Longitudinal Aging Study Amsterdam, april 2020

Syntax for the cardiovascular disease ascertainment algorithms
Cohort 3

************ALGORITHMS CARDIOVASCULAR DISEASES (CVD) in LASA COHORT 3***********.
*Syntax cardiovascular diseases - revised version 2018.
* Cardiac diseases: Angina Pectoris (AP), Congestive Heart Failure (CHF), Myocardial Infarction (MI), arrhythmia (ARI).
* Vascular diseases: Cerebrovascular accident (CVA) en Peripheral arterial disease (PAD).
* SPSS-syntax combines three data sources: self-report, medication and general practitioner (GP) diagnoses
  (Revised version of the syntax and algorithms made by Bianca Schalk & Marijke Bremmer & Marjolein Visser).

*Currently available for LASA waves: B3 I.

*for more information: see word document available by Jan Poppelaars and the flow charts on the website.

*Used LASA datafiles:
035 = SR diagnosis
352 = use of medication (predefined groups of medication)
152 = use of medication
602 = SR diagnosis, telephonic interview with proxy
702 = SR diagnosis, telephonic interview with respondent
g01 = GP diagnosis, GP questionnaire
Z008 = year of interview
Z002 = cohort type & data available or not?.

match files /file = '*YOUR DIRECTORY HERE*\LASAZ008.SAV'
        /file = '*YOUR DIRECTORY HERE*\LAS3B035.SAV'
        /file = '*YOUR DIRECTORY HERE*\LAS3B352.SAV'
        /file = '*YOUR DIRECTORY HERE*\LAS3B152.SAV'
        /file = '*YOUR DIRECTORY HERE*\LASAZ002.SAV'
        /file = '*YOUR DIRECTORY HERE*\LAS3BG01.SAV'
        /file = '*YOUR DIRECTORY HERE*\LASAI602.SAV'
        /file = '*YOUR DIRECTORY HERE*\LASAI702.SAV'
        /file = '*YOUR DIRECTORY HERE*\LASAI035.SAV'
        /file = '*YOUR DIRECTORY HERE*\LASAI352.SAV'
        /file = '*YOUR DIRECTORY HERE*\LASAI152.SAV'
        /by respnr
        /keep respnr cohort bresult bhart01 bhart05 bhart10 bhart11 bhart12 bhart13 bdiabe01 bdiabe07 bdiabe09 bdiabe11 bdiabe12 bcva01 bartvei1
            bartvei5 bartvei7 bhart15 bhart15d bhart15c bhart15b bartve8b bartve8d bartve8c bartve8 Bmed_ang Bmed_ari Bmed_diu Bmed_ino Bmed_hyp t2_dat bmvar13 bmatc1 bmatc2 bmatc3 bmatc4 bmatc5 bmatc6
            bmatc7 bmatc8 bmatc9 bmatc10 bmatc11 bmatc12 bmatc13 bmatc14 bmatc15 bmatc16 bmatc17 bmatc18 bmatc19 bmatc20

```
                Bmmed1 Bmmed2 Bmmed3 Bmmed4 Bmmed5 Bmmed6 Bmmed7 Bmmed8 Bmmed9
Bmmed10 Bmmed11 Bmmed12 Bmmed13 Bmmed14 Bmmed15 Bmmed16 Bmmed17 Bmmed18
Bmmed19 Bmmed20
                bgap bgapy bgaps bgarrth bgarrthy bgarrths bgcva bgcvay bgcvas bgartvei bgartvey
                bgartves bgmi bgmiy bgmis bgchf bgchfy bgchfs
                imatc7 imatc8 imatc9 imatc10 imatc11 imatc12 imatc13 imatc14 imatc15 imatc16
imatc17 imatc18 imatc19 imatc20 imatc21 imatc22 imatc23 imatc24
                immed7 immed8 immed9 immed10 immed11 immed12 immed13 immed14 immed15
immed16 immed17 immed18 immed19 immed20 immed21 immed22 immed23 immed24
                t9_dat ihart01 ihart05 ihart10 ihart11 ihart12 ihart13 idiabe01 idiabe07 idiabe09
idiabe11 idiabe12 icva01 iartvei1 iartvei5 iartvei7 ihart15 ihart15d ihart15c
                ihart15b iartve8b iartve8d iartve8c iartve8 imed_ang imed_ari imed_diu imed_ino
imed_hyp imvar13 imatc1 imatc2 imatc3 imatc4 imatc5 imatc6 immed1 immed2 immed3 immed4
immed5 immed6
                iresult itpcva01 itphart1 itpartv1 itrcva01 itrhart1 itrartv1.
EXECUTE.

FILTER OFF.
USE ALL.
SELECT IF (cohort = 3  & bresult=5).
EXECUTE.

SAVE OUTFILE='*YOUR DIRECTORY HERE*\LASAZH03_workingfile.sav'
 /COMPRESSED.


*-----------------------------------missing values.
*some cases are missing because they do not exist in original LASA files.
*assign value -9 to these cases.
RECODE bhart01 bhart05 bhart10 bhart11 bhart12 bhart13 bdiabe01 bdiabe07 bdiabe09 bdiabe11
bdiabe12 bcva01 bartvei1
                bartvei5 bartvei7 bhart15 bhart15d bhart15c bhart15b bartve8b bartve8d bartve8c
bartve8 Bmed_ang Bmed_ari Bmed_diu Bmed_ino Bmed_hyp t2_dat bmvar13
                bgap bgapy bgaps bgarrth bgarrthy bgarrths bgcva bgcvay bgcvas bgartvei bgartvey
                bgartves bgmi bgmiy bgmis bgchf bgchfy bgchfs
                ihart01 ihart05 ihart10 ihart11 ihart12 ihart13 idiabe01 idiabe07 idiabe09 idiabe11
idiabe12 icva01 iartvei1 iartvei5 iartvei7 ihart15 ihart15d ihart15c
                ihart15b iartve8b iartve8d iartve8c iartve8 imed_ang imed_ari imed_diu imed_ino
imed_hyp
                iresult itpcva01 itphart1 itpartv1 itrcva01 itrhart1 itrartv1 imvar13 bmvar13
                (MISSING=-9).
VALUE LABELS  bhart01 bhart05 bhart10 bhart11 bhart12 bhart13 bdiabe01 bdiabe07 bdiabe09
bdiabe11 bdiabe12 bcva01 bartvei1
                bartvei5 bartvei7 bhart15 bhart15d bhart15c bhart15b bartve8b bartve8d bartve8c
bartve8 Bmed_ang Bmed_ari Bmed_diu Bmed_ino Bmed_hyp t2_dat bmvar13
                bgap bgapy bgaps bgarrth bgarrthy bgarrths bgcva bgcvay bgcvas bgartvei bgartvey
                bgartves bgmi bgmiy bgmis bgchf bgchfy bgchfs
                ihart01 ihart05 ihart10 ihart11 ihart12 ihart13 idiabe01 idiabe07 idiabe09 idiabe11
idiabe12 icva01 iartvei1 iartvei5 iartvei7 ihart15 ihart15d ihart15c
                ihart15b iartve8b iartve8d iartve8c iartve8 imed_ang imed_ari imed_diu imed_ino
imed_hyp imvar13
                iresult itpcva01 itphart1 itpartv1 itrcva01 itrhart1 itrartv1 imvar13 bmvar13
```

```
            -9 'missing, case was missing in original LASA files'.
EXECUTE.
******************************B3 WAVE****************.
*create a string variable that consists of the first 3 characters of the ATC code.
string b_3ATC1(a30).
COMPUTE b_3ATC1 = CHAR.SUBSTR(bmatc1,1,3) .
string b_3ATC2(a30).
COMPUTE b_3ATC2 = CHAR.SUBSTR(bmatc2,1,3) .
string b_3ATC3(a30).
COMPUTE b_3ATC3 = CHAR.SUBSTR(bmatc3,1,3) .
string b_3ATC4(a30).
COMPUTE b_3ATC4 = CHAR.SUBSTR(bmatc4,1,3) .
string b_3ATC5(a30).
COMPUTE b_3ATC5 = CHAR.SUBSTR(bmatc5,1,3) .
string b_3ATC6(a30).
COMPUTE b_3ATC6 = CHAR.SUBSTR(bmatc6,1,3) .
string b_3ATC7(a30).
COMPUTE b_3ATC7 = CHAR.SUBSTR(bmatc7,1,3) .
string b_3ATC8(a30).
COMPUTE b_3ATC8 = CHAR.SUBSTR(bmatc8,1,3) .
string b_3ATC9(a30).
COMPUTE b_3ATC9 = CHAR.SUBSTR(bmatc9,1,3) .
string b_3ATC10(a30).
COMPUTE b_3ATC10 = CHAR.SUBSTR(bmatc10,1,3) .
string b_3ATC11(a30).
COMPUTE b_3ATC11 = CHAR.SUBSTR(bmatc11,1,3) .
string b_3ATC12(a30).
COMPUTE b_3ATC12 = CHAR.SUBSTR(bmatc12,1,3) .
string b_3ATC13(a30).
COMPUTE b_3ATC13 = CHAR.SUBSTR(bmatc13,1,3) .
string b_3ATC14(a30).
COMPUTE b_3ATC14 = CHAR.SUBSTR(bmatc14,1,3) .
string b_3ATC15(a30).
COMPUTE b_3ATC15 = CHAR.SUBSTR(bmatc15,1,3) .
string b_3ATC16(a30).
COMPUTE b_3ATC16 = CHAR.SUBSTR(bmatc16,1,3) .
string b_3ATC17(a30).
COMPUTE b_3ATC17 = CHAR.SUBSTR(bmatc17,1,3) .
string b_3ATC18(a30).
COMPUTE b_3ATC18 = CHAR.SUBSTR(bmatc18,1,3) .
string b_3ATC19(a30).
COMPUTE b_3ATC19 = CHAR.SUBSTR(bmatc19,1,3) .
string b_3ATC20(a30).
COMPUTE b_3ATC20 = CHAR.SUBSTR(bmatc20,1,3) .


*create a string variable that consists of the first 4 characters of the ATC code.
string b_4ATC1(a30).
COMPUTE b_4ATC1 = CHAR.SUBSTR(bmatc1,1,4) .
string b_4ATC2(a30).
COMPUTE b_4ATC2 = CHAR.SUBSTR(bmatc2,1,4) .
string b_4ATC3(a30).
```

```
COMPUTE b_4ATC3 = CHAR.SUBSTR(bmatc3,1,4) .
string b_4ATC4(a30).
COMPUTE b_4ATC4 = CHAR.SUBSTR(bmatc4,1,4) .
string b_4ATC5(a30).
COMPUTE b_4ATC5 = CHAR.SUBSTR(bmatc5,1,4) .
string b_4ATC6(a30).
COMPUTE b_4ATC6 = CHAR.SUBSTR(bmatc6,1,4) .
string b_4ATC7(a30).
COMPUTE b_4ATC7 = CHAR.SUBSTR(bmatc7,1,4) .
string b_4ATC8(a30).
COMPUTE b_4ATC8 = CHAR.SUBSTR(bmatc8,1,4) .
string b_4ATC9(a30).
COMPUTE b_4ATC9 = CHAR.SUBSTR(bmatc9,1,4) .
string b_4ATC10(a30).
COMPUTE b_4ATC10 = CHAR.SUBSTR(bmatc10,1,4) .
string b_4ATC11(a30).
COMPUTE b_4ATC11 = CHAR.SUBSTR(bmatc11,1,4) .
string b_4ATC12(a30).
COMPUTE b_4ATC12 = CHAR.SUBSTR(bmatc12,1,4) .
string b_4ATC13(a30).
COMPUTE b_4ATC13 = CHAR.SUBSTR(bmatc13,1,4) .
string b_4ATC14(a30).
COMPUTE b_4ATC14 = CHAR.SUBSTR(bmatc14,1,4) .
string b_4ATC15(a30).
COMPUTE b_4ATC15 = CHAR.SUBSTR(bmatc15,1,4) .
string b_4ATC16(a30).
COMPUTE b_4ATC16 = CHAR.SUBSTR(bmatc16,1,4) .
string b_4ATC17(a30).
COMPUTE b_4ATC17 = CHAR.SUBSTR(bmatc17,1,4) .
string b_4ATC18(a30).
COMPUTE b_4ATC18 = CHAR.SUBSTR(bmatc18,1,4) .
string b_4ATC19(a30).
COMPUTE b_4ATC19 = CHAR.SUBSTR(bmatc19,1,4) .
string b_4ATC20(a30).
COMPUTE b_4ATC20 = CHAR.SUBSTR(bmatc20,1,4) .

*create a string variable that consists of the first 5 characters of the ATC code.
string b_5ATC1(a30).
COMPUTE b_5ATC1 = CHAR.SUBSTR(bmatc1,1,5) .
string b_5ATC2(a30).
COMPUTE b_5ATC2 = CHAR.SUBSTR(bmatc2,1,5) .
string b_5ATC3(a30).
COMPUTE b_5ATC3 = CHAR.SUBSTR(bmatc3,1,5) .
string b_5ATC4(a30).
COMPUTE b_5ATC4 = CHAR.SUBSTR(bmatc4,1,5) .
string b_5ATC5(a30).
COMPUTE b_5ATC5 = CHAR.SUBSTR(bmatc5,1,5) .
string b_5ATC6(a30).
COMPUTE b_5ATC6 = CHAR.SUBSTR(bmatc6,1,5) .
string b_5ATC7(a30).
COMPUTE b_5ATC7 = CHAR.SUBSTR(bmatc7,1,5) .
string b_5ATC8(a30).
```

```
COMPUTE b_5ATC8 = CHAR.SUBSTR(bmatc8,1,5) .
string b_5ATC9(a30).
COMPUTE b_5ATC9 = CHAR.SUBSTR(bmatc9,1,5) .
string b_5ATC10(a30).
COMPUTE b_5ATC10 = CHAR.SUBSTR(bmatc10,1,5) .
string b_5ATC11(a30).
COMPUTE b_5ATC11 = CHAR.SUBSTR(bmatc11,1,5) .
string b_5ATC12(a30).
COMPUTE b_5ATC12 = CHAR.SUBSTR(bmatc12,1,5) .
string b_5ATC13(a30).
COMPUTE b_5ATC13 = CHAR.SUBSTR(bmatc13,1,5) .
string b_5ATC14(a30).
COMPUTE b_5ATC14 = CHAR.SUBSTR(bmatc14,1,5) .
string b_5ATC15(a30).
COMPUTE b_5ATC15 = CHAR.SUBSTR(bmatc15,1,5) .
string b_5ATC16(a30).
COMPUTE b_5ATC16 = CHAR.SUBSTR(bmatc16,1,5) .
string b_5ATC17(a30).
COMPUTE b_5ATC17 = CHAR.SUBSTR(bmatc17,1,5) .
string b_5ATC18(a30).
COMPUTE b_5ATC18 = CHAR.SUBSTR(bmatc18,1,5) .
string b_5ATC19(a30).
COMPUTE b_5ATC19 = CHAR.SUBSTR(bmatc19,1,5) .
string b_5ATC20(a30).
COMPUTE b_5ATC20 = CHAR.SUBSTR(bmatc20,1,5) .
EXECUTE.

*create a variable: use of beta blocking agents (atc code C07, thus includes combination preparaten)
yes/no.
compute Bmed_beta=0.
If (bmvar13 le -1) Bmed_beta=-1.
If (b_3ATC1='C07' OR b_3ATC2='C07' OR b_3ATC3='C07' OR b_3ATC4='C07' OR b_3ATC5='C07' OR
b_3ATC6='C07' OR
b_3ATC7='C07' OR b_3ATC8='C07' OR b_3ATC9='C07' OR b_3ATC10='C07' OR b_3ATC11='C07' OR
b_3ATC12='C07' OR b_3ATC13='C07' OR
b_3ATC14='C07' OR b_3ATC15='C07' OR b_3ATC16='C07' OR b_3ATC17='C07' OR b_3ATC18='C07' OR
b_3ATC19='C07' OR b_3ATC20='C07') Bmed_beta=1.
VARIABLE LABELS Bmed_beta 'use of beta blocking agents'.
VALUE LABELS   Bmed_beta
        -1 'missing'
        0 'no'
        1 'yes'.
EXECUTE.

*create a variable: use of anticoagulant drugs (vitamine K antagonists, DOACs, dabigatran (atc codes
B01AA, B01AF, B01AE)) yes/no.
compute Bmed_stolling=0.
If (bmvar13 le -1) Bmed_stolling=-1.
If (b_5ATC1='B01AA' OR b_5ATC2='B01AA' OR b_5ATC3='B01AA' OR b_5ATC4='B01AA' OR
b_5ATC5='B01AA' OR b_5ATC6='B01AA' OR
b_5ATC7='B01AA' OR b_5ATC8='B01AA' OR b_5ATC9='B01AA' OR b_5ATC10='B01AA' OR
b_5ATC11='B01AA' OR b_5ATC12='B01AA' OR b_5ATC13='B01AA' OR
```

b_5ATC14='B01AA' OR b_5ATC15='B01AA' OR b_5ATC16='B01AA' OR b_5ATC17='B01AA' OR
b_5ATC18='B01AA' OR b_5ATC19='B01AA' OR b_5ATC20='B01AA') Bmed_stolling=1.
If (b_5ATC1='B01AF' OR b_5ATC2='B01AF' OR b_5ATC3='B01AF' OR b_5ATC4='B01AF' OR
b_5ATC5='B01AF' OR b_5ATC6='B01AF' OR
b_5ATC7='B01AF' OR b_5ATC8='B01AF' OR b_5ATC9='B01AF' OR b_5ATC10='B01AF' OR
b_5ATC11='B01AF' OR b_5ATC12='B01AF' OR b_5ATC13='B01AF' OR
b_5ATC14='B01AF' OR b_5ATC15='B01AF' OR b_5ATC16='B01AF' OR b_5ATC17='B01AF' OR
b_5ATC18='B01AF' OR b_5ATC19='B01AF' OR b_5ATC20='B01AF') Bmed_stolling=1.
If (b_5ATC1='B01AE' OR b_5ATC2='B01AE' OR b_5ATC3='B01AE' OR b_5ATC4='B01AE' OR
b_5ATC5='B01AE' OR b_5ATC6='B01AE' OR
b_5ATC7='B01AE' OR b_5ATC8='B01AE' OR b_5ATC9='B01AE' OR b_5ATC10='B01AE' OR
b_5ATC11='B01AE' OR b_5ATC12='B01AE' OR b_5ATC13='B01AE' OR
b_5ATC14='B01AE' OR b_5ATC15='B01AE' OR b_5ATC16='B01AE' OR b_5ATC17='B01AE' OR
b_5ATC18='B01AE' OR b_5ATC19='B01AE' OR b_5ATC20='B01AE') Bmed_stolling=1.
VARIABLE LABELS Bmed_stolling 'use of anticoagulants'.
VALUE LABELS   Bmed_stolling
        -1 'missing'
        0 'no'
        1 'yes'.
EXECUTE.

*combining anticoagulants and betablocking agents: use of both, yes/no.
compute Bmed_stol_beta=-3.
If (Bmed_stolling=-1) Bmed_stol_beta=-1.
If (Bmed_stolling=1 and Bmed_beta=1) Bmed_stol_beta=1.
If (Bmed_stolling=0 or Bmed_beta=0) Bmed_stol_beta=0.
VARIABLE LABELS Bmed_stol_beta 'use of both beta blocking agent AND anticoagulantia'.
VALUE LABELS   Bmed_stol_beta
        -1 'missing'
        0 'no'
        1 'yes'.
EXECUTE.

*some diuretics are combination preps and therefore (incorrectly) not included in the diuretics
variable.
*C07B C07C C07D C02L C09B C09D C08G
C09AX C09CX C01AA.

*C07B C07C C07D C02L C09B C09D C08G .
If (b_4ATC1='C07B' OR b_4ATC2='C07B' OR b_4ATC3='C07B' OR b_4ATC4='C07B' OR b_4ATC5='C07B'
OR b_4ATC6='C07B' OR
b_4ATC7='C07B' OR b_4ATC8='C07B' OR b_4ATC9='C07B' OR b_4ATC10='C07B' OR b_4ATC11='C07B'
OR b_4ATC12='C07B' OR b_4ATC13='C07B' OR
b_4ATC14='C07B' OR b_4ATC15='C07B' OR b_4ATC16='C07B' OR b_4ATC17='C07B' OR
b_4ATC18='C07B' OR b_4ATC19='C07B' OR b_4ATC20='C07B') Bmed_diu=1.
If (b_4ATC1='C07C' OR b_4ATC2='C07C' OR b_4ATC3='C07C' OR b_4ATC4='C07C' OR b_4ATC5='C07C'
OR b_4ATC6='C07C' OR
b_4ATC7='C07C' OR b_4ATC8='C07C' OR b_4ATC9='C07C' OR b_4ATC10='C07C' OR b_4ATC11='C07C'
OR b_4ATC12='C07C' OR b_4ATC13='C07C' OR
b_4ATC14='C07C' OR b_4ATC15='C07C' OR b_4ATC16='C07C' OR b_4ATC17='C07C' OR
b_4ATC18='C07C' OR b_4ATC19='C07C' OR b_4ATC20='C07C') Bmed_diu=1.

If (b_4ATC1='C07D' OR b_4ATC2='C07D' OR b_4ATC3='C07D' OR b_4ATC4='C07D' OR
b_4ATC5='C07D' OR b_4ATC6='C07D' OR
b_4ATC7='C07D' OR b_4ATC8='C07D' OR b_4ATC9='C07D' OR b_4ATC10='C07D' OR
b_4ATC11='C07D' OR b_4ATC12='C07D' OR b_4ATC13='C07D' OR
b_4ATC14='C07D' OR b_4ATC15='C07D' OR b_4ATC16='C07D' OR b_4ATC17='C07D' OR
b_4ATC18='C07D' OR b_4ATC19='C07D' OR b_4ATC20='C07D') Bmed_diu=1.
If (b_4ATC1='C02L' OR b_4ATC2='C02L' OR b_4ATC3='C02L' OR b_4ATC4='C02L' OR b_4ATC5='C02L'
OR b_4ATC6='C02L' OR
b_4ATC7='C02L' OR b_4ATC8='C02L' OR b_4ATC9='C02L' OR b_4ATC10='C02L' OR b_4ATC11='C02L'
OR b_4ATC12='C02L' OR b_4ATC13='C02L' OR
b_4ATC14='C02L' OR b_4ATC15='C02L' OR b_4ATC16='C02L' OR b_4ATC17='C02L' OR
b_4ATC18='C02L' OR b_4ATC19='C02L' OR b_4ATC20='C02L') Bmed_diu=1.
If (b_4ATC1='C09B' OR b_4ATC2='C09B' OR b_4ATC3='C09B' OR b_4ATC4='C09B' OR b_4ATC5='C09B'
OR b_4ATC6='C09B' OR
b_4ATC7='C09B' OR b_4ATC8='C09B' OR b_4ATC9='C09B' OR b_4ATC10='C09B' OR b_4ATC11='C09B'
OR b_4ATC12='C09B' OR b_4ATC13='C09B' OR
b_4ATC14='C09B' OR b_4ATC15='C09B' OR b_4ATC16='C09B' OR b_4ATC17='C09B' OR
b_4ATC18='C09B' OR b_4ATC19='C09B' OR b_4ATC20='C09B') Bmed_diu=1.
If (b_4ATC1='C09D' OR b_4ATC2='C09D' OR b_4ATC3='C09D' OR b_4ATC4='C09D' OR
b_4ATC5='C09D' OR b_4ATC6='C09D' OR
b_4ATC7='C09D' OR b_4ATC8='C09D' OR b_4ATC9='C09D' OR b_4ATC10='C09D' OR
b_4ATC11='C09D' OR b_4ATC12='C09D' OR b_4ATC13='C09D' OR
b_4ATC14='C09D' OR b_4ATC15='C09D' OR b_4ATC16='C09D' OR b_4ATC17='C09D' OR
b_4ATC18='C09D' OR b_4ATC19='C09D' OR b_4ATC20='C09D') Bmed_diu=1.
If (b_4ATC1='C08G' OR b_4ATC2='C08G' OR b_4ATC3='C08G' OR b_4ATC4='C08G' OR
b_4ATC5='C08G' OR b_4ATC6='C08G' OR
b_4ATC7='C08G' OR b_4ATC8='C08G' OR b_4ATC9='C08G' OR b_4ATC10='C08G' OR
b_4ATC11='C08G' OR b_4ATC12='C08G' OR b_4ATC13='C08G' OR
b_4ATC14='C08G' OR b_4ATC15='C08G' OR b_4ATC16='C08G' OR b_4ATC17='C08G' OR
b_4ATC18='C08G' OR b_4ATC19='C08G' OR b_4ATC20='C08G') Bmed_diu=1.
EXECUTE.

*C09AX C09CX C01AA.
If (b_5ATC1='C09AX' OR b_5ATC2='C09AX' OR b_5ATC3='C09AX' OR b_5ATC4='C09AX' OR
b_5ATC5='C09AX' OR b_5ATC6='C09AX' OR
b_5ATC7='C09AX' OR b_5ATC8='C09AX' OR b_5ATC9='C09AX' OR b_5ATC10='C09AX' OR
b_5ATC11='C09AX' OR b_5ATC12='C09AX' OR b_5ATC13='C09AX' OR
b_5ATC14='C09AX' OR b_5ATC15='C09AX' OR b_5ATC16='C09AX' OR b_5ATC17='C09AX' OR
b_5ATC18='C09AX' OR b_5ATC19='C09AX' OR b_5ATC20='C09AX') Bmed_diu=1.
If (b_5ATC1='C09CX' OR b_5ATC2='C09CX' OR b_5ATC3='C09CX' OR b_5ATC4='C09CX' OR
b_5ATC5='C09CX' OR b_5ATC6='C09CX' OR
b_5ATC7='C09CX' OR b_5ATC8='C09CX' OR b_5ATC9='C09CX' OR b_5ATC10='C09CX' OR
b_5ATC11='C09CX' OR b_5ATC12='C09CX' OR b_5ATC13='C09CX' OR
b_5ATC14='C09CX' OR b_5ATC15='C09CX' OR b_5ATC16='C09CX' OR b_5ATC17='C09CX' OR
b_5ATC18='C09CX' OR b_5ATC19='C09CX' OR b_5ATC20='C09CX') Bmed_diu=1.
If (b_5ATC1='C01AA' OR b_5ATC2='C01AA' OR b_5ATC3='C01AA' OR b_5ATC4='C01AA' OR
b_5ATC5='C01AA' OR b_5ATC6='C01AA' OR
b_5ATC7='C01AA' OR b_5ATC8='C01AA' OR b_5ATC9='C01AA' OR b_5ATC10='C01AA' OR
b_5ATC11='C01AA' OR b_5ATC12='C01AA' OR b_5ATC13='C01AA' OR
b_5ATC14='C01AA' OR b_5ATC15='C01AA' OR b_5ATC16='C01AA' OR b_5ATC17='C01AA' OR
b_5ATC18='C01AA' OR b_5ATC19='C01AA' OR b_5ATC20='C01AA') Bmed_diu=1.
EXECUTE.

```
******************year of interview (2012 or 2013).
COMPUTE t2_YEAR=XDATE.YEAR(t2_dat).
VARIABLE LABELS t2_YEAR "LASA main interview year (w2)".
VARIABLE LEVEL t2_YEAR(SCALE).
FORMATS t2_YEAR(F8.0).
VARIABLE WIDTH t2_YEAR(8).
EXECUTE.

*****************ARRHYTHMIA (ARI) at B*****************.
*Selfreport surgery implantation of pacemaker.
COMPUTE b3_surARI=-3.
IF (bhart01 le -1) b3_surARI=-1.
IF (bhart15d le -1) b3_surARI=-1.
IF (bhart15 le -1) b3_surARI=-1.
IF (bhart01=1) b3_surARI=0.
IF (bhart15=1) b3_surARI=0.
IF (bhart15d=0) b3_surARI=0.
IF (bhart15d=1) b3_surARI=1.
VARIABLE LABELS b3_surARI 'self report surgery: pacemaker'.
VALUE LABELS b3_surARI
        -1 'missing'
        0 'no'
        1 'yes'.

*use of anti arrythmic medication.
RECODE bmed_ARI (0=0) (1=1) (SYSMIS=-1) (-9=-1) (ELSE=copy) INTO b3_mARI.
IF (bmed_ino=1) b3_mARI=1.
IF (bmvar13=0) b3_mARI=0.
IF (bmvar13 le -1) b3_mARI=-1.
VARIABLE LABELS  b3_mARI 'use of antiarrhythmics'.
VALUE LABELS b3_mARI
        -1 'missing'
        0 'no'
        1 'yes'.

*GP diagnosis of ARI.
COMPUTE b3_gpARI=-3.
IF (bgarrth le -1) b3_gpARI=-1.
IF (t2_year le -1) b3_gpARI=-1.
IF (bgarrth=0) b3_gpARI=0.
IF (bgarrth=1 and bgarrthy ge 6) b3_gpARI=0.
IF (bgarrth=1 and bgarrthy ge 5 and t2_year=2012) b3_gpARI=0.
IF (bgarrth=1 and (bgarrthy ge 1 and bgarrthy le 4)) b3_gpARI=1.
IF (bgarrth=1 and (bgarrthy=5 and t2_YEAR=2013.0)) b3_gpARI=1.
IF (bgarrth=1 and bgarrthy le -1) b3_gpARI=2.
VARIABLE LABELS b3_gpARI 'gp diagnosis: cardiac arrhythmia'.
VALUE LABELS b3_gpARI
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.
```

*ARI algorithm: medication, GP diagnosis and SR implantation of pacemaker combined.
compute b3_ARI=-3.
IF (b3_mARI=1) b3_ARI=1.
IF (b3_mARI=0 and b3_gpARI=1 and (bmed_stol_beta=1)) b3_ARI=1.
IF (b3_mARI=0 and b3_gpARI=1 and (bmed_stol_beta=0) and (bgarrths=1)) b3_ARI=1.
IF (b3_mARI=0 and b3_gpARI=1 and (bmed_stol_beta=0) and bgarrths le 0 and b3_surARI=1) b3_ARI=1.
IF (b3_mARI=0 and b3_gpARI=1 and (bmed_stol_beta=0) and bgarrths le 0 and b3_surARI le 0) b3_ARI=2.
IF (b3_mARI=0 and b3_gpARI=0 and b3_surARI=1) b3_ARI=3.
IF (b3_mARI=0 and b3_gpARI=0 and b3_surARI le 0) b3_ARI=0.
IF (b3_mARI=0 and b3_gpARI=2 and (bmed_stol_beta=1)) b3_ARI=1.
IF (b3_mARI=0 and b3_gpARI=2 and (bmed_stol_beta=0) and b3_surARI=1) b3_ARI=1.
IF (b3_mARI=0 and b3_gpARI=2 and (bmed_stol_beta=0) and b3_surARI le 0) b3_ARI=0.
IF (b3_mARI=0 and b3_gpARI=2 and (bmed_stol_beta=0) and b3_surARI le -1) b3_ARI=0.
IF (b3_mARI=0 and b3_gpARI=-1 and b3_surARI=1) b3_ARI=2.
IF (b3_mARI=0 and b3_gpARI=-1 and (bmed_stol_beta=0) and b3_surARI=0) b3_ARI=0.
IF (b3_mARI=0 and b3_gpARI=-1 and (bmed_stol_beta=0) and b3_surARI le -1) b3_ARI=-1.
IF (b3_mARI=0 and b3_gpARI=-1 and (bmed_stol_beta=1) and b3_surARI le 0) b3_ARI=-1.
IF (b3_mARI le -1 and b3_gpARI=1 and (bgarrths=1)) b3_ARI=1.
IF (b3_mARI le -1 and b3_gpARI=1 and bgarrths le 0 and b3_surARI=1) b3_ARI=1.
IF (b3_mARI le -1 and b3_gpARI=1 and bgarrths le 0 and b3_surARI le 0) b3_ARI=2.
IF (b3_mARI le -1 and b3_gpARI=0 and b3_surARI=1) b3_ARI=3.
IF (b3_mARI le -1 and b3_gpARI=0 and b3_surARI le 0) b3_ARI=0.
IF (b3_mARI le -1 and b3_gpARI=2 and b3_surARI=1) b3_ARI=1.
IF (b3_mARI le -1 and b3_gpARI=2 and b3_surARI le 0) b3_ARI=-1.
IF (b3_mARI le -1 and b3_gpARI le -1 and b3_surARI=1) b3_ARI=2.
IF (b3_mARI le -1 and b3_gpARI le -1 and b3_surARI le 0) b3_ARI=-1.
VARIABLE LABELS b3_ARI '3B wave: arrhythmia'.
VALUE LABELS b3_ARI
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

********************CEREBROVASCULAR ACCIDENT (CVA) at B*****************.
*Selfreport diagnosis of CVA.
COMPUTE b3_srCVA=-3.
IF (bcva01 le -1) b3_srCVA=-1.
IF (bcva01=1) b3_srCVA=0.
IF (bcva01=2) b3_srCVA=1.
VARIABLE LABELS b3_srCVA 'self report: CVA'.
VALUE LABELS b3_srCVA
        -1 'missing'
        0 'no'
        1 'yes'.

*GP diagnosis of CVA.
COMPUTE b3_gpCVA=-3.
IF (bgcva le -1) b3_gpCVA=-1.

IF (t2_year le -1) b3_gpCVA=-1.
IF (bgcva=0) b3_gpCVA=0.
IF (bgcva=1 and bgcvay ge 6) b3_gpCVA=0.
IF (bgcva=1 and bgcvay ge 5 and t2_year=2012) b3_gpCVA=0.
IF (bgcva=1 and (bgcvay ge 1 and bgcvay le 4)) b3_gpCVA=1.
IF (bgcva=1 and (bgcvay=5 and t2_YEAR=2013.0)) b3_gpCVA=1.
IF (bgcva=1 and bgcvay le -1) b3_gpCVA=2.
VARIABLE LABELS b3_gpCVA 'gp diagnosis: CVA'.
VALUE LABELS b3_gpCVA
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*CVA algorithm: GP diagnosis and SR combined.
COMPUTE b3_CVA=-3.
IF (b3_gpCVA=1 and (bgcvas=1)) b3_CVA=1.
IF (b3_gpCVA=1 and bgcvas le 0 and b3_srCVA=1) b3_CVA=1.
IF (b3_gpCVA=1 and bgcvas le 0 and b3_srCVA=0) b3_CVA=3.
IF (b3_gpCVA=1 and bgcvas le 0 and b3_srCVA le -1) b3_CVA=2.
IF (b3_gpCVA=0 and b3_srCVA=1) b3_CVA=3.
IF (b3_gpCVA=0 and b3_srCVA=0) b3_CVA=0.
IF (b3_gpCVA=0 and b3_srCVA le -1) b3_CVA=0.
IF (b3_gpCVA=2 and b3_srCVA=1) b3_CVA=1.
IF (b3_gpCVA=2 and b3_srCVA=0) b3_CVA=0.
IF (b3_gpCVA=2 and b3_srCVA le -1) b3_CVA=-1.
IF (b3_gpCVA le -1 and b3_srCVA=1) b3_CVA=2.
IF (b3_gpCVA le -1 and b3_srCVA=0) b3_CVA=0.
IF (b3_gpCVA le -1 and b3_srCVA le -1) b3_CVA=-1.
VARIABLE LABELS b3_CVA '3B wave: cerebrovascular accident'.
VALUE LABELS b3_CVA
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

**********************MYOCARDIAL INFARCTION (MI) at B*********************.
*Selfreport diagnosis of MI.
COMPUTE b3_srMI=-5.
IF (bhart01 le -1) b3_srMI=-1.
IF (bhart05 le -1 and bhart01=2) b3_srMI=-1.
IF (bhart01=1) b3_srMI=0.
IF (bhart05=1) b3_srMI=0.
IF (bhart05=2) b3_srMI=1.
VARIABLE LABELS b3_srMI 'self report: myocardial infarction'.
VALUE LABELS b3_srMI
        -1 'missing'
        0 'no'
        1 'yes'.

*GP diagnosis of CVA.
COMPUTE b3_gpMI=-3.
IF (bgmi le -1) b3_gpMI=-1.
IF (t2_year le -1) b3_gpMI=-1.
IF (bgmi=0) b3_gpMI=0.
IF (bgmi=1 and bgmiy ge 6) b3_gpMI=0.
IF (bgmi=1 and bgmiy ge 5 and t2_year=2012) b3_gpMI=0.
IF (bgmi=1 and (bgmiy ge 1 and bgmiy le 4)) b3_gpMI=1.
IF (bgmi=1 and (bgmiy=5 and t2_YEAR=2013.0)) b3_gpMI=1.
IF (bgmi=1 and bgmiy le -1) b3_gpMI=2.
VARIABLE LABELS b3_gpMI 'gp diagnosis: MI'.
VALUE LABELS b3_gpMI
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*MI algorithm: GP diagnosis and SR combined.
COMPUTE b3_MI=-3.
IF (b3_gpMI=1 and (bgmis=1)) b3_MI=1.
IF (b3_gpMI=1 and bgmis le 0 and b3_srMI=1) b3_MI=1.
IF (b3_gpMI=1 and bgmis le 0 and b3_srMI=0) b3_MI=3.
IF (b3_gpMI=1 and bgmis le 0 and b3_srMI le -1) b3_MI=2.
IF (b3_gpMI=0 and b3_srMI=1) b3_MI=3.
IF (b3_gpMI=0 and b3_srMI=0) b3_MI=0.
IF (b3_gpMI=0 and b3_srMI le -1) b3_MI=0.
IF (b3_gpMI=2 and b3_srMI=1) b3_MI=1.
IF (b3_gpMI=2 and b3_srMI=0) b3_MI=0.
IF (b3_gpMI=2 and b3_srMI le -1) b3_MI=-1.
IF (b3_gpMI le -1 and b3_srMI=1) b3_MI=2.
IF (b3_gpMI le -1 and b3_srMI=0) b3_MI=0.
IF (b3_gpMI le -1 and b3_srMI le -1) b3_MI=-1.
VARIABLE LABELS b3_MI '3B wave: myocardial infarction'.
VALUE LABELS b3_MI
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

***********************ANGINA PECTORIS (AP) at B********************.
*Selfreport diagnosis of AP.
COMPUTE b3_srAP=-5.
IF (bhart01 le -1) b3_srAP=-1.
IF (bhart01=2 and bhart10 le -1) b3_srAP=-1.
IF (bhart01=1) b3_srAP=0.
IF ((bhart01=2 and bhart10=1) or (bdiabe01=2 and bdiabe11=1)) b3_srAP=0.
IF ((bhart01=2 and bhart10 ge 4) or (bdiabe01=2 and bdiabe11 ge 4)) b3_srAP=0.
IF ((bhart10=2 and bhart11 le -1) OR (bdiabe11=2 and bdiabe12 le -1)) b3_srAP=2.
IF (bhart11=1 or bdiabe12=1) b3_srAP=0.
IF (bhart10=3 or bdiabe11=3) b3_srAP=1.

IF (bhart11=2 or bdiabe12=2) b3_srAP=1.
VARIABLE LABELS b3_srAP 'self report: angina pectoris'.
VALUE LABELS b3_srAP
        -1 'missing'
        0 'no'
        1 'yes'
        2 'possible'.

*GP diagnosis of AP.
COMPUTE b3_gpAP=-3.
IF (bgap le -1) b3_gpAP=-1.
IF (t2_year le -1) b3_gpAP=-1.
IF (bgap=0) b3_gpAP=0.
IF (bgap=1 and bgapy ge 6) b3_gpAP=0.
IF (bgap=1 and bgapy ge 5 and t2_year=2012) b3_gpAP=0.
IF (bgap=1 and (bgapy ge 1 and bgapy le 4)) b3_gpAP=1.
IF (bgap=1 and (bgapy=5 and t2_YEAR=2013.0)) b3_gpAP=1.
IF (bgap=1 and bgapy le -1) b3_gpAP=2.
VARIABLE LABELS b3_gpAP 'gp diagnosis: angina pectoris'.
VALUE LABELS b3_gpAP
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*use of AP medication: nitrates.
RECODE bmed_ang (0=0) (1=1) (SYSMIS=-1) (-9=-1) (ELSE=copy) INTO b3_mAP.
IF (bmvar13 le -1) b3_mAP=-1.
IF (bmvar13=0) b3_mAP=0.
VARIABLE LABELS b3_mAP 'use of nitratess'.
VALUE LABELS b3_mAP
        -1 'missing'
        0 'no'
        1 'yes'.

*AP algorithm: medication, GP diagnosis and SR combined.
COMPUTE b3_AP=-3.
IF (b3_mAP=1) b3_AP=1.
IF (b3_mAP le 0 and b3_srAP=1 and b3_gpAP=1) b3_AP=1.
IF (b3_mAP le 0 and b3_srAP=1 and b3_gpAP=0) b3_AP=3.
IF (b3_mAP le 0 and b3_srAP=1 and b3_gpap=2) b3_AP=1.
IF (b3_mAP le 0 and b3_srAP=1 and b3_gpAP le -1) b3_AP=2.
IF (b3_mAP le 0 and b3_srAP=0 and b3_gpAP=1 and (bgaps=1)) b3_AP=1.
IF (b3_mAP le 0 and b3_srAP=0 and b3_gpAP=1 and bgaps le 0) b3_AP=3.
IF (b3_mAP le 0 and b3_srAP=0 and b3_gpAP=0) b3_AP=0.
IF (b3_mAP le 0 and b3_srAP=0 and b3_gpap=2) b3_AP=0.
IF (b3_mAP le 0 and b3_srAP=0 and b3_gpAP le -1) b3_AP=0.
IF (b3_mAP le 0 and b3_srAP=2 and b3_gpAP=1) b3_AP=1.
IF (b3_mAP le 0 and b3_srAP=2 and b3_gpAP=0) b3_AP=0.
IF (b3_mAP le 0 and b3_srAP=2 and b3_gpAP=2) b3_AP=-1.
IF (b3_mAP le 0 and b3_srAP=2 and b3_gpap=-1) b3_AP=-1.
IF (b3_mAP le 0 and b3_srAP le -1 and b3_gpAP=1 and (bgaps=1)) b3_AP=1.

IF (b3_mAP le 0 and b3_srAP le -1 and b3_gpAP=1 and bgaps le 0) b3_AP=2.
IF (b3_mAP le 0 and b3_srAP le -1 and b3_gpAP=0) b3_AP=0.
IF (b3_mAP le 0 and b3_srAP le -1 and b3_gpap=2) b3_AP=-1.
IF (b3_mAP le 0 and b3_srAP le -1 and b3_gpAP le -1) b3_AP=-1.
VARIABLE LABELS b3_AP '3B wave: angina pectoris'.
VALUE LABELS b3_AP
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

**********************CONGESTIVE HEART FAILURE (CHF) at B********************.
*Selfreport diagnosis of CHF.
COMPUTE b3_srCHF=-3.
IF (bhart01 le -1) b3_srCHF=-1.
IF (bhart01=2 and bhart12 le -1) b3_srCHF=-1.
IF (bhart01=1) b3_srCHF=0.
IF (bhart01=2 and bhart12=1) b3_srCHF=0.
IF (bhart01=2 and bhart12=2) b3_srCHF=1.
VARIABLE LABELS b3_srCHF 'self reported diagnosis of congestive heart failure'.
VALUE LABELS b3_srCHF
        -1 'missing'
        0 'no'
        1 'yes'.

*GP diagnosis of CHF.
COMPUTE b3_gpCHF=-3.
IF (bgchf le -1) b3_gpCHF=-1.
IF (t2_year le -1) b3_gpCHF=-1.
IF (bgchf=0) b3_gpCHF=0.
IF (bgchf=1 and bgchfy ge 6) b3_gpCHF=0.
IF (bgchf=1 and bgchfy ge 5 and t2_year=2012) b3_gpCHF=0.
IF (bgchf=1 and (bgchfy ge 1 and bgchfy le 4)) b3_gpCHF=1.
IF (bgchf=1 and (bgchfy=5 and t2_YEAR=2013.0)) b3_gpCHF=1.
IF (bgchf=1 and bgchfy le -1) b3_gpCHF=2.
VARIABLE LABELS b3_gpCHF 'gp diagnosis: congestive heart failure'.
VALUE LABELS b3_gpCHF
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*CHF medication: diuretics, antihypertensives, nitrates, inotropics, beta blocking agents.
compute b3_mCHF=0.
IF (bmed_diu=1 and (bmed_hyp=1 or bmed_ang=1 or bmed_ino=1 or bmed_beta=1)) b3_mCHF=1.
IF (bmvar13 le -1) b3_mCHF=-1.
IF (bmvar13=0) b3_mCHF=0.
VARIABLE LABELS b3_mCHF 'medication for congestive heart failure'.
VALUE LABELS b3_mCHF
        -1 'missing'
        0 'no'

1 'yes'.

*CHF algorithm: medication, GP diagnosis and SR combined.
COMPUTE b3_CHF=-3.
IF (b3_gpCHF=1 and (bgchfs=1)) b3_CHF=1.
IF (b3_gpCHF=1 and bgchfs le 0 and b3_srCHF=1) b3_CHF=1.
IF (b3_gpCHF=1 and bgchfs le 0 and b3_srCHF le 0 and b3_mCHF=1) b3_CHF=1.
IF (b3_gpCHF=1 and bgchfs le 0 and b3_srCHF=0 and b3_mCHF=0) b3_CHF=2.
IF (b3_gpCHF=1 and bgchfs le 0 and b3_srCHF le 0 and b3_mCHF le -1) b3_CHF=2.
IF (b3_gpCHF=1 and bgchfs le 0 and b3_srCHF le -1 and b3_mCHF le 0) b3_CHF=2.
IF (b3_gpCHF=0 and b3_srCHF=1 and b3_mCHF=1) b3_CHF=1.
IF (b3_gpCHF=0 and b3_srCHF=1 and b3_mCHF le 0) b3_CHF=2.
IF (b3_gpCHF=0 and b3_srCHF le 0 and b3_mCHF=1) b3_CHF=3.
IF (b3_gpCHF=0 and b3_srCHF le 0 and b3_mCHF le 0) b3_CHF=0.
IF (b3_gpCHF=2 and b3_srCHF=1) b3_CHF=1.
IF (b3_gpCHF=2 and b3_srCHF le 0 and b3_mCHF=1) b3_CHF=1.
IF (b3_gpCHF=2 and b3_srCHF le 0 and b3_mCHF le 0) b3_CHF=0.
IF (b3_gpCHF=2 and b3_srCHF=0 and b3_mCHF=-1) b3_CHF=-1.
IF (b3_gpCHF=2 and b3_srCHF le -1 and b3_mCHF le -1) b3_CHF=-1.
IF (b3_gpCHF le -1 and b3_srCHF=1 and b3_mCHF=1) b3_CHF=1.
IF (b3_gpCHF le -1 and b3_srCHF=1 and b3_mCHF le 0) b3_CHF=2.
IF (b3_gpCHF le -1 and b3_srCHF=0 and b3_mCHF=1) b3_CHF=2.
IF (b3_gpCHF le -1 and b3_srCHF=0 and b3_mCHF le 0) b3_CHF=0.
IF (b3_gpCHF le -1 and b3_srCHF le -1 and b3_mCHF=1) b3_CHF=2.
IF (b3_gpCHF le -1 and b3_srCHF le -1 and b3_mCHF=0) b3_CHF=0.
IF (b3_gpCHF le -1 and b3_srCHF le -1 and b3_mCHF le -1) b3_CHF=-1.
VARIABLE LABELS b3_CHF '3B wave: congestive heart failure'.
VALUE LABELS b3_CHF
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

*********************PERIPHERAL ARTERIAL DISEASE (PAD) at B********************.
*Selfreport diagnosis of PAD.
COMPUTE b3_srPAD=-3.
IF (bartvei1 le -1) b3_srPAD=-1.
IF (bartvei1=2 and bartvei5 le -1) b3_srPAD=-1.
IF (bartvei1=1) b3_srPAD=0.
IF ((bartvei5=2 and bartvei7 le -1) or (bdiabe07=2 and bdiabe09 le -1)) b3_srPAD=2.
IF (bartvei7=1 or bdiabe09=1) b3_srPAD=0.
IF (bartvei5=1 or bdiabe07=1) b3_srPAD=0.
IF (bartvei7=2 or bdiabe09=2) b3_srPAD=1.
VARIABLE LABELS b3_srPAD 'self reported diagnosis of peripheral artery disease'.
VALUE LABELS b3_srPAD
        -1 'missing'
        0 'no'
        1 'yes'
        2 'possible'.

*Selfreport surgery.

COMPUTE b3_surPAD=-3.
IF (bartvei1 le -1) b3_surPAD=-1.
IF ((bartve8c le -1 AND bartve8d le -1) AND (bartve8b le 0)) b3_surPAD=-1.
IF (bartvei1=2 and bartve8 le -1) b3_surPAD=-1.
IF ((bartve8c=0 AND bartve8d=0) AND (bartve8b le 0)) b3_surPAD=0.
IF (bartvei1=1) b3_surPAD=0.
IF (bartve8=1) b3_surPAD=0.
IF ((bartve8c le 0 AND bartve8d le 0) AND (bartve8b=1)) b3_surPAD=2.
IF (bartve8c=1 OR bartve8d=1) b3_surPAD=1.
VARIABLE LABELS b3_surPAD 'self reported surgery of peripheral arteries'.
VALUE LABELS b3_surPAD
        -1 'missing'
        0 'no'
        1 'yes'
        2 'possible'.

*GP diagnosis of PAD.
COMPUTE b3_gpPAD=-3.
IF (bgartvei le -1) b3_gpPAD=-1.
IF (t2_year le -1) b3_gpPAD=-1.
IF (bgartvei=0) b3_gpPAD=0.
IF (bgartvei=1 and bgartvey ge 6) b3_gpPAD=0.
IF (bgartvei=1 and bgartvey ge 5 and t2_year=2012) b3_gpPAD=0.
IF (bgartvei=1 and (bgartvey ge 1 and bgartvey le 4)) b3_gpPAD=1.
IF (bgartvei=1 and (bgartvey=5 and t2_YEAR=2013.0)) b3_gpPAD=1.
IF (bgartvei=1 and bgartvey le -1) b3_gpPAD=2.
VARIABLE LABELS b3_gpPAD 'gp diagnosis: PAD'.
VALUE LABELS b3_gpPAD
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*PAD algorithm: medication, GP diagnosis, SR and surgery combined.
COMPUTE b3_PAD=-3.
IF (b3_surPAD=1) b3_PAD=1.
IF (b3_surPAD le 0 and b3_gpPAD=1 and (bgartves=1)) b3_PAD=1.
IF (b3_surPAD le 0 and b3_gpPAD=1 and bgartves le 0 and b3_srPAD=1) b3_PAD=1.
IF (b3_surPAD le 0 and b3_gpPAD=1 and bgartves le 0 and b3_srPAD=0) b3_PAD=3.
IF (b3_surPAD le 0 and b3_gpPAD=1 and bgartves le 0 and b3_srPAD le -1) b3_PAD=2.
IF (b3_surPAD le 0 and b3_gpPAD=1 and bgartves le 0 and b3_srPAD=2) b3_PAD=1.
IF (b3_surPAD le 0 and b3_gpPAD=0 and b3_srPAD=1) b3_PAD=3.
IF (b3_surPAD le 0 and b3_gpPAD=0 and b3_srPAD=0) b3_PAD=0.
IF (b3_surPAD le 0 and b3_gpPAD=0 and b3_srPAD le -1) b3_PAD=0.
IF (b3_surPAD le 0 and b3_gpPAD=0 and b3_srPAD=2) b3_PAD=0.
IF (b3_surPAD le 0 and b3_gpPAD=2 and b3_srPAD=1) b3_PAD=1.
IF (b3_surPAD le 0 and b3_gpPAD=2 and b3_srPAD=0) b3_PAD=0.
IF (b3_surPAD le 0 and b3_gpPAD=2 and b3_srPAD le -1) b3_PAD=-1.
IF (b3_surPAD le 0 and b3_gpPAD=2 and b3_srPAD=2) b3_PAD=1.
IF (b3_surPAD le 0 and b3_gpPAD le -1 and b3_srPAD=1) b3_PAD=2.
IF (b3_surPAD le 0 and b3_gpPAD le -1 and b3_srPAD=0) b3_PAD=0.
IF (b3_surPAD le 0 and b3_gpPAD le -1 and b3_srPAD le -1) b3_PAD=-1.

IF (b3_surPAD le 0 and b3_gpPAD le -1 and b3_srPAD=2) b3_PAD=-1.
IF (b3_surPAD=2 and b3_gpPAD=1) b3_PAD=1.
IF (b3_surPAD=2 and b3_gpPAD=0 and b3_srPAD=1) b3_PAD=1.
IF (b3_surPAD=2 and b3_gpPAD=0 and b3_srPAD=0) b3_PAD=0.
IF (b3_surPAD=2 and b3_gpPAD=0 and b3_srPAD le -1) b3_PAD=0.
IF (b3_surPAD=2 and b3_gpPAD=0 and b3_srPAD=2) b3_PAD=3.
IF (b3_surPAD=2 and b3_gpPAD=2 and b3_srPAD=1) b3_PAD=1.
IF (b3_surPAD=2 and b3_gpPAD le -1 and b3_srPAD=1) b3_PAD=1.
IF (b3_surPAD=2 and b3_gpPAD le -1 and b3_srPAD=0) b3_PAD=0.
IF (b3_surPAD=2 and b3_gpPAD le -1 and b3_srPAD le -1) b3_PAD=-1.
IF (b3_surPAD=2 and b3_gpPAD le -1 and b3_srPAD=2) b3_PAD=-1.
VARIABLE LABELS b3_PAD '3B wave algorithm: peripheral artery disease'.
VALUE LABELS b3_PAD
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

*********************CORONARY ARTERY DISEASE (CAD) at B*********************.
*CAD Selfreport surgery.
COMPUTE b3_surCAD=-3.
IF (bhart01 le -1) b3_surCAD=-1.
IF (bhart01=2 and bhart15 le -1) b3_surCAD=-1.
IF (bhart15b le -1 AND bhart15c le -1) b3_surCAD=-1.
IF (bhart15b=0 AND bhart15c=0) b3_surCAD=0.
IF (bhart15=1) b3_surCAD=0.
IF (bhart01=1) b3_surCAD=0.
IF (bhart15b=1 OR bhart15c=1) b3_surCAD=1.
VARIABLE LABELS b3_surCAD 'self reported surgery of coronary arteries'.
VALUE LABELS b3_surCAD
        -1 'missing'
        0 'no'
        1 'yes'.

*CAD selfreport (=Selfreport of AP or MI).
COMPUTE b3_srCAD=-5.
IF (bhart01 le -1) b3_srCAD=-1.
IF (b3_srMI=0 AND b3_srAP=2) b3_srCAD=-1.
IF (b3_srMI=0 AND b3_srAP le -1) b3_srCAD=-1.
IF (b3_srMI le -1 AND b3_srAP=0) b3_srCAD=-1.
IF (b3_srMI le -1 AND b3_srAP=2) b3_srCAD=-1.
IF (b3_srMI le -1 AND b3_srAP le -1) b3_srCAD=-1.
IF (b3_srMI=0 AND b3_srAP=0) b3_srCAD=0.
IF (bhart01=1) b3_srCAD=0.
IF (b3_srMI=1) b3_srCAD=1.
IF (b3_srAP=1) b3_srCAD=1.
VARIABLE LABELS b3_srCAD 'self report: myocardial infarction OR angina pectoris'.
VALUE LABELS b3_srCAD
        -1 'missing'
        0 'no'

1 'yes'.

*GP diagnosis of CAD (gp diagnosis of AP or MI).
COMPUTE b3_gpCAD=-5.
IF (b3_gpMI le -1 AND b3_gpAP=0) b3_gpCAD=-1.
IF (b3_gpMI=0 AND b3_gpAP le -1) b3_gpCAD=-1.
IF (b3_gpMI le -1 AND b3_gpAP le -1) b3_gpCAD=-1.
IF (b3_gpMI=0 AND b3_gpAP=0) b3_gpCAD=0.
IF (b3_gpMI=0 AND b3_gpAP=2) b3_gpCAD=2.
IF (b3_gpMI le -1 AND b3_gpAP=2) b3_gpCAD=2.
IF (b3_gpMI=2 AND b3_gpAP=0) b3_gpCAD=2.
IF (b3_gpMI=2 AND b3_gpAP=2) b3_gpCAD=2.
IF (b3_gpMI=2 AND b3_gpAP le -1) b3_gpCAD=2.
IF (b3_gpMI=1) b3_gpCAD=1.
IF (b3_gpAP=1) b3_gpCAD=1.
VARIABLE LABELS b3_gpCAD 'self report: myocardial infarction OR angina pectoris'.
VALUE LABELS b3_gpCAD
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*CAD algorithm: medication, GP diagnosis, SR and surgery combined.
COMPUTE b3_CAD=-3.
IF ((b3_mAP le 0 and b3_surCAD le 0) and b3_srMI le 0 and (b3_srAP le 0 or b3_srAP=2) and
b3_gpMI le 0) b3_CAD=0.
IF (b3_mAP le -1 and b3_surCAD le -1 and b3_srMI le -1 and b3_srAP le -1 and b3_gpAP le -1 and
b3_gpMI le -1) b3_CAD=-1.
IF (b3_mAP=0 and b3_surCAD=0 and b3_srMI=0 and b3_srAP=0 and b3_gpAP=0 and b3_gpMI=0)
b3_CAD=0.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_srAP=1 and (b3_srMI le 0 and b3_gpAP le 0 and
b3_gpMI le 0))) b3_CAD=3.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_srMI=1 and (b3_srAP le 0 and b3_gpAP le 0 and
b3_gpMI le 0))) b3_CAD=3.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpAP=1 and bgaps le 0 and (b3_gpMI le 0 or
b3_gpMI=2) and b3_srAP le 0 and b3_srMI le 0)) b3_CAD=3.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpMI=1 and bgmis le 0 and (b3_gpAP le 0 or
b3_gpAP=2) and b3_srAP le 0 and b3_srMI le 0)) b3_CAD=3.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_srAP=1 and (b3_srMI le -1 and b3_gpAP le -1 and
b3_gpMI le -1))) b3_CAD=2.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_srMI=1 and (b3_srAP le -1 and b3_gpAP le -1 and
b3_gpMI le -1))) b3_CAD=2.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpAP=1 and bgaps le 0 and b3_gpMI le -1 and b3_srAP
le -1 and b3_srMI le -1)) b3_CAD=2.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpMI=1 and bgmis le 0 and b3_gpAP le -1 and b3_srAP
le -1 and b3_srMI le -1)) b3_CAD=2.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpAP=2 and (b3_gpMI le 0 or b3_gpMI=2) and
(b3_srAP le 0 or b3_srAP=2) and b3_srMI le 0)) b3_CAD=0.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpMI=2 and (b3_gpAP le 0 or b3_gpAP=2) and
(b3_srAP le 0 or b3_srAP=2) and b3_srMI le 0)) b3_CAD=0.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpAP=2 and (b3_gpMI le -1 or b3_gpMI=2) and
(b3_srAP le -1 or b3_srAP=2) and b3_srMI le -1)) b3_CAD=-1.

IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpMI=2 and (b3_gpAP le -1 or b3_gpAP=2) and (b3_srAP le -1 or b3_srAP=2) and b3_srMI le -1)) b3_CAD=-1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_srAP=1 and (b3_srMI=1 OR b3_gpAP=1 OR b3_gpMI=1))) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_srMI=1 and (b3_srAP=1 OR b3_gpAP=1 OR b3_gpMI=1))) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpAP=1 and (bgaps=1))) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpMI=1 and (bgmis=1))) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpAP=1 and bgaps le 0) and (b3_srMI=1 or b3_srAP=1 or b3_gpMI=1)) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpMI=1 and bgmis le 0) and (b3_srMI=1 or b3_srAP=1 or b3_gpAP=1)) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_srAP=1 and b3_srMI le 0) and (b3_gpAP=2 or b3_gpMI=2)) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_srMI=1) and (b3_gpAP=2 or b3_srAP=2 or b3_gpMI=2)) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpAP=1 and b3_srMI le 0) and (b3_srAP=2 and b3_gpMI=2)) b3_CAD=1.
IF ((b3_mAP le 0 and b3_surCAD le 0) and (b3_gpMI=1 and b3_srMI le 0) and (b3_gpAP=2 or b3_srAP=2)) b3_CAD=1.
IF (b3_mAP=1 or b3_surCAD=1) b3_CAD=1.
VARIABLE LABELS b3_CAD '3B wave: coronary artery disease'.
VALUE LABELS b3_CAD
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

*******************************I wave****************.
*create a string variable that consists of the first 3 characters of the ATC code.
string i_3ATC1(a30).
COMPUTE i_3ATC1 = CHAR.SUBSTR(imatc1,1,3) .
string i_3ATC2(a30).
COMPUTE i_3ATC2 = CHAR.SUBSTR(imatc2,1,3) .
string i_3ATC3(a30).
COMPUTE i_3ATC3 = CHAR.SUBSTR(imatc3,1,3) .
string i_3ATC4(a30).
COMPUTE i_3ATC4 = CHAR.SUBSTR(imatc4,1,3) .
string i_3ATC5(a30).
COMPUTE i_3ATC5 = CHAR.SUBSTR(imatc5,1,3) .
string i_3ATC6(a30).
COMPUTE i_3ATC6 = CHAR.SUBSTR(imatc6,1,3) .
string i_3ATC7(a30).
COMPUTE i_3ATC7 = CHAR.SUBSTR(imatc7,1,3) .
string i_3ATC8(a30).
COMPUTE i_3ATC8 = CHAR.SUBSTR(imatc8,1,3) .
string i_3ATC9(a30).
COMPUTE i_3ATC9 = CHAR.SUBSTR(imatc9,1,3) .
string i_3ATC10(a30).
COMPUTE i_3ATC10 = CHAR.SUBSTR(imatc10,1,3) .
string i_3ATC11(a30).

```
COMPUTE i_3ATC11 = CHAR.SUBSTR(imatc11,1,3) .
string i_3ATC12(a30).
COMPUTE i_3ATC12 = CHAR.SUBSTR(imatc12,1,3) .
string i_3ATC13(a30).
COMPUTE i_3ATC13 = CHAR.SUBSTR(imatc13,1,3) .
string i_3ATC14(a30).
COMPUTE i_3ATC14 = CHAR.SUBSTR(imatc14,1,3) .
string i_3ATC15(a30).
COMPUTE i_3ATC15 = CHAR.SUBSTR(imatc15,1,3) .
string i_3ATC16(a30).
COMPUTE i_3ATC16 = CHAR.SUBSTR(imatc16,1,3) .
string i_3ATC17(a30).
COMPUTE i_3ATC17 = CHAR.SUBSTR(imatc17,1,3) .
string i_3ATC18(a30).
COMPUTE i_3ATC18 = CHAR.SUBSTR(imatc18,1,3) .
string i_3ATC19(a30).
COMPUTE i_3ATC19 = CHAR.SUBSTR(imatc19,1,3) .
string i_3ATC20(a30).
COMPUTE i_3ATC20 = CHAR.SUBSTR(imatc20,1,3) .
string i_3ATC21(a30).
COMPUTE i_3ATC21 = CHAR.SUBSTR(imatc21,1,3) .
string i_3ATC22(a30).
COMPUTE i_3ATC22 = CHAR.SUBSTR(imatc22,1,3) .
string i_3ATC23(a30).
COMPUTE i_3ATC23 = CHAR.SUBSTR(imatc23,1,3) .
string i_3ATC24(a30).
COMPUTE i_3ATC24 = CHAR.SUBSTR(imatc24,1,3) .
EXECUTE.

*create a string variable that consists of the first 4 characters of the ATC code.
string i_4ATC1(a30).
COMPUTE i_4ATC1 = CHAR.SUBSTR(imatc1,1,4) .
string i_4ATC2(a30).
COMPUTE i_4ATC2 = CHAR.SUBSTR(imatc2,1,4) .
string i_4ATC3(a30).
COMPUTE i_4ATC3 = CHAR.SUBSTR(imatc3,1,4) .
string i_4ATC4(a30).
COMPUTE i_4ATC4 = CHAR.SUBSTR(imatc4,1,4) .
string i_4ATC5(a30).
COMPUTE i_4ATC5 = CHAR.SUBSTR(imatc5,1,4) .
string i_4ATC6(a30).
COMPUTE i_4ATC6 = CHAR.SUBSTR(imatc6,1,4) .
string i_4ATC7(a30).
COMPUTE i_4ATC7 = CHAR.SUBSTR(imatc7,1,4) .
string i_4ATC8(a30).
COMPUTE i_4ATC8 = CHAR.SUBSTR(imatc8,1,4) .
string i_4ATC9(a30).
COMPUTE i_4ATC9 = CHAR.SUBSTR(imatc9,1,4) .
string i_4ATC10(a30).
COMPUTE i_4ATC10 = CHAR.SUBSTR(imatc10,1,4) .
string i_4ATC11(a30).
COMPUTE i_4ATC11 = CHAR.SUBSTR(imatc11,1,4) .
```

```
string i_4ATC12(a30).
COMPUTE i_4ATC12 = CHAR.SUBSTR(imatc12,1,4) .
string i_4ATC13(a30).
COMPUTE i_4ATC13 = CHAR.SUBSTR(imatc13,1,4) .
string i_4ATC14(a30).
COMPUTE i_4ATC14 = CHAR.SUBSTR(imatc14,1,4) .
string i_4ATC15(a30).
COMPUTE i_4ATC15 = CHAR.SUBSTR(imatc15,1,4) .
string i_4ATC16(a30).
COMPUTE i_4ATC16 = CHAR.SUBSTR(imatc16,1,4) .
string i_4ATC17(a30).
COMPUTE i_4ATC17 = CHAR.SUBSTR(imatc17,1,4) .
string i_4ATC18(a30).
COMPUTE i_4ATC18 = CHAR.SUBSTR(imatc18,1,4) .
string i_4ATC19(a30).
COMPUTE i_4ATC19 = CHAR.SUBSTR(imatc19,1,4) .
string i_4ATC20(a30).
COMPUTE i_4ATC20 = CHAR.SUBSTR(imatc20,1,4) .
string i_4ATC21(a30).
COMPUTE i_4ATC21 = CHAR.SUBSTR(imatc21,1,4) .
string i_4ATC22(a30).
COMPUTE i_4ATC22 = CHAR.SUBSTR(imatc22,1,4) .
string i_4ATC23(a30).
COMPUTE i_4ATC23 = CHAR.SUBSTR(imatc23,1,4) .
string i_4ATC24(a30).
COMPUTE i_4ATC24 = CHAR.SUBSTR(imatc24,1,4) .
EXECUTE.

*create a string variable that consists of the first 5 characters of the ATC code.
string i_5ATC1(a30).
COMPUTE i_5ATC1 = CHAR.SUBSTR(imatc1,1,5) .
string i_5ATC2(a30).
COMPUTE i_5ATC2 = CHAR.SUBSTR(imatc2,1,5) .
string i_5ATC3(a30).
COMPUTE i_5ATC3 = CHAR.SUBSTR(imatc3,1,5) .
string i_5ATC4(a30).
COMPUTE i_5ATC4 = CHAR.SUBSTR(imatc4,1,5) .
string i_5ATC5(a30).
COMPUTE i_5ATC5 = CHAR.SUBSTR(imatc5,1,5) .
string i_5ATC6(a30).
COMPUTE i_5ATC6 = CHAR.SUBSTR(imatc6,1,5) .
string i_5ATC7(a30).
COMPUTE i_5ATC7 = CHAR.SUBSTR(imatc7,1,5) .
string i_5ATC8(a30).
COMPUTE i_5ATC8 = CHAR.SUBSTR(imatc8,1,5) .
string i_5ATC9(a30).
COMPUTE i_5ATC9 = CHAR.SUBSTR(imatc9,1,5) .
string i_5ATC10(a30).
COMPUTE i_5ATC10 = CHAR.SUBSTR(imatc10,1,5) .
string i_5ATC11(a30).
COMPUTE i_5ATC11 = CHAR.SUBSTR(imatc11,1,5) .
string i_5ATC12(a30).
```

```
COMPUTE i_5ATC12 = CHAR.SUBSTR(imatc12,1,5) .
string i_5ATC13(a30).
COMPUTE i_5ATC13 = CHAR.SUBSTR(imatc13,1,5) .
string i_5ATC14(a30).
COMPUTE i_5ATC14 = CHAR.SUBSTR(imatc14,1,5) .
string i_5ATC15(a30).
COMPUTE i_5ATC15 = CHAR.SUBSTR(imatc15,1,5) .
string i_5ATC16(a30).
COMPUTE i_5ATC16 = CHAR.SUBSTR(imatc16,1,5) .
string i_5ATC17(a30).
COMPUTE i_5ATC17 = CHAR.SUBSTR(imatc17,1,5) .
string i_5ATC18(a30).
COMPUTE i_5ATC18 = CHAR.SUBSTR(imatc18,1,5) .
string i_5ATC19(a30).
COMPUTE i_5ATC19 = CHAR.SUBSTR(imatc19,1,5) .
string i_5ATC20(a30).
COMPUTE i_5ATC20 = CHAR.SUBSTR(imatc20,1,5) .
string i_5ATC21(a30).
COMPUTE i_5ATC21 = CHAR.SUBSTR(imatc21,1,5) .
string i_5ATC22(a30).
COMPUTE i_5ATC22 = CHAR.SUBSTR(imatc22,1,5) .
string i_5ATC23(a30).
COMPUTE i_5ATC23 = CHAR.SUBSTR(imatc23,1,5) .
string i_5ATC24(a30).
COMPUTE i_5ATC24 = CHAR.SUBSTR(imatc24,1,5) .
EXECUTE.


*create a variable: use of beta blocking agents (atc code C07, thus includes combination preparaten)
yes/no.
compute imed_beta=0.
If (imvar13 le -1) imed_beta=-1.
If (i_3ATC1='C07' OR i_3ATC2='C07' OR i_3ATC3='C07' OR i_3ATC4='C07' OR i_3ATC5='C07' OR
i_3ATC6='C07' OR
i_3ATC7='C07' OR i_3ATC8='C07' OR i_3ATC9='C07' OR i_3ATC10='C07' OR i_3ATC11='C07' OR
i_3ATC12='C07' OR i_3ATC13='C07' OR
i_3ATC14='C07' OR i_3ATC15='C07' OR i_3ATC16='C07' OR i_3ATC17='C07' OR i_3ATC18='C07' OR
i_3ATC19='C07' OR i_3ATC20='C07'  OR
i_3ATC21='C07' OR i_3ATC22='C07' OR i_3ATC23='C07' OR i_3ATC24='C07') imed_beta=1.
VARIABLE LABELS imed_beta 'use of beta blocking agents'.
VALUE LABELS   imed_beta
        -1 'missing'
        0 'no'
        1 'yes'.
EXECUTE.


*create a variable: use of anticoagulant drugs (vitamine K antagonists, DOACs, dabigatran (atc codes
B01AA, B01AF, B01AE)) yes/no.
compute imed_stolling=0.
If (imvar13 le -1) imed_stolling=-1.
If (i_5ATC1='B01AA' OR i_5ATC2='B01AA' OR i_5ATC3='B01AA' OR i_5ATC4='B01AA' OR
i_5ATC5='B01AA' OR i_5ATC6='B01AA' OR
```

i_5ATC7='B01AA' OR i_5ATC8='B01AA' OR i_5ATC9='B01AA' OR i_5ATC10='B01AA' OR
i_5ATC11='B01AA' OR i_5ATC12='B01AA' OR i_5ATC13='B01AA' OR
i_5ATC14='B01AA' OR i_5ATC15='B01AA' OR i_5ATC16='B01AA' OR i_5ATC17='B01AA' OR
i_5ATC18='B01AA' OR i_5ATC19='B01AA' OR i_5ATC20='B01AA' OR
i_5ATC21='B01AA' OR i_5ATC22='B01AA' OR i_5ATC23='B01AA' OR i_5ATC24='B01AA')
imed_stolling=1.
If (i_5ATC1='B01AF' OR i_5ATC2='B01AF' OR i_5ATC3='B01AF' OR i_5ATC4='B01AF' OR
i_5ATC5='B01AF' OR i_5ATC6='B01AF' OR
i_5ATC7='B01AF' OR i_5ATC8='B01AF' OR i_5ATC9='B01AF' OR i_5ATC10='B01AF' OR
i_5ATC11='B01AF' OR i_5ATC12='B01AF' OR i_5ATC13='B01AF' OR
i_5ATC14='B01AF' OR i_5ATC15='B01AF' OR i_5ATC16='B01AF' OR i_5ATC17='B01AF' OR
i_5ATC18='B01AF' OR i_5ATC19='B01AF' OR i_5ATC20='B01AF' OR
i_5ATC21='B01AF' OR i_5ATC22='B01AF' OR i_5ATC23='B01AF' OR i_5ATC24='B01AF')
imed_stolling=1.
If (i_5ATC1='B01AE' OR i_5ATC2='B01AE' OR i_5ATC3='B01AE' OR i_5ATC4='B01AE' OR
i_5ATC5='B01AE' OR i_5ATC6='B01AE' OR
i_5ATC7='B01AE' OR i_5ATC8='B01AE' OR i_5ATC9='B01AE' OR i_5ATC10='B01AE' OR
i_5ATC11='B01AE' OR i_5ATC12='B01AE' OR i_5ATC13='B01AE' OR
i_5ATC14='B01AE' OR i_5ATC15='B01AE' OR i_5ATC16='B01AE' OR i_5ATC17='B01AE' OR
i_5ATC18='B01AE' OR i_5ATC19='B01AE' OR i_5ATC20='B01AE' OR
i_5ATC21='B01AE' OR i_5ATC22='B01AE' OR i_5ATC23='B01AE' OR i_5ATC24='B01AE')
imed_stolling=1.
VARIABLE LABELS imed_stolling 'use of anticoagulants'.
VALUE LABELS   imed_stolling
        -1 'missing'
        0 'no'
        1 'yes'.
EXECUTE.

*combining anticoagulants and betablocking agents: use of both, yes/no.
compute imed_stol_beta=-3.
If (imed_stolling=-1) imed_stol_beta=-1.
If (imed_stolling=1 and imed_beta=1) imed_stol_beta=1.
If (imed_stolling=0 or imed_beta=0) imed_stol_beta=0.
VARIABLE LABELS imed_stol_beta 'use of both beta blocking agent AND anticoagulantia'.
VALUE LABELS   imed_stol_beta
        -1 'missing'
        0 'no'
        1 'yes'.
EXECUTE.

*some diuretics are combination preps and therefore (incorrectly) not included in the diuretics
variable.
*C07B C07C C07D C02L C09B C09D C08G
C09AX C09CX C01AA.

*C07B C07C C07D C02L C09B C09D C08G .
If (i_4ATC1='C07B' OR i_4ATC2='C07B' OR i_4ATC3='C07B' OR i_4ATC4='C07B' OR i_4ATC5='C07B' OR
i_4ATC6='C07B' OR
i_4ATC7='C07B' OR i_4ATC8='C07B' OR i_4ATC9='C07B' OR i_4ATC10='C07B' OR i_4ATC11='C07B' OR
i_4ATC12='C07B' OR i_4ATC13='C07B' OR

i_4ATC14='C07B' OR i_4ATC15='C07B' OR i_4ATC16='C07B' OR i_4ATC17='C07B' OR i_4ATC18='C07B' OR i_4ATC19='C07B' OR i_4ATC20='C07B' OR
i_4ATC21='C07B' OR i_4ATC22='C07B' OR i_4ATC23='C07B' OR i_4ATC24='C07B') imed_diu=1.
If (i_4ATC1='C07C' OR i_4ATC2='C07C' OR i_4ATC3='C07C' OR i_4ATC4='C07C' OR i_4ATC5='C07C' OR i_4ATC6='C07C' OR
i_4ATC7='C07C' OR i_4ATC8='C07C' OR i_4ATC9='C07C' OR i_4ATC10='C07C' OR i_4ATC11='C07C' OR i_4ATC12='C07C' OR i_4ATC13='C07C' OR
i_4ATC14='C07C' OR i_4ATC15='C07C' OR i_4ATC16='C07C' OR i_4ATC17='C07C' OR i_4ATC18='C07C' OR i_4ATC19='C07C' OR i_4ATC20='C07C' OR
i_4ATC21='C07C' OR i_4ATC22='C07C' OR i_4ATC23='C07C' OR i_4ATC24='C07C') imed_diu=1.
If (i_4ATC1='C07D' OR i_4ATC2='C07D' OR i_4ATC3='C07D' OR i_4ATC4='C07D' OR i_4ATC5='C07D' OR i_4ATC6='C07D' OR
i_4ATC7='C07D' OR i_4ATC8='C07D' OR i_4ATC9='C07D' OR i_4ATC10='C07D' OR i_4ATC11='C07D' OR i_4ATC12='C07D' OR i_4ATC13='C07D' OR
i_4ATC14='C07D' OR i_4ATC15='C07D' OR i_4ATC16='C07D' OR i_4ATC17='C07D' OR i_4ATC18='C07D' OR i_4ATC19='C07D' OR i_4ATC20='C07D' OR
i_4ATC21='C07D' OR i_4ATC22='C07D' OR i_4ATC23='C07D' OR i_4ATC24='C07D') imed_diu=1.
If (i_4ATC1='C02L' OR i_4ATC2='C02L' OR i_4ATC3='C02L' OR i_4ATC4='C02L' OR i_4ATC5='C02L' OR i_4ATC6='C02L' OR
i_4ATC7='C02L' OR i_4ATC8='C02L' OR i_4ATC9='C02L' OR i_4ATC10='C02L' OR i_4ATC11='C02L' OR i_4ATC12='C02L' OR i_4ATC13='C02L' OR
i_4ATC14='C02L' OR i_4ATC15='C02L' OR i_4ATC16='C02L' OR i_4ATC17='C02L' OR i_4ATC18='C02L' OR i_4ATC19='C02L' OR i_4ATC20='C02L' OR
i_4ATC21='C02L' OR i_4ATC22='C02L' OR i_4ATC23='C02L' OR i_4ATC24='C02L') imed_diu=1.
If (i_4ATC1='C09B' OR i_4ATC2='C09B' OR i_4ATC3='C09B' OR i_4ATC4='C09B' OR i_4ATC5='C09B' OR i_4ATC6='C09B' OR
i_4ATC7='C09B' OR i_4ATC8='C09B' OR i_4ATC9='C09B' OR i_4ATC10='C09B' OR i_4ATC11='C09B' OR i_4ATC12='C09B' OR i_4ATC13='C09B' OR
i_4ATC14='C09B' OR i_4ATC15='C09B' OR i_4ATC16='C09B' OR i_4ATC17='C09B' OR i_4ATC18='C09B' OR i_4ATC19='C09B' OR i_4ATC20='C09B' OR
i_4ATC21='C09B' OR i_4ATC22='C09B' OR i_4ATC23='C09B' OR i_4ATC24='C09B') imed_diu=1.
If (i_4ATC1='C09D' OR i_4ATC2='C09D' OR i_4ATC3='C09D' OR i_4ATC4='C09D' OR i_4ATC5='C09D' OR i_4ATC6='C09D' OR
i_4ATC7='C09D' OR i_4ATC8='C09D' OR i_4ATC9='C09D' OR i_4ATC10='C09D' OR i_4ATC11='C09D' OR i_4ATC12='C09D' OR i_4ATC13='C09D' OR
i_4ATC14='C09D' OR i_4ATC15='C09D' OR i_4ATC16='C09D' OR i_4ATC17='C09D' OR
i_4ATC18='C09D' OR i_4ATC19='C09D' OR i_4ATC20='C09D' OR
i_4ATC21='C09D' OR i_4ATC22='C09D' OR i_4ATC23='C09D' OR i_4ATC24='C09D') imed_diu=1.
If (i_4ATC1='C08G' OR i_4ATC2='C08G' OR i_4ATC3='C08G' OR i_4ATC4='C08G' OR i_4ATC5='C08G' OR i_4ATC6='C08G' OR
i_4ATC7='C08G' OR i_4ATC8='C08G' OR i_4ATC9='C08G' OR i_4ATC10='C08G' OR i_4ATC11='C08G' OR i_4ATC12='C08G' OR i_4ATC13='C08G' OR
i_4ATC14='C08G' OR i_4ATC15='C08G' OR i_4ATC16='C08G' OR i_4ATC17='C08G' OR
i_4ATC18='C08G' OR i_4ATC19='C08G' OR i_4ATC20='C08G' OR
i_4ATC21='C08G' OR i_4ATC22='C08G' OR i_4ATC23='C08G' OR i_4ATC24='C08G') imed_diu=1.
EXECUTE.

*C09AX C09CX C01AA.
If (i_5ATC1='C09AX' OR i_5ATC2='C09AX' OR i_5ATC3='C09AX' OR i_5ATC4='C09AX' OR
i_5ATC5='C09AX' OR i_5ATC6='C09AX' OR
i_5ATC7='C09AX' OR i_5ATC8='C09AX' OR i_5ATC9='C09AX' OR i_5ATC10='C09AX' OR
i_5ATC11='C09AX' OR i_5ATC12='C09AX' OR i_5ATC13='C09AX' OR

i_5ATC14='C09AX' OR i_5ATC15='C09AX' OR i_5ATC16='C09AX' OR i_5ATC17='C09AX' OR
i_5ATC18='C09AX' OR i_5ATC19='C09AX' OR i_5ATC20='C09AX' OR
i_5ATC21='C09AX' OR i_5ATC22='C09AX' OR i_5ATC23='C09AX' OR i_5ATC24='C09AX') imed_diu=1.
If (i_5ATC1='C09CX' OR i_5ATC2='C09CX' OR i_5ATC3='C09CX' OR i_5ATC4='C09CX' OR
i_5ATC5='C09CX' OR i_5ATC6='C09CX' OR
i_5ATC7='C09CX' OR i_5ATC8='C09CX' OR i_5ATC9='C09CX' OR i_5ATC10='C09CX' OR
i_5ATC11='C09CX' OR i_5ATC12='C09CX' OR i_5ATC13='C09CX' OR
i_5ATC14='C09CX' OR i_5ATC15='C09CX' OR i_5ATC16='C09CX' OR i_5ATC17='C09CX' OR
i_5ATC18='C09CX' OR i_5ATC19='C09CX' OR i_5ATC20='C09CX' OR
i_5ATC21='C09CX' OR i_5ATC22='C09CX' OR i_5ATC23='C09CX' OR i_5ATC24='C09CX') imed_diu=1.
If (i_5ATC1='C01AA' OR i_5ATC2='C01AA' OR i_5ATC3='C01AA' OR i_5ATC4='C01AA' OR
i_5ATC5='C01AA' OR i_5ATC6='C01AA' OR
i_5ATC7='C01AA' OR i_5ATC8='C01AA' OR i_5ATC9='C01AA' OR i_5ATC10='C01AA' OR
i_5ATC11='C01AA' OR i_5ATC12='C01AA' OR i_5ATC13='C01AA' OR
i_5ATC14='C01AA' OR i_5ATC15='C01AA' OR i_5ATC16='C01AA' OR i_5ATC17='C01AA' OR
i_5ATC18='C01AA' OR i_5ATC19='C01AA' OR i_5ATC20='C01AA' OR
i_5ATC21='C01AA' OR i_5ATC22='C01AA' OR i_5ATC23='C01AA' OR i_5ATC24='C01AA') imed_diu=1.
EXECUTE.

******************year of interview (2015 or 2016).
COMPUTE t9_year=XDATE.YEAR(t9_dat).
VARIABLE LABELS t9_year "LASA main interview year (w9)".
VARIABLE LEVEL t9_year(SCALE).
FORMATS t9_year(F8.0).
VARIABLE WIDTH t9_year(8).
EXECUTE.

*****************ARRHYTHMIA (ARI) at I*****************.
*Selfreport surgery implantation of pacemaker.
COMPUTE i_surARI=-3.
IF (ihart15d le -1) i_surARI=-1.
IF (ihart01 le -1) i_surARI=-1.
IF (ihart15 le -1) i_surARI=-1.
IF (ihart01=0 or ihart01=1) i_surARI=0.
IF (ihart15d=0) i_surARI=0.
IF (ihart15=1) i_surARI=0.
IF (ihart15d=1) i_surARI=1.
VARIABLE LABELS i_surARI 'self report surgery: pacemaker'.
VALUE LABELS i_surARI
        -1 'missing'
        0 'no'
        1 'yes'.

*use of anti arrythmic medication.
RECODE imed_ARI (0=0) (1=1) (SYSMIS=-1) (-9=-1) (ELSE=copy) INTO i_mARI.
IF (imed_ino=1) i_mARI=1.
IF (imvar13=1) i_mARI=0.
IF (imvar13 le -1) i_mARI=-1.
VARIABLE LABELS i_mARI 'use of antiarrhythmics'.
VALUE LABELS i_mARI
        -1 'missing'

```
        0 'no'
        1 'yes'.


*GP diagnosis of ARI.
COMPUTE i_gpARI=-3.
IF (bgarrth le -1) i_gpARI=-1.
IF (t9_year le -1) i_gpARI=-1.
IF (bgarrth=0) i_gpARI=0.
IF (bgarrth=1 and bgarrthy ge 9) i_gpARI=0.
IF (bgarrth=1 and bgarrthy ge 8 and t9_year=2015) i_gpARI=0.
IF (bgarrth=1 and (bgarrthy ge 1 and bgarrthy le 7)) i_gpARI=1.
IF (bgarrth=1 and (bgarrthy=8 and t9_YEAR=2016)) i_gpARI=1.
IF (bgarrth=1 and bgarrthy le -1) i_gpARI=2.
IF (bgarrth=1 and bgarrthy=1) i_gpARI=1.
VARIABLE LABELS i_gpARI 'gp diagnosis: cardiac arrhythmia'.
VALUE LABELS i_gpARI
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.


*ARI algorithm: medication, GP diagnosis and SR implantation of pacemaker combined.
compute i_alg_ARI=-3.
IF (i_mARI=1) i_alg_ARI=1.
IF (i_mARI=0 and i_gpARI=1 and (imed_stol_beta=1)) i_alg_ARI=1.
IF (i_mARI=0 and i_gpARI=1 and (imed_stol_beta=0) and (bgarrths=1)) i_alg_ARI=1.
IF (i_mARI=0 and i_gpARI=1 and (imed_stol_beta=0) and bgarrths le 0 and i_surARI=1) i_alg_ARI=1.
IF (i_mARI=0 and i_gpARI=1 and (imed_stol_beta=0) and bgarrths le 0 and i_surARI le 0) i_alg_ARI=2.
IF (i_mARI=0 and i_gpARI=0 and i_surARI=1) i_alg_ARI=3.
IF (i_mARI=0 and i_gpARI=0 and i_surARI le 0) i_alg_ARI=0.
IF (i_mARI=0 and i_gpARI=2 and (imed_stol_beta=1)) i_alg_ARI=1.
IF (i_mARI=0 and i_gpARI=2 and (imed_stol_beta=0) and i_surARI=1) i_alg_ARI=1.
IF (i_mARI=0 and i_gpARI=2 and (imed_stol_beta=0) and i_surARI le 0) i_alg_ARI=0.
IF (i_mARI=0 and i_gpARI=2 and (imed_stol_beta=0) and i_surARI le -1) i_alg_ARI=0.
IF (i_mARI=0 and i_gpARI=-1 and i_surARI=1) i_alg_ARI=2.
IF (i_mARI=0 and i_gpARI=-1 and (imed_stol_beta=0) and i_surARI=0) i_alg_ARI=0.
IF (i_mARI=0 and i_gpARI=-1 and (imed_stol_beta=0) and i_surARI le -1) i_alg_ARI=-1.
IF (i_mARI=0 and i_gpARI=-1 and (imed_stol_beta=1) and i_surARI le 0) i_alg_ARI=-1.
IF (i_mARI le -1 and i_gpARI=1 and (bgarrths=1)) i_alg_ARI=1.
IF (i_mARI le -1 and i_gpARI=1 and bgarrths le 0 and i_surARI=1) i_alg_ARI=1.
IF (i_mARI le -1 and i_gpARI=1 and bgarrths le 0 and i_surARI le 0) i_alg_ARI=2.
IF (i_mARI le -1 and i_gpARI=0 and i_surARI=1) i_alg_ARI=3.
IF (i_mARI le -1 and i_gpARI=0 and i_surARI le 0) i_alg_ARI=0.
IF (i_mARI le -1 and i_gpARI=2 and i_surARI=1) i_alg_ARI=1.
IF (i_mARI le -1 and i_gpARI=2 and i_surARI le 0) i_alg_ARI=-1.
IF (i_mARI le -1 and i_gpARI le -1 and i_surARI=1) i_alg_ARI=2.
IF (i_mARI le -1 and i_gpARI le -1 and i_surARI le 0) i_alg_ARI=-1.
IF (i_alg_ARI=-1 and (itrhart1=0 or itphart1=0)) i_alg_ARI=0.
VARIABLE LABELS i_alg_ARI 'I wave: arrhythmia'.
VALUE LABELS i_alg_ARI
        -1 'missing'
        0 'no'
```

1 'definite'
        2 'possible'
        3 'contradictory'.

**********************CEREBROVASCULAR ACCIDENT (CVA) at I*****************.
*Selfreport diagnosis of CVA.
COMPUTE i_srCVA=-3.
IF (icva01=2 or icva01=3) i_srCVA=1.
IF (icva01=0 or icva01=1) i_srCVA=0.
IF (itpcva01=1) i_srCVA=1.
IF (itpcva01=0) i_srCVA=0.
IF (itrcva01=1) i_srCVA=1.
IF (itrcva01=0) i_srCVA=0.
IF (icva01 le -1 and itpcva01 le -1 and itrcva01 le -1) i_srCVA=-1.
VARIABLE LABELS i_srCVA 'self report: CVA'.
VALUE LABELS i_srCVA
        -1 'missing'
        0 'no'
        1 'yes'.

*GP diagnosis of CVA.
COMPUTE i_gpCVA=-3.
IF (bgcva le -1) i_gpCVA=-1.
IF (t9_year le -1) i_gpCVA=-1.
IF (bgcva=0) i_gpCVA=0.
IF (bgcva=1 and bgcvay ge 9) i_gpCVA=0.
IF (bgcva=1 and bgcvay ge 8 and t9_year=2015) i_gpCVA=0.
IF (bgcva=1 and (bgcvay ge 1 and bgcvay le 7)) i_gpCVA=1.
IF (bgcva=1 and (bgcvay=8 and t9_YEAR=2016)) i_gpCVA=1.
IF (bgcva=1 and bgcvay le -1) i_gpCVA=2.
IF (bgcva=1 and bgcvay=1) i_gpCVA=1.
VARIABLE LABELS i_gpCVA 'gp diagnosis: CVA'.
VALUE LABELS i_gpCVA
        -2 'dropout'
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*CVA algorithm: GP diagnosis and SR combined.
COMPUTE i_alg_CVA=-3.
IF (i_gpCVA=1 and (bgcvas=1)) i_alg_CVA=1.
IF (i_gpCVA=1 and bgcvas le 0 and i_srCVA=1) i_alg_CVA=1.
IF (i_gpCVA=1 and bgcvas le 0 and i_srCVA=0) i_alg_CVA=3.
IF (i_gpCVA=1 and bgcvas le 0 and i_srCVA le -1) i_alg_CVA=2.
IF (i_gpCVA=0 and i_srCVA=1) i_alg_CVA=3.
IF (i_gpCVA=0 and i_srCVA=0) i_alg_CVA=0.
IF (i_gpCVA=0 and i_srCVA le -1) i_alg_CVA=0.
IF (i_gpCVA=2 and i_srCVA=1) i_alg_CVA=1.
IF (i_gpCVA=2 and i_srCVA=0) i_alg_CVA=0.
IF (i_gpCVA=2 and i_srCVA le -1) i_alg_CVA=-1.
IF (i_gpCVA le -1 and i_srCVA=1) i_alg_CVA=2.

IF (i_gpCVA le -1 and i_srCVA=0) i_alg_CVA=0.
IF (i_gpCVA le -1 and i_srCVA le -1) i_alg_CVA=-1.
VARIABLE LABELS i_alg_CVA 'I wave: cerebrovascular accident'.
VALUE LABELS i_alg_CVA
          -1 'missing'
          0 'no'
          1 'definite'
          2 'possible'
          3 'contradictory'.

**********************MYOCARDIAL INFARCTION (MI) at I*********************.
*Selfreport diagnosis of MI.
COMPUTE i_srMI=-5.
IF (ihart01 le -1) i_srMI=-1.
IF ((ihart01=2 or ihart01=3) and ihart05 le -1) i_srMI=-1.
IF (ihart05=1) i_srMI=0.
IF (ihart01=0 or ihart01=1) i_srMI=0.
IF (ihart05=2) i_srMI=1.
IF (itphart1=0 or itrhart1=0) i_srMI=0.
VARIABLE LABELS i_srMI 'self report: myocardial infarction'.
VALUE LABELS i_srMI
          -1 'missing'
          0 'no'
          1 'yes'.

*GP diagnosis of MI.
COMPUTE i_gpmi=-3.
IF (bgmiy le -1) i_gpMI=-1.
IF (t9_year le -1) i_gpMI=-1.
IF (bgmi=0) i_gpMI=0.
IF (bgmi=1 and bgmiy ge 9) i_gpMI=0.
IF (bgmi=1 and bgmiy ge 8 and t9_year=2015) i_gpMI=0.
IF (bgmi=1 and (bgmiy ge 1 and bgmiy le 7)) i_gpMI=1.
IF (bgmi=1 and (bgmiy=8 and t9_YEAR=2016)) i_gpMI=1.
IF (bgmi=1 and bgmiy le -1) i_gpMI=2.
IF (bgmi=1 and bgmiy=1) i_gpMI=1.
VARIABLE LABELS i_gpMI 'gp diagnosis: MI'.
VALUE LABELS i_gpMI
          -2 'dropout'
          -1 'missing'
          0 'no'
          1 'yes'
          2 'diagnose = yes, but year = missing'.

*MI algorithm: GP diagnosis and SR combined.
COMPUTE i_alg_MI=-3.
IF (i_gpMI=1 and (bgmis=1)) i_alg_MI=1.
IF (i_gpMI=1 and bgmis le 0 and i_srMI=1) i_alg_MI=1.
IF (i_gpMI=1 and bgmis le 0 and i_srMI=0) i_alg_MI=3.
IF (i_gpMI=1 and bgmis le 0 and i_srMI le -1) i_alg_MI=2.
IF (i_gpMI=0 and i_srMI=1) i_alg_MI=3.

IF (i_gpMI=0 and i_srMI=0) i_alg_MI=0.
IF (i_gpMI=0 and i_srMI le -1) i_alg_MI=0.
IF (i_gpMI=2 and i_srMI=1) i_alg_MI=1.
IF (i_gpMI=2 and i_srMI=0) i_alg_MI=0.
IF (i_gpMI=2 and i_srMI le -1) i_alg_MI=-1.
IF (i_gpMI le -1 and i_srMI=1) i_alg_MI=2.
IF (i_gpMI le -1 and i_srMI=0) i_alg_MI=0.
IF (i_gpMI le -1 and i_srMI le -1) i_alg_MI=-1.
VARIABLE LABELS i_alg_MI 'I wave: myocardial infarction'.
VALUE LABELS i_alg_MI
         -1 'missing'
         0 'no'
         1 'definite'
         2 'possible'
         3 'contradictory'.

*********************ANGINA PECTORIS (AP) at I*********************.
*Selfreport diagnosis of AP.
COMPUTE i_srAP=-5.
IF (ihart01 le -1) i_srAP=-1.
IF ((ihart01=2 or ihart01=3) and ihart10 le -1) i_srAP=-1.
IF (ihart01=0 or ihart01=1) i_srAP=0.
IF (ihart11=1 or idiabe12=1) i_srAP=0.
if (((ihart01=2 or ihart01=3) and ihart10=1) OR ((idiabe01=2 or idiabe01=3) and idiabe11=1))
i_srAP=0.
IF (((ihart01=2 or ihart01=3) and ihart10 ge 4) OR ((idiabe01=2 or idiabe01=3) and idiabe11 ge 4))
i_srAP=0.
IF (((ihart01=2 or ihart01=3) and ihart10=2 and ihart11 le -1) OR ((idiabe01=2 or idiabe01=3) and
idiabe11=2 and idiabe12 le -1)) i_srAP=2.
IF (ihart11=2 or idiabe12=2) i_srAP=1.
IF (ihart10=3 or idiabe11=3) i_srAP=1.
IF (itphart1=0 or itrhart1=0) i_srAP=0.
VARIABLE LABELS i_srAP 'self report: angina pectoris'.
VALUE LABELS i_srAP
         -1 'missing'
         0 'no'
         1 'yes'
         2 'possible'.

*GP diagnosis of AP.
COMPUTE i_gpAP=-3.
IF (bgap le -1) i_gpAP=-1.
IF (t9_year le -1) i_gpAP=-1.
IF (bgap=0) i_gpAP=0.
IF (bgap=1 and bgapy ge 9) i_gpAP=0.
IF (bgap=1 and bgapy ge 8 and t9_year=2015) i_gpAP=0.
IF (bgap=1 and (bgapy ge 1 and bgapy le 7)) i_gpAP=1.
IF (bgap=1 and (bgapy=8 and t9_YEAR=2016)) i_gpAP=1.
IF (bgap=1 and bgapy le -1) i_gpAP=2.
IF (bgap=1 and bgapy=1) i_gpAP=1.
VARIABLE LABELS i_gpAP 'gp diagnosis: angina pectoris'.

VALUE LABELS i_gpAP
        -2 'dropout'
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*use of AP medication: nitrates.
RECODE imed_ang (0=0) (1=1) (SYSMIS=-1) (-9=-1) (ELSE=copy) INTO i_mAP.
IF (imvar13 le -1) i_mAP=-1.
IF (imvar13=1) i_mAP=0.
VARIABLE LABELS i_mAP 'use of nitrates'.
VALUE LABELS i_mAP
        -1 'missing'
        0 'no'
        1 'yes'.

*AP algorithm: medication, GP diagnosis and SR combined.
COMPUTE i_alg_AP=-3.
IF (i_mAP=1) i_alg_AP=1.
IF (i_mAP le 0 and i_srAP=1 and i_gpAP=1) i_alg_AP=1.
IF (i_mAP le 0 and i_srAP=1 and i_gpAP=0) i_alg_AP=3.
IF (i_mAP le 0 and i_srAP=1 and i_gpap=2) i_alg_AP=1.
IF (i_mAP le 0 and i_srAP=1 and i_gpAP le -1) i_alg_AP=2.
IF (i_mAP le 0 and i_srAP=0 and i_gpAP=1 and (bgaps=1)) i_alg_AP=1.
IF (i_mAP le 0 and i_srAP=0 and i_gpAP=1 and bgaps le 0) i_alg_AP=3.
IF (i_mAP le 0 and i_srAP=0 and i_gpAP=0) i_alg_AP=0.
IF (i_mAP le 0 and i_srAP=0 and i_gpap=2) i_alg_AP=0.
IF (i_mAP le 0 and i_srAP=0 and i_gpAP le -1) i_alg_AP=0.
IF (i_mAP le 0 and i_srAP=2 and i_gpAP=1) i_alg_AP=1.
IF (i_mAP le 0 and i_srAP=2 and i_gpAP=0) i_alg_AP=0.
IF (i_mAP le 0 and i_srAP=2 and i_gpAP=2) i_alg_AP=-1.
IF (i_mAP le 0 and i_srAP=2 and i_gpap=-1) i_alg_AP=-1.
IF (i_mAP le 0 and i_srAP le -1 and i_gpAP=1 and (bgaps=1)) i_alg_AP=1.
IF (i_mAP le 0 and i_srAP le -1 and i_gpAP=1 and bgaps le 0) i_alg_AP=2.
IF (i_mAP le 0 and i_srAP le -1 and i_gpAP=0) i_alg_AP=0.
IF (i_mAP le 0 and i_srAP le -1 and i_gpap=2) i_alg_AP=-1.
IF (i_mAP le 0 and i_srAP le -1 and i_gpAP le -1) i_alg_AP=-1.
VARIABLE LABELS i_alg_AP 'I wave: angina pectoris'.
VALUE LABELS i_alg_AP
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

*********************CONGESTIVE HEART FAILURE (CHF) at I*********************.
*Selfreport diagnosis of CHF.
COMPUTE i_srCHF=-3.
IF (ihart01 le -1) i_srCHF=-1.
IF ((ihart01=2 or ihart01=3) and ihart12 le -1) i_srCHF=-1.
IF (ihart01=0 or ihart01=1) i_srCHF=0.

IF ((ihart01=2 or ihart01=3) and ihart12=1) i_srCHF=0.
IF ((ihart01=2 or ihart01=3) and ihart12=2) i_srCHF=1.
IF (itphart1=0 or itrhart1=0) i_srCHF=0.
VARIABLE LABELS i_srCHF 'self reported diagnosis of congestive heart failure'.
VALUE LABELS i_srCHF
        -1 'missing'
        0 'no'
        1 'yes'.

*GP diagnosis of CHF.
COMPUTE i_gpCHF=-3.
IF (bgchf le -1) i_gpCHF=-1.
IF (t9_year le -1) i_gpCHF=-1.
IF (bgchf=0) i_gpCHF=0.
IF (bgchf=1 and bgchfy ge 9) i_gpCHF=0.
IF (bgchf=1 and bgchfy ge 8 and t9_year=2015) i_gpCHF=0.
IF (bgchf=1 and (bgchfy ge 1 and bgchfy le 7)) i_gpCHF=1.
IF (bgchf=1 and (bgchfy=8 and t9_YEAR=2016)) i_gpCHF=1.
IF (bgchf=1 and bgchfy le -1) i_gpCHF=2.
IF (bgchf=1 and bgchfy=1) i_gpCHF=1.
VARIABLE LABELS i_gpCHF 'gp diagnosis: congestive heart failure'.
VALUE LABELS i_gpCHF
        -2 'dropout'
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*CHF medication: diuretics, antihypertensives, nitrates, inotropics, beta blocking agents.
compute i_mCHF=0.
if (imed_diu=1 and (imed_hyp=1 or imed_ang=1 or imed_ino=1 or imed_beta=1)) i_mCHF=1.
IF (imvar13 le -1) i_mCHF=-1.
IF (imvar13=1) i_mCHF=0.
VARIABLE LABELS i_mCHF 'medication for congestive heart failure'.
VALUE LABELS i_mCHF
        -1 'missing'
        0 'no'
        1 'yes'.

*CHF algorithm: medication, GP diagnosis and SR combined.
COMPUTE i_alg_CHF=-3.
IF (i_gpCHF=1 and (bgchfs=1)) i_alg_CHF=1.
IF (i_gpCHF=1 and bgchfs le 0 and i_srCHF=1) i_alg_CHF=1.
IF (i_gpCHF=1 and bgchfs le 0 and i_srCHF le 0 and i_mCHF=1) i_alg_CHF=1.
IF (i_gpCHF=1 and bgchfs le 0 and i_srCHF=0 and i_mCHF=0) i_alg_CHF=2.
IF (i_gpCHF=1 and bgchfs le 0 and i_srCHF le 0 and i_mCHF le -1) i_alg_CHF=2.
IF (i_gpCHF=1 and bgchfs le 0 and i_srCHF le -1 and i_mCHF le 0) i_alg_CHF=2.
IF (i_gpCHF=0 and i_srCHF=1 and i_mCHF=1) i_alg_CHF=1.
IF (i_gpCHF=0 and i_srCHF=1 and i_mCHF le 0) i_alg_CHF=2.
IF (i_gpCHF=0 and i_srCHF le 0 and i_mCHF=1) i_alg_CHF=3.
IF (i_gpCHF=0 and i_srCHF le 0 and i_mCHF le 0) i_alg_CHF=0.
IF (i_gpCHF=2 and i_srCHF=1) i_alg_CHF=1.

IF (i_gpCHF=2 and i_srCHF le 0 and i_mCHF=1) i_alg_CHF=1.
IF (i_gpCHF=2 and i_srCHF le 0 and i_mCHF le 0) i_alg_CHF=0.
IF (i_gpCHF=2 and i_srCHF=0 and i_mCHF=-1) i_alg_CHF=-1.
IF (i_gpCHF=2 and i_srCHF le -1 and i_mCHF le -1) i_alg_CHF=-1.
IF (i_gpCHF le -1 and i_srCHF=1 and i_mCHF=1) i_alg_CHF=1.
IF (i_gpCHF le -1 and i_srCHF=1 and i_mCHF le 0) i_alg_CHF=2.
IF (i_gpCHF le -1 and i_srCHF=0 and i_mCHF=1) i_alg_CHF=2.
IF (i_gpCHF le -1 and i_srCHF=0 and i_mCHF le 0) i_alg_CHF=0.
IF (i_gpCHF le -1 and i_srCHF le -1 and i_mCHF=1) i_alg_CHF=2.
IF (i_gpCHF le -1 and i_srCHF le -1 and i_mCHF=0) i_alg_CHF=0.
IF (i_gpCHF le -1 and i_srCHF le -1 and i_mCHF le -1) i_alg_CHF=-1.
VARIABLE LABELS i_alg_CHF 'I wave: congestive heart failure'.
VALUE LABELS i_alg_CHF
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

**********************PERIPHERAL ARTERIAL DISEASE (PAD) at I*********************.
*Selfreport diagnosis of PAD.
COMPUTE i_srPAD=-5.
IF (iartvei1 le -1) i_srPAD=-1.
IF ((iartvei1=2 or iartvei1=3) and iartvei5 le -1) i_srPAD=-1.
IF (iartvei1=0 or iartvei1=1) i_srPAD=0.
IF (iartvei7=1 or idiabe09=1) i_srPAD=0.
IF (iartvei5=1 or idiabe07=1) i_srPAD=0.
IF ((iartvei5=2 and iartvei7 le -1) or (idiabe07=2 and idiabe09 le -1)) i_srPAD=2.
IF (iartvei7=2 or idiabe09=2) i_srPAD=1.
IF (itpartv1=0 OR itrartv1=0) i_srPAD=0.
IF (itpartv1=1 OR itrartv1=1) i_srPAD=2.
IF (iartvei1 le -1 and itpartv1 le -1 and itrartv1 le -1) i_srPAD=-1.
VARIABLE LABELS i_srPAD 'self reported diagnosis of peripheral artery disease'.
VALUE LABELS i_srPAD
        -1 'missing'
        0 'no'
        1 'yes'
        2 'possible'.

*Selfreport surgery.
COMPUTE i_surPAD=-3.
IF (iartvei1 le -1) i_surPAD=-1.
IF ((iartvei1=2 or iartvei1=3) and iartve8 le -1) i_surPAD=-1.
IF (iartve8=1) i_surPAD=0.
IF ((iartve8c=0 AND iartve8d=0) AND (iartve8b le 0)) i_surPAD=0.
IF (iartvei1=0 or iartvei1=1) i_surPAD=0.
IF ((iartve8c le 0 AND iartve8d le 0) AND (iartve8b=1)) i_surPAD=2.
IF (iartve8c=1 OR iartve8d=1) i_surPAD=1.
VARIABLE LABELS i_surPAD 'self reported surgery of peripheral arteries'.
VALUE LABELS i_surPAD
        -1 'missing'
        0 'no'

1 'yes'
2 'possible'.

*GP diagnosis of PAD.
COMPUTE i_gpPAD=-3.
IF (bgartvei le -1) i_gpPAD=-1.
IF (t9_year le -1) i_gpPAD=-1.
IF (bgartvei=0) i_gpPAD=0.
IF (bgartvei=1 and bgartvey ge 9) i_gpPAD=0.
IF (bgartvei=1 and bgartvey ge 8 and t9_year=2015) i_gpPAD=0.
IF (bgartvei=1 and (bgartvey ge 1 and bgartvey le 7)) i_gpPAD=1.
IF (bgartvei=1 and (bgartvey=8 and t9_YEAR=2016)) i_gpPAD=1.
IF (bgartvei=1 and bgartvey le -1) i_gpPAD=2.
IF (bgartvei=1 and bgartvey=1) i_gpPAD=1.
VARIABLE LABELS i_gpPAD 'gp diagnosis: PAD'.
VALUE LABELS i_gpPAD
        -2 'dropout'
        -1 'missing'
        0 'no'
        1 'yes'
        2 'diagnose = yes, but year = missing'.

*PAD algorithm: medication, GP diagnosis, SR and surgery combined.
COMPUTE i_alg_PAD=-3.
IF (i_surPAD=1) i_alg_PAD=1.
IF (i_surPAD le 0 and i_gpPAD=1 and (bgartves=1)) i_alg_PAD=1.
IF (i_surPAD le 0 and i_gpPAD=1 and bgartves le 0 and i_srPAD=1) i_alg_PAD=1.
IF (i_surPAD le 0 and i_gpPAD=1 and bgartves le 0 and i_srPAD=0) i_alg_PAD=3.
IF (i_surPAD le 0 and i_gpPAD=1 and bgartves le 0 and i_srPAD le -1) i_alg_PAD=2.
IF (i_surPAD le 0 and i_gpPAD=1 and bgartves le 0 and i_srPAD=2) i_alg_PAD=1.
IF (i_surPAD le 0 and i_gpPAD=0 and i_srPAD=1) i_alg_PAD=3.
IF (i_surPAD le 0 and i_gpPAD=0 and i_srPAD=0) i_alg_PAD=0.
IF (i_surPAD le 0 and i_gpPAD=0 and i_srPAD le -1) i_alg_PAD=0.
IF (i_surPAD le 0 and i_gpPAD=0 and i_srPAD=2) i_alg_PAD=0.
IF (i_surPAD le 0 and i_gpPAD=2 and i_srPAD=1) i_alg_PAD=1.
IF (i_surPAD le 0 and i_gpPAD=2 and i_srPAD=0) i_alg_PAD=0.
IF (i_surPAD le 0 and i_gpPAD=2 and i_srPAD le -1) i_alg_PAD=-1.
IF (i_surPAD le 0 and i_gpPAD=2 and i_srPAD=2) i_alg_PAD=1.
IF (i_surPAD le 0 and i_gpPAD le -1 and i_srPAD=1) i_alg_PAD=2.
IF (i_surPAD le 0 and i_gpPAD le -1 and i_srPAD=0) i_alg_PAD=0.
IF (i_surPAD le 0 and i_gpPAD le -1 and i_srPAD le -1) i_alg_PAD=-1.
IF (i_surPAD le 0 and i_gpPAD le -1 and i_srPAD=2) i_alg_PAD=-1.
IF (i_surPAD=2 and i_gpPAD=1) i_alg_PAD=1.
IF (i_surPAD=2 and i_gpPAD=0 and i_srPAD=1) i_alg_PAD=1.
IF (i_surPAD=2 and i_gpPAD=0 and i_srPAD=0) i_alg_PAD=0.
IF (i_surPAD=2 and i_gpPAD=0 and i_srPAD le -1) i_alg_PAD=0.
IF (i_surPAD=2 and i_gpPAD=0 and i_srPAD=2) i_alg_PAD=3.
IF (i_surPAD=2 and i_gpPAD=2 and i_srPAD=1) i_alg_PAD=1.
IF (i_surPAD=2 and i_gpPAD le -1 and i_srPAD=1) i_alg_PAD=1.
IF (i_surPAD=2 and i_gpPAD le -1 and i_srPAD=0) i_alg_PAD=0.
IF (i_surPAD=2 and i_gpPAD le -1 and i_srPAD le -1) i_alg_PAD=-1.
IF (i_surPAD=2 and i_gpPAD le -1 and i_srPAD=2) i_alg_PAD=-1.

VARIABLE LABELS i_alg_PAD 'I wave algorithm: peripheral artery disease'.
VALUE LABELS i_alg_PAD
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'.

********************CORONARY ARTERY DISEASE (CAD) at I********************.
*CAD Selfreport surgery.
COMPUTE i_surCAD=-3.
IF ((ihart01=2 or ihart01=3) and ihart15 le -1) i_surCAD=-1.
IF (ihart01 le -1) i_surCAD=-1.
IF (ihart15b le -1 AND ihart15c le -1) i_surCAD=-1.
IF (ihart15b=0 AND ihart15c=0) i_surCAD=0.
IF (ihart15=1) i_surCAD=0.
IF (ihart01=0 or ihart01=1) i_surCAD=0.
IF (ihart15b=1 OR ihart15c=1) i_surCAD=1.
VARIABLE LABELS i_surCAD 'self reported surgery of coronary arteries'.
VALUE LABELS i_surCAD
        -1 'missing'
        0 'no'
        1 'yes'.

*CAD selfreport (=Selfreport of AP or MI).
COMPUTE i_srCAD=-5.
IF (ihart01 le -1) i_srCAD=-1.
IF (i_srMI=0 AND i_srAP=2) i_srCAD=-1.
IF (i_srMI=0 AND i_srAP le -1) i_srCAD=-1.
IF (i_srMI le -1 AND i_srAP=0) i_srCAD=-1.
IF (i_srMI le -1 AND i_srAP=2) i_srCAD=-1.
IF (i_srMI le -1 AND i_srAP le -1) i_srCAD=-1.
IF (i_srMI=0 AND i_srAP=0) i_srCAD=0.
IF (ihart01=0 or ihart01=1) i_srCAD=0.
IF (i_srMI le -1 AND i_srAP=1) i_srCAD=1.
IF (i_srMI=1) i_srCAD=1.
IF (i_srAP=1) i_srCAD=1.
IF (itphart1=0 or itrhart1=0) i_srCAD=0.
VARIABLE LABELS i_srCAD 'self report: myocardial infarction OR angina pectoris'.
VALUE LABELS i_srCAD
        -1 'missing'
        0 'no'
        1 'yes'.

*GP diagnosis of CAD (gp diagnosis of AP or MI).
COMPUTE i_gpCAD=-5.
IF (i_gpMI le -1 AND i_gpAP=0) i_gpCAD=-1.
IF (i_gpMI=0 AND i_gpAP le -1) i_gpCAD=-1.
IF (i_gpMI le -1 AND i_gpAP le -1) i_gpCAD=-1.
IF (i_gpMI=0 AND i_gpAP=0) i_gpCAD=0.
IF (i_gpMI=0 AND i_gpAP=2) i_gpCAD=2.
IF (i_gpMI le -1 AND i_gpAP=2) i_gpCAD=2.

IF (i_gpMI=2 AND i_gpAP=0) i_gpCAD=2.
IF (i_gpMI=2 AND i_gpAP=2) i_gpCAD=2.
IF (i_gpMI=2 AND i_gpAP le -1) i_gpCAD=2.
IF (i_gpMI=1) i_gpCAD=1.
IF (i_gpAP=1) i_gpCAD=1.
IF (t9_year le -1) i_gpCAD=-2.
VARIABLE LABELS i_gpCAD 'self report: myocardial infarction OR angina pectoris'.
VALUE LABELS i_gpCAD
         -2 'dropout'
         -1 'missing'
         0 'no'
         1 'yes'
         2 'diagnose = yes, but year = missing'.

*CAD algorithm: medication, GP diagnosis, SR and surgery combined.
COMPUTE i_alg_CAD=-3.
IF (i_mAP le 0 and i_surCAD le 0 and i_srMI le 0 and (i_srAP le 0 or i_srAP=2) and i_gpMI le 0)
i_alg_CAD=0.
IF (i_mAP le -1 and i_surCAD le -1 and i_srMI le -1 and i_srAP le -1 and i_gpAP le -1 and i_gpMI le -1)
i_alg_CAD=-1.
IF (i_mAP=0 and i_surCAD=0 and i_srMI=0 and i_srAP=0 and i_gpAP=0 and i_gpMI=0) i_alg_CAD=0.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_srAP=1 and (i_srMI le 0 and i_gpAP le 0 and i_gpMI le 0)))
i_alg_CAD=3.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_srMI=1 and (i_srAP le 0 and i_gpAP le 0 and i_gpMI le 0)))
i_alg_CAD=3.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpAP=1 and bgaps le 0 and (i_gpMI le 0 or i_gpMI=2) and
i_srAP le 0 and i_srMI le 0)) i_alg_CAD=3.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpMI=1 and bgmis le 0 and (i_gpAP le 0 or i_gpAP=2) and
i_srAP le 0 and i_srMI le 0)) i_alg_CAD=3.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_srAP=1 and (i_srMI le -1 and i_gpAP le -1 and i_gpMI le -1)))
i_alg_CAD=2.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_srMI=1 and (i_srAP le -1 and i_gpAP le -1 and i_gpMI le -1)))
i_alg_CAD=2.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpAP=1 and bgaps le 0 and i_gpMI le -1 and i_srAP le -1 and
i_srMI le -1)) i_alg_CAD=2.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpMI=1 and bgmis le 0 and i_gpAP le -1 and i_srAP le -1 and
i_srMI le -1)) i_alg_CAD=2.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpAP=2 and (i_gpMI le 0 or i_gpMI=2) and (i_srAP le 0 or
i_srAP=2) and i_srMI le 0)) i_alg_CAD=0.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpMI=2 and (i_gpAP le 0 or i_gpAP=2) and (i_srAP le 0 or
i_srAP=2) and i_srMI le 0)) i_alg_CAD=0.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpAP=2 and (i_gpMI le -1 or i_gpMI=2) and (i_srAP le -1 or
i_srAP=2) and i_srMI le -1)) i_alg_CAD=-1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpMI=2 and (i_gpAP le -1 or i_gpAP=2) and (i_srAP le -1 or
i_srAP=2) and i_srMI le -1)) i_alg_CAD=-1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_srAP=1 and (i_srMI=1 OR i_gpAP=1 OR i_gpMI=1)))
i_alg_CAD=1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_srMI=1 and (i_srAP=1 OR i_gpAP=1 OR i_gpMI=1)))
i_alg_CAD=1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpAP=1 and (bgaps=1))) i_alg_CAD=1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpMI=1 and (bgmis=1))) i_alg_CAD=1.

IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpAP=1 and bgaps le 0) and (i_srMI=1 or i_srAP=1 or i_gpMI=1)) i_alg_CAD=1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpMI=1 and bgmis le 0) and (i_srMI=1 or i_srAP=1 or i_gpAP=1)) i_alg_CAD=1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_srAP=1 and i_srMI le 0) and (i_gpAP=2 or i_gpMI=2)) i_alg_CAD=1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_srMI=1) and (i_gpAP=2 or i_srAP=2 or i_gpMI=2)) i_alg_CAD=1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpAP=1 and i_srMI le 0) and (i_srAP=2 and i_gpMI=2)) i_alg_CAD=1.
IF ((i_mAP le 0 and i_surCAD le 0) and (i_gpMI=1 and i_srMI le 0) and (i_gpAP=2 or i_srAP=2)) i_alg_CAD=1.
IF (i_mAP=1 or i_surCAD=1) i_alg_CAD=1.
VARIABLE LABELS i_alg_CAD 'I wave: coronary artery disease'.
VALUE LABELS i_alg_CAD
          -1 'missing'
          0 'no'
          1 'definite'
          2 'possible'
          3 'contradictory'.

****************CVD longitudinal cleaning****************.
*optional: once definite CVD always CVD.
*arrhythmia.
RECODE i_alg_ARI (ELSE=Copy) INTO i_alg_ARI_ruw.
VARIABLE LABELS i_alg_ARI_ruw 'ARI at i, unadjusted for ARI status at previous waves'.

IF (b3_ARI=1) i_alg_ARI=1.

*MI.
RECODE i_alg_MI (ELSE=Copy) INTO i_alg_MI_ruw.
VARIABLE LABELS i_alg_MI_ruw 'MI at I, unadjusted for MI status at previous waves'.

IF (b3_MI=1) i_alg_MI=1.

*AP.
RECODE i_alg_AP (ELSE=Copy) INTO i_alg_AP_ruw.
VARIABLE LABELS i_alg_AP_ruw 'AP at I, unadjusted for AP status at previous waves'.

IF (b3_AP=1) i_alg_AP=1.

*CVA.
RECODE i_alg_CVA (ELSE=Copy) INTO i_alg_CVA_ruw.
VARIABLE LABELS i_alg_CVA_ruw 'CVA at I, unadjusted for CVA status at previous waves'.

IF (b3_CVA=1) i_alg_CVA=1.

*CHF.
RECODE i_alg_CHF (ELSE=Copy) INTO i_alg_CHF_ruw.
VARIABLE LABELS i_alg_CHF_ruw 'CHF at I, unadjusted for CHF status at previous waves'.

IF (b3_CHF=1) i_alg_CHF=1.

*PAD.
RECODE i_alg_PAD (ELSE=Copy) INTO i_alg_PAD_ruw.
VARIABLE LABELS i_alg_PAD_ruw 'PAD at H, unadjusted for PAD status at previous waves'.

IF (b3_PAD=1) i_alg_PAD=1.

*CAD.
RECODE i_alg_CAD (ELSE=Copy) INTO i_alg_CAD_ruw.
VARIABLE LABELS i_alg_CAD_ruw 'CAD at I, unadjusted for CAD status at previous waves'.

IF (b3_CAD=1) i_alg_CAD=1.

*****************CVD Defining dropouts****************.
*Used LASA datafiles and variables: LASAZ002 / iresult.
*ARI.
*I wave.
RECODE i_alg_ARI (ELSE=Copy) INTO i_ARI.
IF (iresult le 4) i_ARI=5.
VARIABLE LABELS i_ARI 'cardiac arrhythmia at I wave, dropouts defined'.
VALUE LABELS i_ARI
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'
        5 'drop-out'.

*MI.
*I wave.
RECODE i_alg_MI (ELSE=Copy) INTO i_MI.
IF (iresult le 4) i_MI=5.
VARIABLE LABELS i_MI 'myocardial infarction at I wave, dropouts defined'.
VALUE LABELS i_MI
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'
        5 'drop-out'.

*AP.
*I wave.
RECODE i_alg_AP (ELSE=Copy) INTO i_AP.
IF (iresult le 4) i_AP=5.
VARIABLE LABELS i_AP 'angina pectoris at I wave, dropouts defined'.
VALUE LABELS i_AP
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'

3 'contradictory'
        5 'drop-out'.

*CVA.
*I wave.
RECODE i_alg_CVA (ELSE=Copy) INTO i_CVA.
IF (iresult le 4) i_CVA=5.
VARIABLE LABELS i_CVA 'cerebrovascular accident at I wave, dropouts defined'.
VALUE LABELS i_CVA
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'
        5 'drop-out'.

*CHF.
*I wave.
RECODE i_alg_CHF (ELSE=Copy) INTO i_CHF.
IF (iresult le 4) i_CHF=5.
VARIABLE LABELS i_CHF 'congestive heart failure at I wave, dropouts defined'.
VALUE LABELS i_CHF
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'
        5 'drop-out'.

*PAD.
*I wave.
RECODE i_alg_PAD (ELSE=Copy) INTO i_PAD.
IF (iresult le 4) i_PAD=5.
VARIABLE LABELS i_PAD 'peripheral artery failure at I wave, dropouts defined'.
VALUE LABELS i_PAD
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'
        5 'drop-out'.
*CAD.
*I wave.
RECODE i_alg_CAD (ELSE=Copy) INTO i_CAD.
IF (iresult le 4) i_CAD=5.
VARIABLE LABELS i_CAD 'coronary artery disease at I wave, dropouts defined'.
VALUE LABELS i_CAD
        -1 'missing'
        0 'no'
        1 'definite'
        2 'possible'
        3 'contradictory'

5 'drop-out'.

formats b3_ARI b3_MI b3_AP b3_CVA b3_CHF b3_PAD b3_CAD
i_alg_ARI_ruw i_alg_MI_ruw i_alg_AP_ruw i_alg_CVA_ruw i_alg_CHF_ruw i_alg_PAD_ruw
i_alg_CAD_ruw
i_ARI i_MI i_AP i_CVA i_CHF i_PAD i_CAD (f2).

*longitudinal additional cleaning to reduce missing values.
if (b3_ARI=-1 and i_ARI=0) b3_ari=0.
if (b3_MI=-1 and i_MI=0) b3_MI=0.
if (b3_AP=-1 and i_AP=0) b3_AP=0.
if (b3_CVA=-1 and i_CVA=0) b3_CVA=0.
if (b3_PAD=-1 and i_PAD=0) b3_PAD=0.
if (b3_CAD=-1 and i_CAD=0) b3_CAD=0.
if (b3_CHF=-1 and i_CHF=0) b3_CHF=0.
EXECUTE.

*cvd var (presence of any CVD).
Compute b3_CVD=-3.
VARIABLE LABELS b3_CVD 'any CVD at b'.
EXECUTE.
IF (b3_MI=1 or b3_AP=1 or b3_ARI=1 or b3_CVA=1 or b3_PAD=1 or b3_CAD=1 or b3_CHF=1)
b3_CVD=1.
IF (b3_MI=0 AND b3_AP=0 AND b3_ARI=0 AND b3_CVA=0 AND b3_PAD=0 AND b3_CAD=0 AND
b3_CHF=0) b3_CVD=0.
IF (b3_MI=-1 AND b3_AP=-1 AND b3_ARI=-1 AND b3_CVA=-1 AND b3_PAD=-1 AND b3_CAD=-1 AND
b3_CHF=-1) b3_CVD=-1.
IF (b3_CVD=-3 and (b3_MI=2 or b3_AP=2 or b3_ARI=2 or b3_CVA=2 or b3_PAD=2 or b3_CAD=2 or
b3_CHF=2)) b3_CVD=2.
IF (b3_CVD=-3 and (b3_MI=3 or b3_AP=3 or b3_ARI=3 or b3_CVA=3 or b3_PAD=3 or b3_CAD=3 or
b3_CHF=3)) b3_CVD=3.
EXECUTE.
VALUE LABELS b3_CVD
0 'no cvd'
1 'Definite'
2 'possible'
3 'contradictory'
-1 'missing'
-3 'combination of no and missing'.
EXECUTE.

Compute i_CVD=-3.
VARIABLE LABELS i_CVD 'any CVD at i'.
EXECUTE.
IF (i_MI=1 or i_AP=1 or i_ARI=1 or i_CVA=1 or i_PAD=1 or i_CAD=1 or i_CHF=1) i_CVD=1.
IF (i_MI=0 AND i_AP=0 AND i_ARI=0 AND i_CVA=0 AND i_PAD=0 AND i_CAD=0 AND i_CHF=0)
i_CVD=0.
IF (i_MI=-1 AND i_AP=-1 AND i_ARI=-1 AND i_CVA=-1 AND i_PAD=-1 AND i_CAD=-1 AND i_CHF=-1)
i_CVD=-1.
IF (i_CVD=-3 and (i_MI=2 or i_AP=2 or i_ARI=2 or i_CVA=2 or i_PAD=2 or i_CAD=2 or i_CHF=2))
i_CVD=2.

```
IF (i_CVD=-3 and (i_MI=3 or i_AP=3 or i_ARI=3 or i_CVA=3 or i_PAD=3 or i_CAD=3 or i_CHF=3))
i_CVD=3.
IF (i_MI=5 AND i_AP=5 AND i_ARI=5 AND i_CVA=5 AND i_PAD=5 AND i_CAD=5 AND i_CHF=5)
i_CVD=5.
EXECUTE.
VALUE LABELS i_CVD
0 'no cvd'
1 'Definite'
2 'possible'
3 'contradictory'
5 'dropout'
-1 'missing'
-3 'combination of no and missing'.
EXECUTE.

VARIABLE LEVEL b3_ARI b3_MI b3_AP b3_CVA b3_CHF b3_PAD b3_CAD
i_alg_ARI_ruw i_alg_MI_ruw i_alg_AP_ruw i_alg_CVA_ruw i_alg_CHF_ruw i_alg_PAD_ruw
i_alg_CAD_ruw
i_ARI i_MI i_AP i_CVA i_CHF i_PAD i_CAD b3_CVD i_CVD   (NOMINAL).

*datafile with all variables used (original and created variables).
SAVE OUTFILE='*YOUR DIRECTORY HERE*\CVD_3_total.sav'
 /COMPRESSED.

*datafile with only the final CVD diagnoses at B, I of third cohort.
SAVE OUTFILE='*YOUR DIRECTORY HERE*\LASAZH03.sav'
 /KEEP=respnr b3_ARI b3_MI b3_AP b3_CVA b3_CHF b3_PAD b3_CAD
i_alg_ARI_ruw i_alg_MI_ruw i_alg_AP_ruw i_alg_CVA_ruw i_alg_CHF_ruw i_alg_PAD_ruw
i_alg_CAD_ruw
i_ARI i_MI i_AP i_CVA i_CHF i_PAD i_CAD b3_CVD i_CVD
/COMPRESSED.
```