

Coding Manual of Curated Gen 2/Omni 1 dataset

Note:

1. This curated dataset contains information of Gen II and Omni 1 participants
2. There are 5630 unique FHS participants (5124 Gen II and 506 Omni 1) within this dataset*, with a total of 1375 variables
3. Variables are generally grouped based on their origins (i.e., primary FHS dataset)
4. The format of the curated dataset is of wide format, with distinct variable names that allow users to tell the difference for repeated measurements of data of similar nature.
5. The first FHS core exam for Omni 1 participants started around the same time as the 6th FHS core exam for Gen II participants. However, the protocol that was used for the first FHS core exam for Omni 1 participants was that of Gen II's 5th FHS core exam. Hence, the baseline information extracted from the FHS core exams for all Omni 1 participants will have a suffix of “_core5”. The corresponding Omni 1 core exams used in this dataset is as follow:

Omni 1 core exam cycle	Suffix
1	_core5
2	_core7
3	_core8
4	_core9

6. For protocol descriptions and annotated forms of the primary datasets, refer to the respective documents of the individual source datasets.
7. Refer to [Appendix](#) for FHS core exam timeline (all cohorts)

*According to standard FHS practice, 1 Omni 1 participant is removed as they did not show up for the baseline FHS exam

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Demographics

IDTYPE

Variable name: idtype

Description: Framingham Heart Study cohort identifier

Code or Value	Description	Count
1	Gen 2	5124
7	Omni 1	506

ID

Variable name: id

Description: Framingham Heart Study participant identifier within cohort

IDTYPE and ID must be used together to form a unique study participant identification number or use variable “framid” instead

Code or Value	Description
0 – 9999	Range of values

Note: To preserve confidentiality, the exact range for the ID is not reflected in the coding manual.

FRAMID

Variable name: Framid

Description: Framingham ID assigned to each participant

Code or Value	Description
80001 – 89999	Gen 2
700003 – 709999	Omni 1

Note: To preserve confidentiality, the exact range for the ID is not reflected in the coding manual.

SEX

Variable name: sex

Description: Gender

Demographics

Code or Value	Description
1	Male
2	Female

RACE_CODE

Variable name: RACE_CODE

Description: RACE and ETHNICITY - Summary code string from combining primary codes given at different exams

Information extracted from “vr_raceall_2008_a_0712”

Code or Value	Description
W	White
B	Black
H	Hispanic or Latino
E	Not Hispanic or Latino
A	Asian
P	Native Hawaiian or Pacific Islander
N	American Indian or Alaskan Native
X	Asian Indian or Pacific Islander
R	Prefer not to answer
O	Other
.	Unknown

Note: RACE_CODE is constructed using primary codes W, B, H etc.

Race at different time points (exams) were combined to form RACE_CODE to indicate all races reported by participant over time.

Example1: RACE_CODE = 'EW' participant reported 'Not Hispanic or Latino' (H701) and 'White' (H702).

Example2: RACE_CODE = 'HH' participant reported 'Hispanic or Latino' (RACEATOMNI1) and 'Hispanic or Latino' (H700).

Example3: RACE_CODE = 'BEB' participant reported 'Black' (RACEATOMNI1), 'Not Hispanic or Latino' (H701) and 'Black' (H703).

Example4: RACE_CODE = 'ER' participant reported 'Not Hispanic or Latino' (H701) and 'Prefer not to answer' (H707).

Character variable

DATE_CORE1 — DATE_CORE9

Variable name: date_core1 — date_core9

Demographics

Description: Exam date of core exam 1 — 9 (MMDDYYYY)

Note: Date includes month, day and year

AGE_CORE1 — AGE_CORE9

Variable name: Age_core1 — Age_core9

Description: Age at exam 1 — 9

EDU_CORE2

Variable name: edu_core2

Description: Years of education (obtained from FHS core exam 2)

Note: This variable is only available for Gen II participants

Education information is also collected during NP testing. Refer to variable “education_B1”, “education_B2” and “educg”

EDU_CORE8

Variable name: edu_core8

Description: What is the highest degree or level of school you have completed? (if currently enrolled, mark the highest grade completed, degree received)

Code or Value	Description
0	No schooling
1	Grades 1 – 8
2	Grades 9 – 11
3	Completed high school (12 th grade) or GED
4	Some college, but no degree
5	Technical school certificate
6	Associate degree (Junior college AA, AS)
7	Bachelor's degree (BA, AB, BS)
8	Graduate or professional degree (Master's, Doctorate, MD, etc.)
.	Unknown

Note: Education information is also collected during NP testing. Refer to variable “education_B1”, “education_B2” and “educg”

Anthropometric Measurements

HEIGHT_CORE1 — HEIGHT_CORE9

Variable name: Height_core1 — Height_core9

Description: Height at exam 1 — 9

WEIGHT_CORE1 — WEIGHT_CORE9

Variable name: Weight_core1 — Weight_core9

Description: Weight at exam 1 — 9

BMI_CORE1 — BMI_CORE9

Variable name: BMI_core1 — BMI_core9

Description: Body mass index at exam 1 — 9

Hip and waist circumferences were only available from core exam 4 onwards

HIP_CORE4 — HIP_CORE7, HIP_CORE9

Variable name: Hip_core4 — Hip_core7, Hip_core9

Description: Hip girth at Exam 4 — 7, 9

Note: Hip girth was not measured for exam 8.

WAIST_CORE4 — WAIST_CORE9

Variable name: Waist_core4 — Waist_core9

Description: Waist girth at Exam 4 — 9

Smoking

SMOKING_CORE1 — SMOKING_CORE9

Variable name: Smoking_core1 — Smoking_core9

Description: Current smoking status at exam 1 — 9

Code or Value	Description
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0	Not a current smoker
1	Current Smoker
.	Unknown

CPD_CORE1 — CPD_CORE9

Variable name: CPD_core1 — CPD_core9

Description: Cigarettes per day at Exam 1 — 9

SBP_CORE1 — SBP_CORE9

Variable name: SBP_core1 — SBP_core9

Description: Systolic blood pressure at exam 1 — 9

DBP_CORE1 — DBP_CORE9

Variable name: DBP_core1 — DBP_core9

Description: Diastolic blood pressure at exam 1 — 9

VENT_RT_CORE1 — VENT_RT_CORE9

Variable name: Vent_rt_core1 — Vent_rt_core9

Description: Ventricular beat by ECG at Exam 1 — 9

DLVH_CORE1 — DLVH_CORE9

Variable name: DLVH_core1 — DLVH_core9

Description: Definite left ventricular hypertrophy, Exam 1 — 9

Code or Value	Description
0	No
1	Yes
.	Unknown

Code or Value	Description
0	No
1	Yes
.	Unknown

HRX_CORE1 — HRX_CORE9

Variable name: HRX_core1 — HRX_core9

Description: Treated for hypertension at Exam 1 — 9

Code or Value	Description
0	No
1	Yes
.	Unknown

Code or Value	Description
0	No
1	Yes
.	Unknown

BG_CORE1 — BG_CORE9

Variable name: BG_core1 — BG_core9

Description: Random blood glucose at Exam 1 — 9

Fasting blood test were only available from core exam 3 onwards

FASTING_BG_CORE3 — FASTING_BG_CORE9

Variable name: Fasting_BG_core3 — Fasting_BG_core9

Description: Fasting blood glucose at Exam 3 — 9

DMRX_CORE1 — DMRX_CORE9

Variable name: DMRX_core1 — DMRX_core9

Description: Treated for diabetes at Exam 1 — 9

Code or Value	Description
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0	No
1	Yes
.	Unknown

CURR_DM_CORE1 — CURR_DM_CORE9

Variable name: Curr_dm_core1 — Curr_dm_core9

Description: Current Diabetes status, Exam 1 — 9

Code or Value	Description
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0	No
1	Yes
.	Unknown or did not attend Exam 1 — 9

Blood Glucose, Diabetes and Treatment

HX_DM_CORE1 — HX_DM_CORE9

Variable name: Hx_dm_core1 — Hx_dm_core9

Description: History of diabetes, Exam 1 — 9

Code or Value	Description
0	No
1	Yes
.	Unknown or did not attend Exam 1 — 9

0	No
1	Yes
.	Unknown or did not attend Exam 1 — 9

TC_CORE1 — TC_CORE9

Variable name: TC_core1 — TC_core9

Description: Total cholesterol at Exam 1 — 9

TRIGLYCERIDES_CORE1 — TRIGLYCERIDES_CORE9

Variable name: Triglycerides_core1 — Triglycerides_core9

Description: Triglycerides at Exam 1 — 9

CALC_LDL_CORE1 — CALC_LDL_CORE9

Variable name: Calc_LDL_core1 — Calc_LDL_core9

Description: Calculated LDL-Cholesterol at Exam 1 — 9

HDL_CORE1 — HDL_CORE9

Variable name: HDL_core1 — HDL_core9

Description: HDL-Cholesterol at Exam 1 — 9

LIPRX_CORE1 — LIPRX_CORE9

Variable name: LIPRX_core1 — LIPRX_core9

Description: Treated for lipids at Exam 1 — 9

Code or Value

Description

0	No
1	Yes
.	Unknown

Creatinine

CREATININE_CORE2, CREATININE_CORE5 — CREATININE_CORE9

Variable name: Creatinine_core2, Creatinine_core5 — Creatinine_core9

Description: Serum Creatinine at Exam 2, 5 — 9

Neuropsychological assessment

EXAMDATE_NP1 — EXAMDATE_NP12

Variable name: examdate_NP1 — exam_NP12
Description: Date of the first — twelfth NP exam (MMDDYYYY)

AGE_NP1 — AGE_NP12

Variable name: age_NP1 — age_NP12
Description: Age of participant at first — twelfth NP exam

BATTERY_NP1 — BATTERY_NP12

Variable name: battery_NP1 — battery_NP12
Description: Form of the battery used for first — twelfth NP exam

Code or Value	Description
1	Short form
2	Long form
.	Unknown

1	Short form
2	Long form
.	Unknown

MARITAL_NP1 — MARITAL_NP12

Variable name: marital_NP1 — marital_NP12
Description: Current marital status, NP exam 1 — 12

Code or Value	Description
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1	Single
2	Married
3	Widowed
4	Divorced
5	Separated
6	Other
.	Unknown

HANDEDNESS_NP1 — HANDEDNESS_NP12

Variable name: handedness_NP1 — handedness_NP12
Description: Subject's handedness, NP Exam 1 — 12 (self-reporting)

Code or Value	Description
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Neuropsychological assessment

1	Right
2	Left
3	Ambidextrous
.	Unknown

EMPLOYMENT_NP1 — EMPLOYMENT_NP12

Variable name: employment_NP1 — employment_NP12
Description: Employment status at first — twelfth NP exam

Code or Value	Description
0	Works full time
1	Works part-time
2	Not working due to disability
3	Retired, no longer works
4	Unemployed (expects to return to work)
5	Never worked for pay outside home
6	Volunteer
7	Other
10	Full-time student
11	Homemaker, expects to return to work
.	Unknown

EDUCATION_B1_NP1 — EDUCATION_B1_NP12

Variable name: education_b1_NP1 — education_b1_NP12
Description: Highest Education Level Completed (Collected from NP battery1), NP Exam 1 — 12

Code or Value	Description
0	None
1	4th grade or less
2	5th, 6th, or 7th grades
3	Grade school graduate; no high school
4	High school, did not graduate
5	High school diploma
6	College, did not graduate
7	College graduate
8	Postgraduate school
10	High school and business college, nursing school, music school, or art school only

Neuropsychological assessment

.	Unknown
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EDUCATION_B2_NP1 — EDUCATION_B2_NP12

Variable name: education_b2_NP1 — education_b2_NP12
Description: Highest Education Level Completed (Collected from NP battery2), NP Exam 1 — 12

Code or Value	Description
0	None
1	4th grade or less
2	5th, 6th, or 7th grades
3	Grade school graduate; no high school
4	High school, did not graduate
5	High school diploma
6	GED
7	Some college course-work for credit (no certificate or degree)
8	Junior college – earned certificate or degree (e.g., AD)
9	Business college, nursing school, music school, art school
10	Technical School (post-HS) – earned certificate
11	Four Year College, partial
12	Four Year College, graduate
13	Graduate School, partial (no Masters degree)
14	Graduate School (Masters)
15	Graduate School (Doctorate)
.	Unknown

EDUCG_NP1 — EDUCG_NP12

Variable name: educg_NP1 — educg_NP12
Description: Education group (derived variable), NP Exam 1 — 12

Code or Value	Description
0	High school did not graduate
1	High school graduate
2	Some college

Neuropsychological assessment

3	College graduate
.	Unknown

OCCUP_B1_NP1 — OCCUP_B1_NP12

Variable name: occup_b1_NP1 — occup_b1_NP12
Description: Occupation from NP battery1, NP Exam 1 — 12

Code or Value	Description
1	Major professionals
2	Business managers
3	Administrative personnel
4	Clerical and sales workers
5	Skilled manual employees
6	Semi-skilled employees
7	Unskilled employed
8	Never employed

OCCUP_B2_NP1 — OCCUP_B2_NP12

Variable name: occup_b2_NP1 — occup_b2_NP12
Description: Occupation from NP battery2, NP Exam 1 — 12

Code or Value	Description
1	Professional, Technical and Related Occupations
2	Executive, Administrative, and Managerial Occupations
3	Sales Occupations
4	Administrative Support Occupations, Including Clerical
5	Precision Production, Craft, and Repair Occupations
6	Machine Operators, Assemblers, and Inspectors
7	Transportation and Material Moving Occupations
8	Handlers, Equipment Cleaners, Helpers, and Laborers
9	Service Occupations, Except Private Household

Neuropsychological assessment

10	Never employed for pay (e.g., homemaker)
.	Unknown

LMI_NP1 — LMI_NP12

Variable name: lmi_NP1 — lmi_NP12
Description: Total number correct verbatim and paraphrases from “Logical Memories – Immediate Recall”, NP Exam 1 — 12 (Range: 0 – 23)

LMD_NP1 — LMD_NP12

Variable name: lmd_NP1 — lmd_NP12
Description: Total number correct verbatim and paraphrases from “Logical Memories – Delayed Recall”, NP Exam 1 — 12 (Range: 0 – 23)

LMR_NP1 — LMR_NP12

Variable name: lmr_NP1 — lmr_NP12
Description: Logical Memories – Recognition, NP Exam 1 — 12 (Range: 0 – 11)

LMI_JOE_NP1 — LMI_JOE_NP12

Variable name: lmi_joe_NP1 — lmi_joe_NP12
Description: Total number of correct verbatim and paraphrases from WMS-III “Logical Memory – Immediate Recall” (only for Joe Garcia), NP Exam 1 — 12 (Range: 0 – 23)

LMD_JOE_NP1 — LMD_JOE_NP2

Variable name: lmd_joe_NP1 — lmd_joe_NP2
Description: Total number of correct verbatim and paraphrases from WMS -III “Logical Memory – Delayed Recall” (only for Joe Garcia), NP Exam 1 — 12 (Range: 0 – 23)

LMR_JOE_NP1 — LMR_JOE_NP12

Variable name: lmr_joe_NP1 — lmr_joe_NP12
Description: Total number of correct verbatim and paraphrases from WMS-III “Logical Memory – Recognition” (only for Joe Garcia), NP Exam 1 — 12 (Range: 0 – 11)

LM_STORY_NP1 — LM_STORY_NP12

Variable name: LM_story_NP1 — LM_story_NP12

Neuropsychological assessment

Description: Which logical memory story was administered? (NP Exam 1 – 12)

Code or Value	Description
1	Anna Thompson ONLY
2	Joe Garcia ONLY
3	Anna Thompson AND Joe Garcia
.	Neither story

VRI_NP1 — VRI_NP12

Variable name: vri_NP1 — vri_NP12
Description: Total points scored from “Visual Reproductions – Immediate Recall”, NP Exam 1 – 12 (Range: 0 – 14)

VRD_NP1 — VRD_NP12

Variable name: vrd_NP1 — vrd_NP12
Description: Total points scored from “Visual Reproductions – Delayed Recall”, NP Exam 1 – 12 (Range: 0 – 14)

VRR_NP1 — VRR_NP12

Variable name: vrr_NP1 — vrr_NP12
Description: Total points scored from “Visual Reproductions – Recognition”, NP Exam 1 – 12 (Range: 0 – 4)

PASI_NP1 — PASI_NP12

Variable name: pasi_NP1 — pasi_NP12
Description: Total Score from “Paired Associate Learning – Immediate Recall”, NP Exam 1 – 12 (Range 0 – 21)

PASI_E_NP1 — PASI_E1_NP2

Variable name: pasi_e_NP1 — pasi_e_NP12
Description: Easy Score from “Paired Associate Learning – Immediate Recall”, NP Exam 1 – 12 (Range: 0 – 18)

PASI_H_NP1 — PASI_H_NP12

Variable name: pasi_h_NP1 — pasi_h_NP12

Neuropsychological assessment

Description: Hard Score from “Paired Associate Learning – Immediate Recall”, NP Exam 1 — 12 (Range: 0 – 12)

PASD_NP1 — PASD_NP12

Variable name: pasd_NP1 — pasd_NP12

Description: Total Score from “Paired Associate Learning – Delayed Recall”, NP Exam 1 — 12 (Range: 0 – 10)

PASD_E_NP1 — PASD_E_NP12

Variable name: pasd_e_NP1 — pasd_e_NP12

Description: Easy Score from “Paired Associate Learning – Delayed Recall”, NP Exam 1 — 12 (Range: 0 – 6)

PASD_H_NP1 — PASD_H_NP12

Variable name: pasd_h_NP1 — pasd_h_NP12

Description: Hard Score from “Paired Associate Learning – Delayed Recall”, NP Exam 1 — 12 (Range: 0 – 4)

PASR_NP1 — PASR_NP12

Variable name: pasr_NP1 — pasr_NP12

Description: Total Score from “Paired Associate Learning - Recognition”, NP Exam 1 — 12 (Range: 0 – 10)

DSF_NP1 — DSF_NP12

Variable name: dsf_NP1 — dsf_NP12

Description: Highest string from “Digits Forward Span”, NP Exam 1 — 12 (Range: 0 – 9)

DSB_NP1 — DSB_NP12

Variable name: dsb_NP1 — dsb_NP12

Description: Highest string from “Digits Backward Span”, NP Exam 1 — 12 (Range: 0 – 8)

TRAILSA_NP1 — TRAILSA_NP12

Variable name: trailsA_NP1 — trailsA_NP12

Description: Time in minutes to finish “Trail A”, NP Exam 1 — 12 – capped at 7 minutes (Range: 0.10 – 7.0)

TRAILS_B_NP1 — TRAILS_B_NP12

Variable name: trailsB_NP1 — trailsB_NP12
Description: Time in minutes to finish “Trail B”, NP Exam 1 — 12 – capped at 10 minutes (Range: 0.32 – 10.0)

SIM_NP1 — SIM_NP12

Variable name: sim_NP1 — sim_NP12
Description: Total raw score from “Similarities Test”, NP Exam 1 — 12 (Range: 0 – 26)

HVOT_NP1 — HVOT_NP12

Variable name: hvot_NP1 — hvot_NP12
Description: Total score from “Hooper Visual Organization Test”, NP Exam 1 — 12 (Range: 0 – 30)

BNT10_NP1 — BNT10_NP12

Variable name: bnt10_NP1 — bnt10_NP12
Description: Correct score without cue from 10 items of “Boston Naming Test”, NP Exam 1 — 12 (Range: 0 – 10)

BNT10_SEMANTIC_NP1 — BNT10_SEMANTIC_NP12

Variable name: bnt10_semantic_NP1 — bnt10_semantic_NP12
Description: Correct score with semantic cue from 10 items of “Boston Naming Test”, NP Exam 1 — 12 (Range: 0 – 10)

BNT10_PHONEMIC_NP1 — BNT10_PHONEMIC_NP12

Variable name: bnt10_phonemic_NP1 — bnt10_phonemic_NP12
Description: Correct score with phonemic cue from 10 items of “Boston Naming Test”, NP Exam 1 (Range: 0 – 10)

BNT30_NP1 — BNT30_NP12

Variable name: bnt30_NP1 — bnt30_NP12
Description: Correct score without cue from 30 items of “Boston Naming Test”, NP Exam 1 — 12 (Range: 0 – 30)

BNT30_SEMANTIC_NP1 — BNT30_SEMANTIC_NP12

Variable name: bnt30_semantic_NP1 — bnt30_semantic_NP12

Neuropsychological assessment

Description: Correct score with semantic cue from 30 items of “Boston Naming Test”, NP Exam 1 — 12 (Range: 0 – 30)

BNT30_PHONEMIC_NP1 — BNT30_PHONEMIC_NP12

Variable name: bnt30_phonemic_NP1 — bnt30_phonemic_NP12

Description: Correct score with phonemic cue from 30 items of “Boston Naming Test”, NP Exam 1 — 12 (Range: 0 – 30)

BNT36_NP1 — BNT36_NP12

Variable name: bnt36_NP1 — bnt36_NP12

Description: Correct score without cue from 36 items of “Boston Naming Test”, NP Exam 1 — 12 (Range: 0 – 36)

BNT36_SEMANTIC_NP1 — BNT36_SEMANTIC_NP12

Variable name: bnt36_semantic_NP1 — bnt36_semantic_NP12

Description: Correct score with semantic cue from 36 items of “Boston Naming Test”, NP Exam 1 — 12 (Range: 0 – 36)

BNT36_PHONEMIC_NP1 — BNT36_PHONEMIC_NP12

Variable name: bnt36_phonemic_NP1 — bnt36_phonemic_NP12

Description: Correct score with phonemic cue from 36 items of “Boston Naming Test”, NP Exam 1 — 12 (Range: 0 – 36)

FINGTAPR_NP1 — FINGTAPR_NP12

Variable name: FingTapR_NP1 — FingTapR_NP12

Description: Mean of five trials of “Finger-tapping” of right hand, NP Exam 1 — 12

FINGTAPL_NP1 — FINGTAPL_NP12

Variable name: FingTapL_NP1 — FingTapL_NP12

Description: Mean of five trials of “Finger-tapping” of left hand, NP Exam 1 — 12

WRAT_NP1 — WRAT_NP12

Variable name: wrat_NP1 — wrat_NP12

Description: Raw Score from “Wide Range Achievement Test –Reading”, NP Exam 1 — 12 (Range: 15 – 57)

FAS_NP1 — FAS_NP12

Neuropsychological assessment

Variable name: fas_NP1 — fas_NP12
Description: The total words from the Controlled Oral Word Association Test, NP Exam 1 — 12

FAS_ANIMAL_NP1 — FAS_ANIMAL_NP12

Variable name: fas_animal_NP1 — fas_animal_NP12
Description: The total words from the animal part of the Category Naming Test, NP Exam 1 — 12

Note: this variable only available on “NP battery2”

BD_NP1 — BD_NP12

Variable name: bd_NP1 — bd_NP12
Description: Total Score from “Block Design”, NP Exam 1 — 12 (Range: 0 — 26)

WAIS_NP1 — WAIS_NP12

Variable name: wais_NP1 — wais_NP12
Description: Total correct answers from “WAIS test”, NP Exam 1 — 12 (Range: 0 — 29)

CODING_CORRECT_NP1 — CODING_CORRECT_NP12

Variable name: coding_correct_NP1 — coding_correct_NP12
Description: Total correct from WAIS-IV Coding, NP Exam 1 — 12

CODING_INCORRECT_NP1 — CODING_INCORRECT_NP12

Variable name: coding_incorrect_NP1 — coding_incorrect_NP12
Description: Total incorrect from WAIS-IV Coding, NP Exam 1 — 12

INCIDENTAL_PAIRED_NP1 — INCIDENTAL_PAIRE_NP12

Variable name: Incidental_paired_NP1 — Incidental_paired_NP12
Description: Total correct from Paired Incidental Learning (Given the number from Coding, the participant had to draw the appropriate symbol associated with that number; each number is presented twice), NP Exam 1 — 12

INCIDENTAL_FREE_NP1 — INCIDENTAL_FREE_NP12

Variable name: Incidental_free_NP1 — Incidental_free_NP12

Neuropsychological assessment

Description: Total correct from Free Recall Incidental Learning (The participant was asked to draw all the symbols they remember from the Coding task, without having to identify which number accompanied the symbol), NP Exam 1 — 12

MATH_CORRECT_NP1 — MATH_CORRECT_NP12

Variable name: Math_correct_NP1 — Math_correct_NP12

Description: Total correct responses for Math Fluency, NP Exam 1 — 12

MATH_INCORRECT_ADD_NP1 — MATH_INCORRECT_ADD_NP12

Variable name: Math_incorrect_add_NP1 — Math_incorrect_add_NP12

Description: Incorrect responses for addition problems, NP Exam 1 — 12

MATH_INCORRECT_SUB_NP1 — MATH_INCORRECT_SUB_NP12

Variable name: Math_incorrect_sub_NP1 — Math_incorrect_sub_NP12

Description: Incorrect responses for subtraction problems, NP Exam 1 — 12

MATH_INCORRECT_MUL_NP1 — MATH_INCORRECT_MUL_NP12

Variable name: Math_incorrect_mul_NP1 — Math_incorrect_mul_NP12

Description: Incorrect responses for multiplication problems, NP Exam 1 — 12

RIGHT_OPEN_NP1 — RIGHT_OPEN_NP12

Variable name: right_open_NP1 — right_open_NP12

Description: Seconds from balance test on right leg with eyes open (maximum time is set at 30 seconds), NP Exam 1 — 12

LEFT_OPEN_NP1 — LEFT_OPEN_NP12

Variable name: left_open_NP1 — left_open_NP12

Description: Seconds from balance test on left leg with eyes open (maximum time is set at 30 seconds), NP Exam 1 — 12

RIGHT_CLOSE_NP1 — RIGHT_CLOSE_NP12

Variable name: right_close_NP1 — right_close_NP12

Description: Seconds from balance test on right leg with eyes closed (maximum time is set at 30 seconds), NP Exam 1 — 12

LEFT_CLOSE_NP1 — LEFT_CLOSE_NP12

Neuropsychological assessment

Variable name: left_close_NP1 — left_close_NP12
Description: Seconds from balance test on left leg with eyes closed (maximum time is set at 30 seconds), NP Exam 1 — 12

MRI352_NP1 — MRI352_NP12

Variable name: mri352_NP1 — mri352_NP12
Description: Tester's impression of participant's dementia status (Not verified), NP Exam 1 — 12

Code or Value	Description
0	Not demented
0.25	Not demented/MCI
0.5	Mild Cognitive Impairment
1	Mildly Demented
1.5	Mild – Moderately Demented
2	Moderately Demented
2.5	Moderately – Severely Demented
3	Severely Demented
5	Non-progressive impairment
.	Unknown

TEST_LANGUAGE_NP1 — TEST_LANGUAGE_NP12

Variable name: test_language_NP1 — test_language_NP12
Description: Language used during NP Exam 1 — 12

Code or Value	Description
1	English
2	Spanish

Matching NP Dates with Core Exam Dates

NP_CLOSEST_EXAM_DATE1 — NP_CLOSEST_EXAM_DATE12

Variable name: np_closest_exam_date1 — np_closest_exam_date12

Description: FHS core exam date that was closest to the first — twelfth NP test

NP_DAYS_APART1 — NP_DAYS_APART12

Variable name: np_days_apart1 — np_days_12

Description: The number of days between the FHS core exam date that was closest to the first — twelfth NP test and the first — twelfth NP test date.

Note: A negative value means that the FHS core exam that was closest to the NP test occurred prior to the NP test, while a positive value means that the closest FHS core exam occurred after the NP test.

NP_EXAM_CYCLE1 — NP_EXAM_CYCLE12

Variable name: np_exam_cycle1 — np_exam_cycle12

Description: FHS core exam cycle that was closest to the first — twelfth NP test

Code or Value	Description
1	Core Exam 1
2	Core Exam 2
3	Core Exam 3
4	Core Exam 4
5	Core Exam 5
6	Core Exam 6
7	Core Exam 7
8	Core Exam 8
9	Core Exam 9
.	Unknown

Code or Value	Description
1	Core Exam 1
2	Core Exam 2
3	Core Exam 3
4	Core Exam 4
5	Core Exam 5
6	Core Exam 6
7	Core Exam 7
8	Core Exam 8
9	Core Exam 9
.	Unknown

Verified Outcomes – Dementia and Related Variables

NORMAL_DATE

Variable name: normal_date
Description: Last date documented to be cognitively intact

Note: In event that the day and/or month of onset are uncertain, the day is default to 15 and the month is default to 6. The year of onset is always certain for all non-missing values.

IMPAIRMENT_DATE

Variable name: impairment_date
Description: Date of cognitive impairment onset

Note: In event that the day and/or month of onset are uncertain, the day is default to 15 and the month is default to 6. The year of onset is always certain for all non-missing values.

MILD_DATE

Variable name: mild_date
Description: Date of diagnosis of mild dementia

Note: In event that the day and/or month of onset are uncertain, the day is default to 15 and the month is default to 6. The year of onset is always certain for all non-missing values.

MODERATE_DATE

Variable name: moderate_date
Description: Date of diagnosis of moderate dementia

Note: In event that the day and/or month of onset are uncertain, the day is default to 15 and the month is default to 6. The year of onset is always certain for all non-missing values.

SEVERE_DATE

Variable name: severe_date
Description: Date of diagnosis of severe dementia

Note: In event that the day and/or month of onset are uncertain, the day is default to 15 and the month is default to 6. The year of onset is always certain for all non-missing values.

EDDD

Variable name: eddd
Description: Earliest documented date of Dementia

Verified Outcomes – Dementia and Related Variables

Note: This date variable is an estimated onset date for dementia using the earliest dates of various supporting resources and/or derived from earliest documented date variables of “mild_date”, “moderate_date” and “severe_dates”. In certain situations, the “EDDD” may precede those derived using “mild_date”, “moderate_date” and “severe_dates”.

DEMRV046

Variable name: demrv046
Description: Probable Dementia present

Code or Value	Description
0	No
1	Yes
.	Unknown

Note: This variable refers to all-cause dementia.

DEMRV103

Variable name: demrv103
Description: Dementia subtype

Code or Value	Description
0	None
1	Alzheimer's disease without stroke
2	Alzheimer's disease with stroke
3	Vascular dementia without Alzheimer's disease
4	Mixed dementia type (Alzheimer's disease + vascular dementia)
5	Frontotemporal dementia
6	Dementia with Lewy bodies
7	Dementia that does not fit any other Category (progressive)
8	Dementia that does not fit any other category (non-progressive)

Verified Outcomes – Dementia and Related Variables

9	Cognitive Impairment – No Dementia
10	Dementia – Uncertain
.	Unknown

Note: Value “9” refers to Cognitive impairment without Dementia. These subjects are verified to have mild cognitive impairment (MCI). However, it is also possible that participants, who had not yet been screened by the dementia consensus panel, may also suffer from mild cognitive impairment. Hence, if the research outcome of interest is mild cognitive impairment, it is advisable to also consider the psychometric results of the study population as part of the outcome evaluation.

Verified Outcomes – First Coronary Heart Disease (CHD) Event

FIRST_CHD_DATE

Variable name: first_chd_date

Description: Date of first Coronary Heart Disease (CHD) Event

Note: This variable is derived from the Sequence of Event (SoE) dataset, using the following values in (1, 2, 3, 4, 5, 6, 7, 8, 21, 22, 23, 24) for the variable “EVENT”

Event Values in SoE Dataset Description

1	MI recognized, with diagnostic ECG
2	MI recognized, without diagnostic ECG, with enzymes and history
3	MI recognized, without diagnostic ECG, with autopsy evidence, new event (see also code 9)
4	MI unrecognized, silent
5	MI unrecognized, not silent
6	AP, first episode only
7	CI, definite by both history and ECG
8	Questionable MI at exam 1
21	Death, CHD sudden, within 1 hour
22	Death, CHD, 1 - 23 hours, nonsudden
23	Death, CHD, 24-47 hours, non sudden
24	Death, CHD, 48 hours or more, non sudden
.	No record in SoE dataset

Abbreviations:

MI – Myocardial Infarction

ECG – Electrocardiogram

AP – Angina Pectoris

CI – Coronary Insufficiency

Verified Outcomes – First Stroke (CVA) Event

FIRST_STROKE_DATE

Variable name: first_stroke_date

Description: Date of first Stroke (CVA) Event

Note: This variable is derived from the Sequence of Event (SoE) dataset, using the following values in (10, 11, 13, 14, 15, 16, 17, 19) for the variable “EVENT”

Event Values in SoE Dataset Description

10	Definite CVA at exam 1, but questionable type
11	ABI (Atherothrombotic Infarction of brain)
13	Cerebral embolism
14	Intracerebral hemorrhage
15	Subarachnoid hemorrhage
16	Other CVA
17	CVA, definite CVA, type unknown
19	Questionable CVA at exam 1
.	No record in SoE dataset

Abbreviations:

CVA – Cerebrovascular Accident

ABI – Atherothrombotic Infarction of Brain

Verified Outcomes – First Atrial Fibrillation (AF) Event

FIRST_AF_DATE

Variable name: first_af_date

Description: Date for first Atrial Fibrillation (AF) Event

Note: This variable is derived from the verified Atrial Fibrillation (AF) dataset, using the values in (1, 2, 3) for the variable “RHYTHM”

Rhythm Values in AF Dataset Description

1	Atrial fibrillation
2	Atrial flutter
3	Atrial fibrillation / atrial flutter
.	No record in AF dataset

FIRST_CANCER_DATE

Variable name: first_cancer_date

Description: First diagnosis date of tumor or cancer

Note: This variable is derived from the verified Cancer dataset, using the variable “D_DATE”

TOPO_CANCER

Variable name: topo_cancer

Description: Topography - describes site - corresponds to first three digits of topography code WHO ICD-O

Note: This variable is derived from the verified Cancer dataset, using the variable “TOPO”

Rhythm Values in AF Dataset Description

140	Lip
141	Tongue
142	Major salivary gland
143	Gum
144	Floor of mouth
145	Other and unspecified parts of mouth
146	Oropharynx
147	Nasopharynx
148	Hypopharynx
149	Pharynx and ill-defined sites in lip, oral cavity and pharynx
150	Esophagus
151	Stomach
152	Small intestine
153	Colon
154	Rectum, rectosigmoid junction, anal canal and anus, not otherwise specified
155	Liver and intrahepatic bile ducts
156	Gallbladder and extrahepatic bile ducts
157	Pancreas
158	Retroperitoneum and peritoneum
159	Other and ill-defined sites within digestive organs and peritoneum
160	Nasal cavities, accessory sinuses, middle ear and inner ear
161	Larynx
162	Trachea bronchus, and lung
163	Pleura

Verified Outcomes – First Cancer and Related Variables

164	Thymus, heart and mediastinum
165	Other and ill-defined sites within respiratory system and intrathoracic organs
169	Hematopoietic and reticuloendothelial systems
170	Bones, joints and articular cartilage
171	Connective, subcutaneous and other soft tissues
173	Skin (excludes skin of labia majora, skin of vulva, skin of penis and skin of scrotum)
174	Female breast (excludes skin of breast)
175	Male breast (excludes skin of breast)
179	Uterus, not otherwise specified
180	Cervix uteri
181	Placenta
182	Corpus uteri or endometrium
183	Ovary, fallopian tube and broad ligament
184	Other and unspecified female genital organs
185	Prostate gland
186	Testis
187	Penis and other male genital organs
188	Urinary bladder
189	Kidney and other urinary organs
190	Eye and lacrimal gland
191	Brain
192	Other and unspecified parts of the nervous system (excludes 4 peripheral nerves, sympathetic and parasympathetic nerves and ganglia)
193	Thyroid gland
194	Other endocrine glands
195	Other ill-defined sites
196	Lymph nodes
199	Unknown primary site
.	No record in Cancer dataset

LOCATION_CANCER

Variable name: location_cancer

Description: Location - describes subdivision of site - corresponds to fourth digit of topography code WHO ICD-O

Note: This variable is derived from the verified Cancer dataset, using the variable “LOCATION”

Code or Value	Description
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Verified Outcomes – First Cancer and Related Variables

0 – 9	Range of values
-------	-----------------

HIST_CANCER

Variable name: hist_cancer

Description: Histology or morphology - describes cell histopathology - corresponds to four digit morphology code WHO ICD-O

Note: This variable is derived from the verified Cancer dataset, using the variable “HIST”

Code or Value	Description
8000 – 9990	Range of values

Survival Information

Last_contact_date

Variable name: Last_contact_date

Description: Date of last contact (This is the last time the participant was known to be alive)

Note: This date is censored to be the last day of 2020 if the last contact date was after the last day of 2020.

Death_date

Variable name: Death_date

Description: Date of death

Prevalence

PREVALENT_CHD_CORE1 – PREVALENT_CHD_CORE9

Variable name: prevalent_chd_core1 – prevalent_chd_core9
Description: History of CHD present at core exam 1 – 9

Code or Value	Description
0	No
1	Yes
.	Did not attend core exam

Note: This variable is derived using the variable “first_chd_date” and the respective FHS core exam date variables “date_core”.

PREVALENT_STROKE_CORE1 – PREVALENT_STROKE_CORE9

Variable name: prevalent_stroke_core1 – prevalent_stroke_core9
Description: History of stroke present at core exam 1 – 9

Code or Value	Description
0	No
1	Yes
.	Did not attend core exam

Note: This variable is derived using the variable “first_stroke_date” and the respective FHS core exam date variables “date_core”.

PREVALENT_AF_CORE1 – PREVALENT_AF_CORE9

Variable name: prevalent_af_core1 – prevalent_af_core9
Description: History of AF present at core exam 1 – 9

Code or Value	Description
0	No
1	Yes
.	Did not attend core exam

Note: This variable is derived using the variable “first_af_date” and the respective FHS core exam date variables “date_core”.

Prevalence

PREVALENT_DEMENTIA_CORE1 – PREVALENT_DEMENTIA_CORE9

Variable name: prevalent_dementia_core1 – prevalent_dementia_core9
Description: History of dementia present at core exam 1 – 9

Code or Value	Description
0	No
1	Yes
.	Did not attend core exam

Note: This variable is derived using the variable “eddd” and the respective FHS core exam date variables “date_core”.

PREVALENT_CANCER_CORE1 – PREVALENT_CANCER_CORE9

Variable name: prevalent_cancer_core1 – prevalent_cancer_core9
Description: History of cancer present at core exam 1 – 9

Code or Value	Description
0	No
1	Yes
.	Did not attend core exam

Note: This variable is derived using the variable “first_cancer_date” and the respective FHS core exam date variables “date_core”.

Prevalence

PREVALENT_CHD_NP1 – PREVALENT_CHD_NP12

Variable name: prevalent_chd_np1 – prevalent_chd_np12
Description: History of CHD present at NP test 1 – 12

Code or Value	Description
0	No
1	Yes
.	Did not attend NP test

Note: This variable is derived using the variable “first_chd_date” and the respective NP test date variables “examdate_np”.

PREVALENT_STROKE_NP1 – PREVALENT_STROKE_NP12

Variable name: prevalent_stroke_np1 – prevalent_stroke_np12
Description: History of stroke present at NP test 1 – 12

Code or Value	Description
0	No
1	Yes
.	Did not attend NP test

Note: This variable is derived using the variable “first_stroke_date” and the respective NP test date variables “examdate_np”.

PREVALENT_AF_NP1 – PREVALENT_AF_NP12

Variable name: prevalent_af_np1 – prevalent_af_np12
Description: History of AF present at NP test 1 – 12

Code or Value	Description
0	No
1	Yes
.	Did not attend NP test

Note: This variable is derived using the variable “first_af_date” and the respective NP test date variables “examdate_np”.

Prevalence

PREVALENT_DEMENTIA_NP1 – PREVALENT_DEMENTIA_NP12

Variable name: prevalent_dementia_np1 – prevalent_dementia_np12
Description: History of dementia present at NP test 1 – 12

Code or Value	Description
0	No
1	Yes
.	Did not attend NP test

Note: This variable is derived using the variable “eddd” and the respective NP test date variables “examdate_np”.

PREVALENT_CANCER_NP1 – PREVALENT_CANCER_NP12

Variable name: prevalent_cancer_np1 – prevalent_cancer_np12
Description: History of cancer present at NP test 1 – 12

Code or Value	Description
0	No
1	Yes
.	Did not attend NP test

Note: This variable is derived using the variable “first_cancer_date” and the respective NP test date variables “examdate_np”.

Refer to publication: D'Agostino Sr, R. B., Vasan, R. S., Pencina, M. J., Wolf, P. A., Cobain, M., Massaro, J. M., & Kannel, W. B. (2008). General cardiovascular risk profile for use in primary care: the Framingham Heart Study. *Circulation*, 117(6), 743-753.

AGE_FHSCVD_CORE1 – AGE_FHSCVD_CORE9

Variable name: age_fhscvd_core1 – age_fhscvd_core9

Description: Age component for FHS CVD risk score at exam 1 – 9

Code or Value	Description
0 – 15	Range of values
.	Did not attend core exam or out of bounds

HDL_FHSCVD_CORE1 – HDL_FHSCVD_CORE9

Variable name: hdl_fhscvd_core1 – hdl_fhscvd_core9

Description: HDL component for FHS CVD risk score at exam 1 – 9

Code or Value	Description
-2 – 2	Range of values
.	Did not attend core exam or out of bounds

TC_FHSCVD_CORE1 – TC_FHSCVD_CORE9

Variable name: tc_fhscvd_core1 – tc_fhscvd_core9

Description: TC (Total Cholesterol) component for FHS CVD risk score at exam 1 – 9

Code or Value	Description
0 – 5	Range of values
.	Did not attend core exam or out of bounds

FHS CVD Risk Score

SMOKING_FHSCVD_CORE1 – SMOKING_FHSCVD_CORE9

Variable name: smoking_fhscvd_core1 – smoking_fhscvd_core9
Description: Current smoker component for FHS CVD risk score at exam 1 – 9

Code or Value	Description
0	No
3	Yes (Female)
4	Yes (Male)
.	Did not attend core exam or out of bounds

DM_FHSCVD_CORE1 – DM_FHSCVD_CORE9

Variable name: dm_fhscvd_core1 – dm_fhscvd_core9
Description: History of diabetes component for FHS CVD risk score at exam 1 – 9

Code or Value	Description
0	No
3	Yes (Male)
4	Yes (Female)
.	Did not attend core exam or out of bounds

SBP_FHSCVD_CORE1 – SBP_FHSCVD_CORE9

Variable name: sbp_fhscvd_core1 – sbp_fhscvd_core9
Description: Systolic blood pressure component for FHS CVD risk score at exam 1 – 9

Code or Value	Description
-3 – 7	Range of values
.	Did not attend core exam or out of bounds

FHS CVD Risk Score

FHSCVD_CORE1 –FHSCVD_CORE9

Variable name: fhscvd_core1 – fhscvd_core9

Description: FHS CVD risk score at exam 1 – 9

```
fhscvd_core = age_fhscvd_core + hdl_fhscvd_core + tc_fhscvd_core + smoking_fhscvd_core +  
dm_fhscvd_core + sbp_fhscvd_core
```

Code or Value	Description
-5 – 36	Range of values
.	Did not attend core exam or out of bounds

Note: This derived variable is only available if all components of the FHS CVD risk score are available. Refer to publication for more information

Refer to publications:

Wolf, P. A., D'Agostino, R. B., Belanger, A. J., & Kannel, W. B. (1991). Probability of stroke: a risk profile from the Framingham Study. *Stroke*, 22(3), 312-318.

Dufouil, C., Beiser, A., McLure, L. A., Wolf, P. A., Tzourio, C., Howard, V. J., ... & Seshadri, S. (2017). Revised Framingham stroke risk profile to reflect temporal trends. *Circulation*, 135(12), 1145-149.

AGE_FSRP_CORE1 – AGE_FSRP_CORE9

Variable name: age_fsrp_core1 – age_fsrp_core9

Description: Age component for FSRP at exam 1 – 9

Code or Value	Description
0 – 10	Range of values
.	Did not attend core exam or out of bounds

SBP_FSRP_CORE1 – SBP_FSRP_CORE9

Variable name: sbp_fsrp_core1 – sbp_fsrp_core9

Description: Systolic blood pressure component for FSRP at exam 1 – 9

Code or Value	Description
0 – 10	Range of values
.	Did not attend core exam or out of bounds

HRX_FSRP_CORE1 – HRX_FSRP_CORE9

Variable name: hrx_fsrp_core1 – hrx_fsrp_core9

Description: Anti-hypertensive medications usage component for FSRP at exam 1 – 9

Code or Value	Description
0	No
2	Yes (Male)
0 – 6	Yes (Female)
.	Did not attend core exam or out of bounds

DM_FSRP_CORE1 – DM_FSRP_CORE9

Variable name: dm_fsrp_core1 – dm_fsrp_core9
Description: History of diabetes component for FSRP at exam 1 – 9

Code or Value	Description
0	No
2	Yes (Male)
3	Yes (Female)
.	Did not attend core exam or out of bounds

SMOKING_FSRP_CORE1 – SMOKING_FSRP_CORE9

Variable name: smoking_fsrp_core1 – smoking_fsrp_core9
Description: Current smoker component for FSRP at exam 1 – 9

Code or Value	Description
0	No
3	Yes
.	Did not attend core exam or out of bounds

PRECVD_FSRP_CORE1 – PRECVD_FSRP_CORE9

Variable name: precvd_fsrp_core1 – precvd_fsrp_core9
Description: History of CVD component for FSRP at exam 1 – 9

Code or Value	Description
0	No
2	Yes (Female)
3	Yes (Male)
.	Did not attend core exam or out of bounds

Note:

The definition of CVD is not the same as that of the variable “first_chd_date”.

This variable includes the following conditions:

- ***Myocardial Infarction***
- ***Angina Pectoris***
- ***Coronary Heart Disease***

- *Cardiovascular Disease*
- *Coronary Insufficiency*
- *Intermittent Claudication*
- *Congestive Heart Failure*

This aligns with the code values of (1, 2, 3, 4, 5, 6, 7, 8, 9, 21, 22, 23, 24, 26, 30, 39, 40, 41, 49) for variable “event” in the verified Sequence of Events (SOE) Cardiovascular Endpoints dataset.

Refer to publication for more information

PREAF_FSRP_CORE1 – PREAF_FSRP_CORE9

Variable name: preaf_fsrp_core1 – preaf_fsrp_core9
Description: History of AF component for FSRP at exam 1 – 9

Code or Value	Description
0	No
4	Yes (Male)
6	Yes (Female)
.	Did not attend core exam or out of bounds

DLVH_FSRP_CORE1 – DLVH_FSRP_CORE9

Variable name: dlvh_fsrp_core1 – dlvh_fsrp_core9
Description: Ventricular hypertrophy component for FSRP at exam 1 – 9

Code or Value	Description
0	No
4	Yes (Female)
6	Yes (Male)
.	Did not attend core exam or out of bounds

FSRP_CORE1 – FSRP_CORE9**Variable name:** fsrp_core1 – fsrp_core9**Description:** FSRP at exam 1 – 9

$\text{fsrp_core} = \text{age_fsrp_core} + \text{sbp_fsrp_core} + \text{hrx_fsrp_core} + \text{dm_fsrp_core} + \text{smoking_fsrp_core} + \text{precvd_fsrp_core} + \text{pref_fsrp_core} + \text{dlvh_fsrp_core}$

Code or Value	Description
0 – 44	Range of values
.	Did not attend core exam or out of bounds

Note: This derived variable is only available when all components of the FSRP are available.
Refer to publication for more information

REVISED_FSRP_CORE1 – REVISED_FSRP_CORE9**Variable name:** revised_fsrp_core1 – revised_fsrp_core9**Description:** Revised FSRP at exam 1 – 9

$\text{revised_fsrp_core} = \text{age_fsrp_core} + \text{sbp_fsrp_core} + \text{hrx_fsrp_core} + \text{dm_fsrp_core} + \text{smoking_fsrp_core} + \text{precvd_fsrp_core} + \text{pref_fsrp_core}$
--

Code or Value	Description
0 – 44	Range of values
.	Did not attend core exam or out of bounds

Note: This derived variable is only available when all components of the FSRP are available.
Refer to publication for more information

Mini-Mental State Examination (MMSE)

MMSE were only available from core exam 5 onwards

COGSCR_CORE5 — COGSCR_CORE9

Variable name: cogscr_core5 – cogscr_core9

Description: Total score for MMSE cognitive function test (at exam 5 — 9)

Code or Value	Description
0 – 30	Range of values
.	Unknown

MAXCOG_CORE5 — MAXCOG_CORE9

Variable name: maxcog_core5 – maxcog_core9

Description: Maximum score based on the questions answered (at exam 5 — 9)

Code or Value	Description
17 – 30	Range of values
.	Unknown

CES-D were only available from core exam 6 onwards

CESD_CORE6_1 — CESD_CORE9_1

Variable name: CESD_core6_1 — CESD_core9_1

Description: CESD: I was bothered by things that usually don't bother me (at exam 6 — 9)

Code or Value	Description
0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_2 — CESD_CORE9_2

Variable name: CESD_core6_2 — CESD_core9_2

Description: CESD: I did not feel like eating: my appetite was poor (at exam 6 — 9)

Code or Value	Description
0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_3 — CESD_CORE9_3

Variable name: CESD_core6_3 — CESD_core9_3

Description: CESD: I felt that I could not shake off the blues, even with the help of family and friends (at exam 6 — 9)

0	<1 day
1	1 – 2 days

Center for Epidemiologic Studies Depression Scale (CES-D)

2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_4 — CESD_CORE9_4

Variable name: CESD_core6_4 — CESD_core9_4

Description: CESD: I felt that I was just as good as other people (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_5 — CESD_CORE9_5

Variable name: CESD_core6_5 — CESD_core9_4

Description: CESD: I had trouble keeping my mind on what I was doing (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_6 — CESD_CORE9_6

Variable name: CESD_core6_6 — CESD_core9_6

Description: CESD: I felt depressed (at exam 6 — 9)

0	<1 day
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Center for Epidemiologic Studies Depression Scale (CES-D)

1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_7 — CESD_CORE9_7

Variable name: CESD_core6_7 — CESD_core9_7

Description: CESD: I felt that everything I did was an effort (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_8 — CESD_CORE9_8

Variable name: CESD_core6_8 — CESD_core9_8

Description: CESD: I felt hopeful about the future (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_9 — CESD_CORE9_9

Variable name: CESD_core6_9 — CESD_core9_9

Description: CESD: I thought my life had been a failure (at exam 6 — 9)

Center for Epidemiologic Studies Depression Scale (CES-D)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_10 — CESD_CORE9_10

Variable name: CESD_core6_10 — CESD_core9_10

Description: CESD: I felt fearful (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_11 — CESD_CORE9_11

Variable name: CESD_core6_11 — CESD_core9_11

Description: CESD: My sleep was restless (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_12 — CESD_CORE9_12

Variable name: CESD_core6_12 — CESD_core9_12

Description: CESD: I was happy (at exam 6 — 9)

Center for Epidemiologic Studies Depression Scale (CES-D)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_13 — CESD_CORE9_13

Variable name: CESD_core6_13 — CESD_core9_13

Description: CESD: I talked less than usual (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_14 — CESD_CORE9_14

Variable name: CESD_core6_14 — CESD_core9_14

Description: CESD: I felt lonely (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_15 — CESD_CORE9_15

Variable name: CESD_core6_15 — CESD_core9_15

Center for Epidemiologic Studies Depression Scale (CES-D)

Description: CESD: People were unfriendly (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_16 — CESD_CORE9_16

Variable name: CESD_core6_16 — CESD_core9_16

Description: CESD: I enjoyed life (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_17 — CESD_CORE9_17

Variable name: CESD_core6_17 — CESD_core9_17

Description: CESD: I had crying spells (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_18 — CESD_CORE9_18

Center for Epidemiologic Studies Depression Scale (CES-D)

Variable name: CESD_core6_18 — CESD_core9_18

Description: CESD: I felt sad (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_19 — CESD_CORE9_19

Variable name: CESD_core6_19 — CESD_core9_19

Description: CESD: I felt that people disliked me (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_CORE6_20 — CESD_CORE9_20

Variable name: CESD_core6_20 — CESD_core9_20

Description: CESD: I could not "get going" (at exam 6 — 9)

0	<1 day
1	1 – 2 days
2	3 – 4 days
3	5 – 7 days
.	Unknown

Note: CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

CESD_TOTAL_CORE6 — CESD_TOTAL_CORE9

Center for Epidemiologic Studies Depression Scale (CES-D)

Variable name: CESD_total_core6 — CESD_total_core9

Description: CESD total score at exam 6 — 9

Note: The total CES-D scores are calculated for participants who answered all 20 questions.

CES-D was not assessed for exam 8. Selected participants who underwent NP testing during the interim period had CES-D information – data is stored in a separate dataset.

Neuropath Data and Availability

NPBRAAK

Variable name: NPBRAAK

Description: Braak stage for neurofibrillary degeneration (B score). Use standard blocks to assign phase.

Code or Value

Description

0	Stage 0: AD-type neurofibrillary degeneration not present (B0)
1	Stage I (B1)
2	Stage II (B2)
3	Stage III (B3)
4	Stage IV (B4)
5	Stage V (B5)
6	Stage VI (B6)

NPNIT

Variable name: NPNIT

Description: Derived NIA-Reagan Criteria

Code or Value

Description

1	High likelihood dementia due to AD
2	Intermediate likelihood dementia due to AD
3	Low likelihood dementia due to AD
4	Criteria not met

NEUROPATH_AVAIL

Variable name: neuropath_avail

Description: Availability of brain autopsy data

Code or Value

Description

0	No
1	Yes

Appendix

Exam Dates and Age Ranges as of 09/14/2016				
Original Cohort				
Exam	Exam Date Range	Age Range	Mean Age	Attendees
Exam 1	1948 - 1953	28 - 74	44	5209
Exam 2	1950 - 1955	31 - 65	46	4792
Exam 3	1952 - 1956	32 - 67	48	4416
Exam 4	1954 - 1958	34 - 69	50	4541
Exam 5	1956 - 1960	37 - 70	52	4421
Exam 6	1958 - 1963	38 - 72	54	4259
Exam 7	1960 - 1964	40 - 74	55	4191
Exam 8	1962 - 1966	42 - 76	57	4030
Exam 9	1964 - 1968	44 - 78	59	3833
Exam 10	1966 - 1970	46 - 80	61	3595
Exam 11	1968 - 1971	49 - 81	62	2955
Exam 12	1971 - 1974	50 - 83	64	3261
Exam 13	1972 - 1976	53 - 85	66	3133
Exam 14	1975 - 1978	55 - 88	68	2871
Exam 15	1977 - 1979	57 - 89	69	2632
Exam 16	1979 - 1982	59 - 91	70	2351
Exam 17	1981 - 1984	61 - 93	72	2179
Exam 18	1983 - 1985	63 - 94	74	1825
Exam 19	1985 - 1988	65 - 96	75	1541
Exam 20	1986 - 1990	67 - 97	77	1401
Exam 21	1988 - 1992	69 - 99	79	1319
Exam 22	1990 - 1994	72 - 101	80	1166
Exam 23	1992 - 1996	73 - 101	81	1026
Exam 24	1995 - 1998	76 - 103	83	831
Exam 25	1997 - 1999	78 - 104	84	703
Exam 26	1999 - 2001	79 - 103	86	558
Exam 27	2002 - 2003	82 - 104	87	414
Exam 28	2004 - 2005	84 - 104	89	303
Exam 29	2006 - 2007	85 - 102	91	218
Exam 30	2008 - 2010	88 - 102	92	141
Exam 31	2010 - 2011	90 - 99	92	91
Exam 32	2012 - 2014	93 - 106	96	40
Offspring Cohort				
Exam	Exam Date Range	Age Range	Mean Age	Attendees
Exam 1	1971 - 1975	5 - 70	36	5124
Exam 2	1979 - 1983	17 - 77	44	3863
Exam 3	1983 - 1987	18 - 77	48	3873
Exam 4	1987 - 1991	22 - 81	52	4019
Exam 5	1991 - 1995	26 - 84	55	3799
Exam 6	1995 - 1998	29 - 86	59	3532
Exam 7	1998 - 2001	33 - 90	62	3539
Exam 8	2005 - 2008	40 - 93	67	3021
Exam 9	2011 - 2014	46 - 98	71	2430
Generation 3 Cohort				
Exam	Exam Date Range	Age Range	Mean Age	Attendees
Exam 1	2002 - 2005	19 - 72	40	4095
Exam 2	2008 - 2011	24 - 78	47	3411
Exam 3	2016 - 2019			
New Offspring Spouse Cohort				
Exam	Exam Date Range	Age Range	Mean Age	Attendees
Exam 1	2003 - 2005	47 - 85	65	103
Exam 2	2008 - 2011	53 - 90	70	68
Exam 3	2016 - 2019			
Omni 1 Cohort				
Exam	Exam Date Range	Age Range	Mean Age	Attendees
Exam 1	1994 - 1998	27 - 78	52	506
Exam 2	1999 - 2001	33 - 83	55	405
Exam 3	2007 - 2008	39 - 89	62	298
Exam 4	2011 - 2014	44 - 88	66	301
Omni 2 Cohort				
Exam	Exam Date Range	Age Range	Mean Age	Attendees
Exam 1	2003 - 2005	20 - 80	43	410
Exam 2	2009 - 2011	25 - 85	48	321
Exam 3	2016 - 2019			

Revisions	
August 2020	<p>Original Draft</p> <ul style="list-style-type: none"> • Coding Manual of Curated Gen 2/Omni 1 (NP) dataset • Dataset: curated_cohort17.sas7bdat
Feb 2021	<p>Revision of August 2020 draft</p> <ul style="list-style-type: none"> • Typo/grammatical/format corrections • Added more information to the introduction • Added variables “idtype”, “id” and “sex” • Dataset has been renamed as “curated_cohort17_022021” • Available in both SAS and csv files
Sept 2021	<p>Revision of Feb 2021 draft</p> <ul style="list-style-type: none"> • Typo/grammatical/format corrections • Added race variable • Updated dementia review data, neuropsychological summary scores and date-related variables up to year 2019 • Dataset has been renamed as “curated17_09_16_2021” • Available in both SAS and csv files
Nov 2021	<p>Revision of Sept 2021 draft</p> <ul style="list-style-type: none"> • Typo/grammatical/format corrections
Jan 2023	<p>Revision of Nov 2021 draft</p> <ul style="list-style-type: none"> • Included data up to year 2022 • Simplify coding manual format to reduce the length • Renamed all NP test related variables using suffix “_NP” for clearer annotation • Added more clinical outcomes and related variables • Added neuropath section • Removed of selected medications and biomarker data till harmonized variables are created • Typo/grammatical/format corrections

	<ul style="list-style-type: none">• Provided SAS code to include list of requested datasets to generate similar curated dataset format
March 2023	Revision of Feb 2023 draft <ul style="list-style-type: none">• Updated neuropath section• Typo/grammatical/format corrections
April 2023	Revision of March 2023 draft <ul style="list-style-type: none">• Included prevalence variables• Typo/grammatical/format corrections
May 2023	Revision of April 2023 draft <ul style="list-style-type: none">• Included FHS CVD Risk Score FSRP• Updated the following section:<ul style="list-style-type: none">○ NP summary scores○ Dementia Review○ Sequence of event (CHD, Stroke)○ Atrial Fibrillation○ Survival Information• Typo/grammatical/format corrections
July 2023	Revision of May 2023 draft <ul style="list-style-type: none">• Correction of date format and missing EDDD values