Atherosclerosis Risk in Communities Study

Cohort Exam Visit 9 NCS

STATUS91_PARTIAL_240605_np Derived Variable Dictionary

June 9, 2024

Prepared by the Collaborative Studies Coordinating Center

ARIC STATUS91_PARTIAL_240605_np Derived Variable Dictionary

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NEW OR CHANGED FROM PREVIOUS DISTRIBUTION

This table describes the changes to the last published STATUS91_PARTIAL_&rt_np dictionary. As the dataset undergoes modifications, this table will describe the updates made to the previously distributed dataset.

Modification Date	Variable Name	Reason(s) for Change

1. OVERVIEW

The CC is delivering a partial version of STATUS91 longitudinal dataset (STATUS91_PARTIAL_240605_np) that includes the visit-specific neurocognitive variables for visits 5 through 9: COGDIAG, ALGDXSTRATUM, PRORATEDMMSE, and the updated level 1 dementia variable, DEMDXL1_91 and its associated time from ARIC enrollment. The dataset also includes the incident, self-report disease variables typically included in the STATUS datasets. These variables are derived using ARIC follow-up data.

The STATUS91_PARTIAL_240605_np dataset has 15,792 records, one for each ARIC participant and the dataset has been updated to remove all personal health information denoted by the _np suffix. The purpose of this dataset is to provide to ARIC collaborators widely used, verified derived variables for the entire cohort. The dataset naming conventions are as follows: The dataset name retains the dataset creation date (ex: STATUS91_PARTIAL_240605_np) until the dataset is considered final, frozen. After a dataset is frozen, the creation date is dropped from the dataset name (ex: STATUS91). The first digit in the dataset name refers to the current visit number. The second digit in the dataset name is incremented when the current dataset undergoes significant changes. The variable naming convention is similar: across-visit variables have identical names except for the second to last digit in the variable name, which represents the visit number (ex: GENDER71 at Visit 7 vs. GENDER81 at Visit 8). The last digit in the variable name identifies the definition version of a variable.

STATUS variables are derived from the data collected from the previous and current visits, ARIC cohort surveillance, and ARIC follow-up. STATUS91_np will be final, frozen after the surveillance datasets are complete for events in 2022.

2. ADMINISTRATIVE

2.1 SUBJECTID (ARIC Subject ID (CIR))

Type: Character; length: $7.

2.2 ID (ARIC ID – same as Subject ID)

Type: Character; length: $7.

2.3 CENTER (Field Center)

Description: Character variable with four possible values derived from the enrollment site:
F: Forsyth County, North Carolina
J: The city of Jackson, Mississippi

M: Selected northwestern suburbs of Minneapolis, Minnesota
W: Washington County, Maryland

Type: Character; length: $1.

Algorithm: CENTER=First letter of the subject ID

Source variable(s): SUBJECTID

3. ARIC VISIT COMPLETION AND STUDY STATUS VARIABLES

3.1 DATEOFDEATH_FollowUpDays (Days of follow up from visit 1 to Date of Death)

Description: Numeric variable indicating the days of follow up from visit 1 to date of death compiled from previous visit dates and ARIC surveillance data.

Type: Numeric

Algorithm: If [C21DTHA1] date of death>NULL then DATEOFDEATH_FollowUpDays is the number of days between visit 1 and [C21DTHA1] date of death.
Else if [C21HRMA1] date of discharge or death>NULL and HRAA17="D" then DATEOFDEATH_FollowUpDays is the number of days between visit 1 and [C21HRMA1] date of discharge or death.
Else if ([C21CELB1] date of discharge or death>NULL and CELB06='Y') then DATEOFDEATH_FollowUpDays is the number of days between visit 1 and [C21CELB1] date of discharge or death.
Else if NULL<[ADER] date of death <="30NOV2022"d then DATEOFDEATH_FollowUpDays is the number of days between visit 1 and [ADER] date of death.
Else DATEOFDEATH_FollowUpDays =NULL;

Source variable(s): visit 1 date, [C21DTHA1] date of death, [C21HRMA1] date of discharge or death, HRAA17, [C21CELB1] date of discharge or death, CELB06, [ADER] date of death

3.2 STATUSDATE21_FollowUpDays (Days of follow up from visit 1 to either death date, date of visit 2 exam, OR 05Feb1990)

Description: Numeric variable with status as of visit 2. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 2, 2) date of death if dead by the start of visit 2, or 3) the date that visit 2 began (05Feb1990).

Type: Numeric

Algorithm: If visit 2 date is not missing then STATUSDATE21_FollowUpDays is the number of days between visit 1 and visit 2.
Else if KNWNDEADBYVISIT21=1 then STATUSDATE21_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE21_FollowUpDays is the number of days between visit 1 and the date that visit 2 began.

Source variable(s): visit 1 date, visit 2 date, KNWNDEADBYVISIT21, date of death

3.3 STATUSDATE31_FollowUpDays (Days of follow up from visit 1 to either death date, date of visit 3 exam, OR 16Mar1993)

Description: Numeric variable with status as of visit 3. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 3, 2) date of death if dead by the start of visit 3, or 3) the date that visit 3 began (16Mar1993).

Type: Numeric

Algorithm: If visit 3 date is not missing then STATUSDATE31_FollowUpDays is the number of days between visit 1 and visit 3.
Else if KNWNDEADBYVISIT31=1 then STATUSDATE31_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE31_FollowUpDays is the number of days between visit 1 and the date that visit 3 began.

Source variable(s): visit 1 date, visit 3 date, KNWNDEADBYVISIT31, date of death

3.4 STATUSDATE41_FollowUpDays (Days of follow up from either death date, date of visit 4 exam, OR 01Feb1996)

Description: Numeric variable with status as of visit 4. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 4, 2) date of death if dead by the start of visit 4, or 3) the date that visit 4 began (01Feb1996).

Type: Numeric

Algorithm: If visit 4 date is not missing then STATUSDATE41_FollowUpDays is the number of days between visit 1 and visit 4.
Else if KNWNDEADBYVISIT41=1 then STATUSDATE41_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE41_FollowUpDays is the number of days between visit 1 and the date that visit 4 began.

Source variable(s): visit 1 date, visit 4 date, KNWNDEADBYVISIT41, date of death

3.5 STATUSDATE51_FollowUpDays (Days of follow up from either death date, date of visit 5 exam, OR 01Jun2011)

Description: Numeric variable with status as of visit 5. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 5, 2) date of death if dead by the start of visit 5, or 3) the date that visit 5 began (01Jun2011).

Type: Numeric

Algorithm: If visit 5 date is not missing then STATUSDATE51_FollowUpDays is the number of days between visit 1 and visit 5.
Else if KNWNDEADBYVISIT51=1 then STATUSDATE51_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE51_FollowUpDays is the number of days between visit 1 and the date that visit 5 began.

Source variable(s): visit 1 date, visit 5 date, KNWNDEADBYVISIT51, date of death

3.6 STATUSDATE61_FollowUpDays (Days of follow up from visit 1 to either death date, date of visit 6 exam, OR 15Jun2016)

Description: Numeric variable with status as of visit 6. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 6, 2) date of death if dead by the start of visit 6, or 3) the date that visit 6 began (15Jun2016).

Type: Numeric

Algorithm: If visit 6 date is not missing then STATUSDATE61_FollowUpDays is the number of days between visit 1 and visit 6.
Else if KNWNDEADBYVISIT61=1 then STATUSDATE61_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE61_FollowUpDays is the number of days between visit 1 and the date that visit 6 began.

Source variable(s): visit 1 date, visit 6 date, KNWNDEADBYVISIT61, date of death

3.7 STATUSDATE71_FollowUpDays (Days of follow up from visit 1 to either death date, date of visit 7 exam, OR 01Feb2018)

Description: Numeric variable with status as of visit 7. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 7,

2) date of death if dead by the start of visit 7, or 3) the date that visit 7 began (01Feb2018).

Type: Numeric

Algorithm: If visit 7 date is not missing then STATUSDATE71_FollowUpDays is the number of days between visit 1 and visit 7.
Else if KNWNDEADBYVISIT71=1 then STATUSDATE71_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE71_FollowUpDays is the number of days between visit 1 and the date that visit 7 began.

Source variable(s): visit 1 date, visit 7 date, KNWNDEADBYVISIT71, date of death

3.8 STATUSDATE81_FollowUpDays (Days of follow up from visit 1 to either death date, date of visit 8 exam, OR 13Jan2020)

Description: Numeric variable with status as of visit 8. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 8, 2) date of death if dead by the start of visit 8, or 3) the date that visit 8 began (13Jan2020).

Type: Numeric

Algorithm: If visit 8 date is not missing then STATUSDATE81_FollowUpDays is the number of days between visit 1 and visit 8.
Else if KNWNDEADBYVISIT81=1 then STATUSDATE81_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE81_FollowUpDays is the number of days between visit 1 and the date that visit 8 began.

Source variable(s): visit 1 date, visit 8 date, KNWNDEADBYVISIT81, date of death

3.9 STATUSDATE8T1_FollowUpDays (Days of follow up from visit 1 to either death date, date of visit 8T exam, OR 15Jun2020)

Description: Numeric variable with status as of visit 8 telephone. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 8T, 2) date of death if dead by the start of visit 8T, or 3) the date that visit 8T began (15Jun2020).

Type: Numeric

Algorithm: If visit 8 telephone date is not missing then STATUSDATE8T1_FollowUpDays is the number of days between visit 1 and visit 8 telephone.
Else if KNWNDEADBYVISIT8T1=1 then STATUSDATE8T1_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE8T1_FollowUpDays is the number of days between visit 1 and the date that visit 8 telephone began.

Source variable(s): visit 1 date, visit 8 telephone date, KNWNDEADBYVISIT8T1, date of death

3.10 STATUSDATE91_FollowUpDays (Days of follow up from visit 1 to either death date, date of visit 9 exam, OR 01Jun2021)

Description: Numeric variable with status as of visit 9. Value is the days of follow up from visit 1 to one of the following: 1) date of completion of visit 9, 2) date of death if dead by the start of visit 9, or 3) the date that visit 9 began (01Jun2021).

Type: Numeric

Algorithm: If visit 9 date is not missing then STATUSDATE91_FollowUpDays is the number of days between visit 1 and visit 9.
Else if NULL<date of death<=the date that visit 9 began then STATUSDATE91_FollowUpDays is the number of days between visit 1 and date of death.
Else STATUSDATE91_FollowUpDays is the number of days between visit 1 and the date that visit 9 began.

Source variable(s): visit 1 date, visit 9 date, date of death

3.11 LASTFUINTERVIEWDATE_FollowUpDays (Days of follow up from visit 1 to date of last completed follow-up interview by 30NOV2022)

Description: Numeric variable that documents the days of follow up from visit 1 to the date of the participant's last completed follow-up interview where an actual contact was made, prior to end of visit 9 (30NOV2022).

Type: Numeric

Algorithm: LASTFUINTERVIEWDATE_FollowUpDays is the number of days between visit 1 and the max status date in the composite follow-up dataset among the records for a single ID where AFUcomp2_A indicates that the interview was accomplished (AFUcomp2_a in ('A', 'C', 'D')) and the date preceded November 30, 2022.

Source variable(s): follow-up status date, AFUcomp2_A

4. PHYSICAL VARIABLES AND INDICATORS

4.1 AGENATMENOPAUSEF (Age (years) at natural menopause)

Description: Numeric variable indicating age in years at natural menopause.

Type: Numeric

Algorithm: AGENATMENOPAUSEF=AGENATMENOPAUSEF [STATUS51]

Source variable(s): AGENATMENOPAUSEF (from STATUS51)

Note: As of 5/17/2024, this variable has been moved to DERIVE91

4.2 AGESRGMENOPAUSEF (Age (years) at surgical menopause)

Description: Numeric variable indicating age in years at surgical menopause.

Type: Numeric

Algorithm: AGESRGMENOPAUSEF=AGESRGMENOPAUSEF [STATUS51]

Source variable(s): AGESRGMENOPAUSEF (from STATUS51)
Note: As of 5/17/2024, this variable has been moved to DERIVE91

5. DISEASE INCIDENCE

5.1 INCSELFREPHBP91 (Self-Report Incident High Blood Pressure by the end of Visit 9)

Description: Numeric indicator variable reporting if the participant self-reported high blood pressure by November 30, 2022. May be used in conjunction with INCSELFREPHBP_DATE91.

Format: 1=Yes, 0=No

Type: Numeric

Algorithm: If MCU1=NULL then INCSELFREPHBP91=NULL.

Else if NULL<= MCU1a<=’30NOV2022’d then do;
    If MCU1=’Y’ then INCSELFREPHBP91=1
    Else if MCU1=’N’ then INCSELFREPHBP91=0
End;

Else if MCU1a>’30NOV2022'd then INCSELFREPHBP91=0;

Source variable(s): [MCU_&mrt] MCU1, [MCU_&mrt] MCU1a

5.2 INCSELFREPHBP_DATE91_FUdays (Days of follow up from visit 1 to Self-Report Incident High Blood Pressure Date or Earliest Date from Last Follow-up, Death, or End of V9 Data Collection)

Description: Numeric variable with the days of follow up from visit 1 to date the first time a participant self-reported high blood pressure (through November 30, 2022); if participant never self-reported high blood pressure (INCSELFREPHBP91=0), then the value is the days of follow up from visit 1 to one of the following: 1) the Medical Conditions Update (MCU) form date, 2) date of death, or 3) November 30, 2022, whichever is earlier. The variable is missing if there are no records for this ID.

Type: Numeric

Algorithm: if INCSELFREPHBP91=1 then INCSELFREPHBP_DATE91_FUdays is the number of days between visit 1 and self-report incident high blood pressure date

Else if INCSELFREPHBP91=0 then INCSELFREPHBP_DATE91_FUdays is the number of days between visit 1 and min(MCU date, date of death, “30NOV2022”d)

Else INCSELFREPHBP_DATE91_FUdays = NULL

Source variable(s): visit 1 date, MCU date, self-report incident high blood pressure date, date of death, INCSELFREPHBP91

5.3 INCSELFREPDM91 (Self-Report Diabetes Mellitus by the End of Visit 9)

Description: Numeric indicator variable reporting if the participant self-reported diabetes mellitus by November 30, 2022. May be used in conjunction with INCSELFREPDM_DATE91.

Format: 1=Yes, 0=No

Type: Numeric

Algorithm: If MCU2=NULL then INCSELFREPDM91=NULL.

Else if NULL<= MCU2a<=’30NOV2022’d then do;
    If MCU2=’Y’ then INCSELFREPDM91=1
    Else if MCU2=’N’ then INCSELFREPDM91=0
End;

Else if MCU2a>’30NOV2022’d then INCSELFREPDM91=0;

Source variable(s): [MCU_&mrt] MCU2, [MCU_&mrt] MCU2a

5.4 INCSELFREPDM_DATE91_FUdays (Days of follow up from visit 1 to Self-Report Diabetes Mellitus Date or Earliest Date from Last Follow-up, Death, or End of V9 Data Collection)

Description: Numeric variable with the days of follow up from visit 1 to date the first time a participant self-reported diabetes mellitus (through November 30, 2022); if participant never self-reported diabetes mellitus (INCSELFREPDM91=0), then the value is the days of follow up from visit 1 to one of the following: 1) the Medical Conditions Update (MCU) form date, 2) date of death, or 3) November 30, 2022, whichever is earlier. The variable is missing if there are no records for this ID.

Type: Numeric

Algorithm: if INCSELFREPDM91=1 then
INCSELFREPDM_DATE91_FUdays is the number of days between visit 1 and self-report incident diabetes mellitus date

Else if INCSELFREPDM91=0 then
INCSELFREPDM_DATE91_FUdays is the number of days between visit 1 and min(MCU date, date of death, “30NOV2022”d)

Else INCSELFREPDM_DATE91_FUdays = NULL

Source variable(s): visit 1 date, MCU date, self-report incident diabetes mellitus date, date of death, INCSELFREPDM91

5.5 INCSELFREPCLD91 (Self-Report Incident PVD or Claudication by End of Visit 9)

Description: Numeric variable reporting if the participant self-reported incident PVD or claudication by November 30, 2022. May be used in conjunction with INCSELFREPCLD_DATE91.

Format: 1=Yes, 0=No,

Type: Numeric

Algorithm: If MCU5=NULL then INCSELFREPCLD91=NULL.

Else if NULL<= MCU5a<=’30NOV2022’d then do;
If MCU5=’Y’ then INCSELFREPCLD91=1
Else if MCU5=’N’ then INCSELFREPCLD91=0
End;

Else if MCU5a>’30NOV2022’d then INCSELFREPCLD91=0;

Source variable(s): [MCU_&mrt] MCU5, [MCU_&mrt] MCU5a

5.6 INCSELFREPCLD_DATE91_FUdays (Days of follow up from visit 1 to Self-Report Incident PVD or Claudication Date or Earliest Date from Last Follow-up, Death, or End of V9 Data Collection)

Description: Numeric variable with the days of follow up from visit 1 to the date the first time a participant self-reported incident PVD or claudication (through November 30, 2022); if participant never self-reported incident PVD or claudication (INCSELFREPCLD91=0), then the value is the days of follow up from visit 1 to one of the following: 1) the

Medical Conditions Update (MCU) form date, 2) date of death, or 3) November 30, 2022, whichever is earlier. The variable is missing if there are no records for this ID.

Type: Numeric

Algorithm: if INCSELFREPCLD91=1 then INCSELFREPCLD_DATE91_FUdays is the number of days between visit 1 and self-report incident PVD or claudication date

Else if INCSELFREPCLD91=0 then INCSELFREPCLD_DATE91_FUdays is the number of days between visit 1 and min(MCU date, date of death, “30NOV2022”d)

Else INCSELFREPCLD_DATE91_FUdays = NULL

Source variable(s): visit 1 date, MCU date, self-report incident PVD or claudication date, date of death, INCSELFREPCLD91

5.7 INCSELFREPAST91 (Self-Report Asthma by the End of Visit 9)

Description: Numeric variable reporting if the participant self-reported asthma by November 30, 2022. May be used in conjunction with INCSELFREPAST_DATE91.

Format: 1=Yes, 0=No

Type: Numeric

Algorithm: If MCU4=NULL then INCSELFREPAST91=NULL.

Else if NULL<= MCU4a<=’30NOV2022’d then do;
    If MCU4=’Y’ then INCSELFREPAST91=1
    Else if MCU4=’N’ then INCSELFREPAST91=0
End;

Else if MCU4a>’30NOV2022’d then INCSELFREPAST91=0;

Source variable(s): [MCU_&mrt] MCU4, [MCU_&mrt] MCU4a

5.8 INCSELFREPAST_DATE91_FUdays (Days of follow up from visit 1 to Self-Report Asthma Date or Earliest Date from Last Follow-up, Death, or End of V9 Data Collection)

Description: Numeric variable with the days of follow up from visit 1 to the date the first time a participant self-reported asthma (through November 30, 2022); if participant never self-reported asthma (INCSELFREPAST91=0), then the value is the days of follow up from visit 1 to one of the following: 1) the Medical Conditions Update (MCU) form date, 2) date of death, or 3) November 30, 2022, whichever is earlier. The variable is missing if there are no records for this ID.

Type: Numeric

Algorithm: if INCSELFREPAST91=1 then
INCSELFREPAST_DATE91_FUdays is the number of days between visit 1 and self-report incident asthma date

Else if INCSELFREPAST91=0 then
INCSELFREPAST_DATE91_FUdays is the number of days between visit 1 and min(MCU date, date of death, “30NOV2022”d)

Else INCSELFREPAST_DATE91_FUdays = NULL

Source variable(s): visit 1 date, MCU date, self-report incident asthma date, date of death, INCSELFREPAST91

5.9 INCSELFREPLUNG91 (Self-Report Chronic Lung Disease by the End of Visit 9)

Description: Numeric variable reporting if the participant self-reported chronic lung disease by November 30, 2022. May be used in conjunction with INCSELFREPLUNG_DATE91.

Format: 1=Yes, 0=No

Type: Numeric

Algorithm: If MCU3=NULL then INCSELFREPLUNG91=NULL.

Else if NULL<= MCU3a<=’30NOV2022’d then do;
    If MCU3=’Y’ then INCSELFREPLUNG91=1
    Else if MCU3=’N’ then INCSELFREPLUNG91=0
End;

Else if MCU3a>’30NOV2022’d then INCSELFREPLUNG91=0;

Source variable(s): [MCU_&mrt] MCU3, [MCU_&mrt] MCU3a

5.10 INCSELFREPLUNG_DATE91_FUdays (Days of follow up from visit 1 to Self-Report Chronic Lung Disease Date or Earliest Date from Last Follow-up, Death, or End of V9 Data Collection)

Description: Numeric variable with the days of follow up from visit 1 to the date the first time a participant self-reported chronic lung disease (through November 30, 2022); if participant never self-reported chronic lung disease (INCSELFREPLUNG91=0), then the value is the days of follow up from visit 1 to one of the following: 1) the Medical Conditions Update (MCU) form date, 2) date of death, or 3) November 30, 2022, whichever is earlier. The variable is missing if there are no records for this ID.

Type: Numeric

Algorithm: if INCSELFREPLUNG91=1 then INCSELFREPLUNG_DATE91_FUdays is the number of days between visit 1 and self-report incident chronic lung disease date

Else if INCSELFREPLUNG91=0 then INCSELFREPLUNG_DATE91_FUdays is the number of days between visit 1 and min(MCU date, date of death, “30NOV2022”d)

Else INCSELFREPLUNG_DATE91_FUdays = NULL

Source variable(s): visit 1 date, MCU date, self-report incident chronic lung disease date, date of death, INCSELFREPLUNG91

5.11 INCSELFREPHF91 (Self-Report Heart Failure by the End of Visit 9)

Description: Numeric variable reporting if the participant self-reported heart failure by November 30, 2022. May be used in conjunction with INCSELFREPHF_DATE91.

Format: 1=Yes, 0=No

Type: Numeric

Algorithm: If SRHFail=NULL then INCSELFREPHF91=NULL;

Else if NULL <= MCU7a<=’30NOV2022’d then do;
if SRHFail=1 then INCSELFREPHF91=1
Else if SRHFail=0 then INCSELFREPHF91=0
End;

Else if MCU7a>'30NOV2022'd then INCSELFREPHF91=0;

Source variable(s): [MCU_&mrt] MCU6, [MCU_&mrt] MCU7, [MCU_&mrt] MCU7a

5.12 INCSELFREPHF_DATE91_FUdays (Days of follow up from visit 1 to Self-Report Heart Failure Date or Earliest Date from Last Follow-up, Death, or End of V9 Data Collection)

Description: Numeric variable with the days of follow up from visit 1 to the date the first time a participant self-reported heart failure (through November 30, 2022); if participant never self-reported heart failure (INCSELFREPHF91=0), then the value is the days of follow up from visit 1 to one of the following: 1) the Medical Conditions Update (MCU) form date, 2) date of death, or 3) November 30, 2022, whichever is earlier. The variable is missing if there are no records for this ID.

Type: Numeric

Algorithm: if INCSELFREPHF91=1 then
INCSELFREPHF_DATE91_FUdays is the number of days between visit 1 and the self-report incident heart failure date

Else if INCSELFREPHF91=0 then
INCSELFREPHF_DATE91_FUdays is the number of days between visit 1 and min(MCU date, date of death, "30NOV2022"d)

Else INCSELFREPHF_DATE91_FUdays = NULL

Source variable(s): visit 1 date, MCU date, self-report incident heart failure date, date of death, INCSELFREPHF91

5.13 INCSELFREPAF91 (Self-Report Atrial Fibrillation by the End of Visit 9)

Description: Numeric variable reporting if the participant self-reported atrial fibrillation by November 30, 2022. May be used in conjunction with INCSELFREPAF_DATE91.

Format: 1=Yes, 0=No

Type: Numeric

Algorithm: If MCU12=NULL then INCSELFREPAF91=NULL.

Else if NULL<= MCU12a<='30NOV2022'd then do;

If MCU12='Y' then INCSELFREPAF91=1
Else if MCU12='N' then INCSELFREPAF91=0
End;

Else if MCU12a>'30NOV2022'd then INCSELFREPAF91=0;

Source variable(s): [MCU_&mrt] MCU12, [MCU_&mrt] MCU12a

5.14 INCSELFREPAF_DATE91_FUdays (Days of follow up from visit 1 to Self-Report Atrial Fibrillation Date or Earliest Date from Last Follow-up, Death, or End of V9 Data Collection)

Description: Numeric variable with the days of follow up from visit 1 to the date the first time a participant self-reported atrial fibrillation (through November 30, 2022); if participant never self-reported atrial fibrillation (INCSELFREPAF91=0), then the value is the days of follow up from visit 1 to one of the following: 1) the Medical Conditions Update (MCU) form date, 2) date of death, or 3) November 30, 2022, whichever is earlier. The variable is missing if there are no records for this ID.

Type: Numeric

Algorithm: if INCSELFREPAF91=1 then
INCSELFREPAF_DATE91_FUdays is the number of days between visit 1 and self-report incident atrial fibrillation date

Else if INCSELFREPAF91=0 then
INCSELFREPAF_DATE91_FUdays is the number of days between visit 1 and min(MCU date, date of death, "30NOV2022"d)

Else INCSELFREPAF_DATE91_FUdays = NULL

Source variable(s): visit 1 date, MCU date, self-report incident atrial fibrillation date, date of death, INCSELFREPAF91

5.15 INCSELFREPSTK91 (Self-Report Stroke by the End of Visit 9)

Description: Numeric variable reporting if the participant self-reported stroke by November 30, 2022. May be used in conjunction with INCSELFREPSTK_DATE91.

Format: 1=Yes, 0=No, .T=Missing

Type: Numeric

Algorithm: INCSELFREPSTK91=1 if any of the records for a single ID have a Y value for either AFUcomp29_A or AFUcomp8b_K and NULL<afucomp1_A<='30NOV2022'd

INCSELFREPSTK91=0 if AFUcomp29_A, AFUcomp8b_K are (N,NULL) or (NULL,N) respectively in all records for a single ID, where NULL<afucomp1_A<='30NOV2022'd
INCSELFREPSTK71=NULL otherwise.

Source variable(s): [uc8531_compositeafu_safu] AFUcomp29_A,
[uc8531_compositeafu_safu] AFUcomp8b_K,
[uc8531_compositeafu_safu] AFUcomp1_a

5.16 INCSELFREPSTK_DATE91_FUdays (Days of follow up from visit 1 to Self-Report Stroke Date or Earliest Date from Last Follow-up, Death, or End of V9 Data Collection)

Description: Numeric variable with the days of follow up from visit 1 to the date the first time a participant self-reported stroke (through November 30, 2022); if participant never self-reported stroke (INCSELFREPSTK91=0), then the value is the days of follow up from visit 1 to one of the following: 1) the most recent AFU, 2) date of death, or 3) November 30, 2020, whichever is earlier. The variable is missing if there are no records for this ID.

Type: Numeric

Algorithm: INCSELFREPSTK_DATE91_FUdays is the number of days between visit 1 and the earliest status date in the composite follow-up dataset within the records for a single ID where a Y value is found for either AFUcomp29_A or AFUcomp8b_K (as long as the status date is not greater than "30NOV2022"d)

Else INCSELFREPSTK_DATE91_FUdays is the number of days between visit 1 and min(last completed follow-up interview date by 30NOV2022, date of death, "30NOV2022"d)

Else INCSELFREPSTK_DATE91_FUdays= missing if no records are found for a single ID

Source variable(s): AFUcomp29_A, AFUcomp8b_K, status date, last completed follow-up interview by 30NOV2022, date of death

6. NEUROCOGNITIVE STUDY

Table 1. Computer Algorithm Determination of REVISEDSYNDDIAG51 (VISIT 5 only)

Row	Decline[1] **(NSS11>=1)**	Fail domain[2] **(revised NSS6[3])**	CDRsb **(CDS7)**	FAQ **(FAQ51)**	**REVISEDSYNDDIAG**	Dx (formatted value of REVISEDSYNDDIAG)
0	PRORATEDMMSE51 score less than 21 for white participants or PRORATEDMMSE51 score less than 19 for black participants				4	Prob Dem
1	N	0	0, missing	≤5, missing	0	NL
2	N	0	0	>5	1	Prob NL
3	N	0	>0 but ≤3	≤5, missing	1	Prob NL
4	N	0	>0 but ≤3	>5	2	Uncert, rvu
5	N	0	>3	≤5, missing	2	Uncert, rvu
6	N	0	>3	>5	2	Uncert, rvu
7	N	1	0, missing	≤5, missing	1	Prob NL
8	N	1	0	>5	3	Prob MCI
9	N	1	>0 but ≤3	≤5, missing	3	Prob MCI
10	N	1	>0 but ≤3	>5	3	Prob MCI
11	N	1	>3	≤5, missing	4	Prob Dem
12	N	1	>3	>5	4	Prob Dem
13	N	>1	0, missing	≤5, missing	1	Prob NL
14	N	>1	0	>5	3	Prob MCI
15	N	>1	>0 but ≤3	≤5, missing	3	Prob MCI
16	N	>1	>0 but ≤3	>5	3	Prob MCI
17	N	>1	>3	≤5	4	Prob Dem
18	N	>1	>3	>5, missing	4	Prob Dem
19	y	0	0, missing	≤5, missing	0	NL
20	y	0	0	>5	2	Uncert, rvu
21	y	0	>0 but ≤3	≤5, missing	1	Prob NL
22	y	0	>0 but ≤3	>5	1	Prob NL
23	y	0	>3	≤5, missing	2	Uncert, rvu
24	y	0	>3	>5	2	Uncert, rvu
25	y	1	0, missing	≤5, missing	5	MCI
26	y	1	0	>5	3	Prob MCI
27	y	1	>0 but ≤3	≤5, missing	5	MCI
28	y	1	>0 but ≤3	>5	3	Prob MCI
29	y	1	>3	≤5	4	Prob Dem
30	y	1	>3	>5, missing	4	Prob Dem
31	y	>1	0, missing	≤5, missing	5	MCI
32	y	>1	0	>5	3	Prob MCI
33	y	>1	>0 but ≤3	≤5	5	MCI
34	y	>1	>0 but ≤3	>5, missing	3	Prob MCI
35	y	>1	>3	≤5	4	Prob Dem
36	y	>1	>3	>5, missing	6	Dem

Table 2. Computer Generated Algorithmic Diagnoses (Visit 6+)

Stratum	Decline[1]	Failed domain[2]	CDR sum of boxes	FAQ	Algorithm Dx[3]	Selected to Stage 2	Requires Review
1	PPT diagnosed with dementia at V5 or V6 or V7 (DEMDXL1_&v.1=1)				Dem	No	No
2	MMSE score (prorated) less than 21 for white participants ***or*** MMSE score (prorated) less than 19 for black participants				Dem	No	No
3	N	ANY	uncollected	uncollected	NL	No	No
4	Y or Y due to missing	0	uncollected	uncollected	NL	No	No
5	Y or Y due to missing	1 failed OR at least 1 missing	0, missing	≤5, missing	MCI	Yes	Yes
6	Y or Y due to missing	1 failed OR at least 1 missing	0	>5	Prob MCI	Yes	Yes
7	Y or Y due to missing	1 failed OR at least 1 missing	>0 but ≤3	≤5, missing	MCI	Yes	Yes
8	Y or Y due to missing	1 failed OR at least 1 missing	>0 but ≤3	>5	Prob MCI	Yes	Yes
9	Y or Y due to missing	1 failed OR at least 1 missing	>3	≤5	Prob Dem	Yes	Yes
10	Y or Y due to missing	1 failed OR at least 1 missing	>3	>5, missing	Prob Dem	Yes	Yes
11	Y or Y due to missing	>1	0, missing	≤5, missing	MCI	Yes	Yes
12	Y or Y due to missing	>1	0	>5	Prob MCI	Yes	Yes
13	Y or Y due to missing	>1	>0 but ≤3	≤5	MCI	Yes	Yes
14	Y or Y due to missing	>1	>0 but ≤3	>5, missing	Prob MCI	Yes	Yes
15	Y or Y due to missing	>1	>3	≤5	Prob Dem	Yes	Yes
16	Y or Y due to missing	>1	>3	>5, missing	Dem	Yes	Yes

6.1 MISSEDMMSEITEMS&v.1 (V&v. Number of missing MMSE items)

Description: Numeric variable describing the number of missing MMSE items.

Type: Numeric

Algorithm: *CALCULATE FOR &v=5, 6, 7, 9;
=nmiss(MME1,MME2,MME3,MME4,MME5,MME6,MME7,MME8,MME9,MME10,MME11,MME12,MME13,MME14,MME15,MME16,MME17,MME18,MME19,MME20,MME21,MME22,MME23,MME24,MME25,MME26,MME27,MME28,MME29,MME30)

Source variable(s): MME1, MME2, MME3, MME4, MME5, MME6, MME7, MME8, MME9, MME10, MME11, MME12, MME13, MME14, MME15, MME16, MME17, MME18, MME19, MME20, MME21, MME22, MME23, MME24, MME25, MME26, MME27, MME28, MME29, MME30

6.2 PRORATEDMMSE&v.2 (V&v. Pro-rated MMSE score ver2, [(30 * MME score) / (30 – number skipped due to non-cognitive reasons)], NULL if too much missingness)

Description: Version 2 of numeric variable calculated from the number of correct responses on the Mini-Mental State Exam and the number of items not collected due to reasons other than cognitive ability.

Type: Numeric

Algorithm: *CALCULATE FOR &v=5, 6, 7, 9;
If .<MISSEDMMSEITEMS&v.1<7 then

PRORATEDMMSE&v.2=(30*(sum(MME1,MME2,MME3,MME4,MME5,MME6,MME7,MME8,MME9,MME10,MME11,MME12,MME13,MME14,MME15,MME16,MME17,MME18,MME19,MME20,MME21,MME22,MME23,MME24,MME25,MME26,MME27,MME28,MME29,MME30)))/(30- MISSEDMMSEITEMS&v.1);
Else PRORATEDMMSE&v.2=NULL;
END;

Source variable(s): MME1, MME2, MME3, MME4, MME5, MME6, MME7, MME8, MME9, MME10, MME11, MME12, MME13, MME14, MME15, MME16, MME17, MME18, MME19, MME20, MME21, MME22, MME23, MME24, MME25, MME26, MME27, MME28, MME29, MME30

6.3 COGDIAG&v.1 (&v.1 NCS Cognitive Status Diagnosis)

Description: Categorical variable that combines the information from the reviewer's cognitive diagnosis and the computer-determined MCI/dementia syndromic diagnosis.

Format: N (normal), U (unknown/uncertain), M (mild cognitive impairment), and D (dementia)

Type: Character

Algorithm: Calculate for &v.=5, 6, 7, 8, 8t:

COGDIAG&v.1 is the classification committee's diagnosis (REVIEWERSYND&v.1) for PPT's who have been selected to stage 2, otherwise the value assigned is determined from ALGDX&v.1 (N=0,1; M=3,5; D=4,6; U=2).

Source variable(s): REVIEWERSYND&v.1, ALGDX&v.1

6.4 REVISEDROW51 (Row from syndromic dx) (Visit 5 only)

Type: Character

Algorithm: Categorical variable equal to the value in the 'ROW' column in Table 1 above.

Source variable(s): NSS6, NSS11, CDS7, FAQ51, PRORATEDMMSE51, RACEGRP

6.5 ALGDXSTRATUM&v.1 (Row from syndromic dx)

Type: Numeric

Algorithm: Calculate for &v.=6,7, 8t, 9:

Categorical variable equal to the value in the 'STRATUM' column in Table 2 above.

7. LEVELED DEMENTIA DIAGNOSES

1. Level 1 – Dementia diagnosed based on neuropsychological tests administered in-person at Visit 5 (2011-2013), Visit 6 (2016-2017), Visit 7 (2018-2019), Visit 8 (2020) or over the phone at Visit 8 (2020), and Visit 9 (2021-2022).

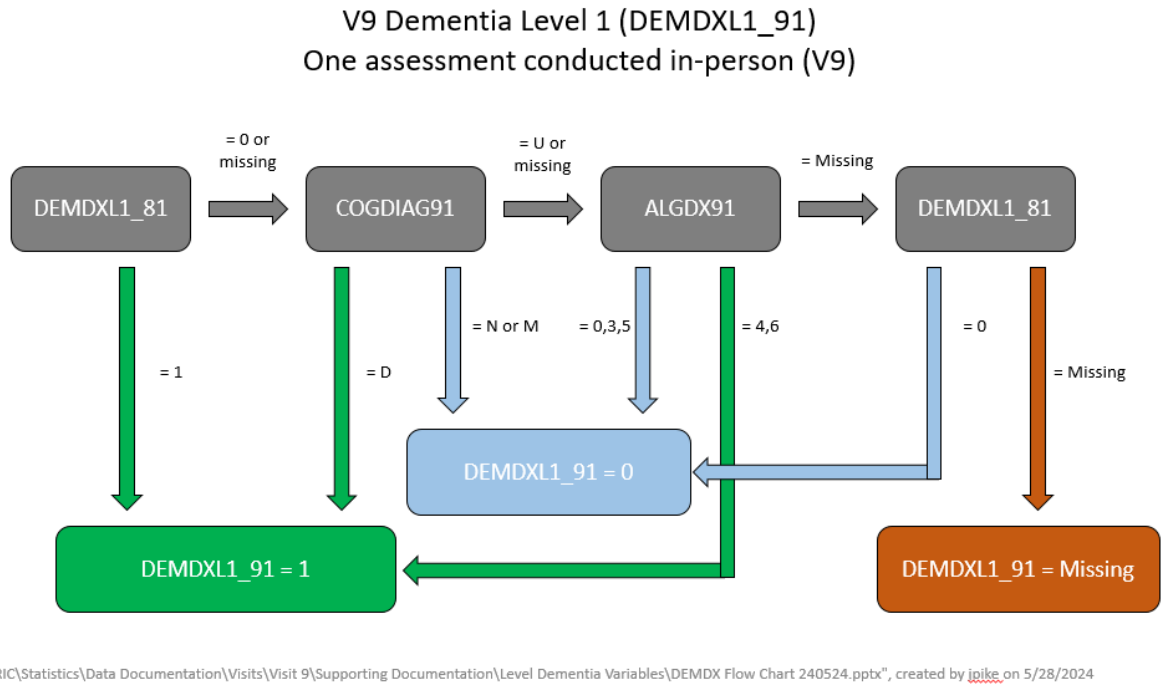
Each variable has a corresponding variable for days of follow up from visit 1 to the date of diagnosis and an indicator for the source of the diagnosis. If the PPT has a dementia diagnosis, the diagnosis date corresponds to the earliest date dementia was detected.

Level 1

The level 1 variable for dementia diagnosis (**DEMDXL1_81**) is available for those PPTs who completed an in-person or phone-based neuropsychological assessment. The evaluation procedure for determining cognitive status is described in **Manual 17**. Briefly, cognitive, behavioral, and functional assessments were conducted and an algorithmic diagnosis was generated. When the algorithm identified incident MCI or dementia, reviewers evaluated diagnostic materials and rendered an additional diagnosis. The reviewer diagnosis superseded the algorithmic diagnosis.

Dementia cases ascertained from in-person assessments are carried forward to subsequent assessments. Dementia cases ascertained from phone-based assessments are carried forward unless a subsequent in-person assessment renders a diagnosis of MCI or normal. A conflicting reviewer diagnosis based on an in-person assessment supersedes a prior reviewer or algorithmic diagnosis generated from a phone-based assessment.

If a participant had an initial in-person assessment in 2020 (V8) and a subsequent phone-based assessment in 2020 (V8T), then two diagnoses were generated. The first diagnosis was rendered using data from the in-person assessment and was defined as occurring on the date of the in-person assessment. The second diagnosis was rendered using data from the in-person and phone-based assessments and was defined as occurring on the date of the phone-based assessment. If only one assessment was performed during Visit 8 then the date and data from that assessment was used to determine the diagnosis.



7.1 DEMDXL1_91 (Dementia diagnosis level 1)

Description: Indicator variable for dementia based on (1) reviewer diagnosis (COGDIAG91) and (2) algorithmic diagnosis (ALGDX91). Diagnoses are prioritized based on the order listed. A value of 1 indicates dementia (COGDIAG=D or ALGDX=4, 6). A value of 0 indicates normal or MCI (COGDIAG=N, M or ALGDX=0, 3, 5).

Format: 0=No, 1=Yes.

Type: Numeric

Algorithm: If DEMDXL1_81=1 then DEMDXL1_91=1
Else if COGDIAG91= “D” then DEMDXL1_91=1
Else if COGDIAG91= (“N” or “M”) then DEMDXL1_91=0
Else if COGDIAG91= (“U” or “”) and ALGDX91 in (4, 6) then
DEMDXL1_91=1
Else if ALGDX91 in (0, 3, 5) then DEMDXL1_91=0
Else DEMDXL1_91=NULL

Source variable(s): DEMDXL1_81, COGDIAG91, ALGDX91

7.2 DATE_DEMDXL1_91_FollowUpDays (Days of follow up from visit 1 to Date for dementia diagnosis level 1)

Description: Days of follow up from visit 1 to the date of diagnosis associated with DEMDXL1_91. For PPTs with dementia (DEMDXL1_91=1) the date corresponds to a neuropsychological assessment or the earliest hospitalization date with a dementia code.

Type: Numeric

Algorithm: IF DEMDXL1_91 = missing
then DATE_DEMDXL1_91_FollowUpDays = missing;

IF DEMDXL1_81 = 1 then DATE_DEMDXL1_91_FollowUpDays = DATE_DEMDXL1_81_FollowUpDays;

ELSE IF COGDIAG91 = “D” then do;
If DEMDXL2a_82 = 1 then DATE_DEMDXL_91_FollowUpDays = DATE_DEMDEXL2a_82_FollowUpDays;

Else if DEMDXL2c_82 = 0 then do:

if (DEMENTEDCEL91 = 1 and ((the days of follow up from visit 1 to DEMENTEDCEL91_DATE_COND <= DATE_DEMDXL2c_82_FollowUpDays) or (DATE_DEMDXL2c_82_FollowUpDays is missing and DEMENTEDCEL91_DATE_COND < ‘01SEP2013’d))) or (DEMENTEDCEL91 = NULL then DATE_DEMDXL1_91_FollowUpDays is the number of days between visit 1 and visit 9 date;

else if DEMENTEDCEL91 = 1 and (NULL < DATE_DEMDXL2c_82_FollowcUpDays < the days of follow up from visit 1 to DEMENTEDCEL91_DATE_COND or (DATE_DEMDXL2c_82_FollowUpDays is missing and DEMENTEDCEL91_DATE_COND > ‘01SEP2013’d)) then DATE_DEMDXL1_91_FollowUpDays is the number of days between visit 1 and min(visit 9 date, DEMENTEDCEL91_DATE_COND);

End;

Else DATE_DEMDXL1_91_FollowUpDays is the number of days between visit 1 and min(visit 9 date, DEMENTEDCEL91_DATE1);
END;

ELSE IF COGDIAG91 = (“N” or “M”) then
DATE_DEMDXL1_91_FollowUpDays is the number of days between visit 1 and visit 9 date;

ELSE IF COGDIAG91 = (“U” or “”) then
If DEMDXL2c_82 = 1 then
DATE_DEMDXL1_91_FollowUpDays = DATE_DEMDXL2c_82_FollowUpDays;

Else if DEMDXL2c_82 = 0 then do:
if (DEMENTEDCEL91 = 1 and ((the days of follow up from visit 1 to DEMENTEDCEL91_DATE_COND <= DATE_DEMDXL2a_82_FollowUpDays) or (DATE_DEMDXL2c_82_FollowUpDays is missing and DEMENTEDCEL91_DATE_COND < ‘01SEP2013’d))) or (DEMENTEDCEL91 = NULL then DATE_DEMDXL1_91_FollowUpDays is the number of days between visit 1 and visit 9 date;

else if DEMENTEDCEL91 = 1 and (NULL < DATE_DEMDXL2a_82_FollowUpDays < the days of follow up from visit 1 to DEMENTEDCEL91_DATE_COND or (DATE_DEMDXL2a_82_FollowUpDays is missing and DEMENTEDCEL91_DATE_COND > ‘01SEP2013’d)) then DATE_DEMDXL1_91_FollowUpDays is the number of days between visit 1 and min(visit 9 date, DEMENTEDCEL91_DATE_COND);
End;

Else DATE_DEMDXL1_91_FollowUpDays is the number of days between visit 1 and min(visit 9 date, DEMENTEDCEL91_DATE1);
END;

ELSE IF ALGDX91 in(0, 3, 5) then
DATE_DEMDXL1_91_FollowUpDays is the number of days between visit 1 and visit 9 date;

Source variable(s): visit 1 date, DEMDXL1_81, DEMDXL1_91, DATE_DEMDXL2c_82_FollowUpDays, DEMDXL2a_82, DATE_DEMDXL1_81_FollowUpDays, DEMDXL2c_82, COGDIAG91, ALGDX91, visit 9 date, DEMENTEDCEL91, DATE_DEMDXL2a_82_FollowUpDays, DEMENTEDCEL91_DATE_COND, DEMENTEDCEL91_DATE1