duplicates drop id, force

tempfile id

save `id'

// pull tracker

use "D:\HRS\Shared\base\_data\hrs\_cleaned\restr\_tracker\_v2014.dta", clear

drop id

gen id=hhid+pn

merge 1:1 id using "`id'"

keep if \_m==3

keep hhid pn stateusps\* zipcode\*

gen stateusps16 = stateusps14

gen zipcode16 = zipcode14

foreach x of varlist stateusps\* {

replace `x' = "" if `x'=="ZZ"

}

gen stateusps97=""

gen stateusps99=""

forvalues i= 1(2)15{

gen stateusps`i'=""

gen zipcode`i' = ""

}

forvalues i=0(2)8{

rename stateusps0`i' stateusps`i'

rename zipcode0`i' zipcode`i'

}

reshape long stateusps zipcode, i(hhid pn) j(c\_ivw\_year)

forvalues i=0/99{

qui replace c\_ivw\_year=200`i' if c\_ivw\_year==`i' & c\_ivw\_year<=9

qui replace c\_ivw\_year=20`i' if c\_ivw\_year==`i' & inrange(c\_ivw\_year, 10,16)

qui replace c\_ivw\_year=19`i' if c\_ivw\_year==`i' & c\_ivw\_year>=90

}

gen id= hhid+pn

sort id c\_ivw\_year

drop if id==""

by id: carryforward stateusps, replace

gsort id -c\_ivw\_year

by id: carryforward stateusps, replace

gen nflag = 0

gen index\_year = c\_ivw\_year

tempfile state

save "`state'"

use R01\_e.dta, clear

merge m:1 id c\_ivw\_year using "`state'", keepus(stateusps)

drop if \_m==2

drop \_m

merge m:1 id index\_year nflag using "`state'", keepus(stateusps) update

drop if \_m==2

drop \_m

preserve

//bring in Genworth NH night cost

import excel "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\ref\_docs\Cost Care Survey (Genworth-Metlife)\HHA\_hourly\_genworth.xlsx", ///

sheet("Sheet5") firstrow clear

rename \*, l

drop e f

gen cpi\_rate = 1 if year==2016

replace cpi\_rate=1.01262 if year==2015

replace cpi\_rate=1.01382 if year==2014

replace cpi\_rate=1.03026 if year==2013

replace cpi\_rate=1.04535 if year==2012

replace cpi\_rate=1.06699 if year==2011

replace cpi\_rate=1.10067 if year==2010

replace cpi\_rate=1.11872 if year<=2009

rename year index\_year

rename state stateusps

gen genworth\_nh\_rate\_cpi\_adj=median\*cpi\_rate

drop if missing(index\_year)

tempfile nhcosts

save `nhcosts'

restore

merge m:1 index\_year stateusps using `nhcosts'

drop if \_m==2

drop \_m

//nat'l median in 2016 was $225, so replace with that if missing(state)

destring genworth\_nh\_rate\_cpi\_adj, replace

replace genworth\_nh\_rate\_cpi\_adj=225 if missing(genworth\_nh\_rate\_cpi\_adj)

save R01\_i.dta, replace

H="Sample derivation"

clear all

capture log close

global datapath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

local logpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs"

global ooppath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\oopdata"

global output "E:\projects\burden\_dementia\archive logs"

\*log using `logpath'\sample\_derivation.txt, text replace

cd $datapath

use R01\_i.dta, clear

\*preserve

gen ffs\_lt\_60m = 0

replace ffs\_lt\_60m = 1 if ffs\_60m==0

gen ffs\_lt\_84m = 0

replace ffs\_lt\_84m = 1 if ffs\_84m==0

local deri age\_lt\_70 no\_exit miss\_core no\_core nocore4yr hrs\_lt\_60m death\_b4\_core ffs\_lt\_60m

gen final = 1

label var final "5yr Sample Size, includes decedents w/imputed core"

foreach x of local deri {

replace final = 0 if `x'==1

}

gen final\_7yr = 1 if final==1

label var final\_7yr "7yr Sample Size, includes decedents w/imputed core"

foreach x of varlist age\_lt\_72 hrs\_lt\_84m ffs\_lt\_84m {

replace final\_7yr = 0 if `x'==1

}

label var ffs\_lt\_60m "<60m continuous FFS prior to death"

label var ffs\_lt\_84m "<84m continuous FFS prior to death"

gen dropped\_7yr = 0

replace dropped\_7yr = 1 if final\_7yr==0 & final==1

preserve

keep if nflag==0

gen all = 1

label var all "All HRS respondents Deceased 2004-2015"

/\*

local full all age\_lt\_72 no\_exit miss\_core no\_core nocore4yr death\_b4\_core hrs\_lt\_84m final final\_noimp final\_ffs final\_noimp\_ffs

local rd: word count `full'

mat tab1 = J(`rd',3,.)

local r = 1

foreach x of local full {

sum `x'

mat tab1[`r',1] = r(sum)

sum `x' if dem\_cohort==1

mat tab1[`r',2] = r(sum)

sum `x' if dem\_cohort==0

mat tab1[`r',3] = r(sum)

local ++r

}

mat rownames tab1 = `full'

frmttable using `logpath'\Sample\_Derivation.doc, replace statmat(tab1) ///

varlabels title("Sample Derivation for R01 (Deceased 2004-2015, Age 72+)") ctitles("Reason for Exclusion" "All" "Dementia" "Non-Dementia") sdec(0) ///

annotate(stars) asymbol(\*,\*\*)note("Death Date was determined by NDI, Medicare MBSF or HRS Exit in that order. Reasons for exclusion are NOT mutally exclusive.")

\*/

gen nolink=missing(bid\_hrs\_22)

gen begin=0

gen missdem=dem\_cohort==.

replace final\_7yr=!final\_7yr

local full1 age\_lt\_70 death\_b4\_core no\_exit miss\_core no\_core nocore4yr hrs\_lt\_60m ffs\_lt\_60m

local full2 final

local full3 age\_lt\_72 hrs\_lt\_84m ffs\_lt\_84m

local full4 final\_7yr

local samplevars begin age\_lt\_72 nolink ffs\_lt\_84m no\_exit nocore4yr missdem miss\_core hrs\_lt\_84m final\_7yr

local rn : word count `samplevars'

mat tab=J(`rn',2,.)

local r=1

local c=1

foreach x of local samplevars {

sum begin if `x'!=1

if "`x'"!="begin" mat tab[`r',1]=`last'-r(N)

mat tab[`r',2]=r(N)

local last=r(N)

drop if `x'==1

local r=`r'+1

}

mat rownames tab=`samplevars'

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\sample\_derivation\_`c(current\_date)'.rtf", ///

statmat(tab) varlabels title("Sample Derivation") sdec(0) replace

restore

keep if final\_7==1

save R01\_j.dta, replace

H="Annual Calculations"

global datapath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

\*local logpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs"

global ooppath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

global output "E:\projects\burden\_dementia\archive logs"

/\* Start with OOP dataset and then get interview dates for core and exit + death date \*/

use $ooppath\oopme\_final\_2016.dta, clear

drop nh\_nights

rename \*, l

gen id=hhid+pn

replace private\_ltc=long\_term\_care if !missing(long\_term\_care)

foreach x in mc\_b private\_ltc {

replace `x'\_prem=`x'

drop `x'

}

rename year core\_year

merge 1:1 hhid pn core\_year using "D:\HRS\Shared\base\_data\hrs\_cleaned\core\_00\_to\_14.dta", keepus(c\_ivw\_date c\_ivw\_month c\_ivw\_year nh\_nights)

gen core = 1 if \_m==3

gen exit\_year = core\_year if iwtype==1

cap drop \_m

merge m:1 hhid pn exit\_year using "D:\HRS\Shared\base\_data\hrs\_cleaned\exit\_02\_to\_16\_dt.dta", keepus(e\_ivw\_date nh\_nights\_exit)

gen exit = 1 if \_m==3

drop if \_m==2

cap drop \_m

replace nh\_nights = nh\_nights\_exit if nh\_nights==.

tempfile temp

save `temp'

use $datapath\R01\_j.dta, clear

keep if nflag==0

tempfile ro1

save `ro1'

use `temp', clear

merge m:1 id using "`ro1'", keepus(index\_date index\_month index\_year final final\_7yr dem\_cohort n1\_2\_death)

\*keep if inrange(index\_year,2004,2015)

\*drop if \_m==1

keep if \_m==3

drop if core\_year<1998 // dropping core interviews earlier than 1998

gsort id -core\_year

by id: gen nflag = \_n-1

/\* dropping people with exit interviews before 2004 because earliest death year is 2004 \*/

gen droplist = 0

levelsof id if nflag==0 & iwtype==1 & exit\_year<2004, local(drop)

foreach x of local drop {

replace droplist = 1 if id=="`x'"

}

drop if droplist==1

gen year = core\_year

drop \_m

merge 1:1 id year using "D:\HRS\Shared\base\_data\hrs\_cleaned\helper\_hours\_2016.dta", ///

keepus(n\_i hlphrs\_i \*\_s \*\_k \*\_f)

drop if \_m==2

drop \_m

gsort id -year

by id: gen next\_date = c\_ivw\_date[\_n+1]

format index\_date next\_date %td

gen death2\_n1 = index\_date - next\_date if nflag==0

levelsof id if death2\_n1<-30, local(drop)

foreach x of local drop {

replace droplist = 1 if id=="`x'"

}

drop if droplist==1

replace death2\_n1 = death2\_n1 \* 0.0329

replace death2\_n1 = ceil(death2\_n1)

replace death2\_n1 = 1 if death2\_n1==0

replace months = death2\_n1 if exit==1

/\* Capping OOP RX spending to $300/month to bring in line with Medicare Part D and

previous OOP paper \*/

replace rx\_oop = 0 if rx\_oop==.

gen rx\_per\_mo = rx\_oop/months

replace rx\_per\_mo = 300 if rx\_per\_mo>0 & rx\_per\_mo!=.

gen mod\_rx\_oop = rx\_per\_mo \* months

replace total\_oop = total\_oop - rx\_oop + mod\_rx\_oop

/\* Modifying Helper HRS + Helper OOP to match Helper hours imputation in previous OOP paper \*/

gsort id -year

replace hlphrs\_i = 720 if hlphrs\_i>720 & hlphrs\_i!=. // capping helperhrs reported to 24hrs(max)\*30days per person

foreach x in s k f {

replace hlphrs\_`x'=720 if hlphrs\_`x'>720 & !missing(hlphrs\_`x')

replace hlphrs\_`x'=0 if hlphrs\_`x'==.

replace hlphrs\_`x'=hlphrs\_i if hlphrs\_`x'>hlphrs\_i

}

gen hlphrs\_ns=hlphrs\_i-hlphrs\_s

gen hlphrs\_oth=hlphrs\_i-hlphrs\_s-hlphrs\_k

gen hlphrs\_oth\_flag=hlphrs\_oth<0

replace hlphrs\_oth=0 if hlphrs\_oth<0

by id: gen prev\_help\_hrs = 1 if hlphrs\_i[\_n+1]>0 & hlphrs\_i[\_n+1]!=. //check for helper hrs at prev ivw

by id: gen prev\_hrs = hlphrs\_i[\_n+1] if hlphrs\_i[\_n+1]>0

by id: gen prev\_oop\_yes = 1 if helper\_oop[\_n+1]>0 & helper\_oop[\_n+1]!=.

by id: gen prev\_hlp\_oop = (helper\_oop[\_n+1]/months[\_n+1]) if helper\_oop[\_n+1]>0

foreach x in s k f ns oth {

by id: gen prev\_hlp\_hrs\_`x'=1 if hlphrs\_i[\_n+1]>0 & hlphrs\_i[\_n+1]!=.

by id: gen prev\_hrs\_`x'=hlphrs\_`x'[\_n+1] if hlphrs\_i[\_n+1]>0

}

gen helper\_oop\_per\_mo = helper\_oop/months

gen mod\_helper\_oop = helper\_oop\_per\_mo \* 4 if prev\_oop\_yes==. & months>=4

replace mod\_helper\_oop = helper\_oop\_per\_mo \* months if months<4

replace mod\_helper\_oop = (helper\_oop\_per\_mo\*4) + (months-4)\*((helper\_oop\_per\_mo+prev\_hlp\_oop)/2) ///

if prev\_oop\_yes==1 & months>=4

\*replace mod\_helper\_oop =

replace total\_oop = total\_oop - helper\_oop + mod\_helper\_oop

/\* Creating approximate 2/4 year helper hours based on above fomula \*/

gen total\_hlp = hlphrs\_i\*4 if prev\_help\_hrs==. & months>=4

replace total\_hlp=hlphrs\_i\*months if months<4

replace total\_hlp = (hlphrs\_i\*4) + (months-4)\*((hlphrs\_i+prev\_hrs)/2) ///

if prev\_help\_hrs==1 & months>=4

replace total\_hlp = 0 if total\_hlp==. // estimated total hours per interview

foreach x in s k f ns oth {

gen total\_hlp\_`x'=hlphrs\_`x'\*4 if prev\_help\_hrs==. & months>=4

replace total\_hlp\_`x'=hlphrs\_`x'\*months if months<4

replace total\_hlp\_`x'=(hlphrs\_`x'\*4) + (months-4)\*((hlphrs\_`x'+prev\_hrs\_`x')/2) ///

if prev\_help\_hrs==1 & months>=4

replace total\_hlp\_`x'=0 if total\_hlp\_`x'==.

}

/\* Create year variables to merge helper hours with yearly genworth costs \*/

gen c\_ivw\_year\_n0 = c\_ivw\_year

replace c\_ivw\_year\_n0 = index\_year if nflag==0

gen c\_ivw\_year\_n1 = c\_ivw\_year\_n0 - 1

label var c\_ivw\_year\_n1 "calendar year prior to ivw date"

gen c\_ivw\_year\_n2 = c\_ivw\_year\_n0 - 2

label var c\_ivw\_year\_n2 "calendar year 2 yrs prior to ivw date"

gen c\_ivw\_year\_n3 = c\_ivw\_year\_n0 - 3

label var c\_ivw\_year\_n3 "calendar year 3 yrs prior to ivw date"

gen c\_ivw\_year\_n4 = c\_ivw\_year\_n0 - 4

label var c\_ivw\_year\_n4 "calendar year 4 yrs prior to ivw date"

gen c\_ivw\_year\_n5 = c\_ivw\_year\_n0 - 5

label var c\_ivw\_year\_n5 "calendar year 5 yrs prior to ivw date"

cap drop stateusups

save $datapath/R01\_cost\_int.dta, replace

/\*\*\*\*\*\*\*\*\*\*\*\*\*\* Get State information from tracker to match with genworth \*\*\*\*\*\*\*\*\*\*\*\*\*/

cd $datapath

use r01\_cost\_int.dta, clear

keep id

duplicates drop id, force

tempfile id

save `id'

// creating CPI-U

clear

set obs 21

gen obs = \_n

gen year = .

gen cpi\_rate = .

forvalues i=1/21 {

replace year = 2017 - `i' if obs==`i'

}

replace cpi\_rate = 1 if year==2016

replace cpi\_rate=1.01262 if year==2015

replace cpi\_rate=1.01382 if year==2014

replace cpi\_rate=1.03026 if year==2013

replace cpi\_rate=1.04535 if year==2012

replace cpi\_rate=1.06699 if year==2011

replace cpi\_rate=1.10067 if year==2010

replace cpi\_rate=1.11872 if year<=2009/\*

replace cpi\_rate=1.11474 if year==2008

replace cpi\_rate=1.15754 if year==2007

replace cpi\_rate=1.19051 if year==2006

replace cpi\_rate=1.22891 if year==2005

replace cpi\_rate=1.27055 if year==2004

replace cpi\_rate=1.30439 if year==2003

replace cpi\_rate=1.33411 if year==2002

replace cpi\_rate=1.35521 if year==2001

replace cpi\_rate=1.39377 if year==2000

replace cpi\_rate=1.44062 if year==1999

replace cpi\_rate=1.47244 if year<=1998

\*/

rename year c\_ivw\_year

label var cpi\_rate "Inflation adjustment factor"

tempfile cpi

save `cpi'

// pull tracker

use "D:\HRS\Shared\base\_data\hrs\_cleaned\restr\_tracker\_v2014.dta", clear

drop id

gen id=hhid+pn

merge 1:1 id using "`id'"

keep if \_m==3

keep hhid pn stateusps\* zipcode\*

gen stateusps16 = stateusps14

gen zipcode16 = zipcode14

foreach x of varlist stateusps\* {

replace `x' = "" if `x'=="ZZ"

}

gen stateusps97=""

gen stateusps99=""

forvalues i= 1(2)15{

gen stateusps`i'=""

gen zipcode`i' = ""

}

forvalues i=0(2)8{

rename stateusps0`i' stateusps`i'

rename zipcode0`i' zipcode`i'

}

reshape long stateusps zipcode, i(hhid pn) j(c\_ivw\_year)

forvalues i=0/99{

qui replace c\_ivw\_year=200`i' if c\_ivw\_year==`i' & c\_ivw\_year<=9

qui replace c\_ivw\_year=20`i' if c\_ivw\_year==`i' & inrange(c\_ivw\_year, 10,16)

qui replace c\_ivw\_year=19`i' if c\_ivw\_year==`i' & c\_ivw\_year>=90

}

gen id= hhid+pn

sort id c\_ivw\_year

drop if id==""

by id: carryforward stateusps, replace

gsort id -c\_ivw\_year

by id: carryforward stateusps, replace

gen e\_ivw\_year=c\_ivw\_year

merge m:1 c\_ivw\_year using "`cpi'", keepus(cpi\_rate)

cap drop \_m

rename c\_ivw\_year c\_ivw\_year\_n0

tempfile state

save "`state'"

rename c\_ivw\_year\_n0 c\_ivw\_year\_n1

rename stateusps stateusps\_n1

rename cpi\_rate cpi\_rate\_n1

tempfile state\_n1

save `state\_n1'

rename c\_ivw\_year\_n1 c\_ivw\_year\_n2

rename stateusps\_n1 stateusps\_n2

rename cpi\_rate\_n1 cpi\_rate\_n2

tempfile state\_n2

save `state\_n2'

rename c\_ivw\_year\_n2 c\_ivw\_year\_n3

rename stateusps\_n2 stateusps\_n3

rename cpi\_rate\_n2 cpi\_rate\_n3

tempfile state\_n3

save `state\_n3'

rename c\_ivw\_year\_n3 c\_ivw\_year\_n4

rename stateusps\_n3 stateusps\_n4

rename cpi\_rate\_n3 cpi\_rate\_n4

tempfile state\_n4

save `state\_n4'

rename c\_ivw\_year\_n4 c\_ivw\_year\_n5

rename stateusps\_n4 stateusps\_n5

rename cpi\_rate\_n4 cpi\_rate\_n5

tempfile state\_n5

save `state\_n5'

use R01\_cost\_int.dta, clear

/\*

gen e\_ivw\_year=year(e\_ivw\_date)

replace e\_ivw\_year=exit\_year if missing(e\_ivw\_year)

merge m:1 id e\_ivw\_year using "`state'"

drop if \_m==2

drop \_m

\*/

merge m:1 id c\_ivw\_year\_n0 using "`state'"

drop if \_m==2

cap drop \_m

merge m:1 id c\_ivw\_year\_n1 using "`state\_n1'"

drop if \_m==2

cap drop \_m

merge m:1 id c\_ivw\_year\_n2 using "`state\_n2'"

drop if \_m==2

cap drop \_m

merge m:1 id c\_ivw\_year\_n3 using "`state\_n3'"

drop if \_m==2

cap drop \_m

merge m:1 id c\_ivw\_year\_n4 using "`state\_n4'"

drop if \_m==2

cap drop \_m

merge m:1 id c\_ivw\_year\_n5 using "`state\_n5'"

drop if \_m==2

cap drop \_m

save R01\_cost\_intb.dta, replace

//merging with the Genworth/Metlife hourly home health aide cost.

import excel "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\ref\_docs\Cost Care Survey (Genworth-Metlife)\HHA\_hourly\_genworth.xlsx", sheet("Sheet1") firstrow clear

rename A c\_ivw\_year

rename B stateusps

rename HomeHealthAideServicesHourly state\_hha

rename MedianHourlyRate hr\_rate

drop if c\_ivw\_year==.

destring hr\_rate, replace

expand 2 if c\_ivw\_year==1998, gen(duptag)

replace c\_ivw\_year = c\_ivw\_year - 1 if duptag==1

cap drop duptag

expand 2 if c\_ivw\_year==1997, gen(duptag)

replace c\_ivw\_year = c\_ivw\_year - 1 if duptag==1

drop duptag

//3/6/19-ebl-was not merging with exit data, so we were missing those years

gen e\_ivw\_year=c\_ivw\_year

rename c\_ivw\_year c\_ivw\_year\_n0

tempfile rate

save "`rate'" // hourly rate for calendar c\_ivw\_year of i

rename c\_ivw\_year\_n0 c\_ivw\_year\_n1

rename stateusps stateusps\_n1

rename state\_hha state\_hha\_n1

rename hr\_rate hr\_rate\_n1

tempfile rate\_n1

save "`rate\_n1'"

rename c\_ivw\_year\_n1 c\_ivw\_year\_n2

rename stateusps\_n1 stateusps\_n2

rename state\_hha\_n1 state\_hha\_n2

rename hr\_rate\_n1 hr\_rate\_n2

tempfile rate\_n2

save "`rate\_n2'"

rename c\_ivw\_year\_n2 c\_ivw\_year\_n3

rename stateusps\_n2 stateusps\_n3

rename state\_hha\_n2 state\_hha\_n3

rename hr\_rate\_n2 hr\_rate\_n3

tempfile rate\_n3

save "`rate\_n3'"

rename c\_ivw\_year\_n3 c\_ivw\_year\_n4

rename stateusps\_n3 stateusps\_n4

rename state\_hha\_n3 state\_hha\_n4

rename hr\_rate\_n3 hr\_rate\_n4

tempfile rate\_n4

save "`rate\_n4'"

rename c\_ivw\_year\_n4 c\_ivw\_year\_n5

rename stateusps\_n4 stateusps\_n5

rename state\_hha\_n4 state\_hha\_n5

rename hr\_rate\_n4 hr\_rate\_n5

tempfile rate\_n5

save "`rate\_n5'"

use R01\_cost\_intb.dta, clear

cap drop \_m

merge m:1 c\_ivw\_year\_n0 stateusps using "`rate'"

drop if \_m==2

cap drop \_m

/\*

merge m:1 e\_ivw\_year stateusps using "`rate'"

drop if \_m==2

cap drop \_m

\*/

merge m:1 c\_ivw\_year\_n1 stateusps\_n1 using "`rate\_n1'"

drop if \_m==2

cap drop \_m

merge m:1 c\_ivw\_year\_n2 stateusps\_n2 using "`rate\_n2'"

drop if \_m==2

cap drop \_m

merge m:1 c\_ivw\_year\_n3 stateusps\_n3 using "`rate\_n3'"

drop if \_m==2

cap drop \_m

merge m:1 c\_ivw\_year\_n4 stateusps\_n4 using "`rate\_n4'"

drop if \_m==2

cap drop \_m

merge m:1 c\_ivw\_year\_n5 stateusps\_n5 using "`rate\_n5'"

drop if \_m==2

cap drop \_m

save R01\_cost\_intc.dta, replace

use R01\_cost\_intc.dta, replace

gen mar\_n0 = . //months observed (aka "at risk") within a calendar year for helper hours cost imputation

gen mar\_n1 = .

gen mar\_n2 = .

gen mar\_n3 = .

gen mar\_n4 = .

gen mar\_n5 = .

// exit ivw

replace mar\_n0 = index\_month if nflag==0

replace mar\_n0 = death2\_n1 if (death2\_n1-mar\_n0 < 0) & nflag==0 // if they died the same year as their N1 ivw, then

replace mar\_n1 = death2\_n1 - mar\_n0 if nflag==0

replace mar\_n1 = 0 if mar\_n1<0 & nflag==0

replace mar\_n1 = 12 if (mar\_n1>12 & mar\_n1!=.) & nflag==0

replace mar\_n2 = death2\_n1 - mar\_n0 -mar\_n1 if nflag==0

replace mar\_n2 = 0 if mar\_n2<0 & nflag==0

replace mar\_n2 = 12 if (mar\_n2>12 & mar\_n2!=.) & nflag==0

replace mar\_n3 = death2\_n1 - mar\_n0 -mar\_n1 -mar\_n2 if nflag==0

replace mar\_n3 = 0 if mar\_n3<0 & nflag==0

replace mar\_n3 = 12 if (mar\_n3>12 & mar\_n3!=.) & nflag==0

replace mar\_n4 = death2\_n1 - mar\_n0 -mar\_n1 -mar\_n2 - mar\_n3 if nflag==0

replace mar\_n4 = 0 if mar\_n4<0 & nflag==0

replace mar\_n4 = 12 if (mar\_n4>12 & mar\_n4!=.) & nflag==0

// core ivw

replace mar\_n0 = c\_ivw\_month if nflag>0

replace mar\_n1 = months - c\_ivw\_month if nflag>0

replace mar\_n1 = 0 if mar\_n1<0 & nflag>0

replace mar\_n1 = 12 if (mar\_n1>12 & mar\_n1!=.) & nflag>0

replace mar\_n2 = months - 12 - c\_ivw\_month if nflag>0

replace mar\_n2 = 0 if mar\_n2<0 & nflag>0

replace mar\_n2 = 12 if (mar\_n2>12 & mar\_n2!=.) & nflag>0

replace mar\_n3 = months - 24 - c\_ivw\_month if nflag>0

replace mar\_n3 = 0 if mar\_n3<0 & nflag>0

replace mar\_n3 = 12 if (mar\_n3>12 & mar\_n3!=.) & nflag>0

replace mar\_n4 = months - 36 - c\_ivw\_month if nflag>0

replace mar\_n4 = 0 if mar\_n4<0 & nflag>0

replace mar\_n4 = 12 if (mar\_n4>12 & mar\_n4!=.) & nflag>0

replace mar\_n5 = months - 48 - c\_ivw\_month if nflag>0

replace mar\_n5 = 0 if mar\_n5<0 & nflag>0

replace mar\_n5 = 12 if (mar\_n5>12 & mar\_n5!=.) & nflag>0

// impute mean hourly rate for people missing states

//3/5/19-ebl-replace with national median in 2016

//3/6/19-ebl-hopefully fixed the merging issue with exits, so there shouldn't be missingness, leaving commented out for now

/\*

foreach x in "" \_n1 \_n2 \_n3 \_n4 \_n5 {

replace cpi\_rate`x'=1 if missing(cpi\_rate`x')

replace hr\_rate`x'=20.25 if missing(hr\_rate`x')

}

\*/

foreach x of varlist mar\_n0 mar\_n1 mar\_n2 mar\_n3 mar\_n4 mar\_n5 hr\_rate hr\_rate\_n1 hr\_rate\_n2 hr\_rate\_n3 hr\_rate\_n4 hr\_rate\_n5 cpi\_rate cpi\_rate\_n1 cpi\_rate\_n2 cpi\_rate\_n3 cpi\_rate\_n4 cpi\_rate\_n5 {

replace `x' = 0 if `x'==.

}

gen hlp\_i=total\_hlp/months

foreach x in s k f ns oth {

gen hlp\_`x'=total\_hlp\_`x'/months

}

foreach x of varlist total\_hlp {

\*replace `x' = `x'/months // average # of helpers per month after 4/20 split

replace `x' = (`x'\*hr\_rate\*cpi\_rate)

}

foreach x in mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'=0 if missing(`x')

replace `x' = `x'/months

}

save R01\_cost\_intd.dta, replace

use R01\_cost\_intd.dta, replace

cap drop hlp

gen hlp = total\_hlp / months

cap drop oop

gen oop = total\_oop / months

keep id core\_year nflag oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth months final final\_7yr dem\_cohort index\_year mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop

reshape wide core\_year oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth months mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop, i(id) j(nflag)

forvalues i = 1/7 {

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

gen `x'\_y`i'=.

}

}

// Annualized Costs - Year 1

\* start with oop at exit if months < 12. Subtract months - 12 so that it can be pulled from N1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y1 = `x'0 \* months0 if months0<12

}

replace months0 = months0 - 12 if months0<12

\* Pulling the leftover months from N1 (if exit < 12)

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y1 = `x'\_y1 + (-months0)\*`x'1 if months0<0

}

replace months1 = months1 + months0 if months0<0

\*Using full exit if exit months==12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y1 = `x'0 \* 12 if months0==12

}

replace months0 = 0 if months0==12

\* Using 12 months from exit if exit months>12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y1 = `x'0 \* 12 if months0>12 & months0!=.

}

replace months0 = months0 - 12 if months0>12 & months0!=.

replace months0 = . if months0 <=0

// Annualized Costs - Year 2

\* People with leftover oop exit data

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y2 = `x'0 \* months0 if months0<12

}

replace months0 = months0 - 12 if months0<12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y2 = `x'\_y2 + (-months0)\*`x'1 if months0<0

}

replace months1 = months1 + months0 if months0<0

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y2 = `x'0 \* 12 if months0==12

}

replace months0 = months0 - 12 if months0==12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y2 = `x'0 \* 12 if months0>12 & months0!=.

}

replace months0 = months0 - 12 if months0>12 & months0!=.

\* People with no exit data leftover from y1

gen noop = 1 if oop\_y2==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y2 = `x'1 \* months1 if months1<12 & noop==1

}

replace months1 = months1 - 12 if months1<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y2 = `x'\_y2 + (-months1)\*`x'2 if months1<0 & noop==1

}

replace months2 = months2 + months1 if months1<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y2 = `x'1 \* 12 if months1==12 & noop==1

}

replace months1 = months1 - 12 if months1==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y2 = `x'1 \* 12 if months1>12 & months1!=. & noop==1

}

replace months1 = months1 - 12 if months1>12 & months1!=. & noop==1

replace months0 = . if months0<=0

replace months1 = . if months1<=0

drop noop

// oop\_y3

\* People with leftover oop exit data

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'0 \* months0 if months0<12

}

replace months0 = months0 - 12 if months0<12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'\_y3 + (-months0)\*`x'1 if months0<0

}

replace months1 = months1 + months0 if months0<0

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'0 \* 12 if months0==12

}

replace months0 = months0 - 12 if months0==12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'0 \* 12 if months0>12 & months0!=.

}

replace months0 = months0 - 12 if months0>12 & months0!=.

\* People with leftover N1

gen noop = 1 if oop\_y3==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'1 \* months1 if months1<12 & noop==1

}

replace months1 = months1 - 12 if months1<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'\_y3 + (-months1)\*`x'2 if months1<0 & noop==1

}

replace months2 = months2 + months1 if months1<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'1 \* 12 if months1==12 & noop==1

}

replace months1 = months1 - 12 if months1==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'1 \* 12 if months1>12 & months1!=. & noop==1

}

replace months1 = months1 - 12 if months1>12 & months1!=. & noop==1

drop noop

\* People who exhausted N0 & N1

gen noop = 1 if oop\_y3==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y3 = `x'2 \* 12 if noop==1

}

replace months2 = months2 - 12 if noop==1

replace months0 = . if months0<=0

replace months1 = . if months1<=0

replace months2 = . if months2<=0

drop noop

// Annual Costs - Year 4

\* People with leftover oop exit data

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'0 \* months0 if months0<12

}

replace months0 = months0 - 12 if months0<12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'\_y4 + (-months0)\*`x'1 if months0<0

}

replace months1 = months1 + months0 if months0<0

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'0 \* 12 if months0==12

}

replace months0 = months0 - 12 if months0==12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'0 \* 12 if months0>12 & months0!=.

}

replace months0 = months0 - 12 if months0>12 & months0!=.

\* People with leftover N1

gen noop = 1 if oop\_y4==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'1 \* months1 if months1<12 & noop==1

}

replace months1 = months1 - 12 if months1<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'\_y4 + (-months1)\*`x'2 if months1<0 & noop==1

}

replace months2 = months2 + months1 if months1<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'1 \* 12 if months1==12 & noop==1

}

replace months1 = months1 - 12 if months1==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'1 \* 12 if months1>12 & months1!=. & noop==1

}

replace months1 = months1 - 12 if months1>12 & months1!=. & noop==1

drop noop

\* People who exhausted N0 & N1

gen noop = 1 if oop\_y4==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'2 \* months2 if months2<12 & noop==1

}

replace months2 = months2 - 12 if months2<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'\_y4 + (-months2)\*`x'3 if months2<0 & noop==1

}

replace months3 = months3 + months2 if months2<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'2 \* 12 if months2==12 & noop==1

}

replace months2 = months2 - 12 if months2==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y4 = `x'2 \* 12 if months2>12 & months2!=. & noop==1

}

replace months2 = months2 - 12 if months2>12 & months2!=. & noop==1

replace months0 = . if months0<=0

replace months1 = . if months1<=0

replace months2 = . if months2<=0

drop noop

// oop\_y5

\* People with leftover oop exit data

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'0 \* months0 if months0<12

}

replace months0 = months0 - 12 if months0<12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'\_y5 + (-months0)\*`x'1 if months0<0

}

replace months1 = months1 + months0 if months0<0

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'0 \* 12 if months0==12

}

replace months0 = months0 - 12 if months0==12

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'0 \* 12 if months0>12 & months0!=.

}

replace months0 = months0 - 12 if months0>12 & months0!=.

\* People with leftover N1

gen noop = 1 if oop\_y5==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'1 \* months1 if months1<12 & noop==1

}

replace months1 = months1 - 12 if months1<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'\_y5 + (-months1)\*`x'2 if months1<0 & noop==1

}

replace months2 = months2 + months1 if months1<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'1 \* 12 if months1==12 & noop==1

}

replace months1 = months1 - 12 if months1==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'1 \* 12 if months1>12 & months1!=. & noop==1

}

replace months1 = months1 - 12 if months1>12 & months1!=. & noop==1

drop noop

\* People who exhausted N0 & N1

gen noop = 1 if oop\_y5==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'2 \* months2 if months2<12 & noop==1

}

replace months2 = months2 - 12 if months2<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'\_y5 + (-months2)\*`x'3 if months2<0 & noop==1

}

replace months3 = months3 + months2 if months2<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'2 \* 12 if months2==12 & noop==1

}

replace months2 = months2 - 12 if months2==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'2 \* 12 if months2>12 & months2!=. & noop==1

}

replace months2 = months2 - 12 if months2>12 & months2!=. & noop==1

drop noop

\* People who exhausted N0, N1 & N2

gen noop = 1 if oop\_y5==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y5 = `x'3 \* 12 if noop==1

}

replace months3 = months3 - 12 if noop==1

replace months0 = . if months0<=0

replace months1 = . if months1<=0

replace months2 = . if months2<=0

replace months3 = . if months3<=0

drop noop

// oop\_y6

\* People with leftover N1

gen noop = 1 if oop\_y6==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'1 \* months1 if months1<12 & noop==1

}

replace months1 = months1 - 12 if months1<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'\_y6 + (-months1)\*`x'2 if months1<0 & noop==1

}

replace months2 = months2 + months1 if months1<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'1 \* 12 if months1==12 & noop==1

}

replace months1 = months1 - 12 if months1==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'1 \* 12 if months1>12 & months1!=. & noop==1

}

replace months1 = months1 - 12 if months1>12 & months1!=. & noop==1

drop noop

\* People who exhausted N0 & N1

gen noop = 1 if oop\_y6==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'2 \* months2 if months2<12 & noop==1

}

replace months2 = months2 - 12 if months2<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'\_y6 + (-months2)\*`x'3 if months2<0 & noop==1

}

replace months3 = months3 + months2 if months2<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'2 \* 12 if months2==12 & noop==1

}

replace months2 = months2 - 12 if months2==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'2 \* 12 if months2>12 & months2!=. & noop==1

}

replace months2 = months2 - 12 if months2>12 & months2!=. & noop==1

drop noop

\* People who exhausted N0, N1 & N2

gen noop = 1 if oop\_y6==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'3 \* months3 if months3<12 & noop==1

}

replace months3 = months3 - 12 if months3<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'\_y6 + (-months3)\*`x'4 if months3<0 & noop==1

}

replace months4 = months4 + months3 if months3<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'3 \* 12 if months3==12 & noop==1

}

replace months3 = months3 - 12 if months3==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y6 = `x'3 \* 12 if months3>12 & months3!=. & noop==1

}

replace months3 = months3 - 12 if months3>12 & months3!=. & noop==1

replace months0 = . if months0<=0

replace months1 = . if months1<=0

replace months2 = . if months2<=0

replace months3 = . if months3<=0

drop noop

// Annual Costs - Year 7

\* People with leftover N1

gen noop = 1 if oop\_y7==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'1 \* months1 if months1<12 & noop==1

}

replace months1 = months1 - 12 if months1<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 =`x'\_y7 + (-months1)\*`x'2 if months1<0 & noop==1

}

replace months2 = months2 + months1 if months1<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'1 \* 12 if months1==12 & noop==1

}

replace months1 = months1 - 12 if months1==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'1 \* 12 if months1>12 & months1!=. & noop==1

}

replace months1 = months1 - 12 if months1>12 & months1!=. & noop==1

drop noop

\* People who exhausted N0 & N1

gen noop = 1 if oop\_y7==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'2 \* months2 if months2<12 & noop==1

}

replace months2 = months2 - 12 if months2<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'\_y7 + (-months2)\*`x'3 if months2<0 & noop==1

}

replace months3 = months3 + months2 if months2<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'2 \* 12 if months2==12 & noop==1

}

replace months2 = months2 - 12 if months2==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'2 \* 12 if months2>12 & months2!=. & noop==1

}

replace months2 = months2 - 12 if months2>12 & months2!=. & noop==1

drop noop

\* People who exhausted N0, N1 & N2

gen noop = 1 if oop\_y7==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'3 \* months3 if months3<12 & noop==1

}

replace months3 = months3 - 12 if months3<12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'\_y7 + (-months3)\*`x'4 if months3<0 & noop==1

}

replace months4 = months4 + months3 if months3<0 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'3 \* 12 if months3==12 & noop==1

}

replace months3 = months3 - 12 if months3==12 & noop==1

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'3 \* 12 if months3>12 & months3!=. & noop==1

}

replace months3 = months3 - 12 if months3>12 & months3!=. & noop==1

replace months0 = . if months0<=0

replace months1 = . if months1<=0

replace months2 = . if months2<=0

replace months3 = . if months3<=0

drop noop

\* People who exhausted N0, N1, N2 & N3

gen noop = 1 if oop\_y7==.

foreach x in oop hlp hlp\_s hlp\_k hlp\_f hlp\_ns hlp\_i hlp\_oth mc\_b\_prem private\_ltc\_prem nh\_nights nh\_oop {

replace `x'\_y7 = `x'4 \* 12 if noop==1

}

gen oop\_7yr = oop\_y1+ oop\_y2+ oop\_y3+ oop\_y4+ oop\_y5 + oop\_y6 + oop\_y7

gen oop\_6yr = oop\_y1+ oop\_y2+ oop\_y3+ oop\_y4+ oop\_y5 + oop\_y6

gen oop\_5yr = oop\_y1+ oop\_y2+ oop\_y3+ oop\_y4+ oop\_y5

gen oop\_4yr = oop\_y1+ oop\_y2+ oop\_y3+ oop\_y4

gen oop\_3yr = oop\_y1+ oop\_y2+ oop\_y3

gen oop\_2yr = oop\_y1+ oop\_y2

ttest oop\_5yr, by(dem\_cohort)

ttest oop\_5yr if final\_7yr==1, by(dem\_cohort)

ttest oop\_7yr if final\_7yr==1, by(dem\_cohort)

forvalues i = 1/7 {

rename hlp\_y`i' informal\_y`i'

}

gen informal\_7yr = informal\_y1+ informal\_y2+ informal\_y3+ informal\_y4+ informal\_y5 + informal\_y6 + informal\_y7

gen informal\_6yr = informal\_y1+ informal\_y2+ informal\_y3+ informal\_y4+ informal\_y5 + informal\_y6

gen informal\_5yr = informal\_y1+ informal\_y2+ informal\_y3+ informal\_y4+ informal\_y5

gen informal\_4yr = informal\_y1+ informal\_y2+ informal\_y3+ informal\_y4

gen informal\_3yr = informal\_y1+ informal\_y2+ informal\_y3

gen informal\_2yr = informal\_y1+ informal\_y2

ttest informal\_5yr, by(dem\_cohort)

ttest informal\_5yr if final\_7yr==1, by(dem\_cohort)

ttest informal\_7yr if final\_7yr==1, by(dem\_cohort)

save R01\_annualized.dta, replace

H="Final Sample "

import excel "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\ref\_docs\Medicaid generosity.xlsx", sheet("Sheet1") firstrow case(lower) clear

rename location stateusps

tempfile generosity

save `generosity'

clear all

capture log close

global datapath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

global final "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data"

local logpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs"

global ooppath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\oopdata"

global output "E:\projects\burden\_dementia\archive logs"

cd $datapath

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\predicted\_annual\_medicaid\_costs.dta", clear

rename year index\_year

tempfile predict

save `predict'

use R01\_j.dta, clear

merge m:1 id using R01\_annualized.dta, keepus(oop\_5yr oop\_7yr informal\_\*5yr informal\_\*7yr oop\_y\* informal\_y\* mc\_b\_prem\_y\* ///

private\_ltc\_prem\_y\* nh\_nights\_y\* nh\_oop\_y\* hlp\*)

drop \_m

merge m:1 id using tot\_paid\_maid.dta, keepus(tot\_paid\_m\* tot\_nf\_days\*)

rename tot\_nf\_days\_maid\_n\* tot\_nf\_days\_y\*

drop if \_m==2

cap drop \_m

merge m:1 id index\_year using `predict', keepus(buyin\_mo generous ind\_mcaid\_imp)

drop if \_m==2

cap drop \_m

drop generous

merge m:1 stateusps using `generosity', gen(gm)

drop if gm==2

destring genworth\_nh, replace

merge m:1 id using "ccw\_annual.dta", gen(ccwm)

drop if ccwm==2

forvalues i=1/7 {

gen ccw\_ge4\_y`i'=ccw\_index\_y`i'>=4 if !missing(ccw\_index\_y`i')

label var ccw\_ge3\_y`i' "3+ chronic conditions `=`year'-1'-`year' yr pre-death"

}

sort id nflag

by id: egen anychampus=max(champus)

replace champus\_exit=anychampus if missing(champus\_exit)

forvalues i=1/7 {

foreach x in nh\_nights n\_snf\_days private\_ltc\_prem nh\_oop tot\_nf\_days {

replace `x'\_y`i'=0 if missing(`x'\_y`i')

}

replace nh\_oop\_y`i'=365\*genworth if nh\_oop\_y`i'>365\*genworth

replace nh\_nights\_y`i'=365 if nh\_nights\_y`i'>365

gen imputed\_nh\_costs\_a\_y`i'=0

gen imputed\_nh\_costs\_b\_y`i'=(nh\_nights\_y`i'-n\_snf\_days\_y`i'-tot\_nf\_days\_y`i'- ///

(.8\*private\_ltc\_prem\_y`i'+nh\_oop\_y`i')/genworth)\*genworth ///

if champus\_exit==1 | private\_ltc\_prem\_y`i'>0 | ltc\_ins\_exit==1

replace imputed\_nh\_costs\_b\_y`i'=0 if !champus\_exit & !private\_ltc\_prem\_y`i'

gen imputed\_nh\_costs\_c\_y`i'=(nh\_nights\_y`i'-n\_snf\_days\_y`i'-tot\_nf\_days\_y`i'- ///

(.8\*private\_ltc\_prem\_y`i'+nh\_oop\_y`i')/genworth)\*genworth

gen imputed\_nh\_costs\_d\_y`i'=(nh\_nights\_y`i'-n\_snf\_days\_y`i'-tot\_nf\_days\_y`i'- ///

(.8\*private\_ltc\_prem\_y`i'+nh\_oop\_y`i')/genworth)\*genworth

foreach x in a b c d {

if "`x'"!="c" replace imputed\_nh\_costs\_`x'\_y`i'=0 if imputed\_nh\_costs\_`x'\_y`i'<0

}

replace imputed\_nh\_costs\_b\_y`i'=0 if !champus\_exit & !private\_ltc\_prem\_y`i' & ltc\_ins\_exit!=1

label var imputed\_nh\_costs\_a\_y`i' "Imputed NH Costs, year `i': Conservative (0 for all)"

label var imputed\_nh\_costs\_b\_y`i' "Imputed NH Costs, year `i': Moderate (only for those with LTC/VA coverage)"

label var imputed\_nh\_costs\_c\_y`i' "Imputed NH Costs, year `i': SR nights as gold standard (all, allows negative values for SR nights)"

label var imputed\_nh\_costs\_d\_y`i' "Imputed NH Costs, year `i': Comprehensive (imputed for all, no negative values)"

gen unat\_nights`i'=imputed\_nh\_costs\_c\_y`i'/genworth

label var unat\_nights`i' "Unattributed NH nights, year `i': Comprehensive"

}

gen ffs\_7yr = 0

replace ffs\_7yr = 1 if cont\_ffs\_n\_mos>=84 & cont\_ffs\_n\_mos!=.

gen ffs\_6yr = 0

replace ffs\_6yr = 1 if cont\_ffs\_n\_mos>=72 & cont\_ffs\_n\_mos!=.

gen ffs\_5yr = 0

replace ffs\_5yr = 1 if cont\_ffs\_n\_mos>=60 & cont\_ffs\_n\_mos!=.

gen ffs\_4yr = 0

replace ffs\_4yr = 1 if cont\_ffs\_n\_mos>=48 & cont\_ffs\_n\_mos!=.

gen ffs\_3yr = 0

replace ffs\_3yr = 1 if cont\_ffs\_n\_mos>=36 & cont\_ffs\_n\_mos!=.

gen ffs\_2yr = 0

replace ffs\_2yr = 1 if cont\_ffs\_n\_mos>=24 & cont\_ffs\_n\_mos!=.

gen ffs\_1yr = 0

replace ffs\_1yr = 1 if cont\_ffs\_n\_mos>=12 & cont\_ffs\_n\_mos!=.

gen white = 0

replace white = 1 if race==1 & hisp\_eth==0

gen black = 0

replace black = 1 if race==2 & hisp\_eth==0

gen other = 0

replace other = 1 if white==0 & black==0 & hisp\_eth==0

label var white "Non-Hispanic White"

label var black "Non-Hispanic Black"

label var other "Non-Hispanic Other"

label var tot\_paid\_maid\_n1 "Total Medicaid Spending Y1"

label var tot\_paid\_maid\_n2 "Total Medicaid Spending Y2"

label var tot\_paid\_maid\_n3 "Total Medicaid Spending Y3"

label var tot\_paid\_maid\_n4 "Total Medicaid Spending Y4"

label var tot\_paid\_maid\_n5 "Total Medicaid Spending Y5"

label var tot\_paid\_maid\_n6 "Total Medicaid Spending Y6"

label var tot\_paid\_maid\_n7 "Total Medicaid Spending Y7"

label var oop\_5yr "Cumulative 5yr OOP"

label var oop\_7yr "Cumulative 7yr OOP"

label var informal\_5yr "Cumulative 5yr informal"

label var informal\_7yr "Cumulative 7yr informal"

forvalues i = 1/7 {

rename tot\_paid\_maid\_n`i' tot\_paid\_maid\_y`i'

}

local y = 1

forvalues i = 12(12)84 {

rename tot\_paid\_by\_mc\_`i'm tot\_paid\_by\_mc\_y`y'

//2/25/19-ebl-subtracting part b premium from mc expenditures

replace tot\_paid\_by\_mc\_y`y'=tot\_paid\_by\_mc\_y`y'-mc\_b\_prem\_y`y'

label var tot\_paid\_by\_mc\_y`y' "Total Medicare Spending Y`y'"

local ++y

}

//get annual 3+ Elixhauser, dementia & baseline/per-ivw dementia

sort id nflag

forvalues i=1/7 {

gen comorb\_ge3\_y`i'=inrange(comorb\_all\_`=(`i'-1)\*12',3,31) if nflag==0

label var comorb\_ge3\_y`i' "3+ Elixhauser comorbidities, `=`i'-1'-`i' years pre-death"

rename comorb\_31\_`=(`i'-1)\*12' comorb\_31\_y`i'

replace comorb\_31\_y`i'=0 if missing(comorb\_31\_y`i') & nflag==0

label var comorb\_31\_y`i' "Indicator dementia from claims, `=`i'-1'-`i' years pre-death"

}

forvalues i=1/9 {

gen prob\_dem`i'=inrange(pdem,0.5,1) if !missing(pdem) & inrange((index\_date-ivw\_date)/365.25,`=`i'-1',`i')

by id: egen prob\_dem\_y`i'=max(prob\_dem`i')

by id: egen pdem\_y`i'=max(cond(inrange((index\_date-ivw\_date)/365.25,`=`i'-1',`i'),pdem,.))

drop prob\_dem`i'

}

gen prob\_dem=inrange(pdem,0.5,1) if !missing(pdem)

gen t2d=index\_date-ivw\_date

gen time\_2\_start=abs(t2d-floor(7\*365.25))

by id: egen mint2s=min(time\_2\_start)

gen ind\_baseline=mint2s==time\_2\_start

gen m2d=t2d/30.42

gen adl\_dependent=!adl\_independent\_core

//replace networth inflation adjusted to 2016

gen networth\_adj2016=networth\_adj2012\*1.04535

gen finwealth\_adj2016=finwealth\_adj2012\*1.04535

label var networth\_adj2016 "Total net worth (Rand HxTOTB), 2016$"

label var finwealth\_adj2016 "Total non-housing financial wealth(Rand HxTOTF), 2016$"

by id: egen bd=max(birth\_date)

replace birth\_date=bd if missing(birth\_date)

gen age\_ivw=floor((ivw\_date-birth\_date)/365.25)

label var age\_ivw "Age at interview"

foreach x in smoke\_curr married medicaid nhres proxy\_core adl\_dependent srh\_pf prob\_dem pdem m2d networth\_adj2016 finwealth\_adj2016 age\_ivw {

by id: egen `x'\_baseline=max(cond(ind\_baseline==1,`x',.))

}

//get percent who spent more than their net worth

gen oop\_7yr\_discounted=0

local t=0

forvalues i=1/7 {

replace oop\_7yr\_discounted=oop\_7yr\_discounted+oop\_y`i'/1.03^`t'

local t=`t'+1

}

//get percent with below-0 net worth

gen ind\_nw\_lt0=networth\_adj2016<=0

gen ind\_fw\_lt0=finwealth\_adj2016<=0

label var ind\_nw\_lt0 "% SR Net Worth < 0 in wave"

label var ind\_fw\_lt0 "% Financial Wealth < 0 in wave"

gen pct\_nw\_remaining=100\*(networth\_adj2016\_baseline-oop\_7yr\_discounted)/networth\_adj2016\_baseline

replace pct\_nw\_remaining=100\*(1-oop\_7yr\_discounted)/1 if networth\_adj2016\_baseline<1

gen ind\_nw\_remaining=pct\_nw\_remaining>0

replace pct\_nw\_remaining=0 if pct\_nw\_remaining<0

gen pct\_fw\_remaining=100\*(finwealth\_adj2016\_baseline-oop\_7yr\_discounted)/finwealth\_adj2016\_baseline

replace pct\_fw\_remaining=100\*(1-oop\_7yr\_discounted)/1 if finwealth\_adj2016\_baseline<1

gen ind\_fw\_remaining=pct\_fw\_remaining>0

replace pct\_fw\_remaining=0 if pct\_fw\_remaining<0

label var pct\_nw\_remaining "Mean percentage of baseline NW remaining at death (0-100)"

label var ind\_nw\_remaining "% OOP<Baseline Net Worth"

label var pct\_fw\_remaining "Mean percentage of baseline FW remaining at death (0-100)"

label var ind\_fw\_remaining "% OOP<Baseline Financial Wealth"

save $final\R01\_final.dta, replace

H="\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"

H="Sample derivation"

clear all

capture log close

local datapath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

local logpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs"

local ooppath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\oopdata"

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* START WITH EXIT \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

use "E:\data\hrs\_cleaned\exit\_02\_to\_14\_dt.dta", clear

foreach x of varlist \* {

rename `x' `x'\_exit

}

rename id\_exit id

gen nflag = 0

cap drop \_m

tempfile exit

gen year = exit\_year\_exit

save `exit' // all exit interviews 2002-14

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* MERGE TRACKER WITH DECEDENT DATASET \*\*\*\*\*\*\*\*\*\*\*/

use "E:\data\hrs\_cleaned\restr\_tracker\_v2014.dta", clear

drop id

gen id=hhid+pn

drop if id==""

keep id race hisp\_eth birthmo birthday birthyr birth\_date gender degree

tempfile track

save `track' // all restricted tracker

cd `datapath'

use decedent\_dataset.dta if inrange(index\_year,2006,2015), clear

cap drop year

cap drop \_m

format %td index\_date

merge m:1 id using "`track'"

keep if \_m==3

replace birth\_date=mdy(6,birthd,birthy) if missing(birth\_date)

cap drop death\_date

gen death\_date = index\_date

gen age\_at\_death=floor((death\_date-birth\_date)/365.25)

cap drop \_m

/\* Sample derivation Dataset

tempfile sample

preserve

gen age\_lt\_70 = 0

replace age\_lt\_70 = 1 if age\_at\_death<70

label var age\_lt\_70 "Age at death <70"

save `sample'

restore

\*/

levelsof id if age\_at\_death<72, local(agedrop)

drop if age\_at\_death<70 /////////////// drop people <70 at death (800)

merge 1:1 id using "`exit'"

/\* Sample derivation

preserve

gen no\_exit = 1 if \_m==1

keep if no\_exit

keep id no\_exit

tempfile noexit

save `noexit'

use "`sample'", clear

merge 1:1 id using "`noexit'", keepus(no\_exit)

label var no\_exit "No exit ivw 2002-2014"

cap drop \_m

save `sample', replace

restore

\*\*\*\*\*\*\*\*\*\*\*\* \*/

levelsof id if \_m==1, local(exitdrop)

keep if \_m==3 /////////// drop people with no exit (387)

cap drop \_m

tempfile r01

save `r01'

keep id index\_date index\_year

tempfile id

save `id' //decedents with exit

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* MERGE WITH CORE INTERVIEW \*\*\*\*\*\*\*\*\*\*\*\*\*\*/

use "E:\data\hrs\_cleaned\core\_00\_to\_14.dta", clear

merge m:1 id using "`id'", keepus(index\_date index\_year)

levelsof id if \_m==2, local(nocoredrop)

keep if \_m==3 ///////////// 25 people no core interviews ever

cap drop \_m

gsort id -core\_year

by id: gen obs=\_n

keep if obs<=4

gen ivw\_date = c\_ivw\_date

by id: gen next\_ivw\_date = ivw\_date[\_n+1] // date prev ivw chronologically

by id: gen next\_ivw\_year = core\_year[\_n+1]

gen earliest = 0

replace earliest = 1 if next\_ivw\_year==.

label var earliest "flag for earliest observable core"

keep if obs<=4 // keep last 3 hrs interviews

by id: gen diff = core\_year - core\_year[\_n-1] // -4 or higher denotes a gap year

bysort id: egen gap = min(diff)

replace gap = abs(gap) // max number of years between consecutive core

label var gap "max # of yrs between consecutive core ivw"

tab gap

preserve

keep if gap>4

keep id

duplicates drop

levelsof id, local(misscore)

tempfile droplist

save `droplist' ///////// people with more than 4 year gap between cores

restore

drop obs gap diff

gen year = core\_year

cap drop \_m

/\* merge with dementia dataset \*/

merge 1:1 id core\_year using "E:\data\hrs\_public\_2014\dementia\pdem\_withvarnames\_00\_14", keepus(pdem)

drop if \_m==2

gen dementia = 0

replace dementia = 1 if pdem>=.5 & pdem!=.

cap drop \_m

tempfile core

save `core'

use "`r01'", clear

append using "`core'"

merge m:1 id using "`droplist'" //dropping people with >4 years between core

codebook id if \_m==3

drop if \_m==3

cap drop \_m

codebook id

gsort id -year

by id: gen obs=\_n

foreach x of local nocoredrop {

drop if obs==1 & id=="`x'" // dropping exit ivw for people with no core ever (2000-12)

}

gen nflag\_ivw = obs - 1

label var nflag\_ivw "Interview type, 0 = exit, 1 = N1, etc."

gen dem\_cohort = 0

levelsof id if dementia==1 & nflag\_ivw==1, local(demlist)

foreach x of local demlist {

replace dem\_cohort = 1 if id=="`x'"

}

gen core\_5yr = index\_year - core\_year if obs==2

preserve

keep if core\_5yr>4 & obs==2

keep id

levelsof id, local(core4yr)

tempfile core\_2\_far

save `core\_2\_far' /////////////// no core ivw within 4yrs of death

restore

merge m:1 id using "`core\_2\_far'"

codebook id if \_m==3

drop if \_m==3 // dropping ppl with no core\_ivw within 4 yrs

cap drop \_m

gsort id -year

by id: gen diff = year - year[\_n-1] // -4 or higher denotes a gap year

/\*

gen ivw\_date = c\_ivw\_date

replace ivw\_date = e\_ivw\_date\_exit if nflag\_ivw==0

by id: gen next\_ivw\_date = ivw\_date[\_n+1] \*/

gen ex2far = 0

replace ex2far = 1 if diff<-4 & obs==2

gen divide = 1

replace divide = 2 if diff<=-4 & ex2far==0

expand 2 if diff<=-4, gen(imputed)

replace year = year + 2 if imputed==1 // imputed core interview

levelsof id if imputed==1, local(impu)

cap drop nflag

gsort id -year

by id: gen nflag = \_n

replace nflag = nflag - 1

drop if nflag>4

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

save R01\_int\_2015.dta, replace

use R01\_int\_2015.dta, clear

keep if nflag\_ivw==0

keep id index\_date index\_year exit\_year\_exit year

tempfile index

save `index'

/\*

drop nflag obs

gsort id -year

by id: gen nflag==\_n-1

\*/

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* GET OOP DATA \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

local ooppath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\oopdata"

use `ooppath'\oopme\_final\_2016.dta, clear

rename \*, l

gen id=hhid+pn

merge m:1 id using "`index'", keepus(index\_year index\_date)

keep if \_m==3 // only keep oop data for people in cohort

tab year if total\_oop==.

drop if total\_oop==.

preserve

\*keep if iwtype==0 // keep non-imputed non-exit ivw

tempfile oop\_mer

save `oop\_mer' // original dataset, not imputed

restore

gsort id -year

by id: gen obs=\_n

keep if obs<=4

by id: gen diff = year - year[\_n-1] // -4 or higher denotes a gap year

replace diff = -4 if diff<=-4 & obs==2 // recoding people with >4 gap between exit and N1 to be 4yrs

/\*

bysort id: egen gap = min(diff)

keep if gap==-4 /\* only keep people without consecutive missing interviews \*/

\*/

expand 2 if diff==-4, gen(ooptag) //created imputed interview

replace year = year + 2 if ooptag==1

gsort id -year

cap drop obs

by id: gen obs=\_n

by id: gen total\_imp\_a = total\_oop[\_n+1] if ooptag==1

by id: gen total\_imp\_b = (total\_oop[\_n+1] + total\_oop[\_n-1])/2 if ooptag==1

label var ooptag "imputed oop"

keep if ooptag==1

tempfile imputed

save `imputed'

use "`oop\_mer'", clear

append using "`imputed'"

cap drop \_m

preserve

drop if iwtype==1

tempfile oop

save `oop'

restore

keep if iwtype==1

gen nflag = 0

foreach x of varlist total\* {

rename `x' `x'\_exit

}

rename year exit\_year\_exit

tempfile oop\_exit

save `oop\_exit'

use R01\_int\_2015.dta, clear

cap drop \_m

merge 1:1 id year using "`oop'", keepus(total\* ooptag)

\*merge 1:1 id year using "`oop'", keepus(total\* ooptag)

drop if \_m==2

cap drop \_m

merge 1:1 id nflag using "`oop\_exit'", keepus(total\* ooptag)

drop if \_m==2

cap drop \_m

save R01\_int\_2015.dta, replace

/\*

use R01\_int\_2015.dta, clear

keep if nflag\_ivw==0

keep id index\_date index\_year exit\_year\_exit year

tempfile index

save `index'

\*/

/\*\*\*\*\*\*\*\*\*\*\*\* Get Helper data \*\*\*\*\*\*\*\*\*\*\*/

use id year ivw\_type \*\_k \*\_s \*\_i \*\_u using "E:\data\hrs\_cleaned\helper\_hours\_2014.dta", clear

\*rename year core\_year

//cap number of hours at 720 (24 hrs for 30 days) for spouses and other informal

gen hlphrs\_nk=hlphrs\_u-hlphrs\_k

foreach x in s u k nk {

replace hlphrs\_`x'=720 if hlphrs\_`x'>720

replace hlphrs\_`x' = 0 if hlphrs\_`x'==.

}

replace hlphrs\_i=hlphrs\_s+hlphrs\_u

merge m:1 id using "`index'", keepus(index\_year index\_date)

keep if \_m==3 // only keep helper data for people in cohort

drop \_m

tempfile hlp\_mer

save `hlp\_mer'

merge 1:1 id year using "`index'", keepus(id exit\_year\_exit year)

gen inx = ivw\_type-1

replace inx = 1 if \_m==2

foreach x in i s u k {

replace hlphrs\_`x' = 0 if \_m==2

}

gsort id -year

by id: gen obs=\_n

tab inx if obs==2

by id: gen diff = year - year[\_n-1] // -4 or higher denotes a gap year

replace diff = -4 if diff<=-4 & obs==2 // replacing obs where gap between exit and N1 was >4yrs, since we already kept people who had core in last years of life

expand 2 if diff==-4, gen(hlptag)

replace year = year + 2 if hlptag==1

replace hlptag=1 if \_m==2

cap drop obs

gsort id -year

by id: gen obs=\_n

foreach x in i s u k nk {

by id: gen hlphrs\_`x'\_a = hlphrs\_i[\_n+1] if hlptag==1

by id: gen hlphrs\_`x'\_b = (hlphrs\_i[\_n+1] + hlphrs\_i[\_n-1])/2 if hlptag==1

}

label var hlptag "imputed hlp hrs"

gen hlp\_exit = 1 if hlptag==1 & \_m==2

label var hlp\_exit "hlp exit imputed"

replace hlptag = 0 if \_m==2

preserve

keep if hlptag==1

tempfile hlp

save `hlp'

use "`hlp\_mer'", clear

append using "`hlp'"

cap drop \_m

drop if inx==1

tempfile help

save `help'

restore

keep if inx==1

gen nflag = 0

foreach x of varlist hlphrs\_\* {

rename `x' `x'\_exit

}

tempfile hlp\_exit

save `hlp\_exit'

use R01\_int\_2015.dta, clear

cap drop \_m

merge 1:1 id year using "`help'", keepus(hlphrs\_\* hlptag hlp\_exit)

\*merge 1:1 id year using "`help'", keepus(hlphrs\_\* hlptag)

drop if \_m==2

cap drop \_m

merge 1:1 id nflag using "`hlp\_exit'", keepus(hlphrs\_\* hlptag hlp\_exit) update

drop if \_m==2

cap drop \_m

foreach x of varlist hlphrs\_\* {

replace `x' = 0 if (hlptag==1 & imputed==0)

replace `x' = 0 if `x'==.

}

gen year\_n0 = year

replace year\_n0 = index\_year if nflag==0

gen year\_n1 = year\_n0 - 1

label var year\_n1 "calendar year prior to ivw date"

gen year\_n2 = year\_n0 - 2

label var year\_n2 "calendar year 2 yrs prior to ivw date"

save R01\_int\_2015.dta, replace

use R01\_int\_2015.dta, clear

keep id

duplicates drop id, force

tempfile id

save `id'

/\*\*\*\*\*\*\*\*\*\*\*\*\*\* Get State information \*\*\*\*\*\*\*\*\*\*\*\*\*/

use "E:\data\hrs\_cleaned\restr\_tracker\_v2014.dta", clear

drop id

gen id=hhid+pn

merge 1:1 id using "`id'"

keep if \_m==3

keep hhid pn stateusps\* zipcode\*

foreach x of varlist stateusps\* {

replace `x' = "" if `x'=="ZZ"

}

gen stateusps97=""

gen stateusps99=""

forvalues i= 1(2)13{

gen stateusps`i'=""

gen zipcode`i' = ""

}

forvalues i=0(2)8{

rename stateusps0`i' stateusps`i'

rename zipcode0`i' zipcode`i'

}

reshape long stateusps zipcode, i(hhid pn) j(year)

forvalues i=0/99{

qui replace year=200`i' if year==`i' & year<=9

qui replace year=20`i' if year==`i' & inrange(year, 10,14)

qui replace year=19`i' if year==`i' & year>=90

}

gen id= hhid+pn

sort id year

drop if id==""

by id: carryforward stateusps, replace

gsort id -year

by id: carryforward stateusps, replace

/\*

expand 2 if year==2012, gen(dupkey)

replace year = 2014 if dupkey==1

expand 2 if year==2014, gen(dup2)

replace year= 2013 if dup2==1

\*/

tempfile state

save "`state'"

rename year year\_n1

rename stateusps stateusps\_n1

tempfile state\_n1

save `state\_n1'

rename year\_n1 year\_n2

rename stateusps\_n1 stateusps\_n2

tempfile state\_n2

save `state\_n2'

use R01\_int\_2015.dta, clear

merge 1:1 id year using "`state'"

keep if \_m==3

cap drop \_m

merge m:1 id year\_n1 using "`state\_n1'"

keep if \_m==3

cap drop \_m

merge m:1 id year\_n2 using "`state\_n2'"

keep if \_m==3

cap drop \_m

save R01\_int\_2015.dta, replace

//merging with the Genworth/Metlife hourly home health aide cost.

import excel "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\ref\_data\Cost Care Survey (Genworth-Metlife)\HHA\_hourly\_genworth.xlsx", ///

sheet("Sheet1") firstrow clear

rename A year

rename B stateusps

rename HomeHealthAideServicesHourly state\_hha

rename MedianHourlyRate hr\_rate

drop if year==.

destring hr\_rate, replace

expand 2 if year==1998, gen(duptag)

replace year = year - 1 if duptag==1

cap drop duptag

expand 2 if year==1997, gen(duptag)

replace year = year - 1 if duptag==1

drop duptag

rename year year\_n0

tempfile rate

save "`rate'"

rename year\_n0 year\_n1

rename stateusps stateusps\_n1

rename state\_hha state\_hha\_n1

rename hr\_rate hr\_rate\_n1

tempfile rate\_n1

save "`rate\_n1'"

rename year\_n1 year\_n2

rename stateusps\_n1 stateusps\_n2

rename state\_hha\_n1 state\_hha\_n2

rename hr\_rate\_n1 hr\_rate\_n2

tempfile rate\_n2

save "`rate\_n2'"

use R01\_int\_2015.dta, clear

cap drop \_m

merge m:1 year\_n0 stateusps using "`rate'"

keep if \_m==3

cap drop \_m

merge m:1 year\_n1 stateusps\_n1 using "`rate\_n1'"

keep if \_m==3

cap drop \_m

merge m:1 year\_n2 stateusps\_n2 using "`rate\_n2'"

keep if \_m==3

cap drop \_m

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* calculations \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

gen core\_b4\_death = 0

replace core\_b4\_death = 1 if nflag==1

gen n1\_2\_death = index\_date - c\_ivw\_date if core\_b4\_death==1

replace n1\_2\_death = n1\_2\_death \* 0.033

replace n1\_2\_death = ceil(n1\_2\_death)

replace n1\_2\_death = 24 if n1\_2\_death>=24 & n1\_2\_death!=.

replace n1\_2\_death = 1 if n1\_2\_death<=0

gen death\_cat = .

replace death\_cat = 1 if n1\_2\_death<12

replace death\_cat = 2 if n1\_2\_death==12

replace death\_cat = 3 if n1\_2\_death>12 & n1\_2\_death!=.

gsort id -core\_b4\_death

carryforward death\_cat n1\_2\_death, replace

gen all = 1

bysort id: egen count = total(all)

codebook id if count==4

levelsof id if count==4 & death\_cat==1, local(non4)

drop if count==4 & death\_cat==1 /////////// dropping people with no N3 but death\_cat ==1

cap drop ivw\_time

gen ivw\_time = ivw\_date - next\_ivw\_date

\*replace ivw\_time = index\_date - ivw\_date if ex2far==1

replace ivw\_time = ivw\_time \* 0.03

gen imp = core\_year-next\_ivw\_year

replace ivw\_time = 48 if imp>=6 & imp!=. // recode people with exit >2yrs from death to cap it at 48m

replace ivw\_time = 24 if earliest==1

replace imp = 1 if imp>=4 & imp!=.

replace ivw\_time = ivw\_time/2 if imp==1

replace ivw\_time = ceil(ivw\_time)

tab ivw\_time

label var ivw\_time "interview weight"

cap drop mar\_n0 mar\_n1 mar\_n2

cap drop mar

gen mar\_n0 = . //months at risk

gen mar\_n1 = .

gen mar\_n2 = .

gen mar\_n3 = .

replace mar\_n0 = index\_month if nflag==0

\*replace mar\_n0 = n1\_2\_death if n1\_2\_death<12 & nflag==0

replace mar\_n0 = n1\_2\_death if (n1\_2\_death-mar\_n0 < 0) & nflag==0

replace mar\_n1 = n1\_2\_death - mar\_n0 if nflag==0

replace mar\_n1 = 0 if mar\_n1<0 & nflag==0

replace mar\_n1 = 12 if (mar\_n1>12 & mar\_n1!=.) & nflag==0

replace mar\_n2 = n1\_2\_death - mar\_n0 -mar\_n1 if nflag==0

replace mar\_n2 = 0 if mar\_n2<0

\*replace mar\_n2 = 12 if (mar\_n2>12 & mar\_n2!=.) & nflag==0

replace mar\_n3 = n1\_2\_death - mar\_n0 -mar\_n1 -mar\_n2 if nflag==0

replace mar\_n3 = 0 if mar\_n3<0

replace mar\_n0 = c\_ivw\_month if nflag>0

replace mar\_n1 = ivw\_time - c\_ivw\_month if nflag>0

replace mar\_n1 = 0 if mar\_n1<0 & nflag>0

replace mar\_n1 = 12 if (mar\_n1>12 & mar\_n1!=.) & nflag>0

replace mar\_n2 = ivw\_time - 12 - c\_ivw\_month if nflag>0

replace mar\_n2 = 0 if mar\_n2<0 & nflag>0

\*replace mar\_n2 = 12 if (mar\_n2>12 & mar\_n2!=.) & nflag>0

replace mar\_n3 = ivw\_time - 12 - c\_ivw\_month if nflag>0

replace mar\_n3 = 0 if mar\_n3<0 & nflag>0

gen mar = mar\_n0+mar\_n1+mar\_n2+mar\_n3

corr mar n1\_2\_death if nflag==0

corr mar ivw\_time if nflag>0 // checks to see if months at risk (mar) = months between ivw

foreach x of varlist hlphrs\_\* {

replace `x' = (`x'\*mar\_n0\*hr\_rate) + (`x'\*mar\_n1\*hr\_rate\_n1) + (`x'\*mar\_n2\*hr\_rate\_n2)

}

gen has\_imputed = 0

foreach x of local impu {

replace has\_imputed=1 if id=="`x'"

}

save R01\_int\_2015.dta, replace

/\* Sample Derivation \*/

use decedent\_dataset.dta if inrange(index\_year,2006,2015), clear

gen age\_lt\_70 = 0

label var age\_lt\_70 "Dropped because age at death <72"

foreach x of local agedrop {

replace age\_lt\_70 = 1 if id=="`x'"

}

gen exdrop = 0

label var exdrop "Dropped because no Exit Ivw 2002-2014"

foreach x of local exitdrop {

replace exdrop = 1 if id=="`x'"

}

gen nocore = 0

label var nocore "Dropped because no Core Ivw 2000-2012"

foreach x of local nocoredrop {

replace nocore = 1 if id=="`x'"

}

gen misscore = 0

label var misscore "Dropped because missing consecutive cores"

foreach x of local misscore {

replace misscore = 1 if id=="`x'"

}

gen core4yr = 0

label var core4yr "Dropped because no Core within last 4 years of life"

foreach x of local core4yr {

replace core4yr = 1 if id=="`x'"

}

gen impu = 0

label var impu "Had a core imputed"

foreach x of local impu {

replace impu = 1 if id=="`x'"

}

gen non4 = 0

label var non4 "Dropped because Died <12m after N1 and missing N4"

foreach x of local non4 {

replace non4 = 1 if id=="`x'"

}

local deri age\_lt\_70 exdrop nocore misscore core4yr non4

gen final = 1

label var final "Final Sample Size, includes decedents w/imputed core"

foreach x of local deri {

replace final = 0 if `x'==1

}

gen final\_noimp = 0

replace final\_noimp = 1 if final==1 & impu==0

label var final\_noimp "Final Sample Size, excludes decedents with imputed core"

gen all = 1

label var all "All HRS respondents Deceased 2006-2015"

local full all age\_lt\_70 exdrop nocore misscore core4yr non4 final final\_noimp

local rd: word count `full'

mat tab1 = J(`rd',1,.)

local r = 1

foreach x of local full {

sum `x'

mat tab1[`r',1] = r(sum)

local ++r

}

mat rownames tab1 = `full'

frmttable using "E:\projects\burden\_dementia\archive logs\Sample\_Derivation\_7yrs.doc", replace statmat(tab1) ///

varlabels title("Sample Derivation for R01 (Deceased 2006-2015, Age 72+)") ctitles("Reason for Exclusion" "N" ) sdec(0) ///

annotate(stars) asymbol(\*,\*\*)note("Death Date was determined by NDI, Medicare MBSF or HRS Exit in that order. //If NDI death date was after HRS Exit Interview and respondent had no subsequent data, then HRS death date was used.")

H="Dataset and table 1"

/\*\*\*\*\*\*\*\*\* Constructing Final Dataset \*\*\*\*\*\*\*\*\*/

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\R01\_int\_2015.dta", clear

\*gen n\_nk=n\_u-n\_k

forvalues j = 1/3 {

preserve

if `j'==1 local y "0"

if `j'==2 local y "a"

if `j'==3 local y "b"

drop if has\_imputed==1 & `j'==1 //

// replace total\_oop\_exit = total\_imp\_a\_exit if `j'==2 no imputed exits

replace total\_oop = total\_imp\_a if `j'==2 & imputed==1

foreach x in i s u k nk {

replace hlphrs\_`x'\_exit = hlphrs\_`x'\_a\_exit if `j'==2 & hlp\_exit==1

replace hlphrs\_`x' = hlphrs\_`x'\_a if `j'==2 & imputed==1

}

// replace total\_oop\_exit = total\_imp\_b\_exit if `j'==3

replace total\_oop = total\_imp\_b if `j'==3 & imputed==1

foreach x in i s u k nk {

replace hlphrs\_`x'\_exit = hlphrs\_`x'\_b\_exit if `j'==3 & hlp\_exit==1

replace hlphrs\_`x' = hlphrs\_`x'\_b if `j'==3 & imputed==1

}

keep id death\_cat nflag total\_\* hlphrs\_\* n1\_2\_death year ivw\_time

reshape wide total\_\* hlphrs\_\* year ivw\_time, i(id) j(nflag)

forvalues i = 1/7 {

gen oop\_n`i' = .

gen informal\_n`i' = .

gen informal\_i\_n`i' = .

gen informal\_s\_n`i' = .

gen informal\_u\_n`i' = .

gen informal\_k\_n`i' = .

gen informal\_nk\_n`i'= .

}

/\* OOP \*/

replace oop\_n1 = total\_oop\_exit0 + ((12 - n1\_2\_death)\*(total\_oop1/ivw\_time1)) if death\_cat==1

replace oop\_n1 = total\_oop\_exit0 if death\_cat==2

replace oop\_n1 = total\_oop\_exit0\*(12/n1\_2\_death) if death\_cat==3

replace oop\_n2 = ((12)\*(total\_oop1/ivw\_time1)) if death\_cat==1

replace oop\_n2 = ((12)\*(total\_oop1/ivw\_time1)) if death\_cat==2

replace oop\_n2 = ((n1\_2\_death-12)/n1\_2\_death)\*total\_oop\_exit0 + (24-n1\_2\_death)\*(total\_oop1/ivw\_time1) if death\_cat==3

replace oop\_n3 = ((n1\_2\_death)\*(total\_oop1/ivw\_time1)) + ((12-n1\_2\_death)\*(total\_oop2/ivw\_time2)) if death\_cat==1

replace oop\_n3 = ((12)\*(total\_oop1/ivw\_time1)) if death\_cat==2

replace oop\_n3 = ((12)\*(total\_oop1/ivw\_time1)) if death\_cat==3

replace oop\_n4 = ((12)\*(total\_oop2/ivw\_time2)) if death\_cat==1

replace oop\_n4 = ((12)\*(total\_oop2/ivw\_time2)) if death\_cat==2

replace oop\_n4 = (((n1\_2\_death-12)/ivw\_time1))\*(total\_oop1) + ((24-n1\_2\_death)\*(total\_oop2/ivw\_time2)) if death\_cat==3

replace oop\_n5 = ((12)\*(total\_oop3/ivw\_time3)) if death\_cat==1

replace oop\_n5 = ((12)\*(total\_oop3/ivw\_time3)) if death\_cat==2

replace oop\_n5 = (((n1\_2\_death-12)/ivw\_time2))\*(total\_oop2) + ((24-n1\_2\_death)\*(total\_oop3/ivw\_time3)) if death\_cat==3

replace oop\_n6 = ((12)\*(total\_oop3/ivw\_time3)) if death\_cat==1

replace oop\_n6 = ((12)\*(total\_oop3/ivw\_time3)) if death\_cat==2

replace oop\_n6 = (((n1\_2\_death-12)/ivw\_time2))\*(total\_oop1) + ((24-n1\_2\_death)\*(total\_oop2/ivw\_time2)) if death\_cat==3

replace oop\_n7 = ((n1\_2\_death)\*(total\_oop3/ivw\_time3)) + ((12-n1\_2\_death)\*(total\_oop4/ivw\_time4)) if death\_cat==1

replace oop\_n7 = ((12)\*(total\_oop4/ivw\_time3)) if death\_cat==2

replace oop\_n7 = ((12)\*(total\_oop4/ivw\_time3)) if death\_cat==3

forvalues i=1/7 {

sum oop\_n`i'

}

/\* Informal \*/

foreach x in \_i \_s \_u \_k \_nk {

replace informal`x'\_n1 = hlphrs`x'\_exit0 + ((12 - n1\_2\_death)\*(hlphrs`x'1/ivw\_time1)) if death\_cat==1

replace informal`x'\_n1 = hlphrs`x'\_exit0 if death\_cat==2

replace informal`x'\_n1 = hlphrs`x'\_exit0\*(12/n1\_2\_death) if death\_cat==3

replace informal`x'\_n2 = ((12)\*(hlphrs`x'1/ivw\_time1)) if death\_cat==1

replace informal`x'\_n2 = ((12)\*(hlphrs`x'1/ivw\_time1)) if death\_cat==2

replace informal`x'\_n2 = ((n1\_2\_death-12)/n1\_2\_death)\*hlphrs`x'\_exit0 + (24-n1\_2\_death)\*(hlphrs`x'1/ivw\_time1) if death\_cat==3

replace informal`x'\_n3 = ((n1\_2\_death)\*(hlphrs`x'1/ivw\_time1)) + ((12-n1\_2\_death)\*(hlphrs`x'2/ivw\_time2)) if death\_cat==1

replace informal`x'\_n3 = ((12)\*(hlphrs`x'1/ivw\_time1)) if death\_cat==2

replace informal`x'\_n3 = ((12)\*(hlphrs`x'1/ivw\_time1)) if death\_cat==3

replace informal`x'\_n4 = ((12)\*(hlphrs`x'2/ivw\_time2)) if death\_cat==1

replace informal`x'\_n4 = ((12)\*(hlphrs`x'2/ivw\_time2)) if death\_cat==2

replace informal`x'\_n4 = (((n1\_2\_death-12)/ivw\_time2))\*(hlphrs`x'1) + ((24-n1\_2\_death)\*(hlphrs`x'2/ivw\_time2)) if death\_cat==3

replace informal`x'\_n5 = ((12)\*(hlphrs`x'2/ivw\_time2)) if death\_cat==1

replace informal`x'\_n5 = ((12)\*(hlphrs`x'2/ivw\_time2)) if death\_cat==2

replace informal`x'\_n5 = (((n1\_2\_death-12)/ivw\_time2))\*(hlphrs`x'1) + ((24-n1\_2\_death)\*(hlphrs`x'2/ivw\_time2)) if death\_cat==3

replace informal`x'\_n6 = ((12)\*(hlphrs`x'3/ivw\_time3)) if death\_cat==1

replace informal`x'\_n6 = ((12)\*(hlphrs`x'3/ivw\_time3)) if death\_cat==2

replace informal`x'\_n6 = (((n1\_2\_death-12)/ivw\_time2))\*(hlphrs`x'1) + ///

((24-n1\_2\_death)\*(hlphrs`x'3/ivw\_time3)) if death\_cat==3

replace informal`x'\_n7 = ((n1\_2\_death)\*(hlphrs`x'4/ivw\_time4)) + ((12-n1\_2\_death)\*(hlphrs`x'3/ivw\_time3)) if death\_cat==1

replace informal`x'\_n7 = ((12)\*(hlphrs`x'4/ivw\_time4)) if death\_cat==2

replace informal`x'\_n7 = ((12)\*(hlphrs`x'4/ivw\_time4)) if death\_cat==3

forvalues i=1/7 {

replace informal`x'\_n`i'= (informal`x'\_n`i')\*(20/19)

sum informal`x'\_n`i'

}

}

forvalues i=1/7 {

di `i'

replace informal\_n`i'=informal\_i\_n`i'

drop informal\_i\_n`i'

}

gen impute = `j'

save "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\oop\_impute\_`y'.dta", replace

restore

}

keep if nflag==0

expand 3

bysort id: gen impute = \_n

cap drop \_m

merge 1:1 id impute using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\oop\_impute\_0.dta", keepus(oop\_n\* informal\_\*n\*)

replace impute = . if impute==1 & \_m==1

cap drop \_m

merge 1:1 id impute using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\oop\_impute\_a.dta", keepus(oop\_n\* informal\_\*n\*) update

cap drop \_m

merge 1:1 id impute using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\oop\_impute\_b.dta", keepus(oop\_n\* informal\_\*n\*) update

cap drop \_m

merge m:1 id using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data\tot\_paid\_maid.dta", keepus(tot\_paid\_maid\_\*)

drop if \_m==2

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\"

forvalues i=1/7 {

gen ffs\_`i'yr=cont\_ffs\_n\_mos>=`i'\*12 & cont\_ffs\_n\_mos!=.

}

gen white = 0

replace white = 1 if race==1 & hisp\_eth==0

gen black = 0

replace black = 1 if race==2 & hisp\_eth==0

gen other = 0

replace other = 1 if white==0 & black==0 & hisp\_eth==0

label var white "Non-Hispanic White"

label var black "Non-Hispanic Black"

label var other "Non-Hispanic Other"

label var tot\_paid\_maid\_n1 "Total Medicaid Spending N1"

label var tot\_paid\_maid\_n2 "Total Medicaid Spending N2"

label var tot\_paid\_maid\_n3 "Total Medicaid Spending N3"

label var tot\_paid\_maid\_n4 "Total Medicaid Spending N4"

label var tot\_paid\_maid\_n5 "Total Medicaid Spending N5"

gen tot\_paid\_maid\_7yr = tot\_paid\_maid\_n1 + tot\_paid\_maid\_n2 + tot\_paid\_maid\_n3 + tot\_paid\_maid\_n4 + tot\_paid\_maid\_n5 ///

+ tot\_paid\_maid\_n6 + tot\_paid\_maid\_n7

gen tot\_paid\_mc\_7yr = tot\_paid\_by\_mc\_12m + tot\_paid\_by\_mc\_24m + tot\_paid\_by\_mc\_36m + ///

tot\_paid\_by\_mc\_48m + tot\_paid\_by\_mc\_60m + tot\_paid\_by\_mc\_72m + tot\_paid\_by\_mc\_84m

gen oop\_7yr = oop\_n1 + oop\_n2 + oop\_n3 + oop\_n4 + oop\_n5 + oop\_n6 + oop\_n7

gen informal\_7yr = informal\_n1 + informal\_n2 + informal\_n3 + informal\_n4 + informal\_n5 ///

+ informal\_n6 + informal\_n7

gen tot\_paid\_maid\_6yr = tot\_paid\_maid\_n1 + tot\_paid\_maid\_n2 + tot\_paid\_maid\_n3 + tot\_paid\_maid\_n4 + tot\_paid\_maid\_n5 ///

+ tot\_paid\_maid\_n6

gen tot\_paid\_mc\_6yr = tot\_paid\_by\_mc\_12m + tot\_paid\_by\_mc\_24m + tot\_paid\_by\_mc\_36m + ///

tot\_paid\_by\_mc\_48m + tot\_paid\_by\_mc\_60m + tot\_paid\_by\_mc\_72m

gen oop\_6yr = oop\_n1 + oop\_n2 + oop\_n3 + oop\_n4 + oop\_n5 + oop\_n6

gen informal\_6yr = informal\_n1 + informal\_n2 + informal\_n3 + informal\_n4 + informal\_n5 ///

+ informal\_n6

gen tot\_paid\_maid\_5yr = tot\_paid\_maid\_n1 + tot\_paid\_maid\_n2 + tot\_paid\_maid\_n3 + tot\_paid\_maid\_n4 + tot\_paid\_maid\_n5

gen tot\_paid\_mc\_5yr = tot\_paid\_by\_mc\_12m + tot\_paid\_by\_mc\_24m + tot\_paid\_by\_mc\_36m + tot\_paid\_by\_mc\_48m + tot\_paid\_by\_mc\_60m

gen oop\_5yr = oop\_n1 + oop\_n2 + oop\_n3 + oop\_n4 + oop\_n5

gen informal\_5yr = informal\_n1 + informal\_n2 + informal\_n3 + informal\_n4 + informal\_n5

gen tot\_paid\_maid\_4yr = tot\_paid\_maid\_n1 + tot\_paid\_maid\_n2 + tot\_paid\_maid\_n3 + tot\_paid\_maid\_n4

gen tot\_paid\_mc\_4yr = tot\_paid\_by\_mc\_12m + tot\_paid\_by\_mc\_24m + tot\_paid\_by\_mc\_36m + tot\_paid\_by\_mc\_48m

gen oop\_4yr = oop\_n1 + oop\_n2 + oop\_n3 + oop\_n4

gen informal\_4yr = informal\_n1 + informal\_n2 + informal\_n3 + informal\_n4

gen tot\_paid\_maid\_3yr = tot\_paid\_maid\_n1 + tot\_paid\_maid\_n2 + tot\_paid\_maid\_n3

gen tot\_paid\_mc\_3yr = tot\_paid\_by\_mc\_12m + tot\_paid\_by\_mc\_24m + tot\_paid\_by\_mc\_36m

gen oop\_3yr = oop\_n1 + oop\_n2 + oop\_n3

gen informal\_3yr = informal\_n1 + informal\_n2 + informal\_n3

gen tot\_paid\_maid\_2yr = tot\_paid\_maid\_n1 + tot\_paid\_maid\_n2

gen tot\_paid\_mc\_2yr = tot\_paid\_by\_mc\_12m + tot\_paid\_by\_mc\_24m

gen oop\_2yr = oop\_n1 + oop\_n2

gen informal\_2yr = informal\_n1 + informal\_n2

label var tot\_paid\_maid\_5yr "Total 5yr Medicaid Spending"

label var tot\_paid\_mc\_5yr "Total 5yr Medicare Spending"

label var oop\_5yr "Total 5yr OOP Spending"

label var informal\_5yr "Total 5yr Informal Cost"

label var tot\_paid\_maid\_4yr "Aggregate 4yr Medicaid Spending"

label var tot\_paid\_mc\_4yr "Aggregate 4yr Medicare Spending"

label var oop\_4yr "Aggregate 4yr OOP Spending"

label var informal\_4yr "Aggregate 4yr Informal Cost"

label var tot\_paid\_maid\_3yr "Aggregate 3yr Medicaid Spending"

label var tot\_paid\_mc\_3yr "Aggregate 3yr Medicare Spending"

label var oop\_3yr "Aggregate 3yr OOP Spending"

label var informal\_3yr "Aggregate 3yr Informal Cost"

forvalues i=2/7 {

label var tot\_paid\_maid\_`i'yr "Aggregate `i'yr Medicaid Spending"

label var tot\_paid\_mc\_`i'yr "Aggregate `i'yr Medicare Spending"

label var oop\_`i'yr "Aggregate `i'yr OOP Spending"

label var informal\_`i'yr "Aggregate `i'yr Informal Cost"

}

save R01\_final\_2015.dta, replace

local ivars female white black other hospice\_exit nhres\_exit married\_exit reschil\_d\_exit resspouse\_exit livealone\_exit adl\_independent\_exit adl\_severe\_exit medicare\_exit medicareb\_exit medicaid\_exit champus\_exit ffs\_5yr ffs\_4yr ffs\_3yr ffs\_2yr ffs\_1yr

local medcost age\_at\_death tot\_paid\_maid\_n1 tot\_paid\_maid\_n2 tot\_paid\_maid\_n3 ///

tot\_paid\_maid\_n4 tot\_paid\_maid\_n5 tot\_paid\_maid\_n6 tot\_paid\_maid\_n7 ///

tot\_paid\_by\_mc\_12m tot\_paid\_by\_mc\_24m tot\_paid\_by\_mc\_36m tot\_paid\_by\_mc\_48m ///

tot\_paid\_by\_mc\_60m tot\_paid\_by\_mc\_72m tot\_paid\_by\_mc\_84m oop\_n1 oop\_n2 oop\_n3 ///

oop\_n4 oop\_n5 oop\_n6 oop\_n7 ///

informal\_n1 informal\_n2 informal\_n3 informal\_n4 informal\_n5 informal\_n6 informal\_n7 ///

tot\_paid\_maid\_7yr tot\_paid\_mc\_7yr oop\_7yr informal\_7yr ///

tot\_paid\_maid\_6yr tot\_paid\_mc\_6yr oop\_6yr informal\_6yr ///

tot\_paid\_maid\_5yr tot\_paid\_mc\_5yr oop\_5yr informal\_5yr ///

tot\_paid\_maid\_4yr tot\_paid\_mc\_4yr ///

oop\_4yr informal\_4yr tot\_paid\_maid\_3yr tot\_paid\_mc\_3yr oop\_3yr informal\_3yr tot\_paid\_maid\_2yr ///

tot\_paid\_mc\_2yr oop\_2yr informal\_2yr

local rd: word count `ivars' `medcost' 1

mat tab1=J(`rd', 9,.)

mat stars=J(`rd',9,0)

local r = 1

foreach x of local ivars {

sum `x' if impute==1

mat tab1[`r',1] = r(mean)\*100

sum `x' if impute==1 & dem\_cohort==1

mat tab1[`r',2] = r(mean)\*100

sum `x' if impute==1 & dem\_cohort==0

mat tab1[`r',3] = r(mean)\*100

tab `x' dem\_cohort if impute==1, chi2

mat stars[`r',2] = (r(p)<.01) + (r(p)<0.05)

sum `x' if impute==2

mat tab1[`r',4] = r(mean)\*100

sum `x' if impute==2 & dem\_cohort==1

mat tab1[`r',5] = r(mean)\*100

sum `x' if impute==2 & dem\_cohort==0

mat tab1[`r',6] = r(mean)\*100

tab `x' dem\_cohort if impute==2, chi2

mat stars[`r',5] = (r(p)<.01) + (r(p)<0.05)

sum `x' if impute==3

mat tab1[`r',7] = r(mean)\*100

sum `x' if impute==3 & dem\_cohort==1

mat tab1[`r',8] = r(mean)\*100

sum `x' if impute==3 & dem\_cohort==0

mat tab1[`r',9] = r(mean)\*100

tab `x' dem\_cohort if impute==3, chi2

mat stars[`r',8] = (r(p)<.01) + (r(p)<0.05)

local ++r

}

foreach x of local medcost {

sum `x' if impute==1

mat tab1[`r',1] = r(mean)

sum `x' if impute==1 & dem\_cohort==1

mat tab1[`r',2] = r(mean)

sum `x' if impute==1 & dem\_cohort==0

mat tab1[`r',3] = r(mean)

ttest `x' if impute==1, by(dem\_cohort)

mat stars[`r',2] = (r(p)<.01) + (r(p)<.05)

sum `x' if impute==2

mat tab1[`r',4] = r(mean)

sum `x' if impute==2 & dem\_cohort==1

mat tab1[`r',5] = r(mean)

sum `x' if impute==2 & dem\_cohort==0

mat tab1[`r',6] = r(mean)

ttest `x' if impute==2, by(dem\_cohort)

mat stars[`r',5] = (r(p)<.01) + (r(p)<.05)

sum `x' if impute==3

mat tab1[`r',7] = r(mean)

sum `x' if impute==3 & dem\_cohort==1

mat tab1[`r',8] = r(mean)

sum `x' if impute==3 & dem\_cohort==0

mat tab1[`r',9] = r(mean)

ttest `x' if impute==3, by(dem\_cohort)

mat stars[`r',8] = (r(p)<.01) + (r(p)<.05)

local ++r

}

sum nflag\_ivw if impute==1

mat tab1[`r',1] = r(N)

sum nflag\_ivw if impute==1 & dem\_cohort==1

mat tab1[`r',2] = r(N)

sum nflag\_ivw if impute==1 & dem\_cohort==0

mat tab1[`r',3] = r(N)

sum nflag\_ivw if impute==2

mat tab1[`r',4] = r(N)

sum nflag\_ivw if impute==2 & dem\_cohort==1

mat tab1[`r',5] = r(N)

sum nflag\_ivw if impute==2 & dem\_cohort==0

mat tab1[`r',6] = r(N)

sum nflag\_ivw if impute==3

mat tab1[`r',7] = r(N)

sum nflag\_ivw if impute==3 & dem\_cohort==1

mat tab1[`r',8] = r(N)

sum nflag\_ivw if impute==3 & dem\_cohort==0

mat tab1[`r',9] = r(N)

mat rownames tab1 = `ivars' `medcost' N

frmttable using "E:\projects\burden\_dementia\archive logs\R01\_imputed.doc", replace statmat(tab1) ///

varlabels title("Summary Statistics For R01 Sample (Deceased 2004-2012, Age 70+)") ctitles("", "", "No Imputation", "", "", "Imputed - Method A", "", "", "Imputed - Method B", "" \"Variables", "All","Dementia","No Dementia", "All","Dementia","No Dementia", "All","Dementia","No Dementia" ) sdec(2) ///

vlines(01001001001) annotate(stars) asymbol(\*,\*\*)note("All costs have been inflation adjusted to 2014 dollars. <0.05\*, p<0.01\*\*")

/\* FFS Only \*/

preserve

keep if ffs\_7yr==1

mat tab1=J(`rd', 9,.)

mat stars=J(`rd',9,0)

local r = 1

foreach x of local ivars {

sum `x' if impute==1

mat tab1[`r',1] = r(mean)\*100

sum `x' if impute==1 & dem\_cohort==1

mat tab1[`r',2] = r(mean)\*100

sum `x' if impute==1 & dem\_cohort==0

mat tab1[`r',3] = r(mean)\*100

tab `x' dem\_cohort if impute==1, chi2

mat stars[`r',2] = (r(p)<.01) + (r(p)<0.05)

sum `x' if impute==2

mat tab1[`r',4] = r(mean)\*100

sum `x' if impute==2 & dem\_cohort==1

mat tab1[`r',5] = r(mean)\*100

sum `x' if impute==2 & dem\_cohort==0

mat tab1[`r',6] = r(mean)\*100

tab `x' dem\_cohort if impute==2, chi2

mat stars[`r',5] = (r(p)<.01) + (r(p)<0.05)

sum `x' if impute==3

mat tab1[`r',7] = r(mean)\*100

sum `x' if impute==3 & dem\_cohort==1

mat tab1[`r',8] = r(mean)\*100

sum `x' if impute==3 & dem\_cohort==0

mat tab1[`r',9] = r(mean)\*100

tab `x' dem\_cohort if impute==3, chi2

mat stars[`r',8] = (r(p)<.01) + (r(p)<0.05)

local ++r

}

foreach x of local medcost {

sum `x' if impute==1

mat tab1[`r',1] = r(mean)

sum `x' if impute==1 & dem\_cohort==1

mat tab1[`r',2] = r(mean)

sum `x' if impute==1 & dem\_cohort==0

mat tab1[`r',3] = r(mean)

ttest `x' if impute==1, by(dem\_cohort)

mat stars[`r',2] = (r(p)<.01) + (r(p)<.05)

sum `x' if impute==2

mat tab1[`r',4] = r(mean)

sum `x' if impute==2 & dem\_cohort==1

mat tab1[`r',5] = r(mean)

sum `x' if impute==2 & dem\_cohort==0

mat tab1[`r',6] = r(mean)

ttest `x' if impute==2, by(dem\_cohort)

mat stars[`r',5] = (r(p)<.01) + (r(p)<.05)

sum `x' if impute==3

mat tab1[`r',7] = r(mean)

sum `x' if impute==3 & dem\_cohort==1

mat tab1[`r',8] = r(mean)

sum `x' if impute==3 & dem\_cohort==0

mat tab1[`r',9] = r(mean)

ttest `x' if impute==3, by(dem\_cohort)

mat stars[`r',8] = (r(p)<.01) + (r(p)<.05)

local ++r

}

sum nflag\_ivw if impute==1

mat tab1[`r',1] = r(N)

sum nflag\_ivw if impute==1 & dem\_cohort==1

mat tab1[`r',2] = r(N)

sum nflag\_ivw if impute==1 & dem\_cohort==0

mat tab1[`r',3] = r(N)

sum nflag\_ivw if impute==2

mat tab1[`r',4] = r(N)

sum nflag\_ivw if impute==2 & dem\_cohort==1

mat tab1[`r',5] = r(N)

sum nflag\_ivw if impute==2 & dem\_cohort==0

mat tab1[`r',6] = r(N)

sum nflag\_ivw if impute==3

mat tab1[`r',7] = r(N)

sum nflag\_ivw if impute==3 & dem\_cohort==1

mat tab1[`r',8] = r(N)

sum nflag\_ivw if impute==3 & dem\_cohort==0

mat tab1[`r',9] = r(N)

mat rownames tab1 = `ivars' `medcost' N

frmttable using "E:\projects\burden\_dementia\archive logs\R01\_imputed.doc", addtable statmat(tab1) ///

varlabels title("Summary Statistics For R01 Sample (Deceased 2004-2012, Age 72+, Continuous FFS 84 months prior)") ctitles("", "", "No Imputation", "", "", "Imputed - Method A", "", "", "Imputed - Method B", "" \"Variables", "All","Dementia","No Dementia", "All","Dementia","No Dementia", "All","Dementia","No Dementia" ) sdec(2) ///

vlines(01001001001) annotate(stars) asymbol(\*,\*\*)note("All costs have been inflation adjusted to 2014 dollars. p<0.05\*, p<0.01\*\* No imputation = anyone with gap ivw dropped. Method A = Carry forward prev ivw. Method B = Average prev and later ivw.")

H="Graphs"

use "E:\data\hrs\_cleaned\core\_00\_to\_14.dta", clear

sort id core\_year

by id: keep if \_n==\_N

keep id reschil\_d

rename reschil\_d reschil\_d\_n1

tempfile core

save `core'

clear all

set more off

capture log close

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final\_2015.dta", clear

keep if ffs\_7==1

keep if impute==2

drop tot\_paid\*p\*

merge 1:1 id using `core', keep(match master) nogen

foreach x of varlist tot\* oop\* informal\* {

replace `x'=0 if missing(`x')

}

forvalues i=12(12)60 {

rename tot\_paid\_by\_mc\_`i'm tot\_paid\_by\_mc`=`i'/12'

rename tot\_paid\_maid\_n`=`i'/12' tot\_paid\_by\_mcaid`=`i'/12'

rename oop\_n`=`i'/12' tot\_paid\_oop`=`i'/12'

foreach x in "" \_s \_u \_k \_nk {

rename informal`x'\_n`=`i'/12' tot\_paid\_informal`x'`=`i'/12'

}

}

foreach x in by\_mc by\_mcaid oop informal informal\_s informal\_u informal\_k informal\_nk {

gen cum1\_paid\_`x'5=tot\_paid\_`x'5

forvalues i=4(-1)1 {

gen cum1\_paid\_`x'`i'=cum1\_paid\_`x'`=`i'+1'+tot\_paid\_`x'`i'

}

}

keep id tot\_paid\* cum1\_\* dem\_cohort reschil\_d\_n1 married\_or\_part

reshape long tot\_paid\_by\_mc tot\_paid\_by\_mcaid tot\_paid\_oop cum1\_paid\_by\_mc ///

cum1\_paid\_by\_mcaid cum1\_paid\_oop tot\_paid\_informal cum1\_paid\_informal ///

tot\_paid\_informal\_u cum1\_paid\_informal\_u tot\_paid\_informal\_s cum1\_paid\_informal\_s ///

tot\_paid\_informal\_k cum1\_paid\_informal\_k tot\_paid\_informal\_nk cum1\_paid\_informal\_nk ///

, i(id) j(year\_bef\_death)

replace tot\_paid\_by\_mcaid=0 if missing(tot\_paid\_by\_mcaid)

\*preserve

replace year=-year+6

label define year 1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1"

foreach x of varlist tot\* cum\* {

\*replace `x'=`x'/1.03^(year\_bef-1)

}

label values year year

foreach x in tot cum1 {

egen `x'\_paid\_by\_all=rowtotal(`x'\_paid\_by\_mc `x'\_paid\_by\_mcaid `x'\_paid\_oop ///

`x'\_paid\_informal)

}

foreach x in by\_mc by\_mcaid oop informal informal\_s informal\_u informal\_k informal\_nk by\_all {

by dem\_cohort year\_bef\_death, sort: egen annu\_`x'=mean(tot\_paid\_`x')

by dem\_cohort year\_bef\_death, sort: egen cum\_`x'=mean(cum1\_paid\_`x')

by dem\_cohort year\_bef\_death reschil\_d\_n1, sort: egen annu\_resch\_`x'=mean(tot\_paid\_`x')

by dem\_cohort year\_bef\_death married\_or\_part, sort: egen annu\_married\_`x'=mean(tot\_paid\_`x')

}

foreach x in by\_mc by\_mcaid oop informal informal\_s informal\_u informal\_k informal\_nk by\_all {

by dem\_cohort year\_bef\_death, sort: egen annu\_sd\_`x'=sd(tot\_paid\_`x')

by dem\_cohort year\_bef\_death, sort: egen cum\_sd\_`x'=sd(cum1\_paid\_`x')

}

foreach x in s u k nk {

foreach y in "" resch\_ married\_ {

gen hlphrs\_`y'`x'=((annu\_`y'informal\_`x'/20)/12)

}

}

by dem\_cohort year\_bef\_death: gen n=\_N

rename \*informal\* \*inf\*

drop cum1\*

\*preserve

drop id tot\*

duplicates drop

format cum\* %16.0g

foreach x of varlist annu\* cum\* {

replace `x'=`x'/1000

}

label var dem\_c "Dementia"

label var year\_bef "Years before death"

label var annu\_by\_mc "Annual Medicarenditures"

label var cum\_by\_mc "Cumulative Medicare "

label var annu\_by\_mca "Annual Medicaid "

label var cum\_by\_mca "Cumulative Medicaid "

label var annu\_oop "Annual OOP"

label var cum\_oop "Cumulative OOP"

label var annu\_inf "Annual imputed inf. caregiving"

label var cum\_inf "Cumulative imputed inf. caregiving "

format annu\* cum\* %9.2fc

log using spending\_tables.txt, text replace

foreach x in by\_mc by\_mcaid oop inf by\_all {

list year\_bef\_death dem\_cohort annu\_`x' cum\_`x', abbreviate(16)

}

log close

foreach x in annu\_ cum\_ {

gen hi\_`x'all=`x'by\_all+ invttail(n-1,0.025)\*(`x'sd\_by\_all/sqrt(n))

gen lo\_`x'all=`x'by\_all-invttail(n-1,0.025)\*(`x'sd\_by\_all/sqrt(n))

}

/\* error bars (can we do serrbar?)

twoway (rcap lo\_annu hi\_annu year if dem\_cohort==0) (connected annu\_by\_all year if dem\_cohort==0) (connected annu\_by\_all year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save annu\_all\_spending\_over\_time.gph, replace

graph export annu\_all\_spending\_over\_time.pdf, replace

\*/

twoway (connected annu\_by\_mc year if dem\_cohort==0) (connected annu\_by\_mc year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save annu\_mc\_spending\_over\_time.gph, replace

graph export annu\_mc\_spending\_over\_time.pdf, replace

twoway (connected annu\_by\_mca year if dem\_cohort==0) (connected annu\_by\_mca year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save annu\_mcaid\_spending\_over\_time.gph, replace

graph export annu\_mcaid\_spending\_over\_time.pdf, replace

twoway (connected cum\_by\_mc year if dem\_cohort==0) (connected cum\_by\_mc year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save cum\_mc\_spending\_over\_time.gph, replace

graph export cum\_mc\_spending\_over\_time.pdf, replace

twoway (connected cum\_by\_mca year if dem\_cohort==0) (connected cum\_by\_mca year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save cum\_mcaid\_spending\_over\_time.gph, replace

graph export cum\_mcaid\_spending\_over\_time.pdf, replace

twoway (connected annu\_oop year if dem\_cohort==0) (connected annu\_oop year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save annu\_oop\_spending\_over\_time.gph, replace

graph export annu\_oopid\_spending\_over\_time.pdf, replace

twoway (connected cum\_oop year if dem\_cohort==0) (connected cum\_oop year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save cum\_oop\_spending\_over\_time.gph, replace

graph export cum\_oop\_spending\_over\_time.pdf, replace

twoway (connected annu\_inf year if dem\_cohort==0) (connected annu\_inf year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save annu\_informal\_spending\_over\_time.gph, replace

graph export annu\_informal\_spending\_over\_time.pdf, replace

twoway (connected cum\_inf year if dem\_cohort==0) (connected cum\_inf year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save cum\_informal\_spending\_over\_time.gph, replace

graph export cum\_informal\_spending\_over\_time.pdf, replace

twoway (connected annu\_by\_all year if dem\_cohort==0) (connected annu\_by\_all year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save annu\_all\_spending\_over\_time.gph, replace

graph export annu\_all\_spending\_over\_time.pdf, replace

twoway (connected cum\_by\_all year if dem\_cohort==0) (connected cum\_by\_all year if dem\_cohort==1), ///

legend(label(1 "Non-dementia") label(2 "Probable dementia")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph save cum\_all\_spending\_over\_time.gph, replace

graph export cum\_all\_spending\_over\_time.pdf, replace

twoway (connected cum\_by\_mc year if dem\_cohort==1) (connected cum\_by\_mca year if dem\_cohort==1) ///

(connected cum\_oop year if dem\_cohort==1) ///

(connected cum\_inf year if dem\_cohort==1), title("Dementia") ///

legend(label(1 "Medicare") label(2 "Medicaid") label(3 "OOP") label(4 "Informal")) ///

saving(cum\_spending\_diff\_dem, replace) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

twoway (connected cum\_by\_mc year if dem\_cohort==0) (connected cum\_by\_mca year if dem\_cohort==0) ///

(connected cum\_oop year if dem\_cohort==0) ///

(connected cum\_inf year if dem\_cohort==0), title("No Dementia") ///

legend(label(1 "Medicare") label(2 "Medicaid") label(3 "OOP") label(4 "Informal")) ///

saving(cum\_spending\_diff\_no\_dem, replace) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph bar annu\_by\_mca annu\_by\_mc annu\_oop annu\_inf, over(dem\_cohort) over(year) ///

stack saving(annu\_stack\_1, replace)

graph export annu\_stack\_1.pdf, replace

graph bar annu\_by\_mca annu\_by\_mc annu\_oop annu\_inf,over(year) over(dem\_cohort) ///

saving(annu\_stack\_2, replace) stack

graph export annu\_stack\_2.pdf, replace

preserve

tokenize inf oop by\_mc by\_mca

forvalues i=2/4 {

replace annu\_``i''=annu\_``=`i'-1''+annu\_``i''

replace cum\_``i''=cum\_``=`i'-1''+cum\_``i''

}

foreach x in cum annu {

twoway (area `x'\_by\_mca year if dem\_cohort==1) (area `x'\_by\_mc year if dem\_cohort==1) (area `x'\_oop year if dem\_cohort==1) ///

(area `x'\_inf year if dem\_cohort==1), title("Dementia") ///

legend(label(1 "Medicaid") label(2 "Medicare") label(3 "OOP") label(4 "Informal")) ///

saving(`x'\_spending\_diff\_dem\_stacked, replace) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

twoway (area `x'\_by\_mca year if dem\_cohort==0) (area `x'\_by\_mc year if dem\_cohort==0) ///

(area `x'\_oop year if dem\_cohort==0) ///

(area `x'\_inf year if dem\_cohort==0), title("No Dementia") ///

legend(label(1 "Medicaid") label(2 "Medicare") label(3 "OOP") label(4 "Informal")) ///

saving(`x'\_spending\_diff\_no\_dem\_stacked, replace) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1")

graph combine `x'\_spending\_diff\_no\_dem\_stacked.gph `x'\_spending\_diff\_dem\_stacked.gph, ///

ycommon saving(`x'\_spending\_stacked, replace)

graph export `x'\_spending\_stacked.pdf, replace

twoway (connected `x'\_inf\_s year if dem\_cohort==0) (connected `x'\_inf\_u year if dem\_cohort==0), ///

legend(label(1 "Spouses") label(2 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_no\_dem\_basic, replace) title("No Dementia")

twoway (connected `x'\_inf\_s year if dem\_cohort==1) (connected `x'\_inf\_u year if dem\_cohort==1), ///

legend(label(1 "Spouses") label(2 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_dem\_basic, replace) title("Dementia")

graph combine `x'\_no\_dem\_basic `x'\_dem\_basic, ycommon

graph save `x'\_informal\_spending\_by\_type\_basic.gph, replace

graph export `x'\_informal\_spending\_by\_type\_basic.pdf, replace

twoway (connected `x'\_inf\_s year if dem\_cohort==0) (connected `x'\_inf\_k year if dem\_cohort==0) ///

(connected `x'\_inf\_nk year if dem\_cohort==0), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_no\_dem\_kids, replace) title("No Dementia")

twoway (connected `x'\_inf\_s year if dem\_cohort==1) (connected `x'\_inf\_k year if dem\_cohort==1) ///

(connected `x'\_inf\_nk year if dem\_cohort==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_dem\_kids, replace) title("Dementia")

graph combine `x'\_no\_dem\_kids `x'\_dem\_kids, ycommon

graph save `x'\_informal\_spending\_by\_type\_kids.gph, replace

graph export `x'\_informal\_spending\_by\_type\_kids.pdf, replace

/\*

twoway (connected `x'\_inf\_s year if dem\_cohort==0 & reschil\_d\_n1==1) ///

(connected `x'\_inf\_k year if dem\_cohort==0 & reschil\_d\_n1==1) ///

(connected `x'\_inf\_nk year if dem\_cohort==0 & reschil\_d\_n1==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_no\_dem\_res\_kids, replace) title("No Dementia")

twoway (connected `x'\_inf\_s year if dem\_cohort==1 & reschil\_d\_n1==1) ///

(connected `x'\_inf\_k year if dem\_cohort==1 & reschil\_d\_n1==1) ///

(connected `x'\_inf\_nk year if dem\_cohort==1 & reschil\_d\_n1==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_dem\_res\_kids, replace) title("Dementia")

graph combine `x'\_no\_dem\_res\_kids `x'\_dem\_res\_kids, ycommon

graph save `x'\_informal\_spending\_by\_type\_res\_kids.gph, replace

graph export `x'\_informal\_spending\_by\_type\_res\_kids.pdf, replace

twoway (connected `x'\_inf\_s year if dem\_cohort==0 & married\_or==1) ///

(connected `x'\_inf\_k year if dem\_cohort==0 & married\_or==1) ///

(connected `x'\_inf\_nk year if dem\_cohort==0 & married\_or==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_no\_dem\_married, replace) title("No Dementia")

twoway (connected `x'\_inf\_s year if dem\_cohort==1 & married\_or==1) ///

(connected `x'\_inf\_k year if dem\_cohort==1 & married\_or==1) ///

(connected `x'\_inf\_nk year if dem\_cohort==1 & married\_or==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_dem\_married, replace) title("Dementia")

graph combine `x'\_no\_dem\_married `x'\_dem\_married, ycommon

graph save `x'\_informal\_spending\_by\_type\_married.gph, replace

graph export `x'\_informal\_spending\_by\_type\_married.pdf, replace

\*/

}

twoway (connected hlphrs\_s year if dem\_cohort==0) (connected hlphrs\_u year if dem\_cohort==0), ///

legend(label(1 "Spouses") label(2 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_no\_dem, replace) title("No Dementia")

twoway (connected hlphrs\_s year if dem\_cohort==1) (connected hlphrs\_u year if dem\_cohort==1), ///

legend(label(1 "Spouses") label(2 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_dem, replace) title("Dementia")

graph combine `x'\_no\_dem `x'\_dem, ycommon

graph save hlphrs\_hrs\_by\_type\_basic.gph, replace

graph export hlphrs\_hrs\_by\_type\_basic.pdf, replace

twoway (connected hlphrs\_s year if dem\_cohort==0) (connected hlphrs\_k year if dem\_cohort==0) ///

(connected hlphrs\_nk year if dem\_cohort==0), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_no\_dem, replace) title("No Dementia")

twoway (connected hlphrs\_s year if dem\_cohort==1) (connected hlphrs\_k year if dem\_cohort==1) ///

(connected hlphrs\_nk year if dem\_cohort==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_dem, replace) title("Dementia")

graph combine `x'\_no\_dem `x'\_dem, ycommon

graph save hlphrs\_hrs\_by\_type\_kids.gph, replace

graph export hlphrs\_hrs\_by\_type\_kids.pdf, replace

twoway (connected hlphrs\_resch\_s year if dem\_cohort==0 & reschil\_d\_n1==1) (connected hlphrs\_resch\_k year if dem\_cohort==0 & reschil\_d\_n1==1) ///

(connected hlphrs\_resch\_nk year if dem\_cohort==0 & reschil\_d\_n1==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_no\_dem, replace) title("No Dementia")

twoway (connected hlphrs\_resch\_s year if dem\_cohort==1 & reschil\_d\_n1==1) ///

(connected hlphrs\_resch\_k year if dem\_cohort==1 & reschil\_d\_n1==1) ///

(connected hlphrs\_resch\_nk year if dem\_cohort==1 & reschil\_d\_n1==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_dem, replace) title("Dementia")

graph combine `x'\_no\_dem `x'\_dem, ycommon

graph save hlphrs\_hrs\_by\_type\_res\_kids.gph, replace

graph export hlphrs\_hrs\_by\_type\_res\_kids.pdf, replace

twoway (connected hlphrs\_married\_s year if dem\_cohort==0 & married\_or==1) (connected hlphrs\_married\_k year if dem\_cohort==0 & married\_or==1) ///

(connected hlphrs\_married\_nk year if dem\_cohort==0 & married\_or==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_no\_dem, replace) title("No Dementia")

twoway (connected hlphrs\_married\_s year if dem\_cohort==1 & married\_or==1) ///

(connected hlphrs\_married\_k year if dem\_cohort==1 & married\_or==1) ///

(connected hlphrs\_married\_nk year if dem\_cohort==1 & married\_or==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) xlabel(1 "4-5" 2 "3-4" 3 "2-3" 4 "1-2" 5 "0-1") ///

name(`x'\_dem, replace) title("Dementia")

graph combine `x'\_no\_dem `x'\_dem, ycommon

graph save hlphrs\_hrs\_by\_type\_married.gph, replace

graph export hlphrs\_hrs\_by\_type\_married.pdf, replace

graph dir, m

graph combine annu\_spending\_diff\_no\_dem\_stacked.gph annu\_spending\_diff\_dem\_stacked.gph ///

cum\_spending\_diff\_no\_dem\_stacked.gph cum\_spending\_diff\_dem\_stacked.gph, ycommon ///

saving(spending\_stacked, replace) rows(1) ysize(4) xsize(12)

graph export spending\_stacked.pdf, replace

graph combine annu\_mc\_spending\_over\_time.gph cum\_mc\_spending\_over\_time.gph, ycommon

graph combine annu\_mcaid\_spending\_over\_time.gph cum\_mcaid\_spending\_over\_time.gph, ycommon

graph combine annu\_oop\_spending\_over\_time.gph cum\_oop\_spending\_over\_time.gph, ycommon

graph combine annu\_informal\_spending\_over\_time.gph cum\_informal\_spending\_over\_time.gph, ycommon

graph combine annu\_all\_spending\_over\_time.gph cum\_all\_spending\_over\_time.gph, ycommon

restore

H="Table 1"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

/\*for table 1

age, race, hs education, female, married, medicaid, dementia, ADL dependence,

SRH, smoke currently, 4+ health conditions

\*/

\*rename informal\_i\_\* informal\_\*

keep if ffs\_84==1

keep if final\_7yr==1

\*gen adl\_dependent=!adl\_independent\_core

label var adl\_dependent "ADL dependent"

label var age\_at\_death "Age at death"

label var prob\_dem\_baseline "% Probable dementia at baseline ivw"

replace prob\_dem\_y1=0 if !dem\_cohort

gen n=1

drop race

gen race=1 if hisp\_e==1

replace race=2 if black==1

replace race=3 if white==1

replace white=3 if missing(race)

label define race 1 "Hispanic" 2 "Non-Hispanic Black" 3 "Non-Hispanic White/Other"

label values race race

preserve

tokenize tot\_paid\_by\_mc\_y tot\_paid\_maid\_y informal\_y oop\_y imputed\_nh\_costs\_b\_y

forvalues i=1/5 {

di "``i''"

egen cum`i'=rowtotal(``i''\*)

replace cum`i'=. if nflag!=0

}

egen cumall=rowtotal(cum1-cum5)

replace cumall=. if nflag!=0

label var cumall "Total Social Spending over 7 years pre-death"

label var cum1 "Medicare Expenditures"

label var cum2 "Medicaid Expenditures"

label var cum3 "Social Cost of Informal Care"

label var cum4 "OOP"

label var cum5 "Otherwise Unattributed NH Costs"

label var pdem\_baseline "Mean probability of dementia at baseline"

gsort id nflag

carryforward age\_at\_death female married hseduc smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining, replace

gsort id -nflag

carryforward age\_at\_death female married hseduc smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining, replace

keep if nflag==1

local cvars1 age\_at\_death

local ivars1 female married married\_baseline

local ivars2 hseduc smoke\_curr smoke\_curr\_baseline medicaid medicaid\_baseline ///

ind\_buyin\_y1 ind\_buyin\_y7 ///

adl\_dependent adl\_dependent\_baseline srh\_pf srh\_pf\_baseline ccw\_ge4\_y1 ///

ccw\_ge4\_y7 prob\_dem prob\_dem\_baseline proxy\_core

local cvars3 pdem pdem\_baseline cumall cum1 cum2 cum3 cum4 cum5 networth\_adj2016\_baseline ///

pct\_nw\_remaining

local ivars3 ind\_nw\_remaining

local catvars1 race

local catvars2 //comor\_c\_hrs

forvalues i=1/3 {

foreach x of local catvars`i' {

di "`x'"

local `x'

levelsof `x', local(levels)

foreach l of local levels {

gen `x'`l'=`x'==`l' if !missing(`x')

local lab : label `x' `l'

label var `x'`l' "`lab'"

local `x' ``x'' `x'`l'

}

di "``x''"

local cativars`i' `cativars`i'' ``x''

}

}

di "`catvars1'"

di "`cativars1'"

local rn : word count `cvars1' `ivars1' `cativars1' `ivars2' `cativars2' `cvars3' `cvars3' `ivars3' 1

local r=1

local c=1

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

foreach y in "0,1" 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

sum `x' if inlist(dem\_cohort,`y'), d

mat tab[`r',`c']=r(mean)

mat tab [`r'+1,`c']=r(p50)

if "`y'"=="1" {

ttest `x', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

if `i'==3 local r=`r'+1

}

foreach x of local ivars`i' {

sum `x' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local catvars`i' {

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',4]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

}

foreach z of local `x' {

sum `z' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

local r=`r'+1

}

}

}

sum n if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

}

mat rownames tab=`cvars1' `ivars1' `cativars1' `ivars2' `cativars2' ///

pdem Median pdem\_baseline Median cumall Median cum1 Median cum2 Median ///

cum3 Median cum4 Median cum5 Median networth\_adj2016\_baseline Median ///

pct\_nw\_remaining Median `ivars3' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

restore

preserve

keep if nflag==0

local tabvars ccw\_ge4\_y pdem\_y prob\_dem\_y

local titleccw\_ge4\_y "4+ Chronic Conditions by year before death"

local titlepdem\_y "Mean Probability of dementia by year before death"

local titleprob\_dem\_y "Percent with probable dementia by year before death"

local note "Chronic conditions from ICD-9/10 diagnoses from algorithms from CCW, count excludes Alzheimer's"

foreach x of local tabvars {

mat tab=J(7,4,.)

mat stars=J(7,4,0)

local r=1

local c=1

foreach y in "0,1" 0 1 {

forvalues i=1/7 {

sum `x'`i' if inlist(dem\_cohort,`y')

if "`x'"=="pdem\_y" {

mat tab[`r',`c']=r(mean)

ttest `x'`i', by(dem\_cohort)

}

else {

mat tab[`r',`c']=r(mean)\*100

tab `x'`i' dem\_cohort, chi2

}

mat tab[`r',`c'+1]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

local r=`r'+1

}

local r=1

local c=`c'+1

}

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'.rtf", statmat(tab) ///

ctitles("Year before death" "Full Sample" "No Dementia" "Dementia" "P-value") ///

rtitles("0-1"\"1-2"\"2-3"\"3-4"\"4-5"\"5-6"\"6-7") ///

title(`title`x'') note(`note') sdec(2) annotate(stars) asymbol(\*,\*\*) addtable

local note "Dementia probability from in-year interview or most recent interview if none in-year"

}

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* informal\_y\* dem\_cohort ///

imputed\_nh\_costs\_b\_y\*

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* informal\_y\* imputed\_nh\_costs\_b\_y\*) (oop\* informal\* nh\*)

foreach x in mc mcaid oop informal nh {

forvalues i=1/7 {

replace `x'`i'=`x'`i'/1000

}

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* informal\* cum\* dem\_cohort nh\*

forvalues i=1/7 {

egen all`i'=rowtotal(mc`i' mcaid`i' oop`i' informal`i' nh`i')

egen cumall`i'=rowtotal(cum\*`i')

foreach x in mc mcaid oop informal nh all {

gen pct`x'`i'=100\*`x'`i'/all`i'

gen pctcum`x'`i'=100\*cum`x'`i'/cumall`i'

replace pctcum`x'`i'=100 if cumall`i'==0

}

}

foreach y in "" cum pct pctcum {

local tablevars`y'

foreach x in all oop informal mc mcaid nh {

forvalues i=1/7 {

local tablevars`y' `tablevars'`y' `y'`x'`i'

}

}

}

local rn : word count `tablevars' 1

local title "Annual Expenditures"

local replace replace

foreach y in "" cum /\*pct pctcum\*/ {

mat tab=J(`rn',5,.)

mat stars=J(`rn',5,0)

local r=1

local c=1

if "`y'"=="cum" local title "Cumulative Expenditures"

if "`y'"=="pct" local title "Percent of Total Annual Expenditures"

if "`y'"=="pctcum" local title "Percent of Total Cumulative Expenditures"

foreach z in "0,1" 0 1 {

foreach x in all oop informal mc mcaid nh {

forvalues i=1/7 {

sum `y'`x'`i' if inlist(dem\_cohort,`z')

mat tab[`r',`c']=r(mean)

if "`z'"=="1" {

ttest `y'`x'`i', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat tab[`r',`c'+2]=r(p)/\*/(`rn'-1)\*/

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

mat stars[`r',`c'+2]=(r(p)<(.05/(`rn'-1)))+(r(p)<(.01/(`rn'-1)))

}

local r=`r'+1

}

}

sum dem\_cohort if inlist(dem\_cohort,`z')

mat tab[`r',`c']=r(N)

local c=`c'+1

local r=1

}

mat rownames tab=`tablevars' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\exp\_with\_p\_value.rtf", statmat(tab) ///

title("Total Spending Last 7 Years of Life by Dementia Status:" \"`title'") ///

ctitles("" "Full Sample" "Non-dementia" "Dementia" "P-value" "Bonferonni") ///

sdec(2,2,2,3) annotate(stars) asymbol(\*,\*\*) `replace'

local replace addtable varlabels ///

note("\*,\*\* = P significant at <.05,<.01 without the Bonferonni correction and <`=0.05/(`rn'-1)', <`=0.01/(`rn'-1)' with")

}

H="wealth/financial tables"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs"

/\*for table 1

age, race, hs education, female, married, medicaid, dementia, ADL dependence,

SRH, smoke currently, 4+ health conditions

\*/

\*rename informal\_i\_\* informal\_\*

keep if ffs\_84==1

keep if final\_7yr==1

\*gen adl\_dependent=!adl\_independent\_core

label var adl\_dependent "ADL dependent"

label var age\_at\_death "Age at death"

label var prob\_dem\_baseline "% Probable dementia at baseline ivw"

replace prob\_dem\_y1=0 if !dem\_cohort

gen n=1

drop race

gen race=1 if hisp\_e==1

replace race=2 if black==1

replace race=3 if white==1

replace white=3 if missing(race)

label define race 1 "Hispanic" 2 "Non-Hispanic Black" 3 "Non-Hispanic White/Other"

label values race race

tokenize tot\_paid\_by\_mc\_y tot\_paid\_maid\_y informal\_y oop\_y imputed\_nh\_costs\_b\_y

forvalues i=1/5 {

di "``i''"

egen cum`i'=rowtotal(``i''\*)

replace cum`i'=. if nflag!=0

}

egen cumall=rowtotal(cum1-cum5)

replace cumall=. if nflag!=0

label var cumall "Total Social Spending over 7 years pre-death"

label var cum1 "Medicare Expenditures"

label var cum2 "Medicaid Expenditures"

label var cum3 "Social Cost of Informal Care"

label var cum4 "OOP"

label var cum5 "Otherwise Unattributed NH Costs"

label var pdem\_baseline "Mean probability of dementia at baseline"

gsort id nflag

label var ind\_nw\_lt0 "% SR Net Worth <=$0"

label var ind\_fw\_lt0 "% Financial Wealth <=$0"

by id, sort: egen morp=max(married\_or\_part)

replace married\_or\_part=morp

keep if nflag==1

local title "All decedents"

local replace replace

local cvars3 networth\_adj2016 ///

networth\_adj2016\_baseline pct\_nw\_remaining finwealth\_adj2016 ///

finwealth\_adj2016\_baseline pct\_fw\_remaining

local ivars3 ind\_nw\_remaining ind\_fw\_remaining ind\_nw\_lt0 ind\_fw\_lt0

local catvars1 //race

local catvars2 //comor\_c\_hrs

forvalues i=1/3 {

foreach x of local catvars`i' {

di "`x'"

local `x'

levelsof `x', local(levels)

foreach l of local levels {

gen `x'`l'=`x'==`l' if !missing(`x')

local lab : label `x' `l'

label var `x'`l' "`lab'"

local `x' ``x'' `x'`l'

}

di "``x''"

local cativars`i' `cativars`i'' ``x''

}

}

di "`catvars1'"

di "`cativars1'"

local rn : word count `cvars1' `ivars1' `cativars1' `ivars2' `cativars2' `cvars3' `cvars3' `ivars3' 1

local r=1

local c=1

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

foreach y in "0,1" 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

sum `x' if inlist(dem\_cohort,`y'), d

mat tab[`r',`c']=r(mean)

mat tab [`r'+1,`c']=r(p50)

if "`y'"=="1" {

ttest `x', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

if `i'==3 local r=`r'+1

}

foreach x of local ivars`i' {

sum `x' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local catvars`i' {

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',4]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

}

foreach z of local `x' {

sum `z' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

local r=`r'+1

}

}

}

sum n if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

}

mat rownames tab=networth\_adj2016 Median networth\_adj2016\_baseline Median ///

pct\_nw\_remaining Median finwealth\_adj2016 Median finwealth\_adj2016\_baseline ///

Median pct\_fw\_remaining Median `ivars3' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs\financial\_tables\_`c(current\_date)'.rtf", ///

statmat(tab) title("Financial Characteristics of Decedents, by Dementia Status" "`title'") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values not specified baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline wealth values") ///

annotate(stars) asymbol(\*,\*\*) `replace'

local replace addtable

local cvars3 networth\_adj2016 ///

networth\_adj2016\_baseline pct\_nw\_remaining finwealth\_adj2016 ///

finwealth\_adj2016\_baseline pct\_fw\_remaining

local ivars3 ind\_nw\_remaining ind\_fw\_remaining ind\_nw\_lt0 ind\_fw\_lt0

local rn : word count `cvars1' `ivars1' `cativars1' `ivars2' `cativars2' `cvars3' `cvars3' `ivars3' 1

local r=1

local c=1

mat tab=J(`rn',7,.)

mat stars=J(`rn',7,0)

foreach time in 0 1 {

preserve

keep if married\_or\_part==`time'

foreach y in 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

sum `x' if inlist(dem\_cohort,`y'), d

mat tab[`r',`c']=r(mean)

mat tab [`r'+1,`c']=r(p50)

if "`y'"=="1" {

ttest `x', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

if `i'==3 local r=`r'+1

}

foreach x of local ivars`i' {

sum `x' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local catvars`i' {

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',4]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

}

foreach z of local `x' {

sum `z' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

local r=`r'+1

}

}

}

sum n if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

if `c'==3 local c=`c'+1

}

restore

}

foreach x of local cvars3 {

reg `x' dem\_cohort##married\_or\_part

testparm dem\_cohort#married\_or\_part

mat tab[`r',7]=r(p)

mat stars[`r',7]=(r(p)<.01)+(r(p)<.05)

local r=`r'+2

}

foreach x of local ivars3 {

logit `x' dem\_cohort##married\_or\_part

testparm dem\_cohort#married\_or\_part

mat tab[`r',7]=r(p)

mat stars[`r',7]=(r(p)<.01)+(r(p)<.05)

local r=`r'+1

}

mat rownames tab=networth\_adj2016 Median networth\_adj2016\_baseline Median ///

pct\_nw\_remaining Median finwealth\_adj2016 Median finwealth\_adj2016\_baseline ///

Median pct\_fw\_remaining Median `ivars3' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs\financial\_tables\_`c(current\_date)'.rtf", ///

statmat(tab) title("Financial Characteristics of Decedents, by Dementia and Marital Status") ///

ctitles("" "" "Unmarried at death" "" "" "Married at death" "" "Interaction" \ ///

"" "No Dementia" "Dementia" "P-value" "No Dementia" "Dementia" "P-value" "P-value") varlabels ///

sdec(2) note("Values not specified baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline wealth values" \ ///

"Interaction significance obtained following simple OLS or logistic regression with an interaction term") ///

annotate(stars) asymbol(\*,\*\*) addtable

H="7 year graphs"

/\*note--it takes forever to run through the whole thing, but if you don't need

everything done it's possible to run chunks by selecting imp, commenting out

graphs you don't need, and/or dropping anything not needed from the varlist

\*/

/\*loop through each type of NH night imputation\*/

set trace off

foreach imp in /\*a b c d\*/ b {

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

keep if nflag==0

keep if ffs\_84==1

keep if final\_7yr==1

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* informal\_y\* dem\_cohort ///

imputed\_nh\_costs\_`imp'\_y\*

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* informal\_y\* imputed\_nh\_costs\_`imp'\_y\*) (oop\* informal\* nh\*)

foreach x in mc mcaid oop informal nh {

forvalues i=1/7 {

replace `x'`i'=`x'`i'/1000

}

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* informal\* cum\* dem\_cohort nh\*

reshape long mc mcaid oop informal cummc cummcaid cumoop cuminformal nh cumnh, ///

i(id) j(year\_before\_death)

replace year=-year+8

label define year 1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1"

label values year year

foreach x in "" cum {

egen `x'all=rowtotal(`x'mc `x'mcaid `x'oop `x'informal `x'nh)

}

local se

foreach x in mc mcaid oop informal all cummc cummcaid cumoop cuminformal cumall ///

nh cumnh {

local se `se' se\_`x'=`x'

}

collapse (mean) mc mcaid oop informal all cummc cummcaid cumoop cuminformal cumall ///

nh cumnh (semean) `se', by(dem\_cohort year\_before\_death)

foreach x in mc mcaid oop informal all cummc cummcaid cumoop cuminformal cumall ///

nh cumnh {

gen `x'\_ul=`x'+1.96\*se\_`x'

gen `x'\_ll=`x'-1.96\*se\_`x'

}

foreach x in mc mcaid oop informal nh all {

twoway (rarea `x'\_ul `x'\_ll year if dem\_cohort==0, astyle(ci)) ///

(rarea `x'\_ul `x'\_ll year if dem\_cohort==1, astyle(ci)) ///

(line `x' year if dem\_cohort==0) (line `x' year if dem\_cohort==1), ///

legend(order(3 4) label(1 "") label(2 "") label(3 "Non-dementia") label(4 "Probable dementia")) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ytitle("")

graph save annu\_`x'\_spending\_over\_time.gph, replace

graph export annu\_`x'\_spending\_over\_time\_nh`imp'.pdf, replace

twoway (rarea cum`x'\_ul cum`x'\_ll year if dem\_cohort==0, astyle(ci)) ///

(rarea cum`x'\_ul cum`x'\_ll year if dem\_cohort==1, astyle(ci)) ///

(line cum`x' year if dem\_cohort==0) (line cum`x' year if dem\_cohort==1), ///

legend(order(3 4) label(1 "") label(2 "") label(3 "Non-dementia") label(4 "Probable dementia")) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ytitle("")

graph save cum\_`x'\_spending\_over\_time.gph, replace

graph export cum\_`x'\_spending\_over\_time\_nh`imp'.pdf, replace

graph combine annu\_`x'\_spending\_over\_time.gph cum\_`x'\_spending\_over\_time.gph, ycommon

graph save `x'\_spending\_7yrs.gph, replace

graph export `x'\_spending\_7yrs\_nh`imp'.pdf, replace

}

foreach x in mc mcaid oop informal all nh {

rename `x' annu`x'

}

preserve

graph bar annumcaid annunh annumc annuoop annuinf, over(dem\_cohort) over(year) ///

stack saving(annu\_stack\_1, replace) percent

graph export annu\_stack\_1\_nh`imp'.pdf, replace

graph bar annunh annumcaid annumc annuoop annuinformal if dem\_cohort==0, over(year) stack percent ///

saving(annu\_stack\_no\_dem, replace) title("No dementia" "Annual") ///

legend(label(2 "Medicaid") label(3 "Medicare") label(4 "OOP") label(5 "Informal") ///

label(1 "Imputed NH Cost")) //legend(row(1))

graph bar annunh annumcaid annumc annuoop annuinformal if dem\_cohort==1,over(year) ///

saving(annu\_stack\_dem, replace) stack percent title("Dementia" "Annual") ///

legend(label(2 "Medicaid") label(3 "Medicare") label(4 "OOP") label(5 "Informal") ///

label(1 "Imputed NH Cost"))

graph bar cumnh cummcaid cummc cumoop cuminformal if dem\_cohort==0,over(year) ///

saving(cum\_stack\_no\_dem, replace) stack percent title("No dementia" "Cumulative") ///

legend(label(2 "Medicaid") label(3 "Medicare") label(4 "OOP") label(5 "Informal") ///

label(1 "Imputed NH Cost"))

graph bar cumnh cummcaid cummc cumoop cuminformal if dem\_cohort==1,over(year) ///

saving(cum\_stack\_dem, replace) stack percent title("Dementia" "Cumulative") ///

legend(label(2 "Medicaid") label(3 "Medicare") label(4 "OOP") label(5 "Informal") ///

label(1 "Imputed NH Cost"))

graph combine annu\_stack\_no\_dem.gph annu\_stack\_dem.gph cum\_stack\_no\_dem.gph cum\_stack\_dem.gph, ///

rows(1) xsize(12) ysize(4) ycommon

graph save stacked\_percentage\_bars\_7yrs.gph, replace

graph export stacked\_percentage\_bars\_7yrs\_nh`imp'.pdf, replace

tokenize informal oop mc mcaid nh

forvalues i=2/5 {

replace annu``i''=annu``=`i'-1''+annu``i''

replace cum``i''=cum``=`i'-1''+cum``i''

}

foreach x in annu cum {

twoway (area `x'nh year if dem\_cohort==0) (area `x'mcaid year if dem\_cohort==0) ///

(area `x'mc year if dem\_cohort==0) ///

(area `x'oop year if dem\_cohort==0) (area `x'informal year if dem\_cohort==0), ///

title("No Dementia") legend(label(1 "Imputed NH Cost") label(2 "Medicaid") ///

label(3 "Medicare") label(4 "OOP") label(5 "Informal")) ///

saving(`x'\_spending\_diff\_no\_dem\_stacked, replace) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ytitle("")

twoway (area `x'nh year if dem\_cohort==1) (area `x'mcaid year if dem\_cohort==1) ///

(area `x'mc year if dem\_cohort==1) ///

(area `x'oop year if dem\_cohort==1) (area `x'informal year if dem\_cohort==1), ///

title("Dementia") legend(label(1 "Imputed NH Cost")label(2 "Medicaid") ///

label(3 "Medicare") label(4 "OOP") label(5 "Informal")) ///

saving(`x'\_spending\_diff\_dem\_stacked, replace) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ytitle("")

graph combine `x'\_spending\_diff\_no\_dem\_stacked.gph `x'\_spending\_diff\_dem\_stacked.gph, ///

ycommon saving(`x'\_spending\_stacked\_7yrs, replace)

graph export `x'\_spending\_stacked\_7yrs\_nh`imp'.pdf, replace

}

graph combine cum\_spending\_diff\_no\_dem\_stacked.gph cum\_spending\_diff\_dem\_stacked.gph, ///

ycommon saving(cum\_spending\_stacked\_7yrs, replace) rows(1)

graph export cum\_spending\_stacked\_7yrs\_nh`imp'.pdf, replace

graph combine cum\_spending\_diff\_no\_dem\_stacked.gph cum\_spending\_diff\_dem\_stacked.gph, ///

ycommon saving(cum\_spending\_stacked\_7yrs, replace) rows(1)

graph export cum\_spending\_stacked\_7yrs\_nh`imp'.pdf, replace

graph combine annu\_spending\_diff\_no\_dem\_stacked.gph annu\_spending\_diff\_dem\_stacked.gph ///

cum\_spending\_diff\_no\_dem\_stacked.gph cum\_spending\_diff\_dem\_stacked.gph, ycommon ///

saving(spending\_stacked\_7yrs, replace) rows(1) ysize(4) xsize(12)

graph export spending\_stacked\_7yrs\_nh`imp'.pdf, replace

restore

drop \*se\_\* \*ul \*ll

export excel using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\graphs\_data.xls", ///

firstrow(variables) sheet(`imp', replace)

}

H="7 year graphs of informal care"

/\*note--it takes forever to run through the whole thing, but if you don't need

everything done it's possible to run chunks by selecting imp, commenting out

graphs you don't need, and/or dropping anything not needed from the varlist

\*/

use "D:\HRS\Shared\base\_data\hrs\_cleaned\core\_00\_to\_14.dta", clear

sort id core\_year

by id: keep if \_n==\_N

keep id reschil\_d

rename reschil\_d reschil\_d\_n1

tempfile core

save `core'

set trace off

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

keep if nflag==0

keep if ffs\_84==1

keep if final\_7yr==1

merge 1:1 id using `core', keep(match master) nogen

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* hlp\_\*y\* dem\_cohort ///

imputed\_nh\_costs\_b\_y\* reschil\_d\_n1 married\_or\_part

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* imputed\_nh\_costs\_b\_y\*) (oop\* nh\*)

foreach x in \_i \_s \_ns \_k \_oth {

rename hlp`x'\_y\* hlp`x'\*

}

foreach x in mc mcaid oop hlp\_i hlp\_s hlp\_ns hlp\_k hlp\_oth nh {

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* hlp\* cum\* dem\_cohort nh\* reschil\_d\_n1 married\_or\_part

rename \*hlp\_i\* \*hlp\*

reshape long mc mcaid oop hlp hlp\_s hlp\_ns hlp\_k hlp\_f hlp\_oth ///

cummc cummcaid cumoop cumhlp cumhlp\_s cumhlp\_ns cumhlp\_k cumhlp\_oth nh cumnh, ///

i(id) j(year\_before\_death)

replace year=-year+8

label define year 1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1"

label values year year

foreach x in "" cum {

egen `x'all=rowtotal(`x'mc `x'mcaid `x'oop `x'hlp `x'nh)

}

local se

foreach x in mc mcaid oop hlp all cummc cummcaid cumoop cumhlp cumall ///

nh cumnh {

local se `se' se\_`x'=`x'

}

foreach x in cum annu {

preserve

collapse (mean) mc mcaid oop hlp\* all cummc cummcaid cumoop cumhlp\* cumall ///

nh cumnh (semean) `se', by(dem\_cohort year\_before\_death)

rename (mc mcaid oop hlp\* all) (annumc annumcaid annuoop annuhlp\* annuall)

twoway (connected `x'hlp\_s year if dem\_cohort==0) (connected `x'hlp\_ns year if dem\_cohort==0), ///

legend(label(1 "Spouses") label(2 "Other informal helpers")) xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ///

name(`x'\_no\_dem, replace) title("No Dementia")

twoway (connected `x'hlp\_s year if dem\_cohort==1) (connected `x'hlp\_ns year if dem\_cohort==1), ///

legend(label(1 "Spouses") label(2 "Other informal helpers")) xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ///

name(`x'\_dem, replace) title("Dementia")

graph combine `x'\_no\_dem `x'\_dem, ycommon

graph save hlp\_hours\_by\_type\_basic.gph, replace

graph export `x'\_hlp\_hours\_by\_type\_2\_cat.pdf, replace

twoway (connected `x'hlp\_s year if dem\_cohort==0) (connected `x'hlp\_k year if dem\_cohort==0) ///

(connected `x'hlp\_oth year if dem\_cohort==0), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ///

name(`x'\_no\_dem, replace) title("No Dementia")

twoway (connected `x'hlp\_s year if dem\_cohort==1) (connected `x'hlp\_k year if dem\_cohort==1) ///

(connected `x'hlp\_oth year if dem\_cohort==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ///

name(`x'\_dem, replace) title("Dementia")

graph combine `x'\_no\_dem `x'\_dem, ycommon

graph save hlp\_hours\_by\_type\_kids.gph, replace

graph export `x'\_hlp\_hours\_by\_type\_3\_cat.pdf, replace

drop \*se\_\* \*hlp\_f\*

foreach y in annu cum {

label var `y'hlp "`y' Help from all informal sources"

label var `y'hlp\_s "`y' Help from spouse"

label var `y'hlp\_k "`y' Help from kids"

label var `y'hlp\_ns "`y' Non-spouse help"

label var `y'hlp\_oth "`y' Non-spouse, non-kid help"

}

keep \*hlp\* year dem\_cohort

export excel using ///

"D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\graphs\_data\_helper\_hours`c(current\_date)'.xls", ///

firstrow(varlabels) sheet(full, replace)

restore

preserve

collapse (mean) mc mcaid oop hlp\* all cummc cummcaid cumoop cumhlp\* cumall ///

nh cumnh (semean) `se', by(dem\_cohort year\_before\_death reschil\_d\_n1)

rename (mc mcaid oop hlp\* all) (annumc annumcaid annuoop annuhlp\* annuall)

twoway (connected `x'hlp\_s year if dem\_cohort==0 & reschil\_d\_n1==1) ///

(connected `x'hlp\_k year if dem\_cohort==0 & reschil\_d\_n1==1) ///

(connected `x'hlp\_oth year if dem\_cohort==0 & reschil\_d\_n1==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ///

name(`x'\_no\_dem, replace) title("No Dementia")

twoway (connected `x'hlp\_s year if dem\_cohort==1 & reschil\_d\_n1==1) ///

(connected `x'hlp\_k year if dem\_cohort==1 & reschil\_d\_n1==1) ///

(connected `x'hlp\_oth year if dem\_cohort==1 & reschil\_d\_n1==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ///

name(`x'\_dem, replace) title("Dementia")

graph combine `x'\_no\_dem `x'\_dem, ycommon

graph save hlp\_hours\_by\_type\_res\_kids.gph, replace

graph export `x'\_hlp\_hours\_by\_type\_res\_kids.pdf, replace

drop \*se\_\* \*hlp\_f\*

foreach y in annu cum {

label var `y'hlp "`y' Help from all informal sources"

label var `y'hlp\_s "`y' Help from spouse"

label var `y'hlp\_k "`y' Help from kids"

label var `y'hlp\_ns "`y' Non-spouse help"

label var `y'hlp\_oth "`y' Non-spouse, non-kid help"

}

keep \*hlp\* year dem\_cohort reschil\_d\_n1

export excel using ///

"D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\graphs\_data\_helper\_hours`c(current\_date)'.xls", ///

firstrow(varlabels) sheet(res\_child, replace)

restore

preserve

collapse (mean) mc mcaid oop hlp\* all cummc cummcaid cumoop cumhlp\* cumall ///

nh cumnh (semean) `se', by(dem\_cohort year\_before\_death married\_or)

rename (mc mcaid oop hlp\* all) (annumc annumcaid annuoop annuhlp\* annuall)

twoway (connected `x'hlp\_s year if dem\_cohort==0 & married\_or==1) (connected `x'hlp\_k year if dem\_cohort==0 & married\_or==1) ///

(connected `x'hlp\_oth year if dem\_cohort==0 & married\_or==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ///

name(`x'\_no\_dem, replace) title("No Dementia")

twoway (connected `x'hlp\_s year if dem\_cohort==1 & married\_or==1) ///

(connected `x'hlp\_k year if dem\_cohort==1 & married\_or==1) ///

(connected `x'hlp\_oth year if dem\_cohort==1 & married\_or==1), ///

legend(label(1 "Spouses") label(2 "Kids") label(3 "Other informal helpers")) ///

xlabel(1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1") ///

name(`x'\_dem, replace) title("Dementia")

graph combine `x'\_no\_dem `x'\_dem, ycommon

graph save hlp\_hours\_by\_type\_married.gph, replace

graph export `x'\_hlp\_hours\_by\_type\_married.pdf, replace

drop \*se\_\* \*hlp\_f\*

foreach y in annu cum {

label var `y'hlp "`y' Help from all informal sources"

label var `y'hlp\_s "`y' Help from spouse"

label var `y'hlp\_k "`y' Help from kids"

label var `y'hlp\_ns "`y' Non-spouse help"

label var `y'hlp\_oth "`y' Non-spouse, non-kid help"

}

keep \*hlp\* year dem\_cohort married\_or

export excel using ///

"D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\graphs\_data\_helper\_hours`c(current\_date)'.xls", ///

firstrow(varlabels) sheet(marital, replace)

restore

}

H="7 year table with p-values"

/\*note--it takes forever to run through the whole thing, but if you don't need

everything done it's possible to run chunks by selecting imp, commenting out

graphs you don't need, and/or dropping anything not needed from the varlist

\*/

/\*loop through each type of NH night imputation\*/

set trace off

\*foreach imp in a b c d {

use "E:\data\serious\_ill\int\_data\core\_ids\_1yr\_criteria\_5.dta", clear

sort id core\_year

by id: keep if \_n==\_N

keep id wage\*

duplicates drop

tempfile t1

save `t1'

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

merge m:1 id using `t1', nogen keep(match master)

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs\graphs"

keep if nflag==0

keep if ffs\_84==1

keep if final\_7yr==1

forvalues i=1/7 {

gen wi\_mc`i'=tot\_paid\_by\_mc\_y`i'/wage\_index\_2012

}

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* informal\_y\* dem\_cohort wi\_\* ///

imputed\_nh\_costs\_b\_y\*

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* informal\_y\* imputed\_nh\_costs\_b\_y\*) (oop\* informal\* nh\*)

foreach x in mc mcaid oop informal nh wi\_mc {

forvalues i=1/7 {

replace `x'`i'=`x'`i'/1000

}

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* informal\* cum\* dem\_cohort nh\*

forvalues i=1/7 {

egen all`i'=rowtotal(mc`i' mcaid`i' oop`i' informal`i' nh`i')

egen cumall`i'=rowtotal(cum\*`i')

foreach x in mc mcaid oop informal nh all {

gen pct`x'`i'=100\*`x'`i'/all`i'

gen pctcum`x'`i'=100\*cum`x'`i'/cumall`i'

replace pctcum`x'`i'=100 if cumall`i'==0

}

}

foreach y in "" cum pct pctcum {

local tablevars`y'

foreach x in all oop informal mc mcaid nh {

forvalues i=1/7 {

local tablevars`y' `tablevars'`y' `y'`x'`i'

}

}

}

local rn : word count `tablevars' 1

local title "Annual Expenditures"

local replace replace

foreach y in "" cum /\*pct pctcum\*/ {

mat tab=J(`rn',5,.)

mat stars=J(`rn',5,0)

local r=1

local c=1

if "`y'"=="cum" local title "Cumulative Expenditures"

if "`y'"=="pct" local title "Percent of Total Annual Expenditures"

if "`y'"=="pctcum" local title "Percent of Total Cumulative Expenditures"

foreach z in "0,1" 0 1 {

foreach x in all oop informal mc mcaid nh {

forvalues i=1/7 {

sum `y'`x'`i' if inlist(dem\_cohort,`z')

mat tab[`r',`c']=r(mean)

if "`z'"=="1" {

ttest `y'`x'`i', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat tab[`r',`c'+2]=r(p)/\*/(`rn'-1)\*/

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

mat stars[`r',`c'+2]=(r(p)<(.05/(`rn'-1)))+(r(p)<(.01/(`rn'-1)))

}

local r=`r'+1

}

}

sum dem\_cohort if inlist(dem\_cohort,`z')

mat tab[`r',`c']=r(N)

local c=`c'+1

local r=1

}

mat rownames tab=`tablevars' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs\exp\_with\_p\_value.rtf", statmat(tab) ///

title("Total Spending Last 7 Years of Life by Dementia Status:" \"`title'") ///

ctitles("" "Full Sample" "Non-dementia" "Dementia" "P-value" "Bonferonni") ///

sdec(2,2,2,3) annotate(stars) asymbol(\*,\*\*) `replace'

local replace addtable varlabels ///

note("\*,\*\* = P significant at <.05,<.01 without the Bonferonni correction and <`=0.05/(`rn'-1)', <`=0.01/(`rn'-1)' with")

}

/\*

reshape long mc mcaid oop informal nh cummc cummcaid cumoop cuminformal cumnh wi\_mc, ///

i(id) j(year\_before\_death)

replace year=-year+8

label define year 1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1"

label values year year

\*/

H="Graphs split by NH status"

/\*note--it takes forever to run through the whole thing, but if you don't need

everything done it's possible to run chunks by selecting imp, commenting out

graphs you don't need, and/or dropping anything not needed from the varlist

\*/

/\*loop through each type of NH night imputation\*/

set trace off

foreach imp in b {

foreach nh in 0 1 {

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

by id, sort: egen nh\_n1=max(cond(nflag==1,nhres,.))

by id: egen nh\_any=max(nhres)

replace nh\_any=1 if nhres\_exit==1

egen nh\_hundo=rowtotal(nh\_nights\_y\*)

replace nh\_hundo=nh\_hundo>=100 & !missing(nh\_hundo)

keep if nflag==0

keep if ffs\_84==1

keep if final\_7yr==1

preserve

keep if nh\_n1==`nh'

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* informal\_y\* dem\_cohort ///

imputed\_nh\_costs\_`imp'\_y\*

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* informal\_y\* imputed\_nh\_costs\_`imp'\_y\*) (oop\* informal\* nh\*)

foreach x in mc mcaid oop informal nh {

forvalues i=1/7 {

replace `x'`i'=`x'`i'/1000

}

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* informal\* cum\* dem\_cohort nh\*

reshape long mc mcaid oop informal cummc cummcaid cumoop cuminformal nh cumnh , ///

i(id) j(year\_before\_death)

replace year=-year+8

label define year 1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1"

label values year year

foreach x in "" cum {

egen `x'all=rowtotal(`x'mc `x'mcaid `x'oop `x'informal `x'nh)

}

local se

foreach x in mc mcaid oop informal all cummc cummcaid cumoop cuminformal cumall ///

nh cumnh {

local se `se' se\_`x'=`x'

}

collapse (mean) mc mcaid oop informal all cummc cummcaid cumoop cuminformal cumall ///

nh cumnh (semean) `se', by(dem\_cohort year\_before\_death)

foreach x in mc mcaid oop informal all cummc cummcaid cumoop cuminformal cumall ///

nh cumnh {

gen `x'\_ul=`x'+1.96\*se\_`x'

gen `x'\_ll=`x'-1.96\*se\_`x'

}

foreach x in mc mcaid oop informal all nh {

rename `x' annu`x'

}

graph bar annumcaid annunh annumc annuoop annuinf, over(dem\_cohort) over(year) ///

stack saving(annu\_stack\_1\_nh`imp'\_`nh', replace) percent

graph export annu\_stack\_1\_nh`imp'\_`nh'.pdf, replace

graph bar annunh annumcaid annumc annuoop annuinformal if dem\_cohort==0, over(year) stack percent ///

saving(annu\_stack\_no\_dem\_`nh', replace) title("No dementia" "Annual") ///

legend(label(2 "Medicaid") label(3 "Medicare") label(4 "OOP") label(5 "Informal") ///

label(1 "Imputed NH Cost")) //legend(row(1))

graph bar annunh annumcaid annumc annuoop annuinformal if dem\_cohort==1,over(year) ///

saving(annu\_stack\_dem\_`nh', replace) stack percent title("Dementia" "Annual") ///

legend(label(2 "Medicaid") label(3 "Medicare") label(4 "OOP") label(5 "Informal") ///

label(1 "Imputed NH Cost"))

graph bar cumnh cummcaid cummc cumoop cuminformal if dem\_cohort==0,over(year) ///

saving(cum\_stack\_no\_dem\_`nh', replace) stack percent title("No dementia" "Cumulative") ///

legend(label(2 "Medicaid") label(3 "Medicare") label(4 "OOP") label(5 "Informal") ///

label(1 "Imputed NH Cost"))

graph bar cumnh cummcaid cummc cumoop cuminformal if dem\_cohort==1,over(year) ///

saving(cum\_stack\_dem\_`nh', replace) stack percent title("Dementia" "Cumulative") ///

legend(label(2 "Medicaid") label(3 "Medicare") label(4 "OOP") label(5 "Informal") ///

label(1 "Imputed NH Cost"))

graph combine annu\_stack\_no\_dem\_`nh'.gph annu\_stack\_dem\_`nh'.gph cum\_stack\_no\_dem\_`nh'.gph cum\_stack\_dem\_`nh'.gph, ///

rows(1) xsize(12) ysize(4) ycommon

graph save stacked\_percentage\_bars\_7yrs\_`nh'.gph, replace

graph export stacked\_percentage\_bars\_7yrs\_nh`imp'\_`nh'.pdf, replace

drop \*se\_\* \*ul \*ll

export excel using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\graphs\_data\_nh.xls", ///

firstrow(variables) sheet(`imp'\_`nh', replace)

restore

}

}

H="\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"

H="JAGS Revision"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

gen educ\_3\_cat=1 if !degree

replace educ\_3\_cat=2 if inrange(degree,1,3)

replace educ\_3\_cat=3 if degree>3

gen age\_cat=1 if age\_at\_death<=75

replace age\_cat=2 if inrange(age\_at\_death,76,80)

replace age\_cat=3 if inrange(age\_at\_death,81,85)

replace age\_cat=4 if inrange(age\_at\_death,86,90)

replace age\_cat=5 if age\_at\_death>=91

label define age\_cat 1 "72-75" 2 "76-80" 3 "81-85" 4 "86-90" 5 ">90"

label values age\_cat age\_cat

sort id nflag

by id: replace married=married[\_n+1] if nflag==0

by id: replace female=female[\_n+1] if nflag==0

by id: replace adl\_dependent=adl\_dependent[\_n+1] if nflag==0

by id, sort: egen nh\_n1=max(cond(nflag==1,nhres,.))

foreach x in stroke dm heart htn lung cancer psych arth {

by id: replace `x'\_hrs=`x'\_hrs[\_n+1] if missing(`x'\_hrs)

replace `x'\_hrs=`x'\_hrs[\_n+1] if nflag==0

rename `x'\_hrs `x'

}

keep if nflag==0

keep if ffs\_84==1

keep if final\_7yr==1

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* informal\_y\* dem\_cohort ///

imputed\_nh\_costs\_b\_y\* age\_at\_death female hisp\_eth black other stroke dm ///

heart htn lung cancer psych arth age\_cat educ\_3\_cat married adl\_dependent nh\_n1

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* informal\_y\* imputed\_nh\_costs\_b\_y\*) (oop\* informal\* nh\*)

foreach x in mc mcaid oop informal nh {

forvalues i=1/7 {

replace `x'`i'=`x'`i'/1000

}

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* informal\* cum\* dem\_cohort nh\* female hisp\_eth black other stroke dm ///

heart htn lung cancer psych arth age\_cat educ\_3\_cat married adl\_dependent nh\_n1

reshape long mc mcaid oop informal cummc cummcaid cumoop cuminformal nh cumnh, ///

i(id) j(year\_before\_death)

replace year=-year+8

label define year 1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1"

label values year year

foreach x in "" cum {

egen `x'all=rowtotal(`x'mc `x'mcaid `x'oop `x'informal `x'nh)

}

global xvars i.age\_cat married female hisp\_eth black other i.educ\_3\_cat ///

stroke dm heart htn lung cancer psych arth

foreach y in all {

glm cum`y' i.dem\_cohort##nh\_n1##i.year, link(log) fam(gamma) cluster(id)

qui margins year#nh\_n1#dem\_cohort

marginsplot, title(unadjusted) nodraw

graph save v1, replace

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars , link(log) fam(gamma) cluster(id)

margins year#nh\_n1#dem\_cohort

marginsplot, title(adjusted) nodraw

graph save v2, replace

graph combine v1.gph v2.gph, ycommon rows(1) ysize(4) xsize(8) saving(cum`y', replace)

graph export cum`y'\_modeled.pdf, replace

}

foreach y in all oop informal {

foreach x in 0 1 {

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year if adl\_dependent==`x', link(log) fam(gamma) cluster(id)

margins year#nh\_n1#dem\_cohort

marginsplot, title(ADL=`x') nodraw

graph save v3`x', replace

}

graph combine v30.gph v31.gph, ycommon rows(1) ysize(4) xsize(8) saving(cum`y'adl, replace)

graph export cum`y'adl.pdf, replace

}

foreach y in all oop informal {

foreach x in 0 1 {

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars if adl\_dependent==`x', link(log) fam(gamma) cluster(id)

margins year#nh\_n1#dem\_cohort

marginsplot, title(ADL=`x') nodraw

graph save v3`x', replace

}

graph combine v30.gph v31.gph, ycommon rows(1) ysize(4) xsize(8) saving(cum`y'adl, replace)

graph export cum`y'adl\_adj.pdf, replace

}

H="modlel output"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

gen educ\_3\_cat=1 if !degree

replace educ\_3\_cat=2 if inrange(degree,1,3)

replace educ\_3\_cat=3 if degree>3

gen age\_cat=1 if age\_at\_death<=75

replace age\_cat=2 if inrange(age\_at\_death,76,80)

replace age\_cat=3 if inrange(age\_at\_death,81,85)

replace age\_cat=4 if inrange(age\_at\_death,86,90)

replace age\_cat=5 if age\_at\_death>=91

label define age\_cat 1 "72-75" 2 "76-80" 3 "81-85" 4 "86-90" 5 ">90"

label values age\_cat age\_cat

sort id nflag

by id: replace married=married[\_n+1] if nflag==0

by id: replace female=female[\_n+1] if nflag==0

by id: replace adl\_dependent=adl\_dependent[\_n+1] if nflag==0

by id, sort: egen nh\_n1=max(cond(nflag==1,nhres,.))

foreach x in stroke dm heart htn lung cancer psych arth {

by id: replace `x'\_hrs=`x'\_hrs[\_n+1] if missing(`x'\_hrs)

replace `x'\_hrs=`x'\_hrs[\_n+1] if nflag==0

rename `x'\_hrs `x'

}

keep if nflag==0

keep if ffs\_84==1

keep if final\_7yr==1

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* informal\_y\* dem\_cohort ///

imputed\_nh\_costs\_b\_y\* age\_at\_death female hisp\_eth black other stroke dm ///

heart htn lung cancer psych arth age\_cat educ\_3\_cat married adl\_dependent nh\_n1

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* informal\_y\* imputed\_nh\_costs\_b\_y\*) (oop\* informal\* nh\*)

foreach x in mc mcaid oop informal nh {

forvalues i=1/7 {

replace `x'`i'=`x'`i'/1000

}

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* informal\* cum\* dem\_cohort nh\* female hisp\_eth black other stroke dm ///

heart htn lung cancer psych arth age\_cat educ\_3\_cat married adl\_dependent nh\_n1

reshape long mc mcaid oop informal cummc cummcaid cumoop cuminformal nh cumnh, ///

i(id) j(year\_before\_death)

replace year=-year+8

label define year 1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1"

label values year year

foreach x in "" cum {

egen `x'all=rowtotal(`x'mc `x'mcaid `x'oop `x'informal `x'nh)

}

foreach time in 1 {

log using model\_following\_annals, replace

global xvars i.age\_cat married female hisp\_eth black other i.educ\_3\_cat ///

stroke dm heart htn lung cancer psych arth

di

di "Here is the average marginal effect of dementia over time and across settings"

di

di

di

di

di

foreach y in all {

di "Unadjusted"

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year, link(log) fam(gamma) cluster(id)

margins, dydx(dem\_cohort) over(nh\_n1 year)

di "Adjusted for age, married, female, race, education, stroke, diabetes, heart disease, hypertension, lung disease, psychiatric condition, cancer, and arthritis"

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars , link(log) fam(gamma) cluster(id)

margins, dydx(dem\_cohort) over(nh\_n1 year)

di

di

di

di

di

di "Here is the average marginal effect of nursing home residency over time and dementia status"

di

di

di

di

di

di "Unadjusted"

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year, link(log) fam(gamma) cluster(id)

margins, dydx(nh\_n1) over(dem\_cohort year)

di "Adjusted"

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars , link(log) fam(gamma) cluster(id)

margins, dydx(nh\_n1) over(dem\_cohort year)

}

di

di

di

di

di

di "And here are the models that obtain those marginal effects"

di

di

di

di

di

foreach y in all {

di "Unadjusted"

glm cum`y' i.dem\_cohort##nh\_n1##i.year, link(log) fam(gamma) cluster(id) eform

qui margins year#nh\_n1#dem\_cohort

marginsplot, title(unadjusted) nodraw

qui graph save v1, replace

di "Adjusted"

glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars , eform link(log) fam(gamma) cluster(id)

qui margins year#nh\_n1#dem\_cohort

marginsplot, title(adjusted) nodraw

qui graph save v2, replace

qui graph combine v1.gph v2.gph, ycommon rows(1) ysize(4) xsize(8) saving(cum`y', replace)

qui graph export cum`y'\_modeled.pdf, replace

}

}

log close

translate model\_following\_annals.smcl model\_following\_annals.pdf, replace

/\*

foreach y in all oop informal {

foreach x in 0 1 {

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year if adl\_dependent==`x', link(log) fam(gamma) cluster(id)

margins year#nh\_n1#dem\_cohort

marginsplot, title(ADL=`x') nodraw

graph save v3`x', replace

}

graph combine v30.gph v31.gph, ycommon rows(1) ysize(4) xsize(8) saving(cum`y'adl, replace)

graph export cum`y'adl.pdf, replace

}

foreach y in all oop informal {

foreach x in 0 1 {

qui glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars if adl\_dependent==`x', link(log) fam(gamma) cluster(id)

margins year#nh\_n1#dem\_cohort

marginsplot, title(ADL=`x') nodraw

graph save v3`x', replace

}

graph combine v30.gph v31.gph, ycommon rows(1) ysize(4) xsize(8) saving(cum`y'adl, replace)

graph export cum`y'adl\_adj.pdf, replace

}

H="looking at non-ADL nh folk"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

sort id nflag

by id: carryforward bid, replace

keep if nflag==1

keep id bid\_ index\_date c\_ivw\_date

merge 1:m bid using "D:\HRS\Shared\base\_data\hrs\_cms\Stata\snf\_1998\_2015.dta", keep(match master) keepusing(admit\_date disch\_date)

gen ind\_snf\_n12m=inrange(c\_ivw\_date,admit\_date,disch\_date)

replace ind\_snf=1 if inrange(disch\_date,c\_ivw\_date-365,c\_ivw\_date)

replace ind\_snf=0 if \_m==1

drop admit disch \_m

gsort id -ind\_snf

by id: keep if \_n==1

tempfile snf

save `snf'

forvalues i=2002(2)2014 {

use hhid pn \*h101 using "D:\HRS\Shared\raw\HRS\hrs\_fat\_file\all\_rand\_fat\_files\fat`i'.dta", clear

rename \*h101 ind\_retirement\_com

gen id=hhid+pn

gen core\_year=`i'

tempfile t`i'

save `t`i''

}

clear

forvalues i=2002(2)2014 {

append using `t`i''

}

tempfile rcfres

save `rcfres'

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

merge 1:1 id core\_year using `rcfres', keep(match master)

//pull snf use past 12m

merge m:1 id using `snf', nogen

replace ind\_retirement\_com=0 if inlist(ind\_retirement\_com,5)

replace ind\_retirement\_com=1 if inlist(ind\_retirement\_com,2,7)

label var ind\_retirement\_com "Retirement/senior complex resident"

label var ind\_snf\_n12m "SNF use 12m prior to N1 interview"

label var nhres\_exit "Nursing home at death (from exit)"

/\*for table 1

age, race, hs education, female, married, medicaid, dementia, ADL dependence,

SRH, smoke currently, 4+ health conditions

\*/

\*rename informal\_i\_\* informal\_\*

keep if ffs\_84==1

keep if final\_7yr==1

\*gen adl\_dependent=!adl\_independent\_core

label var adl\_dependent "ADL dependent"

label var age\_at\_death "Age at death"

label var prob\_dem\_baseline "% Probable dementia at baseline ivw"

replace prob\_dem\_y1=0 if !dem\_cohort

gen n=1

drop race

gen race=1 if hisp\_e==1

replace race=2 if black==1

replace race=3 if white==1

replace white=3 if missing(race)

label define race 1 "Hispanic" 2 "Non-Hispanic Black" 3 "Non-Hispanic White/Other"

label values race race

gen ind\_hs\_educ=degree>=2 if !inlist(degree,9,.)

label var ind\_hs\_educ "Education: HS+ (excl. GED)"

tokenize tot\_paid\_by\_mc\_y tot\_paid\_maid\_y informal\_y oop\_y imputed\_nh\_costs\_b\_y

forvalues i=1/5 {

di "``i''"

egen cum`i'=rowtotal(``i''\*)

replace cum`i'=. if nflag!=0

}

egen cumall=rowtotal(cum1-cum5)

replace cumall=. if nflag!=0

label var cumall "Total Social Spending over 7 years pre-death"

label var cum1 "Medicare Expenditures"

label var cum2 "Medicaid Expenditures"

label var cum3 "Social Cost of Informal Care"

label var cum4 "OOP"

label var cum5 "Otherwise Unattributed NH Costs"

label var pdem\_baseline "Mean probability of dementia at baseline"

gsort id nflag

carryforward age\_at\_death female married ind\_hs\_educ smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* nhres\_exit \*nw\_remaining ind\_retirement\_com, replace

gsort id -nflag

carryforward age\_at\_death female married ind\_hs\_educ smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining ind\_retirement\_com, replace

gen ind\_no\_nh=!ind\_snf\_n12m & !nhres\_exit

label var ind\_no\_nh "Neither SNF use pre-ivw nor NH resident at death"

keep if nflag==1

local cvars1 age\_at\_death

local ivars1 female ind\_hs\_educ married married\_baseline

local ivars2 smoke\_curr smoke\_curr\_baseline medicaid medicaid\_baseline ///

///ind\_buyin\_y1 ind\_buyin\_y7 ///

adl\_dependent adl\_dependent\_baseline srh\_pf srh\_pf\_baseline ccw\_ge4\_y1 ///

ccw\_ge4\_y7 prob\_dem prob\_dem\_baseline proxy\_core

local cvars3 pdem pdem\_baseline cumall cum1 cum2 cum3 cum4 cum5 networth\_adj2016\_baseline ///

pct\_nw\_remaining

local ivars3 ind\_nw\_remaining ind\_retirement\_com nhres nhres\_exit ind\_snf\_n12m ind\_no\_nh

local catvars1 race

local catvars2 //comor\_c\_hrs

forvalues i=1/3 {

foreach x of local catvars`i' {

di "`x'"

local `x'

levelsof `x', local(levels)

foreach l of local levels {

gen `x'`l'=`x'==`l' if !missing(`x')

local lab : label `x' `l'

label var `x'`l' "`lab'"

local `x' ``x'' `x'`l'

}

di "``x''"

local cativars`i' `cativars`i'' ``x''

}

}

di "`catvars1'"

di "`cativars1'"

foreach time in 0 1 {

preserve

keep if (nhres==1 /\*| ind\_reti==1\*/) & adl\_dependent==`time'

local rn : word count `cvars1' `ivars1' `cativars1' `ivars2' `cativars2' `cvars3' `cvars3' `ivars3' 1

local r=1

local c=1

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

foreach y in "0,1" 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

qui sum `x' if inlist(dem\_cohort,`y'), d

mat tab[`r',`c']=r(mean)

mat tab [`r'+1,`c']=r(p50)

if "`y'"=="1" {

qui ttest `x', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

if `i'==3 local r=`r'+1

}

foreach x of local ivars`i' {

qui sum `x' if inlist(dem\_cohort,`y')

if r(sum)==0 | r(sum)==r(N) | (r(sum)>=11 & r(sum)<=r(N)-11) mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

qui tab `x' dem\_cohort, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local catvars`i' {

if "`y'"=="1" {

qui tab `x' dem\_cohort, chi2

mat tab[`r',4]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

}

foreach z of local `x' {

qui sum `z' if inlist(dem\_cohort,`y')

if r(sum)==0 | r(sum)==r(N) | (r(sum)>=11 & r(sum)<=r(N)-11) mat tab[`r',`c']=r(mean)\*100

local r=`r'+1

}

}

}

qui sum n if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

}

forvalues r=1/`rn' {

local t=tab[`r',2]

if `t'==. mat tab[`r',3]=.

local t=tab[`r',3]

if `t'==. mat tab[`r',2]=.

}

mat rownames tab=`cvars1' `ivars1' `cativars1' `ivars2' `cativars2' ///

pdem Median pdem\_baseline Median cumall Median cum1 Median cum2 Median ///

cum3 Median cum4 Median cum5 Median networth\_adj2016\_baseline Median ///

pct\_nw\_remaining Median `ivars3' N

if `time'==0 {

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'non\_ADL\_NH.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status, ADL Independent") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

restore

}

else {

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'ADL\_NH.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status, ADL Dependent") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

}

}

H="non-NH"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

sort id nflag

by id: carryforward bid, replace

keep if nflag==1

keep id bid\_ index\_date c\_ivw\_date

merge 1:m bid using "D:\HRS\Shared\base\_data\hrs\_cms\Stata\snf\_1998\_2015.dta", keep(match master) keepusing(admit\_date disch\_date)

gen ind\_snf\_n12m=inrange(c\_ivw\_date,admit\_date,disch\_date)

replace ind\_snf=1 if inrange(disch\_date,c\_ivw\_date-365,c\_ivw\_date)

replace ind\_snf=0 if \_m==1

drop admit disch \_m

gsort id -ind\_snf

by id: keep if \_n==1

tempfile snf

save `snf'

forvalues i=2002(2)2014 {

use hhid pn \*h101 using "D:\HRS\Shared\raw\HRS\hrs\_fat\_file\all\_rand\_fat\_files\fat`i'.dta", clear

rename \*h101 ind\_retirement\_com

gen id=hhid+pn

gen core\_year=`i'

tempfile t`i'

save `t`i''

}

clear

forvalues i=2002(2)2014 {

append using `t`i''

}

tempfile rcfres

save `rcfres'

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

merge 1:1 id core\_year using `rcfres', keep(match master)

//pull snf use past 12m

merge m:1 id using `snf', nogen

replace ind\_retirement\_com=0 if inlist(ind\_retirement\_com,5)

replace ind\_retirement\_com=1 if inlist(ind\_retirement\_com,2,7)

label var ind\_retirement\_com "Retirement/senior complex resident"

label var ind\_snf\_n12m "SNF use 12m prior to N1 interview"

label var nhres\_exit "Nursing home at death (from exit)"

/\*for table 1

age, race, hs education, female, married, medicaid, dementia, ADL dependence,

SRH, smoke currently, 4+ health conditions

\*/

\*rename informal\_i\_\* informal\_\*

keep if ffs\_84==1

keep if final\_7yr==1

\*gen adl\_dependent=!adl\_independent\_core

label var adl\_dependent "ADL dependent"

label var age\_at\_death "Age at death"

label var prob\_dem\_baseline "% Probable dementia at baseline ivw"

replace prob\_dem\_y1=0 if !dem\_cohort

gen n=1

drop race

gen race=1 if hisp\_e==1

replace race=2 if black==1

replace race=3 if white==1

replace white=3 if missing(race)

label define race 1 "Hispanic" 2 "Non-Hispanic Black" 3 "Non-Hispanic White/Other"

label values race race

gen ind\_hs\_educ=degree>=2 if !inlist(degree,9,.)

label var ind\_hs\_educ "Education: HS+ (excl. GED)"

tokenize tot\_paid\_by\_mc\_y tot\_paid\_maid\_y informal\_y oop\_y imputed\_nh\_costs\_b\_y

forvalues i=1/5 {

di "``i''"

egen cum`i'=rowtotal(``i''\*)

replace cum`i'=. if nflag!=0

}

egen cumall=rowtotal(cum1-cum5)

replace cumall=. if nflag!=0

label var cumall "Total Social Spending over 7 years pre-death"

label var cum1 "Medicare Expenditures"

label var cum2 "Medicaid Expenditures"

label var cum3 "Social Cost of Informal Care"

label var cum4 "OOP"

label var cum5 "Otherwise Unattributed NH Costs"

label var pdem\_baseline "Mean probability of dementia at baseline"

gsort id nflag

carryforward age\_at\_death female married ind\_hs\_educ smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* nhres\_exit \*nw\_remaining ind\_retirement\_com, replace

gsort id -nflag

carryforward age\_at\_death female married ind\_hs\_educ smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining ind\_retirement\_com, replace

gen ind\_no\_nh=!ind\_snf\_n12m & !nhres\_exit

label var ind\_no\_nh "Neither SNF use pre-ivw nor NH resident at death"

keep if nflag==1

local cvars1 age\_at\_death

local ivars1 female ind\_hs\_educ married married\_baseline

local ivars2 smoke\_curr smoke\_curr\_baseline medicaid medicaid\_baseline ///

///ind\_buyin\_y1 ind\_buyin\_y7 ///

adl\_dependent adl\_dependent\_baseline srh\_pf srh\_pf\_baseline ccw\_ge4\_y1 ///

ccw\_ge4\_y7 prob\_dem prob\_dem\_baseline proxy\_core

local cvars3 pdem pdem\_baseline cumall cum1 cum2 cum3 cum4 cum5 networth\_adj2016\_baseline ///

pct\_nw\_remaining

local ivars3 ind\_nw\_remaining ind\_retirement\_com nhres nhres\_exit ind\_snf\_n12m ind\_no\_nh

local catvars1 race

local catvars2 //comor\_c\_hrs

forvalues i=1/3 {

foreach x of local catvars`i' {

di "`x'"

local `x'

levelsof `x', local(levels)

foreach l of local levels {

gen `x'`l'=`x'==`l' if !missing(`x')

local lab : label `x' `l'

label var `x'`l' "`lab'"

local `x' ``x'' `x'`l'

}

di "``x''"

local cativars`i' `cativars`i'' ``x''

}

}

di "`catvars1'"

di "`cativars1'"

foreach time in 0 1 {

preserve

keep if (nhres==0 /\*| ind\_reti==1\*/) & adl\_dependent==`time'

local rn : word count `cvars1' `ivars1' `cativars1' `ivars2' `cativars2' `cvars3' `cvars3' `ivars3' 1

local r=1

local c=1

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

foreach y in "0,1" 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

qui sum `x' if inlist(dem\_cohort,`y'), d

mat tab[`r',`c']=r(mean)

mat tab [`r'+1,`c']=r(p50)

if "`y'"=="1" {

qui ttest `x', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

if `i'==3 local r=`r'+1

}

foreach x of local ivars`i' {

qui sum `x' if inlist(dem\_cohort,`y')

if r(sum)==0 | r(sum)==r(N) | (r(sum)>=11 & r(sum)<=r(N)-11) mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

qui tab `x' dem\_cohort, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local catvars`i' {

if "`y'"=="1" {

qui tab `x' dem\_cohort, chi2

mat tab[`r',4]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

}

foreach z of local `x' {

qui sum `z' if inlist(dem\_cohort,`y')

if r(sum)==0 | r(sum)==r(N) | (r(sum)>=11 & r(sum)<=r(N)-11) mat tab[`r',`c']=r(mean)\*100

local r=`r'+1

}

}

}

qui sum n if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

}

forvalues r=1/`rn' {

local t=tab[`r',2]

if `t'==. mat tab[`r',3]=.

local t=tab[`r',3]

if `t'==. mat tab[`r',2]=.

}

mat rownames tab=`cvars1' `ivars1' `cativars1' `ivars2' `cativars2' ///

pdem Median pdem\_baseline Median cumall Median cum1 Median cum2 Median ///

cum3 Median cum4 Median cum5 Median networth\_adj2016\_baseline Median ///

pct\_nw\_remaining Median `ivars3' N

if `time'==0 {

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'non\_ADL\_nonNH.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status, ADL Independent") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

restore

}

else {

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'ADL\_nonNH.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status, ADL Dependent") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

}

}

H="Sensitivity for imputed Medicaid"

set more off

capture log close

version 15

clear all

local medipath "D:\HRS\Shared\base\_data\hrs\_cms\Stata"

local logpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\logs"

local datapath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

local hrspath "D:\HRS\Shared\base\_data\hrs\_cleaned"

local restrpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\ref\_docs"

cd `medipath'

//pull in medicaid generosity

import excel "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\ref\_docs\Medicaid generosity.xlsx", ///

sheet("Sheet1") firstrow case(lower) clear

rename location stateusps

tempfile generosity

save `generosity'

//pull HRS ivw dates--going to assign the following core/exit to the year

use `hrspath'\core\_00\_to\_14

append using `hrspath'\exit\_02\_to\_16\_dt

gen ivw\_date=c\_ivw\_date

replace ivw\_date=e\_ivw\_date if missing(ivw\_date)

replace ivw\_date=td(01jan2016) if missing(ivw\_date)

gen ivw\_year=year(ivw\_date)

replace nh\_nights=nh\_nights\_exit if missing(nh\_nights)

tempfile hrs

save `hrs'

keep id ivw\_\*

reshape wide ivw\_date, i(id) j(ivw\_year)

tempfile hrswide

save `hrswide'

//get state and demo for re model

use "D:\HRS\Shared\base\_data\hrs\_cleaned\restr\_tracker\_v2014.dta", clear

gen stateusps16=stateusps14

keep hhid pn stateus\* birth\_date hisp\_eth white black other\_na degree

rename stateusps0\* stateusps200\*

rename stateusps1\* stateusps201\*

rename stateusps9\* stateusps199\*

reshape long stateusps, i(hhid pn) j(year)

drop if year<1998

expand 2, gen(dup)

replace year=year+1 if dup

gen id=hhid+pn

sort id year

by id: carryforward state, replace

gsort id -year

by id: carryforward state, replace

drop dup

drop if missing(id)

tempfile track

save `track'

//pull Medicaid

use hrs\_max\_asf\_1999\_2012, clear

merge m:1 bid using Medicaid2016Xref, keepusing(hhid pn) nogen

gen id=hhid+pn

gen rate=1 if year==2016

quietly replace rate=1.01262 if year==2015

quietly replace rate=1.01382 if year==2014

quietly replace rate=1.03026 if year==2013

quietly replace rate=1.04535 if year==2012

quietly replace rate=1.06699 if year==2011

quietly replace rate=1.10067 if year==2010

quietly replace rate=1.11872 if year==2009

quietly replace rate=1.11474 if year==2008

quietly replace rate=1.15754 if year==2007

quietly replace rate=1.19051 if year==2006

quietly replace rate=1.22891 if year==2005

quietly replace rate=1.27055 if year==2004

quietly replace rate=1.30439 if year==2003

quietly replace rate=1.33411 if year==2002

quietly replace rate=1.35521 if year==2001

quietly replace rate=1.39377 if year==2000

quietly replace rate=1.44062 if year==1999

quietly replace rate=1.47244 if year==1998

by bid, sort: egen ly=max(year)

drop if ly<2004

foreach x in ffs hmo php pccm {

gen `x'exp=mdcd\_`x'\_amt\*rate

label var `x'exp "Annual `x' Medicaid Expenditures (2016$)"

}

egen mcaidexp=rowtotal(\*exp)

label var mcaidexp "Total Annual Medicaid Expenditures (2016$)"

keep id bid \*exp mdcd\_nf\_days\_all year

tempfile mcaid

save `mcaid'

//pull annual expenditures for medicare

use hhid pn BID\_HRS\_22 using xref2015medicare, clear

rename \*, l

tempfile xwalk

save `xwalk'

use bid start\_dt ab\_mo\_cnt hmo\_mo buyin\_mo snf\_covdys using basf\_1998\_2015 if buyin\_mo>=1 & ab\_mo\_cnt>=1 & hmo\_mo==0, clear

gen year=year(start\_dt)

drop start\_dt

by bid, sort: egen ly=max(year)

drop if ly<2004

merge m:1 bid using `xwalk', keep(match) nogen

drop ly

tempfile mbsf

save `mbsf'

foreach x in dm hh hs ip snf op pb {

di "`x'"

use bid\_hrs\_22 pmt\_amt admit\_date disch\_date using `x'\_1998\_2015

gen year=year(admit\_date)

merge m:1 bid year using `mbsf', keep(match)

gen rate=1 if year==2016

quietly replace rate=1.01262 if year==2015

quietly replace rate=1.01382 if year==2014

quietly replace rate=1.03026 if year==2013

quietly replace rate=1.04535 if year==2012

quietly replace rate=1.06699 if year==2011

quietly replace rate=1.10067 if year==2010

quietly replace rate=1.11872 if year==2009

quietly replace rate=1.11474 if year==2008

quietly replace rate=1.15754 if year==2007

quietly replace rate=1.19051 if year==2006

quietly replace rate=1.22891 if year==2005

quietly replace rate=1.27055 if year==2004

quietly replace rate=1.30439 if year==2003

quietly replace rate=1.33411 if year==2002

quietly replace rate=1.35521 if year==2001

quietly replace rate=1.39377 if year==2000

quietly replace rate=1.44062 if year==1999

quietly replace rate=1.47244 if year==1998

replace pmt\_amt=pmt\_amt\*rate

by bid year, sort: egen `x'exp=total(pmt\_amt)

label var `x'exp "Annual `x' expenditures (2016$)"

keep bid year `x'exp

duplicates drop

tempfile `x'

save ``x''

}

use `mbsf'

foreach x in dm hh hs ip snf op pb {

merge 1:1 bid year using ``x'', gen(`x'm)

}

gen id=hhid+pn

merge 1:1 id year using `mcaid', keep(match master) gen(mcmcm)

order id bid\* year \*exp\*

merge m:1 id using `hrswide', keep(match) gen(hrsm)

//find the closest ivw during or after the year

gen ivw\_date2001=.

gen ivw\_date=ivw\_date2016

forvalues i=2015(-1)1998 {

replace ivw\_date=ivw\_date`i' if year<=`i' & !missing(ivw\_date`i')

drop ivw\_date`i'

}

drop if missing(ivw\_date)

merge m:1 id ivw\_date using `hrs', nogen keep(match master)

gen ivw\_type=0

replace ivw\_type=1 if !missing(exit\_year)

label define ivw\_type 0 "Core" 1 "Exit"

label values ivw\_type ivw\_type

merge 1:1 id year using `track', gen(trackm) keep(match master)

//generate variables for use in model

//# months w/ MC but no Medicaid

gen m\_no\_mcaid=ab\_mo-buyin\_mo

replace m\_no\_mcaid=0 if m\_no\_mcaid<0

//state will be panel variable

encode stateusps, gen(state)

xtset state

//demovars

rename other\_na other\_race

gen ind\_hs\_educ=degree>=2 if !inlist(degree,9,.)

label var ind\_hs\_educ "Education: HS+ (excl. GED)"

gen age=year-year(birth\_date)

label var age "Age on Dec. 31st"

gen age2=age^2

replace nhres=0 if missing(nhres)

replace adl\_independent=adl\_independent\_core if missing(adl\_independent)

replace adl\_independent=0 if missing(adl\_independent)

replace medicaid=0 if missing(medicaid)

//total mc expenditures

egen mcexp=rowtotal(\*exp)

label var mcexp "Total Annual Medicare Expenditures (2016$)"

//merge in medicaid generosity

merge m:1 stateusps using `generosity', keep(match master) gen(gm)

local modelvars nhres age age2 black hisp\_eth other\_race ind\_hs\_educ ///

ab\_mo m\_no\_mcaid adl\_independent married medicaid

/\*

foreach x of local modelvars {

replace `x'=0 if missing(`x')

}

reg mcaidexp mcexp `modelvars' generous

estimates store est0

//drop other race & education & mcaid generosity

local modelvars nhres age age2 black hisp\_eth ///

ab\_mo m\_no\_mcaid adl\_independent married medicaid

reg mcaidexp mcexp `modelvars'

estimates store est1

lrtest est1 est0

//still drop hispanics

local modelvars nhres married age age2 black ///

ab\_mo m\_no\_mcaid adl\_independent medicaid ivw\_type year

reg mcaidexp mcexp `modelvars'

estimates store est2

lrtest est2 est0

local xn : word count `modelvars'

local mn=1

forvalues i=1/`xn' {

di `i'

local v : word `i' of `modelvars'

local mvincl`i' `mvincl`=`i'-1'' `v'

foreach x of local modelvars {

di "`x'"

if "`x'"!="`v'" local mvexcl`i' `mvexcl`i'' `x'

}

foreach y in incl excl {

qui reg mcaidexp mcexp `mv`y'`i'' i.state

estimates store est`v'`y'`i'

local ests`v'`y' `ests`v'`y'' est`v'`y'`i'

lrtest est0 est`v'`y'`i'

}

}

preserve

gen proxy=proxy\_core

replace proxy=proxy\_exit if missing(proxy)

xtreg mcaidexp mcexp `modelvars' , fe

predict pfe

capture log close

log using "`logpath'\predicted\_annual\_medicaid\_costs`c(current\_date)'", replace

set seed 12345

gen norm=rnormal()

sort norm

gen testsamp=\_n<=\_N/2

tab testsamp

tab testsamp if !missing(mcaidexp)

local modelvars nhres married c.age##c.age black ///

ab\_mo m\_no\_mcaid adl\_independent medicaid ivw\_type proxy year

reg mcaidexp mcexp `modelvars' if testsamp==1

predict pols

xtreg mcaidexp mcexp `modelvars' if testsamp==1, re

predict pre

twopm mcaidexp mcexp `modelvars' if testsamp==1, firstpart(logit) secondpart(regress)

predict ptwopart

estimates store est1

twopm mcaidexp mcexp `modelvars' i.state , firstpart(logit) secondpart(regress)

predict ptptwithstates

estimates store est2

log close

log using "`logpath'\predicted\_annual\_medicaid\_costs\_quick\_compare`c(current\_date)'", replace

foreach x in re two tpt {

di "In sample"

reg mcaidexp p`x' if testsamp

di "Out of sample"

reg mcaidexp p`x' if !testsamp

}

log close

\*/

gen proxy=proxy\_core

replace proxy=proxy\_exit if missing(proxy)

local modelvars nhres married c.age##c.age black ///

ab\_mo m\_no\_mcaid adl\_independent medicaid ivw\_type proxy year

twopm mcaidexp mcexp `modelvars', firstpart(logit) secondpart(regress)

predict pmcaid

gen ind\_mcaid\_imputed=missing(mcaidexp) & !missing(pmcaid)

replace mcaidexp=pmcaid if missing(mcaidexp)

preserve

merge 1:1 id year using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", keep(match)

drop ab\_mos

rename medicaid sr\_medicaid

capture log close

log using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\logs\Medicaid\_imputation\_sensitivity", replace

local modelvars nhres married c.age##c.age black ///

ab\_mo m\_no\_mcaid adl\_independent sr\_medicaid ivw\_type proxy year

mean mcaidexp, over(ind\_mcaid)

reg mcaidexp ind\_mcaid mcexp ab\_mo\_cnt m\_no\_mcaid sr\_medicaid nhres, cluster(id)

qui reg mcaidexp ind\_mcaid##nhres##dem\_cohort, cluster(id)

margins, dydx(ind\_mcaid)

qui reg mcaidexp ind\_mcaid##nhres##dem\_cohort mcexp ab\_mo\_cnt m\_no\_mcaid sr\_medicaid, cluster(id)

margins,dydx(ind\_mcaid)

log close

translate "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\logs\Medicaid\_imputation\_sensitivity.smcl" "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\logs\Medicaid\_imputation\_sensitivity.pdf", replace

H="Table 1 including VA and LTC and 90th %ile spending"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

/\*for table 1

age, race, hs education, female, married, medicaid, dementia, ADL dependence,

SRH, smoke currently, 4+ health conditions

\*/

\*rename informal\_i\_\* informal\_\*

keep if ffs\_84==1

keep if final\_7yr==1

\*gen adl\_dependent=!adl\_independent\_core

label var adl\_dependent "ADL dependent"

label var age\_at\_death "Age at death"

label var prob\_dem\_baseline "% Probable dementia at baseline ivw"

replace prob\_dem\_y1=0 if !dem\_cohort

replace ltc\_ins=ltc\_ins==1

sort id nflag

foreach x in ltc\_ins champus medigap {

by id: egen `x'\_baseline=max(cond(ind\_baseline==1),`x',0)

}

gen n=1

drop race

gen race=1 if hisp\_e==1

replace race=2 if black==1

replace race=3 if white==1

replace white=3 if missing(race)

label define race 1 "Hispanic" 2 "Non-Hispanic Black" 3 "Non-Hispanic White/Other"

label values race race

tokenize tot\_paid\_by\_mc\_y tot\_paid\_maid\_y informal\_y oop\_y imputed\_nh\_costs\_b\_y

forvalues i=1/5 {

di "``i''"

egen cum`i'=rowtotal(``i''\*)

replace cum`i'=. if nflag!=0

}

egen cumall=rowtotal(cum1-cum5)

replace cumall=. if nflag!=0

label var cumall "Total Social Spending over 7 years pre-death"

label var cum1 "Medicare Expenditures"

label var cum2 "Medicaid Expenditures"

label var cum3 "Social Cost of Informal Care"

label var cum4 "OOP"

label var cum5 "Otherwise Unattributed NH Costs"

label var pdem\_baseline "Mean probability of dementia at baseline"

gen ind\_hs\_educ=degree>=2 if !inlist(degree,9,.)

label var ind\_hs\_educ "Education: HS+ (excl. GED)"

gsort id nflag

carryforward age\_at\_death female married ind\_hs\_educ smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining, replace

gsort id -nflag

carryforward age\_at\_death female married ind\_hs\_educ smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining, replace

keep if nflag==1

local cvars1 age\_at\_death

local ivars1 female married married\_baseline

local ivars2 ind\_hs\_educ smoke\_curr smoke\_curr\_baseline medicaid medicaid\_baseline ///

ind\_buyin\_y1 ind\_buyin\_y7 ltc\_ins ltc\_ins\_baseline champus champus\_baseline medigap medigap\_baseline ///

adl\_dependent adl\_dependent\_baseline srh\_pf srh\_pf\_baseline ccw\_ge4\_y1 ///

ccw\_ge4\_y7 prob\_dem prob\_dem\_baseline proxy\_core

local cvars3 pdem pdem\_baseline cumall cum1 cum2 cum3 cum4 cum5 networth\_adj2016\_baseline ///

pct\_nw\_remaining

local ivars3 ind\_nw\_remaining

local catvars1 race

local catvars2 //comor\_c\_hrs

forvalues i=1/3 {

foreach x of local catvars`i' {

di "`x'"

local `x'

levelsof `x', local(levels)

foreach l of local levels {

gen `x'`l'=`x'==`l' if !missing(`x')

local lab : label `x' `l'

label var `x'`l' "`lab'"

local `x' ``x'' `x'`l'

}

di "``x''"

local cativars`i' `cativars`i'' ``x''

}

}

di "`catvars1'"

di "`cativars1'"

local rn : word count `cvars1' `ivars1' `cativars1' `ivars2' `cativars2' `cvars3' `cvars3' `ivars3' 1 1 1 1 1 1 1

local r=1

local c=1

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

foreach y in "0,1" 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

sum `x' if inlist(dem\_cohort,`y'), d

mat tab[`r',`c']=r(mean)

mat tab [`r'+1,`c']=r(p50)

if substr("`x'",1,3)=="cum" mat tab[`r'+2, `c']=r(p90)

if "`y'"=="1" {

ttest `x', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

if `i'==3 local r=`r'+1

if substr("`x'",1,3)=="cum" local r=`r'+1

}

foreach x of local ivars`i' {

sum `x' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local catvars`i' {

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',4]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

}

foreach z of local `x' {

sum `z' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

local r=`r'+1

}

}

}

sum n if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

}

mat rownames tab=`cvars1' `ivars1' `cativars1' `ivars2' `cativars2' ///

pdem Median pdem\_baseline Median cumall Median p90 cum1 Median p90 cum2 Median p90 ///

cum3 Median p90 cum4 Median p90 cum5 Median p90 networth\_adj2016\_baseline Median ///

pct\_nw\_remaining Median `ivars3' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

H="Looking at yes/no for ADL & NH separate"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

sort id nflag

by id: carryforward bid, replace

keep if nflag==1

keep id bid\_ index\_date c\_ivw\_date

merge 1:m bid using "D:\HRS\Shared\base\_data\hrs\_cms\Stata\snf\_1998\_2015.dta", keep(match master) keepusing(admit\_date disch\_date)

gen ind\_snf\_n12m=inrange(c\_ivw\_date,admit\_date,disch\_date)

replace ind\_snf=1 if inrange(disch\_date,c\_ivw\_date-365,c\_ivw\_date)

replace ind\_snf=0 if \_m==1

drop admit disch \_m

gsort id -ind\_snf

by id: keep if \_n==1

tempfile snf

save `snf'

forvalues i=2002(2)2014 {

use hhid pn \*h101 using "D:\HRS\Shared\raw\HRS\hrs\_fat\_file\all\_rand\_fat\_files\fat`i'.dta", clear

rename \*h101 ind\_retirement\_com

gen id=hhid+pn

gen core\_year=`i'

tempfile t`i'

save `t`i''

}

clear

forvalues i=2002(2)2014 {

append using `t`i''

}

tempfile rcfres

save `rcfres'

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

merge 1:1 id core\_year using `rcfres', keep(match master)

//pull snf use past 12m

merge m:1 id using `snf', nogen

replace ind\_retirement\_com=0 if inlist(ind\_retirement\_com,5)

replace ind\_retirement\_com=1 if inlist(ind\_retirement\_com,2,7)

label var ind\_retirement\_com "Retirement/senior complex resident"

label var ind\_snf\_n12m "SNF use 12m prior to N1 interview"

label var nhres\_exit "Nursing home at death (from exit)"

/\*for table 1

age, race, hs education, female, married, medicaid, dementia, ADL dependence,

SRH, smoke currently, 4+ health conditions

\*/

\*rename informal\_i\_\* informal\_\*

keep if ffs\_84==1

keep if final\_7yr==1

\*gen adl\_dependent=!adl\_independent\_core

label var adl\_dependent "ADL dependent"

label var age\_at\_death "Age at death"

label var prob\_dem\_baseline "% Probable dementia at baseline ivw"

replace prob\_dem\_y1=0 if !dem\_cohort

gen n=1

drop race

gen race=1 if hisp\_e==1

replace race=2 if black==1

replace race=3 if white==1

replace white=3 if missing(race)

label define race 1 "Hispanic" 2 "Non-Hispanic Black" 3 "Non-Hispanic White/Other"

label values race race

gen ind\_hs\_educ=degree>=2 if !inlist(degree,9,.)

label var ind\_hs\_educ "Education: HS+ (excl. GED)"

tokenize tot\_paid\_by\_mc\_y tot\_paid\_maid\_y informal\_y oop\_y imputed\_nh\_costs\_b\_y

forvalues i=1/5 {

di "``i''"

egen cum`i'=rowtotal(``i''\*)

replace cum`i'=. if nflag!=0

}

egen cumall=rowtotal(cum1-cum5)

replace cumall=. if nflag!=0

label var cumall "Total Social Spending over 7 years pre-death"

label var cum1 "Medicare Expenditures"

label var cum2 "Medicaid Expenditures"

label var cum3 "Social Cost of Informal Care"

label var cum4 "OOP"

label var cum5 "Otherwise Unattributed NH Costs"

label var pdem\_baseline "Mean probability of dementia at baseline"

gsort id nflag

carryforward age\_at\_death female married ind\_hs\_educ smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* nhres\_exit \*nw\_remaining ind\_retirement\_com, replace

gsort id -nflag

carryforward age\_at\_death female married ind\_hs\_educ smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining ind\_retirement\_com, replace

gen ind\_no\_nh=!ind\_snf\_n12m & !nhres\_exit

label var ind\_no\_nh "Neither SNF use pre-ivw nor NH resident at death"

keep if nflag==1

local cvars1 age\_at\_death

local ivars1 female ind\_hs\_educ married married\_baseline

local ivars2 smoke\_curr smoke\_curr\_baseline medicaid medicaid\_baseline ///

///ind\_buyin\_y1 ind\_buyin\_y7 ///

adl\_dependent adl\_dependent\_baseline srh\_pf srh\_pf\_baseline ccw\_ge4\_y1 ///

ccw\_ge4\_y7 prob\_dem prob\_dem\_baseline proxy\_core nhres nhres\_baseline

local cvars3 pdem pdem\_baseline cumall cum1 cum2 cum3 cum4 cum5 networth\_adj2016\_baseline ///

pct\_nw\_remaining

local ivars3 ind\_nw\_remaining ind\_retirement\_com nhres nhres\_exit ind\_snf\_n12m ind\_no\_nh

local catvars1 race

local catvars2 //comor\_c\_hrs

forvalues i=1/3 {

foreach x of local catvars`i' {

di "`x'"

local `x'

levelsof `x', local(levels)

foreach l of local levels {

gen `x'`l'=`x'==`l' if !missing(`x')

local lab : label `x' `l'

label var `x'`l' "`lab'"

local `x' ``x'' `x'`l'

}

di "``x''"

local cativars`i' `cativars`i'' ``x''

}

}

di "`catvars1'"

di "`cativars1'"

foreach time in 0 1 {

preserve

keep if nhres==`time'

local rn : word count `cvars1' `ivars1' `cativars1' `ivars2' `cativars2' `cvars3' `cvars3' `ivars3' 1

local r=1

local c=1

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

foreach y in "0,1" 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

qui sum `x' if inlist(dem\_cohort,`y'), d

mat tab[`r',`c']=r(mean)

mat tab [`r'+1,`c']=r(p50)

if "`y'"=="1" {

qui ttest `x', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

if `i'==3 local r=`r'+1

}

foreach x of local ivars`i' {

qui sum `x' if inlist(dem\_cohort,`y')

if r(sum)==0 | r(sum)==r(N) | (r(sum)>=11 & r(sum)<=r(N)-11) mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

qui tab `x' dem\_cohort, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local catvars`i' {

if "`y'"=="1" {

qui tab `x' dem\_cohort, chi2

mat tab[`r',4]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

}

foreach z of local `x' {

qui sum `z' if inlist(dem\_cohort,`y')

if r(sum)==0 | r(sum)==r(N) | (r(sum)>=11 & r(sum)<=r(N)-11) mat tab[`r',`c']=r(mean)\*100

local r=`r'+1

}

}

}

qui sum n if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

}

forvalues r=1/`rn' {

local t=tab[`r',2]

if `t'==. mat tab[`r',3]=.

local t=tab[`r',3]

if `t'==. mat tab[`r',2]=.

}

mat rownames tab=`cvars1' `ivars1' `cativars1' `ivars2' `cativars2' ///

pdem Median pdem\_baseline Median cumall Median cum1 Median cum2 Median ///

cum3 Median cum4 Median cum5 Median networth\_adj2016\_baseline Median ///

pct\_nw\_remaining Median `ivars3' N

if `time'==0 {

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'non\_NH\_all.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status, ADL Independent") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

restore

}

else {

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'NH\_all.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status, ADL Dependent") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

}

}

H="Table 1 w/o imputed Medicaid"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

/\*for table 1

age, race, hs education, female, married, medicaid, dementia, ADL dependence,

SRH, smoke currently, 4+ health conditions

\*/

\*rename informal\_i\_\* informal\_\*

drop if ind\_mcaid\_imp==1

keep if ffs\_84==1

keep if final\_7yr==1

\*gen adl\_dependent=!adl\_independent\_core

label var adl\_dependent "ADL dependent"

label var age\_at\_death "Age at death"

label var prob\_dem\_baseline "% Probable dementia at baseline ivw"

replace prob\_dem\_y1=0 if !dem\_cohort

replace ltc\_ins=ltc\_ins==1

sort id nflag

foreach x in ltc\_ins champus {

by id: egen `x'\_baseline=max(cond(ind\_baseline==1),`x',0)

}

gen n=1

drop race

gen race=1 if hisp\_e==1

replace race=2 if black==1

replace race=3 if white==1

replace white=3 if missing(race)

label define race 1 "Hispanic" 2 "Non-Hispanic Black" 3 "Non-Hispanic White/Other"

label values race race

preserve

tokenize tot\_paid\_by\_mc\_y tot\_paid\_maid\_y informal\_y oop\_y imputed\_nh\_costs\_b\_y

forvalues i=1/5 {

di "``i''"

egen cum`i'=rowtotal(``i''\*)

replace cum`i'=. if nflag!=0

}

egen cumall=rowtotal(cum1-cum5)

replace cumall=. if nflag!=0

label var cumall "Total Social Spending over 7 years pre-death"

label var cum1 "Medicare Expenditures"

label var cum2 "Medicaid Expenditures"

label var cum3 "Social Cost of Informal Care"

label var cum4 "OOP"

label var cum5 "Otherwise Unattributed NH Costs"

label var pdem\_baseline "Mean probability of dementia at baseline"

gsort id nflag

carryforward age\_at\_death female married hseduc smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining, replace

gsort id -nflag

carryforward age\_at\_death female married hseduc smoke\_curr medicaid adl\_dependent ///

srh\_pf prob\_dem\_baseline pdem\_baseline cum\* race comorb\* ccw\* networth\_adj2016\* \*nw\_remaining, replace

keep if nflag==1

local cvars1 age\_at\_death

local ivars1 female married married\_baseline

local ivars2 ind\_hs\_educ smoke\_curr smoke\_curr\_baseline medicaid medicaid\_baseline ///

ind\_buyin\_y1 ind\_buyin\_y7 ltc\_ins ltc\_ins\_baseline champus champus\_baseline ///

adl\_dependent adl\_dependent\_baseline srh\_pf srh\_pf\_baseline ccw\_ge4\_y1 ///

ccw\_ge4\_y7 prob\_dem prob\_dem\_baseline proxy\_core

local cvars3 pdem pdem\_baseline cumall cum1 cum2 cum3 cum4 cum5 networth\_adj2016\_baseline ///

pct\_nw\_remaining

local ivars3 ind\_nw\_remaining

local catvars1 race

local catvars2 //comor\_c\_hrs

forvalues i=1/3 {

foreach x of local catvars`i' {

di "`x'"

local `x'

levelsof `x', local(levels)

foreach l of local levels {

gen `x'`l'=`x'==`l' if !missing(`x')

local lab : label `x' `l'

label var `x'`l' "`lab'"

local `x' ``x'' `x'`l'

}

di "``x''"

local cativars`i' `cativars`i'' ``x''

}

}

di "`catvars1'"

di "`cativars1'"

local rn : word count `cvars1' `ivars1' `cativars1' `ivars2' `cativars2' `cvars3' `cvars3' `ivars3' 1

local r=1

local c=1

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

foreach y in "0,1" 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

sum `x' if inlist(dem\_cohort,`y'), d

mat tab[`r',`c']=r(mean)

mat tab [`r'+1,`c']=r(p50)

if "`y'"=="1" {

ttest `x', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

if `i'==3 local r=`r'+1

}

foreach x of local ivars`i' {

sum `x' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local catvars`i' {

if "`y'"=="1" {

tab `x' dem\_cohort, chi2

mat tab[`r',4]=r(p)

mat stars[`r',4]=(r(p)<.05)+(r(p)<.01)

}

foreach z of local `x' {

sum `z' if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(mean)\*100

local r=`r'+1

}

}

}

sum n if inlist(dem\_cohort,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

}

mat rownames tab=`cvars1' `ivars1' `cativars1' `ivars2' `cativars2' ///

pdem Median pdem\_baseline Median cumall Median cum1 Median cum2 Median ///

cum3 Median cum4 Median cum5 Median networth\_adj2016\_baseline Median ///

pct\_nw\_remaining Median `ivars3' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\table\_1\_`c(current\_date)'\_wo\_imp\_mcaid.rtf", ///

statmat(tab) title("Characteristics of Decedents, by Dementia Status") ///

ctitles("" "Full Sample" "No Dementia" "Dementia" "P-value") varlabels ///

sdec(2) note("Values except for age at death, expenditures, and baseline values taken from N1 interview" \ ///

"Baseline status taken at interview closest to 7 years prior to death" \ ///

"OOP discounted at 3%/year for comparison to baseline net worth only") ///

annotate(stars) asymbol(\*,\*\*) replace

H="regressions with imputed Medicaid"

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

cd "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress"

gen educ\_3\_cat=1 if !degree

replace educ\_3\_cat=2 if inrange(degree,1,3)

replace educ\_3\_cat=3 if degree>3

gen age\_cat=1 if age\_at\_death<=75

replace age\_cat=2 if inrange(age\_at\_death,76,80)

replace age\_cat=3 if inrange(age\_at\_death,81,85)

replace age\_cat=4 if inrange(age\_at\_death,86,90)

replace age\_cat=5 if age\_at\_death>=91

label define age\_cat 1 "72-75" 2 "76-80" 3 "81-85" 4 "86-90" 5 ">90"

label values age\_cat age\_cat

sort id nflag

by id: replace married=married[\_n+1] if nflag==0

by id: replace female=female[\_n+1] if nflag==0

by id: replace adl\_dependent=adl\_dependent[\_n+1] if nflag==0

by id, sort: egen nh\_n1=max(cond(nflag==1,nhres,.))

foreach x in stroke dm heart htn lung cancer psych arth {

by id: replace `x'\_hrs=`x'\_hrs[\_n+1] if missing(`x'\_hrs)

replace `x'\_hrs=`x'\_hrs[\_n+1] if nflag==0

rename `x'\_hrs `x'

}

sort id nflag

by id: replace medicaid=medicaid[\_n+1] if nflag==0

by id: replace nh\_nights=nh\_nights[\_n+1] if nflag==0

by id: replace ind\_mcaid=ind\_mcaid[\_n+1] if nflag==0

keep if nflag==0

keep if ffs\_84==1

keep if final\_7yr==1

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* informal\_y\* dem\_cohort ///

imputed\_nh\_costs\_b\_y\* age\_at\_death female hisp\_eth black other stroke dm ///

heart htn lung cancer psych arth age\_cat educ\_3\_cat married adl\_dependent nh\_n1 ind\_mcaid medicaid nh\_nights

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* informal\_y\* imputed\_nh\_costs\_b\_y\*) (oop\* informal\* nh\*)

foreach x in mc mcaid oop informal nh {

forvalues i=1/7 {

replace `x'`i'=`x'`i'/1000

}

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* informal\* cum\* dem\_cohort nh\* female hisp\_eth black other stroke dm ///

heart htn lung cancer psych arth age\_cat educ\_3\_cat married adl\_dependent nh\_n1 ind\_mcaid medicaid nh\_nights

reshape long mc mcaid oop informal cummc cummcaid cumoop cuminformal nh cumnh, ///

i(id) j(year\_before\_death)

replace year=-year+8

label define year 1 "6-7" 2 "5-6" 3 "4-5" 4 "3-4" 5 "2-3" 6 "1-2" 7 "0-1"

label values year year

foreach x in "" cum {

egen `x'all=rowtotal(`x'mc `x'mcaid `x'oop `x'informal `x'nh)

}

global xvars i.age\_cat married female hisp\_eth black other i.educ\_3\_cat ///

stroke dm heart htn lung cancer psych arth

foreach y in mcaid {

glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars if ind\_mcaid\_==0, link(log) fam(gamma) cluster(id)

qui margins year#nh\_n1#dem\_cohort

marginsplot, title(medicaid present not imputed) nodraw

graph save v1, replace

glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars if ind\_mcaid\_==1, link(log) fam(gamma) cluster(id)

qui margins year#nh\_n1#dem\_cohort

marginsplot, title(medicaid imputed) nodraw

graph save v2, replace

/\* qui glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars , link(log) fam(gamma) cluster(id)

margins year#nh\_n1#dem\_cohort

marginsplot, title(adjusted) nodraw\*/

graph save v2, replace

graph combine v1.gph v2.gph, ycommon rows(1) ysize(4) xsize(8) saving(cum`y', replace)

graph export cum`y'\_imp.pdf, replace

}

foreach y in mcaid {

glm cum`y' i.dem\_cohort##i.ind\_mcaid\_imputed##i.year $xvars if nh\_n1==0, link(log) fam(gamma) cluster(id)

qui margins year#ind\_mcaid\_imputed#dem\_cohort

marginsplot, title(Non Nursing Home) nodraw

graph save v1, replace

glm cum`y' i.dem\_cohort##i.ind\_mcaid\_imputed##i.year $xvars if nh\_n1==1, link(log) fam(gamma) cluster(id)

qui margins year#ind\_mcaid\_imputed#dem\_cohort

marginsplot, title(Nursing Home) nodraw

graph save v2, replace

/\* qui glm cum`y' i.dem\_cohort##nh\_n1##i.year $xvars , link(log) fam(gamma) cluster(id)

margins year#nh\_n1#dem\_cohort

marginsplot, title(adjusted) nodraw\*/

graph combine v1.gph v2.gph, ycommon rows(1) ysize(4) xsize(8) saving(cum`y', replace)

graph export cum`y'\_imp.pdf, replace

}

global xvars i.age\_cat married female black i.educ\_3\_cat medicaid nh\_nights

global xvars i.age\_cat married female hisp\_eth black other i.educ\_3\_cat ///

stroke dm heart htn lung cancer psych arth medicaid nh\_nights

glm cummcaid i.dem\_cohort##i.ind\_mcaid\_imputed##i.year##i.nh\_n1 $xvars cummc, link(log) fam(gamma) cluster(id)

glm cummcaid i.dem\_cohort##i.ind\_mcaid\_imputed##i.nh\_n1 cummc cuminf cumoop if year==7, link(log) fam(gamma) cluster(id)

H="compare non-FFS"

clear all

capture log close

global datapath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\int\_data"

local logpath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\logs"

global ooppath "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\oopdata"

global output "E:\projects\burden\_dementia\archive logs"

\*log using `logpath'\sample\_derivation.txt, text replace

cd $datapath

use R01\_i.dta, clear

\*preserve

gen ffs\_lt\_60m = 0

replace ffs\_lt\_60m = 1 if ffs\_60m==0

gen ffs\_lt\_84m = 0

replace ffs\_lt\_84m = 1 if ffs\_84m==0

local deri age\_lt\_70 no\_exit miss\_core no\_core nocore4yr hrs\_lt\_60m death\_b4\_core ffs\_lt\_60m

gen final = 1

label var final "5yr Sample Size, includes decedents w/imputed core"

foreach x of local deri {

replace final = 0 if `x'==1

}

gen final\_7yr = 1 if final==1

label var final\_7yr "7yr Sample Size, includes decedents w/imputed core"

foreach x of varlist age\_lt\_72 hrs\_lt\_84m ffs\_lt\_84m {

replace final\_7yr = 0 if `x'==1

}

label var ffs\_lt\_60m "<60m continuous FFS prior to death"

label var ffs\_lt\_84m "<84m continuous FFS prior to death"

gen dropped\_7yr = 0

replace dropped\_7yr = 1 if final\_7yr==0 & final==1

gen all = 1

label var all "All HRS respondents Deceased 2004-2015"

/\*

local full all age\_lt\_72 no\_exit miss\_core no\_core nocore4yr death\_b4\_core hrs\_lt\_84m final final\_noimp final\_ffs final\_noimp\_ffs

local rd: word count `full'

mat tab1 = J(`rd',3,.)

local r = 1

foreach x of local full {

sum `x'

mat tab1[`r',1] = r(sum)

sum `x' if dem\_cohort==1

mat tab1[`r',2] = r(sum)

sum `x' if dem\_cohort==0

mat tab1[`r',3] = r(sum)

local ++r

}

mat rownames tab1 = `full'

frmttable using `logpath'\Sample\_Derivation.doc, replace statmat(tab1) ///

varlabels title("Sample Derivation for R01 (Deceased 2004-2015, Age 72+)") ctitles("Reason for Exclusion" "All" "Dementia" "Non-Dementia") sdec(0) ///

annotate(stars) asymbol(\*,\*\*)note("Death Date was determined by NDI, Medicare MBSF or HRS Exit in that order. Reasons for exclusion are NOT mutally exclusive.")

\*/

keep if nflag<=1

gen nolink=missing(bid\_hrs\_22)

foreach x in age\_lt\_72 nolink final\_7 {

replace `x'=. if nflag==1

by id, sort: egen a=max(`x')

replace `x'=a

drop a

}

drop if age\_lt\_72

drop if nolink

keep if final\_7==1 | ffs\_lt\_84==1

gen white = 0

replace white = 1 if race==1 & hisp\_eth==0

gen black = 0

replace black = 1 if race==2 & hisp\_eth==0

gen other = 0

replace other = 1 if white==0 & black==0 & hisp\_eth==0

label var white "Non-Hispanic White"

label var black "Non-Hispanic Black"

label var other "Non-Hispanic Other"

foreach x in networth {

by id: egen a=max(`x')

replace `x'=a

drop a

}

keep if nflag==0

gen n=1

gen ind\_hs\_educ=degree>=2 if !inlist(degree,9,.)

label var ind\_hs\_educ "Education: HS+ (excl. GED)"

gen nh\_time=year(death\_date)-nhres\_start\_yr\_exit

replace nh\_time=nh\_time-1 if nhres\_start\_mo\_exit>month(death\_date) & !missing(nhres\_start\_mo\_exit)

ads

replace nh\_time=0 if nh\_time<0

local cvars1 age\_at\_death

local ivars1 female\_exit married\_exit black hisp\_eth ind\_hs\_educ

local ivars2 medicaid\_exit ///

champus\_exit adl\_independent\_exit dem\_cohort

local cvars2 networth

forvalues i=1/3 {

foreach x of local catvars`i' {

di "`x'"

local `x'

levelsof `x', local(levels)

foreach l of local levels {

gen `x'`l'=`x'==`l' if !missing(`x')

local lab : label `x' `l'

label var `x'`l' "`lab'"

local `x' ``x'' `x'`l'

}

di "``x''"

local cativars`i' `cativars`i'' ``x''

}

}

di "`catvars1'"

di "`cativars1'"

local rn : word count `cvars1' `ivars1' `cvars2' `ivars2' 1

local r=1

local c=1

mat tab=J(`rn',3,.)

mat stars=J(`rn',3,0)

di `rn'

mat tab=J(`rn',3,.)

mat stars=J(`rn',3,0)

foreach y in 0 1 {

forvalues i=1/3 {

foreach x of local cvars`i' {

sum `x' if inlist(final\_7,`y'), d

mat tab[`r',`c']=r(mean)

if "`y'"=="1" {

ttest `x', by(final\_7)

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

foreach x of local ivars`i' {

sum `x' if inlist(final\_7,`y')

mat tab[`r',`c']=r(mean)\*100

if "`y'"=="1" {

tab `x' final\_7, chi2

mat tab[`r',`c'+1]=r(p)

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

}

local r=`r'+1

}

}

sum n if inlist(final\_7,`y')

mat tab[`r',`c']=r(N)

local r=1

local c=`c'+1

}

mat rownames tab=`cvars1' `ivars1' `cvars2' `ivars2' `cativars2' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\non\_ffs\_`c(current\_date)'.rtf", ///

statmat(tab) title("Characteristics of Decedents, by FFS Status") ///

ctitles("" "<84m of FFS" "Full FFS" "P-value") varlabels ///

sdec(2) ///

annotate(stars) asymbol(\*,\*\*) replace

H="7 year tables with p-values"

/\*note--it takes forever to run through the whole thing, but if you don't need

everything done it's possible to run chunks by selecting imp, commenting out

graphs you don't need, and/or dropping anything not needed from the varlist

\*/

/\*loop through each type of NH night imputation\*/

set trace off

use "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\data\final\_data\R01\_final.dta", clear

\*merge m:1 id using `t1', nogen keep(match master)

by id, sort: egen a=max(cond(nflag==1,nhres,0))

replace nhres=a if nflag==0

keep if nflag==0

keep if ffs\_84==1

keep if final\_7yr==1

keep id tot\_paid\_by\_mc\_y\* tot\_paid\_maid\_y\* oop\_y\* informal\_y\* dem\_cohort ///

imputed\_nh\_costs\_b\_y\* nhres

rename tot\_paid\_by\_mc\_y\* mc\*

rename tot\_paid\_maid\_y\* mcaid\*

foreach x of varlist mcaid\* {

replace `x'=0 if missing(`x')

}

rename (oop\_y\* informal\_y\* imputed\_nh\_costs\_b\_y\*) (oop\* informal\* nh\*)

foreach x in mc mcaid oop informal nh {

forvalues i=1/7 {

\*replace `x'`i'=`x'`i'/1000

}

gen cum`x'7=`x'7

forvalues i=6(-1)1 {

gen cum`x'`i'=cum`x'`=`i'+1'+`x'`i'

}

}

keep id mc\* mcaid\* oop\* informal\* cum\* dem\_cohort nh\* nhres

forvalues i=1/7 {

egen all`i'=rowtotal(mc`i' mcaid`i' oop`i' informal`i' nh`i')

egen cumall`i'=rowtotal(cum\*`i')

foreach x in mc mcaid oop informal nh all {

gen pct`x'`i'=100\*`x'`i'/all`i'

gen pctcum`x'`i'=100\*cum`x'`i'/cumall`i'

replace pctcum`x'`i'=100 if cumall`i'==0

}

}

forvalues i=1/7 {

egen cuminfoop`i'=rowtotal(cuminformal`i' cumoop`i')

label var cumall`i' "Cum. total, `=`i'-1'-7 yrs pre death"

label var cuminformal`i' "Cum. informal, `=`i'-1'-7 yrs pre death"

label var cumoop`i' "Cum. OOP, `=`i'-1'-7 yrs pre death"

label var cuminfoop`i' "Cum. Household (OOP+informal), `=`i'-1'-7 yrs pre death"

}

foreach y in cum {

local tablevars

foreach x in all /\*oop\*/ informal oop infoop {

forvalues i=1/7 {

local tablevars `tablevars' `y'`x'`i'

}

}

}

local rn : word count `tablevars' 1

local title "Annual Expenditures"

local replace replace

gen full=1

local title2 Full Sample

foreach timethrough in "0,1" 1 0 {

preserve

keep if inlist(nhres,`timethrough')

if "`timethrough'"=="1" local title2 "NH Residents"

if "`timethrough'"=="0" local title2 "Community Residents"

foreach y in /\*""\*/ cum /\*pct pctcum\*/ {

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

local r=1

local c=1

if "`y'"=="cum" local title "Cumulative Expenditures"

if "`y'"=="pct" local title "Percent of Total Annual Expenditures"

if "`y'"=="pctcum" local title "Percent of Total Cumulative Expenditures"

foreach z in "0,1" 0 1 {

foreach x in all informal oop infoop /\*mc mcaid nh\*/ {

forvalues i=1/7 {

qui sum `y'`x'`i' if inlist(dem\_cohort,`z')

mat tab[`r',`c']=r(mean)

if "`z'"=="1" {

qui ranksum `y'`x'`i', by(dem\_cohort)

mat tab[`r',`c'+1]=r(p)

\*mat tab[`r',`c'+2]=r(p)/\*/(`rn'-1)\*/

mat stars[`r',`c'+1]=(r(p)<.05)+(r(p)<.01)

\*mat stars[`r',`c'+2]=(r(p)<(.05/(`rn'-1)))+(r(p)<(.01/(`rn'-1)))

}

local r=`r'+1

}

}

qui sum dem\_cohort if inlist(dem\_cohort,`z')

mat tab[`r',`c']=r(N)

local c=`c'+1

local r=1

}

mat rownames tab=`tablevars' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\exp\_with\_p\_value.rtf", statmat(tab) ///

title("Total Spending Last 7 Years of Life by Dementia Status:" \"`title', `title2' ") ///

ctitles("" "Full Sample" "Non-dementia" "Dementia" "P-value" ) ///

sdec(2,2,2,3) annotate(stars) asymbol(\*,\*\*) `replace' varlabels ///

note("\*,\*\* = P significant at <.05,<.01" /\*without the Bonferonni correction and <`=0.05/(`rn'-1)', <`=0.01/(`rn'-1)' with\*/ )

local replace addtable

restore

}

}

foreach y in cum {

local tablevars

foreach x in all informal oop infoop mc mcaid nh {

foreach i in 1 7 {

local tablevars `tablevars' `y'`x'`i'

}

}

}

local rn : word count `tablevars' 1

foreach timethrough in "0,1" 1 0 {

preserve

keep if inlist(nhres,`timethrough')

if "`timethrough'"=="1" local title2 "NH Residents"

if "`timethrough'"=="0" local title2 "Community Residents"

foreach y in /\*""\*/ cum /\*pct pctcum\*/ {

mat tab=J(`rn',4,.)

mat stars=J(`rn',4,0)

local r=1

local c=1

if "`y'"=="cum" local title "Cumulative Expenditures"

if "`y'"=="pct" local title "Percent of Total Annual Expenditures"

if "`y'"=="pctcum" local title "Percent of Total Cumulative Expenditures"

foreach z in "0,1" 0 1 {

foreach x in all informal oop infoop mc mcaid nh {

foreach i in 1 7 {

qui sum `y'`x'`i' if inlist(dem\_cohort,`z')

mat tab[`r',`c']=r(mean)

if "`z'"=="1" {

qui ranksum `y'`x'`i', by(dem\_cohort)

mat tab[`r',`c'+2]=r(p)

\*mat tab[`r',`c'+2]=r(p)/\*/(`rn'-1)\*/

mat stars[`r',`c'+2]=(r(p)<.05)+(r(p)<.01)

\*mat stars[`r',`c'+2]=(r(p)<(.05/(`rn'-1)))+(r(p)<(.01/(`rn'-1)))

}

local r=`r'+1

}

}

qui sum dem\_cohort if inlist(dem\_cohort,`z')

mat tab[`r',`c']=r(N)

local c=`c'+1

local r=1

}

forvalues i=1/`tablevars' {

mat tab[`i',4]=tab[`i',3]-tab[`i',2]

}

mat rownames tab=`tablevars' N

frmttable using "D:\HRS\Projects\dementia\_decedents\ask\_r01\_financial\_burden\_dementia\_7\_yrs\output\in\_progress\exp\_with\_p\_value.rtf", statmat(tab) ///

title("Total Spending Last 7 Years of Life by Dementia Status:" \"`title', `title2' ") ///

ctitles("" "Full Sample" "Non-dementia" "Dementia" "Difference" "P-value" ) ///

sdec(2,2,2,3) annotate(stars) asymbol(\*,\*\*) `replace' varlabels ///

note("\*,\*\* = P significant at <.05,<.01" /\*without the Bonferonni correction and <`=0.05/(`rn'-1)', <`=0.01/(`rn'-1)' with\*/ )

local replace addtable

restore

}

}

H="cumulative expenditures across nh status"

mat tab=J(6,6,.)

mat stars=J(6,6,0)

local r=1

local c=1

foreach this in 1 0 {

forvalues i=1/6 {

sum cum`i' if dem\_cohort==`this' & nhres==0

mat tab[`i',`c']=r(mean)

sum cum`i' if dem\_cohort==`this' & nhres==1

mat tab[`i',`c'+1]=r(mean)

ttest cum`i' if dem\_cohort==`this', by(nhres)

mat tab[`i',`c'+2]=r(p)

mat stars[`i',`c'+2]=(r(p)<.05+r(p)<.01)

}

local c=4

}

mat rownames tab=cum1 cum2 cum3 cum4 cum5 cum6

frmttable, statmat(tab) annotate(stars) asymbol(\*,\*\*) ctitles("" "" "Dementia" "" "" "No Dementia"\"" "No NH" "NH" "P-value""No NH" "NH" "P-value") varlabels sdec(0,0,2,0,0,2)