

## Addendum to Technical Paper #5

### National Health and Aging Trends Study (NHATS)

STATA Programming Statements for Construction of Dementia  
Classification in the National Health and Aging Trends Study.

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\*NOTE: The input file to run this code is the NHATS\_Round\_1\_File\*

\*CREATE DEMENTIA CLASSIFICATION VARIABLE\*

\*SET MISSING (RESIDENTIAL CARE FQ ONLY) AND N.A. (NURSING HOME RESIDENTS)\*

gen r1demclas=-9 if r1dresid==3

replace r1demclas=-1 if r1dresid==4

\*CODE PROBABLE IF DEMENTIA DIAGNOSIS REPORTED BY SELF OR PROXY\*

replace r1demclas=1 if hc1disescn9==1 & (is1resptye==1 | is1resptye==2)

\*CODE AD8\_SCORE\*

\*INITIALIZE COUNTS TO NOT APPLICABLE\*

\*ASSIGN VALUES TO AD8 ITEMS IF PROXY AND DEMENTIA CLASS NOT ALREADY ASSIGNED BY REPORTED DIAGNOSIS

foreach num of numlist 1/8 {

  \*INITIALIZE COUNTS TO NOT APPLICABLE\*

    gen ad8\_`num'=-1

    replace ad8\_`num'=. if is1resptye==2 & r1demclas==.

    \*PROXY REPORTS A CHANGE OR ALZ/DEMENTIA\*

    replace ad8\_`num'=1 if is1resptye==2 & r1demclas==. & (cp1chgthink`num'==1 | cp1chgthink`num'==3)

    \*PROXY REPORTS NO CHANGE\*

    replace ad8\_`num'=0 if is1resptye==2 & r1demclas==. & (cp1chgthink`num'==2) & ad8\_`num'==.

  }

foreach num of numlist 1/8 {

  \*INITIALIZE COUNTS TO NOT APPLICABLE\*

    gen ad8miss\_`num'=-1

    replace ad8miss\_`num'=0 if is1resptye==2 & r1demclas==. & (ad8\_`num'==0 | ad8\_`num'==1)

    replace ad8miss\_`num'=1 if is1resptye==2 & r1demclas==. & ad8\_`num'==.

    replace ad8\_`num'=0 if is1resptye==2 & r1demclas==. & ad8\_`num'==.

  }

\*COUNT AD8 ITEMS\*

gen ad8\_score=-1

replace ad8\_score=(ad8\_1+ad8\_2+ad8\_3+ad8\_4+ad8\_5+ad8\_6+ad8\_7+ad8\_8) if is1resptye==2 & r1demclas==.

\*COUNT MISSING AD8 ITEMS\*

gen ad8\_miss= -1

replace

ad8\_miss=(ad8miss\_1+ad8miss\_2+ad8miss\_3+ad8miss\_4+ad8miss\_5+ad8miss\_6+ad8miss\_7+ad8miss\_8) if is1resptye==2 & r1demclas==.

\*CODE AD8 DEMENTIA CLASS\*

\*IF SCORE>=2 THEN MEETS AD8 CRITERIA\*

gen ad8\_dem=1 if ad8\_score>=2

\*IF SCORE IS 0 OR 1 THEN DOES NOT MEET AD8 CRITERIA\*

replace ad8\_dem=2 if ad8\_score==0 | ad8\_score==1

\*UPDATE DEMENTIA CLASSIFICATION VARIABLE WITH AD8 CLASS\*

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*PROBABLE DEMENTIA BASED ON AD8 SCORE*
replace r1demclas=1 if ad8_dem==1 & r1demclas==.
*NO DIAGNOSIS, DOES NOT MEET AD8 CRITERION, AND PROXY SAYS CANNOT ASK SP COGNITIVE
ITEMS*
replace r1demclas=3 if ad8_dem==2 & cg1speaktosp==2 & r1demclas==.

*CODE DATE ITEMS AND COUNT*
foreach num of numlist 1/4 {
    *CODE ONLY YES/NO RESPONSES: MISSING/NA CODES -1, -9 LEFT MISSING*
    gen date_item`num'=cg1todaydat`num' if cg1todaydat`num'>0
    *2: NO/DK OR -7: REFUSED RECODED TO : NO/DK/RF*
    replace date_item`num'=0 if cg1todaydat`num'==2 | cg1todaydat`num'==7
}

*COUNT CORRECT DATE ITEMS*
gen date_sum=date_item1 + date_item2 + date_item3 + date_item4
*PROXY SAYS CAN'T SPEAK TO SP*
replace date_sum=-2 if date_sum==. & cg1speaktosp==2
*PROXY SAYS CAN SPEAK TO SP BUT SP UNABLE TO ANSWER*
replace date_sum=-3 if (date_item1==. | date_item2==. | date_item3==. | date_item4==.) &
cg1speaktosp==1

gen date_sumr=date_sum
*MISSING IF PROXY SAYS CAN'T SPEAK TO SP*
replace date_sumr=. if date_sum==2
*0 IF SP UNABLE TO ANSWER*
replace date_sumr=0 if date_sum==3

*PRESIDENT AND VICE PRESIDENT NAME ITEMS AND COUNT*
** CODE ONLY YES/NO RESPONSES: MISSING/N.A. CODES -1,-9 LEFT MISSING *
*2:NO/DK OR -7:REFUSED RECODED TO 0:NO/DK/RF*
gen preslast=cg1presidna1 if cg1presidna1>0
replace preslast=0 if cg1presidna1==7 | cg1presidna1==2

gen presfirst=cg1presidna3 if cg1presidna3>0
replace presfirst=0 if cg1presidna3==7 | cg1presidna3==2

gen vplast=cg1vpname1 if cg1vpname1>0
replace vplast=0 if cg1vpname1==7 | cg1vpname1==2

gen vpfirst=cg1vpname3 if cg1vpname3>0
replace vpfirst=0 if cg1vpname3==7 | cg1vpname3==2

*COUNT CORRECT PRESIDENT/VP NAME ITEMS*
gen presvp= preslast+presfirst+vplast+vpfirst
** PROXY SAYS CAN'T SPEAK TO SP *
replace presvp=-2 if presvp==. & cg1speaktosp==2
** PROXY SAYS CAN SPEAK TO SP BUT SP UNABLE TO ANSWER *

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replace presvp=-3 if presvp==. & cg1speaktosp==1 & (preslast==. | presfirst==. | vplast==. | vpfirst==.)  
gen presvpr=presvp

\*MISSING IF PROXY SAYS CAN'T SPEAK TO SP\*

replace presvpr=. if presvp==-2

\*0 IF SP UNABLE TO ANSWER\*

replace presvpr=0 if presvp==-3

\*ORIENTATION DOMAIN: SUM OF DATE RECALL AND PRESIDENT/VP NAMING\*

gen date\_prvp=date\_sumr + presvpr

\*EXECUTIVE FUNCTION DOMAIN: CLOCK DRAWING SCORE\*

gen clock\_scorer=cg1dclkdraw

replace clock\_scorer=. if cg1dclkdraw==2 | cg1dclkdraw==9

replace clock\_scorer=0 if cg1dclkdraw==3 | cg1dclkdraw==4 | cg1dclkdraw==7

\*IMPUTE MEAN SCORE TO PERSONS MISSING A CLOCK\*

\*IF PROXY SAID CAN ASK SP\*

replace clock\_scorer=2 if cg1dclkdraw==9 & cg1speaktosp==1

\*IF SELF-RESPONDENT\*

replace clock\_scorer=3 if cg1dclkdraw==9 & cg1speaktosp==1

\*MEMORY DOMAIN: IMMEDIATE AND DELAYED WORD RECALL\*

gen irecall=cg1dwrddimrc

replace irecall=. if cg1dwrddimrc==2 | cg1dwrddimrc==1

replace irecall=0 if cg1dwrddimrc==7 | cg1dwrddimrc==3

gen drecall=cg1dwrddlyrc

replace drecall=. if cg1dwrddlyrc==2 | cg1dwrddlyrc==1

replace drecall=0 if cg1dwrddlyrc==7 | cg1dwrddlyrc==3

gen wordrecall0\_20=irecall+drecall

\*CREATE COGNITIVE DOMAINS FOR ALL ELIGIBLE\*

gen clock65=0 if clock\_scorer>1 & clock\_scorer<=5

replace clock65=1 if clock\_scorer>=0 & clock\_scorer<=1

gen word65=0 if wordrecall0\_20>3 & wordrecall0\_20<=20

replace word65=1 if wordrecall0\_20>=0 & wordrecall0\_20<=3

gen datena65=0 if date\_prvp>3 & date\_prvp<=8

replace datena65=1 if date\_prvp>=0 & date\_prvp<=3

\*CREATE COGNITIVE DOMAIN SCORE\*

gen domain65 = clock65+word65+datena65

\*UPDATE COGNITIVE CLASSIFICATION\*

\*PROBABLE DEMENTIA\*

replace r1demclas=1 if r1demclas==. & (cg1speaktosp==1 | cg1speaktosp==-1) & (domain65==2 | domain65==3)

\*POSSIBLE DEMENTIA\*

replace r1demclas=2 if r1demclas==. & (cg1speaktosp==1 | cg1speaktosp==-1) & domain65==1

\*NO DEMENTIA\*

replace r1demclas=3 if r1demclas==. & (cg1speaktosp==1 | cg1speaktosp==-1) & domain65==0

\*Label variables and values\*

label variable ad8\_dem "Dementia classification based on proxy AD8 report"

label define ad8\_dem\_values 1 "1 Meets dementia criteria" 2 "2 Does not meet dementia criteria"

label values ad8\_dem ad8\_dem\_values

label variable r1demclas "NHATS Dementia Diagnosis 65+"

label define dementialabel65 1 "1 Probable dementia" 2 "2 Possible dementia" 3 "3 No dementia" -1 "-1  
Nursing home resident" -9 "-9 Missing"

label values r1demclas dementialabel65

label define domain\_labels 0 "0 Does not meet criteria" 1 "1 Meets criteria"

label values clock65 word65 datena65 domain\_labels

label define domain65\_label 0 "0 Not impaired" 1 "Impaired in 1 domain" 2 "Impaired in 2 domains" 3  
"Impaired in 3 domains"

label values domain65 domain65\_labels