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Center for Economic and Social Research
Program on Global Aging, Health, and Policy

Harmonized LASI-DAD Documentation

Version B.1 (2017-2024), Feburary 2025

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Preface

The Harmonized Diagnostic Assessment of Dementia for the Longitudinal Aging Study in India (LASI-DAD) is the first and only nationally representative study on late-life cognition and dementia in India. LASI-DAD includes data from two waves, with a total of 6,168 respondents aged 60 and above, drawn from the larger LASI study (N = 73,408). For Wave 1, the dataset includes 4,096 respondents, while Wave 2 includes 4,638 respondents. Of the Wave 2 respondents, 2,566 are follow-up participants from Wave 1, and 2,072 are newly recruited, age-eligible respondents. Recruitment for Wave 2 followed the same sampling strategy as Wave 1. LASI is a prospective, multi-purpose population survey that is nationally representative of India as a whole and of each individual state.

We have administered the Harmonized Cognitive Assessment Protocol (HCAP), a common cognitive test battery used by an international network of researchers, enabling new and innovative comparative studies across both low- and high-income countries. The HCAP was developed by the National Institute of Aging of the National Institutes of Health in the United States (NIA/NIH). It was designed to mesh well with earlier studies of cognition and dementia, such as the Rush University Memory and Aging Project (Bennett et al., 2012), the 10/66 studies utilizing the Community Screening Interview for Dementia (CSI-D; Prince et al., 2011), and the ADAMS study (Langa et al., 2005). In addition to the ELSA-HCAP in England, the HCAP has been used internationally in the United States, Mexico, Chile, Korea, China, India, Europe, Ireland, Northern Ireland, the Caribbean, and South Africa.

The HCAP consists of a pair of in-person interviews, one with the target respondent and one with an informant nominated by the respondent. The respondent interview includes a neuropsychological test battery designed to measure a range of key cognitive domains affected by cognitive aging, such as memory, language, attention, executive function, and visuospatial skills. The HCAP studies share core elements, such as the aforementioned domains, specific cognitive tests, questions for informants, and methods of data collection. However, due to differences in literacy and local contexts, some modifications were made in the selection and administration of specific cognitive tests for LASI-DAD. Hence, when analyzing HCAP data, it is recommended that the user consider these differences when constructing an analysis plan.

One unique feature of LASI-DAD is that a comprehensive geriatric assessment accompanied the interviews and was completed in collaboration with regional geriatric hospitals. Through this geriatric assessment, rich epidemiological data on the health of the respondents are collected and made available for research purposes. More detailed information is available on https://lasi-dad.org/.

In order to make the data more accessible to researchers and to facilitate cross-country comparisons, we, the USC Gateway to Global Aging Data team, created the Harmonized LASI-DAD, a user-friendly version of a subset of data from the LASI-DAD. The Harmonized LASI-DAD initiative is part of a larger set of projects. With funding and support from the National Institute on Aging, we have also created the Harmonized HRS, Harmonized HRS End of Life, Harmonized HRS Life History, Harmonized HRS-HCAP, and Harmonized HRS COVID (United States); Harmonized MHAS, Harmonized MHAS End of Life, and Harmonized Mex-Cog (Mexico); Harmonized ELSA, Harmonized ELSA End of Life, Harmonized ELSA Life History, Harmonized ELSA-HCAP, and Harmonized ELSA COVID (England); Harmonized SHARE, Harmonized SHARE End of Life, Harmonized SHARE Life History, and Harmonized SHARE COVID (Europe + Israel); Harmonized CRELES (Costa Rica); Harmonized KLoSA and Harmonized KLoSA End of Life (South Korea); Harmonized JSTAR and Harmonized JSTAR End of Life (Japan); Harmonized TILDA and Harmonized TILDA COVID (Ireland); Harmonized CHARLS, Harmonized CHARLS End of Life, and Harmonized CHARLS Life History (China); Harmonized SPS and Harmonized Chile-Cog (Chile); Harmonized LASI (India); and Harmonized MARS (Malaysia) data. Additionally, the Harmonized CHARLS-HCAP (China), Harmonized SHARE-HCAP (Europe + Israel), Harmonized TILDA-HCAP (Ireland), Harmonized NICOLA-HCAP (Northern Ireland), and Harmonized CADAS (the Caribbean) are planned for future release. Further information about the Harmonized core, life history, and HCAP data files with questionnaires and other metadata is available on our searchable website, https://g2aging.org/. Further information about the Harmonized end of life data files and about the Harmonized COVID data files with questionnaires and other metadata are available on the subsites, https://eol.g2aging.org and https://covid.g2aging.org, respectively.

In creating the Harmonized data files, we have followed conventions of variable naming and data structure first developed by the RAND Center for the Study of Aging for the RAND HRS Longitudinal File, which contains many variables derived from the HRS core data. The Harmonized HRS data file was built to supplement and to be used in conjunction with the RAND HRS Longitudinal File and includes additional harmonized measures that have not been incorporated into the RAND HRS

Longitudinal File, as well as variables that facilitate cross-country analyses. The Harmonized LASI-DAD is a separate data product focusing on a subset of data from the LASI-DAD interview. It includes variables with a similar naming convention that mimics the RAND HRS, the Harmonized HRS, and other Harmonized HCAP variables. This document describes these data.

Requested Acknowledgment

We ask all users of the Harmonized LASI-DAD to please inform our team of any written analysis using data from the Harmonized LASI-DAD or information from the Harmonized LASI-DAD Codebook by sending an email to papers@g2aging.org. We also ask users to include the following acknowledgment in their written work:

"This analysis uses data or information from the Harmonized LASI-DAD programming codes and Codebook, Version B.1 as of Feburary 2025, developed by the Gateway to Global Aging Data (DOI: https://doi.org/10.25553/h5wx-ay45). The development of the Harmonized LASI-DAD was funded by the National Institute on Aging (Wave 1: R01 AG030153, RF1 AG055273, U01 AG064948 Wave 2: R01 AG051125, U01 AG065958, R01 AG030153). For more information about the Harmonization project, please refer to "https://g2aging.org/".

LASI-DAD Version and Acknowledgment

This document uses Phases 1, 2, and 3 of Wave 1, and Phases 1, 2, and 3 of Wave 2 of LASI-DAD. LASI-DAD is the result of collaboration between the University of Southern California and the All India Institute of Medical Sciences, New Delhi. Funding for the first wave of LASI-DAD has been provided by the National Institute of Aging (R01 AG051125, RF1 AG055273, U01 AG064948). Funding for the second wave of LASI-DAD has been provided by the National Institute of Aging (R01 AG051125, U01 AG065958, R01 AG030153).

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Contents

What's New in Version B of the Harmonized LASI-DAD

Version B incorporates the latest released version of the LASI-DAD data. It contains 6,168 observations, including 4,096 respondents from Wave 1 and 4,638 respondents from Wave 2. Of the 4,638 Wave 2 respondents, 2,566 were follow-up participants from Wave 1, and 2,072 were newly recruited age-eligible respondents, with recruitment following the same sampling strategy as in Wave 1. This is a respondent-level file, meaning each row represents a unique respondent. It also includes new variables and adjustments.

We have added the following new sections to the file:

Hearing Tests:

- We added variables based on hearing tests, including a hearing screen, pure tone average (PTA), hearing thresholds, and other audiometry measures. In Wave 1, a basic hearing test was administered during the geriatric assessment; however, this was replaced in Wave 2 with a more comprehensive audiometry assessment. The Wave 2 audiometric analysis was conducted using the hearX device.

Blood-based Biomarkers:

- We added variables based on blood-based biomarkers, including whole-blood assays, serum-based tests, lipid profile, liver function tests, renal function tests, thyroid function tests, iron tests, and other relevant biomarkers. Blood samples were collected from LASI-DAD respondents during geriatric assessments by the Metropolis laboratory in India. The Wave 1 raw variables were collected but were not available in the Harmonized LASI-DAD until now, with variables from both Waves 1 and 2 now available.

We have made the following adjustments and improvements to the data and documentation:

All Sections:

- Version B uses updated Wave 1 imputations compared to those used in Version A.4. As a result, there may be small differences in variable distributions.

Cognition:

- We have renamed `rWbackward6` to `rWbackward_d6` and `rWbackward5` to `rWbackward_d`.
- To clarify that the Symbol Cancellation task for Wave 2 was conducted on tablet, and as opposed to Wave 1, which was conducted on a paper, we have renamed the Wave 2 variables as follows: `r2sc_score` to `r2sc_scoret`, and `r2sc_wr` to `r2sc_wrt`.
- In Wave 1, the Constructional Praxis task was administered on paper, while in Wave 2, the task was administered on a tablet. In Wave 2, a consensus-driven standardized scoring protocol was implemented, leading to improved inter-rater reliability and higher task completion rates.
- To differentiate between accepted answers in Wave 1 and Wave 2, we renamed the variable `r1hammer` to `r1hammer_d`. As a result, the Wave 1 total CSID score `r1csid_score` was renamed to `r1csid_score_d`, the Wave 1 total CSID standardized score `r1csid_scorz` was renamed to `r1csid_scorz_d`, and the Wave 1 total standardized cognition score `r1cog_totalz` was renamed to `r1cog_totalz_d`.
- We added the special missing (.i) if the respondent did not complete the cognition tests.

Informant Report:

- We have moved variable `rWinf_care` to caregiver burden section in Wave 2.

Health and Physical Measures:

- We renamed `rWhenlifl` to `rWhfsatisl` to reflect that the question asked how often the respondent felt satisfied.

- The Hearing tests were moved to a separate Hearing codebook.

We have added the following variables to the file:

Demographics, Identifiers, and Weights:

- We added **rWhiwstat_d**, which indicates the alternate interview status for the types of tests conducted in the current wave of the HCAP interview including the geriatric tests.
- We added **r2daddy**, which indicates the number of days between the LASI-DAD Wave 1 and LASI-DAD Wave 2 interviews.
- We added **rafgendr**, which is a flag variable indicating whether the respondent's gender information is collected from the LASI-DAD or Harmonized LASI.
- We added **r2hmstat** and **r2fhmstat_d**. **r2hmstat** indicates the self-report of the respondent's marital status from the LASI-DAD interview, and **r2fhmstat_d** indicates whether the respondent's marital status information is collected from the LASI-DAD or Harmonized LASI.

Cognition:

- We added **r2hhome**, which indicates whether the respondent was able to answer the question "What is this place used for?".
- We added **r2hdistrict**, which indicates whether the respondent was able to report the name of their district.
- We added **r2tree**, which indicates whether a respondent can identify an object that is living that has roots, branches, and leaves, with the correct answer being a tree.
- We added the following symbol cancellation variables: **r2sc_scoret** and **r2sc_wrt** to distinguish how the symbol cancellation task was administered. In Wave 1, the symbol cancellation task was administered on paper, while in Wave 2, the task was administered on a tablet.
- We added the **r2hammer** to distinguish between Wave 1 and Wave 2 accepted answers. For consistency, the Wave 2 total CSID score **r2csid_score**, the Wave 1 total CSID standardized score **r2csid_scorz**, and the Wave 1 total standardized cognition score **r2cog_totalz** were also added.
- We added the following trail making test variables: **r2tmt1_n**, **r2tmt1_tpp**, **r2tmt2_n**, **r2tmt2_tpp**, **r2tmt3_n**, and **r2tmt3_tpp**, which indicate the number of correct trails completed by the respondent in the Trail Making Test (TMT) and the average time (in seconds) per correct trail completed by the respondent in the Trail Making Test (TMT).
- We added the following hand sequence test variables: **r2ef_palm2h** and **r2ef_clench2h** because in Wave 2, both hands are used. The summary variable **r2ef_score2** is added to capture the difference.
- In the Judgement and Problem Solving section, we added the variable that indicates whether the respondent can identify similarities between table and chair (**r2jp_table**), the variable that indicates whether the respondent can identify differences between stone and potato (**r2jp_stone**), the variable that indicates whether the respondent correctly answers a calculation problem (**r2jp_rupee3**), and the variable that indicates whether the respondent correctly indicates what they would do if it started raining heavily while they were out (**r2jp_rain**). We also added variables that are used to test the respondent's calculation ability: **r2compu1**, **r2compu2**, and **r2compu**. The two summary score variables are added: **r2smdf_score2** and **r2pro_score2**.
- We added the following literacy test variables: **r2ltread**, **r2ltans1**, **r2ltans2**, **r2ltans3**, **r2ltans4**, and **r2ltans5**.

Informant Report:

- We added **r2inf_same**, which indicates whether the same person was the informant for both Waves 1 and 2 and is available starting in Wave2.

- We added the following variables regarding the respondent's problem-solving abilities according to the informant: r2jsi_rude, r2jsi_laugh, r2jsi_rpt, r2jsi_stll, r2jsi_spk, r2jsi_emt, r2jsi_pbmslv, r2jsi_emrgcy, r2jsi_undsit, and r2jsi_bhvr.
- We added the following variables regarding the informant's stress and burden as a caregiver: r2cg_care, r2cg_prcare, r2cg_gcaren, r2cg_gcarehr, r2cg_cntrl, r2cg_cnfd, r2cg_gnwy, r2cg_plng, r2cg_depres, r2cg_ftired, r2cg_fsatisl, r2cg_flone, r2cg_whappy, r2cg_notime, r2cg_strsp, r2cg_cheer, r2cg_calm, r2cg_mngfl, r2cg_innrpc, r2cg_crtn, and r2cg_thank.

Health and Physical Measures:

- We added the following health history variables: r2hhibpe, r2hdiabe, r2hhearte, r2hstroke, r2hpsyche, r2hdeprese, and r2halzdeme.
- We added r2headinje, which indicates whether the respondent has ever had a blow to the head, a head injury, or head trauma that was severe enough to require medical attention, or to cause loss of consciousness or memory loss for a period of time.
- We added the following head circumference variables: r2mhead1, r2mhead2, and r2mhead.
- We added the following waist circumference variables: r2hmwaist and r2hbulky.
- We added the following repeated chair stand variables: r2hchr1res, r2hchr1comp, r2hchr5sec, r2hchr5num, r2hchr5comp, r2hchrsft, r2hchrref, r2hchrtryu, and r2hchrothr.
- We added a new variable to measure Activities of Daily Living (ADL), r2hgrooma, which indicates whether the respondent experienced any difficulty grooming themselves due to health or memory problems.
- We added the following ADL summary variables: r2hadltot2_d, r2hadltot2m_d, and r2hadltot2a_d.
- We added the following variables, which indicate if the respondents received help with ADLs: r2hdresshlp, r2hwalkhlp, r2hbathehlp, r2heathlp, r2hbedhlp, r2htoilethlp, and r2hgroomhlp.
- We added a new variable to measure Instrumental Activities of Daily Living (IADLs), r2hlaundrya, which indicates whether the respondent experienced any difficulty washing clothes due to health or memory problems.
- We added the following IADL summary variables: r2hiadltot2_d, r2hiadltot2m_d, and r2hiadltot2a_d.
- We added the following variables, which indicate if the respondents received help with IADLs: r2hmealhlp, r2hshophlp, r2hphonehlp, r2hmedhlp, r2hhswkhlp, r2hmoneyhlp, r2hgethlp, and r2hlndryhlp.
- We added the following variables, which indicate whether the respondent has any difficulty in functional limitations other than ADLs and IADLs: r2hwalk100a, r2hsita, r2hchaira, r2hclim1a, r2hstoopa, r2harmsa, r2hpusha, r2hlifta, and r2hdimea.
- We added the following variables, which regard how much time the respondent spends walking daily: r2walkdy, r2walknw, r2walkrec, and r2walkwrk.
- We added the following variables, which regard social activities and whether the respondent did any of the said activities: r2saeat, r2sapark, r2saigame, r2saogame, r2savstff, r2sashow, r2sarlgn, r2sameet, r2saread, r2satv, r2sacmptr, and r2savote.
- We added the following variables, which regard fall risks: r2hfall1y, r2hfallnum1y, r2hfallinj1y, r2hfallunstdy, and r2hfallwry.

1. Introduction and Overview

This codebook documents the Harmonized LASI-DAD data files, a streamlined collection of variables derived from the Longitudinal Aging Study in India, Diagnostic Assessment of Dementia (LASI-DAD). The main goal of LASI-DAD is to provide an interdisciplinary data resource with a focus on cognitive and physical health, and quality of life as people age. LASI-DAD derived variables include cognition variables, informant report variables, and physical measure variables. The Harmonized LASI-DAD data file also incorporates various demographic variables from the Harmonized LASI. Harmonized LASI-DAD does not include any data which is not publicly released.

The LASI-DAD is a sub-study of the ongoing, nationally representative survey Longitudinal Aging Study in India (LASI). The survey elicits in-depth cognitive tests, geriatric assessments, and informant interviews. The informant interview is completed by a person chosen by the respondent. Venous blood was also drawn and stored.

The LASI-DAD study aims to:

- Collect high-quality data on late-life cognition and dementia
- Obtain clinical consensus diagnosis
- Estimate the prevalence and incidence of dementia and mild cognitive impairment (MCI)
- Investigate the determinants of late-life cognition, dementia, and MCI
- Study the impact of dementia, cognitive impairment, and MCI on families and society
- Disseminate anonymized data to the larger research community

The LASI-DAD's target sample was older adults aged 60 and older. To obtain national representation within budgetary constraints and to maintain quality supervision of fieldwork, we collaborated with 15 regional centers (RCs) for interviewer recruitment and fieldwork management. The All India Institute of Medical Sciences (AIIMS) in New Delhi was the nodal point that coordinated with and provided logistical support to all the other RCs. These centers include: the All India Institute of Medical Sciences, Delhi; Madras Medical College, Chennai; National Institute of Mental Health and Neurosciences, Bangalore; BHU, Varanasi; S.N. Medical College, Jodhpur; TMC, Trivandrum; Grant Medical College, Mumbai; SKIMS, Srinagar, Gauwhati Medical College, Guwahati, Assam; Nizam's Institute of Medical Sciences, Hyderabad, All India Institute of Medical Sciences, Bhubaneswar, Odisha; IPGMER, Kolkata; Indira Gandhi Institute of Medical Sciences, Patna, Bihar; All India Institute of Medical Sciences, Madhya Pradesh; All India Institute of Medical Sciences, Rishikesh, Uttarakhand; and Government Medical College, Chandigarh, Punjab.

In wave 1, we draw the sample from 18 states and 4 metropolitan cities across the country that are within 12 hours of driving distance from participating RCs. The states we draw the LASI-DAD sample from include: Assam, Gujarat, Haryana, Jammu & Kashmir, Karnataka, Kerala, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Bihar, Madhya Pradesh, Uttarakhand, Punjab, and West Bengal, and the four metropolitan cities are: Chennai, Delhi, Kolkata, and Mumbai. In wave 2 of the study, we also drew sample from Andhra Pradesh, Chhattisgarh, Jharkhand, and Pondicherry.

As our aim was to study dementia, a simple random sampling of age-eligible LASI respondents would not yield enough cognitively impaired respondents to allow for a sufficiently precise estimation of the relationship between dementia and its correlates. Therefore, we employed a two-stage stratified random sampling approach with oversampling of those at high risk of cognitive impairment to ensure sufficient numbers of respondents with dementia and mild cognitive impairment.

To accomplish this, we first classified respondents into those at high and at low risk of cognitive impairment based on the core LASI study's cognitive tests and on the proxy report for those who did not complete the cognitive tests. Specifically, to determine cognitive impairment risk, we grouped the LASI respondents into four groups based on age (60–69 and 70+) and education (no schooling and some education). We then defined cognitive impairment risk within age/education groups based on their relative performance on memory and non-memory cognitive tests, overall test performance, refusal or inability to participate in the cognitive tests, and proxy interviews in the main LASI. Respondents were classified as high risk if any of the following conditions were met: (1) overall cognitive test performance in the core LASI was in the bottom tertile; (2) memory score was in the bottom 15th percentile; (3) non-memory cognitive scores were below the 15th percentile; (4) the number of missing cognitive tests was above the 85th percentile; or (5) scores from the Informant Questionnaire on Cognitive

Decline in the Elderly (IQCODE), a widely used screening test for dementia, was 3.9 or higher. We then randomly drew the sample with about an equal number of those at high risk of cognitive impairment and those not at high risk.

As noted earlier, LASI-DAD is one study within a larger international effort to understand dementia risks through longitudinal studies on aging. This effort has been developed as the Harmonized Cognitive Assessment Protocol (HCAP). In order to measure the cognitive ability of the older Indian population, of which many are illiterate and innumerate, the project team carefully evaluated the HCAP protocol and modified it to suit the local context and target population. For example, the Mini Mental State Exam (MMSE) developed by Folstein, Folstein, and McHugh (1975) was replaced by the Hindi version of the MMSE (HMSE) developed by Ganguli et al. (1995). We further considered cognitive and neuropsychological test batteries developed by the National Institute of Mental Health and Neuro Sciences, Bengaluru, India, and consulted with other experts in the field, including geriatricians, community medicine experts, psychiatrists, cognitive psychologists, and members of the HRS–HCAP advisory group. We present the tests selected for LASI-DAD below, indicating those in common with HCAP and the tests unique to LASI-DAD.

LASI-DAD employs almost the same informant interview protocol that is used in HRS-HCAP, including questions about the informant, particularly their relationship with the respondent and their own demographic characteristics; the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) (Jorm and Jacomb 1989); Blessed Parts 1 and 2 (Blessed, Tomlinson, and Roth 1968; Morris et al. 1989); questions about respondents' activities; and signs of cognitive impairment drawn from the 10/66 Brief Screener for Dementia (Prince et al. 2007). Some modifications were made to the questions about the respondents' activities to make them more culturally relevant.

Please refer Lee et al. (2019) for a more detailed description of the project protocol.

Cognitive Tests selected for the LASI-DAD Respondent Interview
(* indicates same HCAP protocol, # indicates protocol with minor modifications, + indicates unique in LASI-DAD)

- **Literacy Test**+
  - In this test, the respondent is asked to read a short story aloud. After reading, the passage is removed, and the respondent answers a series of questions about the story to assess comprehension. The story involves simple sentences about daily life, such as a girl receiving books, learning new words, and sharing them with her friends. This test was included in Wave 2 to better measure literacy skills.
- **HMSE** (Ganguli et al. 1995)#
  - The HMSE is the Hindi translation and adaptation of the MMSE for screening the Hindi-speaking, illiterate rural elderly population. The HMSE (like the MMSE) assesses general cognitive status with measures of cognitive orientation, language, and memory. This test is often used in clinical and research settings to identify individuals with likely cognitive impairment or dementia.
- **TICS** (Brandt, Spencer, and Folstein, 1988)#
  - This section includes three questions from the HRS–TICS. This includes questions to identify two words (vocabulary) and naming the Prime Minister of India (replacing the HCAP question about the name of the U.S. President and Vice President). This measure is based on the full TICS.
- **CERAD Word List Learning and Recall** (CERAD 1987)#
  - This test presents 10 high-imagery words for 2 seconds each. The respondent hears each word and repeats it aloud as it is presented and is then tested on immediate recall ability. The same list of words is presented to the respondent three times in different orders; after each presentation, the respondent is asked to recall as many words as possible. In addition to correct recall responses, the number of intrusions (words not on the list) are also recorded. We do the delayed recall 5 minutes after the first administration.
- **Digit Span Forward and Backward** (Wechsler 1997)*
  - A list of random numbers is read out loud at the rate of one per second. Subjects listen to the series of single-digit numbers and are asked to repeat them back in the same order they were given. At the end of a sequence, they are asked to recall the items in reverse of the presented order.

- **Symbol Cancellation** (Lowery et al. 2004)#
  - This test assesses attention and speed, specifically in the illiterate population. Subjects are given a sheet with different symbols. They are then shown a specific symbol, which is present among the different symbols in the sheet, and are asked to scan the sheet as quickly as possible (in a minute) and circle the symbol shown to them. Scores include the number of correctly and incorrectly circled symbols.
- **Logical Memory** (Wechsler, 2009)#
  - This section involves the reading of stories to the respondent and is scored based on the number of story points the respondent can immediately recall after hearing each story. The first story read to the respondent is the Brave Man story, included in many dementia studies around the world. The second story read to the respondent is one of two from the Wechsler Memory Scale (WMS-IV).
- **Constructional Praxis (with Delayed Recall)** (Rosen, Mohs, and Davis, 1984)*
  - The constructional praxis tests the subject's ability to copy four geometric forms of varying difficulty shown on a sheet of paper (circle, overlapping rectangles, diamond, and cube). In the delayed recall test, the subjects are asked to recall these shapes and draw them from memory after some time.
- **Retrieval Fluency** (Woodcock, McGrew, and Mather, 2001)*
  - To assess verbal reasoning and processing speed, respondents are asked to name as many animals as possible in a minute. This test was adapted by McArdle and Woodcock from the Woodcock Johnson Test III Tests of Achievement.
- **Serial 7s** (Folstein, Folstein, & McHugh, 1975)*
  - In this test, the respondent is asked to subtract seven from 100 in the first step and then asked to continue subtracting seven from the previous result in each subsequent step. The respondent is asked to conduct five subtractions, and each subtraction is scored separately. This test is also part of the MMSE.
- **CSI-D** (Hall, Hendrie, and Brittain, 1993)*
  - This series of questions derives from the 10/66 and Community Screening Interview for Dementia (CSI-D) surveys to assess cognitive impairment and dementia. The questions evaluate language, knowledge, and the ability to follow directions.
- **Raven's Test** (Raven, 2000)*
  - This test evaluates picture-based pattern reasoning of varying difficulty. Each question presents a geometric picture with a small section that appears to have been cut out. The respondent is shown a set of smaller pictures that fit the missing piece and is asked to identify the one that correctly completes the pattern. We follow HRS–HCAP wherein they have selected a subset of 17 questions out of the 60 in the full test, including one practice question.
- **Go-No Go** (Gomez, Ratcliff, and Perea, 2007)+
  - In this test, the respondent is given a task in which stimuli are presented in a continuous stream and participants perform a binary decision on each stimulus. One of the outcomes requires participants to make a motor response (go), whereas the other requires participants to withhold a response (no go). Accuracy is measured for each event.
- **Trail Making Test (TMT)** (Humphreys et al., 2017; Farrell et al., 2020)+
  - The TMT consists of three parts: Part A: Circles, Part A: Squares, and Part B: Alternating Between Shapes and Sizes. Part A: Circles requires connecting circles from small to large, and Part A: Squares requires connecting squares from large to small, both as quickly as possible. Part B involves alternating between shapes and sizes, connecting the largest square to the smallest circle, and so on. Each part includes practice rounds with instructions, followed by a test round completed independently. If the respondent performs poorly in practice, the test round is skipped. The TMT test was added in LASI-DAD Wave 2.
- **Hand Movement Sequencing Test** (Mattis, 1988)+

  - In this test, the subject is shown hand-sequencing movements and is asked to repeat the action shown. The test is adopted from Hindi hand-sequencing movements, which were adapted from Mattis dementia rating scales.

- **Token Test** (De Renzi and Vignolo, 1962)+
  - The subject is presented with a show card with tokens of different shapes, sizes, and colors. They are given verbal commands like touching the different colored tokens, different shapes, one shape or color before the other, etc. The commands start with simple tasks and progress to more complex ones.

- **Judgement and Problem Solving** (Morris, 1993)+
  - The subject is asked to (1) identify similarities and differences between things and (2) answer calculation problems, and (3) describe what they would do under different circumstances.

1.1. Gateway to Global Aging Data

The Health and Retirement Study (HRS) has achieved remarkable scientific success, as demonstrated by an impressive number of users, research studies, and publications using it. Its success has generated substantial interest in collecting similar data in other regions of the world as population aging progresses.

The result has been a number of surveys designed to be comparable with the HRS: the Mexican Health & Aging Survey (MHAS), the English Longitudinal Study of Ageing (ELSA), the Survey of Health, Ageing and Retirement in Europe (SHARE), the Costa Rican Longevity and Healthy Aging Study (CRELES), the Korean Longitudinal Study of Aging (KLoSA), the Japanese Study on Aging and Retirement (JSTAR), the Irish Longitudinal Study on Ageing (TILDA), the China Health and Retirement Longitudinal Study (CHARLS), the Brazilian Longitudinal Study of Ageing (ELSI), the Northern Ireland Cohort Longitudinal Study of Ageing (NICOLA), the Chilean Social Protection Survey (SPS), the Malaysia Ageing and Retirement Survey (MARS), and the Longitudinal Aging Study in India (LASI). The overview of this family of surveys, including their research designs, samples, and key domains can be found in Lee et al. (2021).

As these surveys were designed with harmonization as a goal, they provide remarkable opportunities for cross-country studies. The value of comparative analyses, especially the opportunities they offer for learning from the results of policies adopted elsewhere, is widely recognized. Yet there are only a limited number of empirical studies exploiting such opportunities. This is partly due to the difficulty associated with learning multiple surveys and the policies and institutions of each country.

Identifying comparable questions across surveys is the first step toward cross-country analyses. The Gateway to Global Aging Data (Gateway) helps users understand and use these large-scale population surveys on health and retirement. The Gateway includes several tools to facilitate cross-national health and retirement research. It includes a digital library of survey questions for all participating surveys. Its search engine enables users to find relevant survey questions. The Gateway also includes a concordance with information comparing measures within and across surveys over time. Using these tools, researchers can identify all questions related to particular key words or within a domain. The Gateway also includes population and sub-population estimates for key harmonized variables and presents them in graphs and tables that can be downloaded.

The Gateway can be accessed at https://g2aging.org/. For more information about using the Gateway, please visit the Help page on the Gateway's website. For more information about obtaining the Harmonized LASI-DAD, see 'Chapter 7. Distribution and Technical Notes.'

1.2. Units of Observation

The Harmonized LASI-DAD data are contained in a single file. The data are stored in a "fat format", where each observation represents one respondent. The unit of observation is the individual. Each individual is uniquely identified by the identifier `prim_key`. Households are identified by `hhid`.

1.3. Data File Structure

With a few exceptions, variable names in the Harmonized LASI-DAD Data follow a consistent pattern. The first character indicates whether the variable refers to the reference person ('r'). The second character indicates the wave to which the variable pertains: '1', '2', or 'a'. The 'a'indicates 'all' i.e., the variable is not specific to any single wave. An example is **rabyear**, the birth year of the respondent. The remaining characters describe the concept that the variable captures. For example, variable **r1hmse_score** captures the respondent's Wave 1 Hindi-Mental State Examination (HMSE) Summary Score.

In the text below, we may refer to variables by substituting a 'W' for the specific wave number. For example, consider **rWhmse_score**; this reference points at the group of variables that follow the same pattern as **r1hmse_score**.

Variable labels also follow a consistent pattern. The first characters denote the name of the variable, followed by a colon and the wave to which the variable pertains. For example, 'w1' refers to Wave 1. The remainder of the label describes the concept that the variable captures. For example, the variable label of **r1hmse_score** is:

```
r1hmse_score:w1 R HMSE total score (0-30)
```

It may seem duplicative to include the name of the variable and the wave in the variable label. However, Stata often suppresses the variable name and instead uses its label in the presentation of results.

Users should always check the 'Differences with other HCAP Studies' section of each measure before comparing any Harmonized LASI-DAD measure to any other Harmonized Dataset version of the same measure.

1.4. Missing Values and Nonresponse

Variables may contain missing values for several reasons. Stata, SAS, and SPSS offer the capability to distinguish multiple types of missing values, and we have attempted to record as much information as possible. Generally, the codes adhere to the classification in Table 1.

Table 1. Missing Codes

Code	Reason for missing
.	Reference person did not respond to this wave
.d	Don't know
.r	Refused
.n	Not assessed
.m	Other missing
.i	No cognition IW
.h	Respondent IW only
.g	No geriatric assessment
.s	Skipped
.x	Not in phase

Note: In Wave 1, the special missing code (.n), not assessed, was marked only if the respondent has some physical disability that prevented them from performing the test. As examples, (.n) is assigned if the respondent is blind and hence could not complete the task that involved seeing figures, if they are paralyzed and hence could not draw or write in the given task, or if they have a hearing disability and the test in question involves spoken directions. The missing code (.n) is not assigned if the main reason for not performing a cognition test is the respondent's cognition ability. Consult the Data Codebook for details on individual variables.

1.5. Merging the HCAP Data with Core Wave Data

The Harmonized LASI-DAD dataset can be easily merged with the LASI study data or the Harmonized LASI by using the unique LASI ID variable, **prim_key**. Here, we provide an example of Stata code to correctly merge the Harmonized LASI dataset

with the Harmonized LASI-DAD dataset.

```
use 'filepath/H_LASI_DAD_b1.dta'
merge 1:1 prim_key using 'filepath/H_LASI_a3.dta'
```

Here, we provide an example of Stata code to correctly merge select variables from the Harmonized LASI dataset with select variables from the Harmonized LASI-DAD dataset.

```
use variable1 variable2 variable3 using 'filepath~LASI_DAD_b1.dta'
merge 1:1 prim_key using 'filepath~LASI_a3.dta' keepusing(variable4 variable5 variable6)
```

In both cases, the same method can be used to merge original LASI study data if the name of the dataset is changed.

2. Sample Weights

LASI-DAD sample weights are meant to account for differential selection probabilities produced by the adopted sampling strategy, and to adjust for differential non-response across sampled individuals. They align the LASI-DAD sample distributions of basic demographics (gender, age, literacy, and urbanicity) to the corresponding distributions in the Indian population age 60 and older. LASI-DAD sample weights are constructed following the steps below.

In order to be included in the study, LASI-DAD participants must have answered the first wave of the main LASI. We therefore start from the LASI base weight, which accounts for differential probabilities of selection into LASI, adjusted by individual-level nonresponse. Let *i* indicate an individual and $base\_adj_i^{LASI}$ denote such weight for individual *i*.

LASI-DAD participants were selected among LASI respondents age 60 and older, sampling with equal probability individuals with low and high risk of cognitive impairment. The risk of cognitive impairment was assessed using the complete battery of cognitive test scores in the first wave of the main LASI. Using the sample of first-wave main LASI respondents age 60 and older, we estimate a probability of selection into LASI via Logit. We perform this estimation separately for individuals without and with a proxy interview.

For individuals without a proxy interview, the set of explanatory variables includes:

- Demographics: gender, marital status, education, parents' education, literacy status, binary indicators for state of residence, rural area, caste, household income and wealth quintiles
- Health Variables: overall self-reported health status, binary indicators for high blood pressure, diabetes, heart disease, stroke, Alzheimer's disease, number of functional limitations, ADLs, and IADLs
- Cognitive Test Scores: orientation to place, orientation to time, object naming, verbal fluency, computation, executive function, immediate and delayed word recall, picture/clock drawing, serial 7's, backward counting, read and follow command, sentence writing

For individuals with a proxy interview, the set of explanatory variables includes:

- Demographics: gender, marital status, education, parents' education, literacy status, binary indicators for state of residence, rural area, caste, household income and wealth quintiles
- Health Variables: overall self-reported health status, binary indicators for high blood pressure, diabetes, heart disease, stroke, Alzheimer's disease, number of functional limitations, ADLs, and IADLs
- JORM IQCODE score

Indicating with $\widehat{p}_{i,selc}$ the Logit predicted probability of selection into LASI-DAD, we define the LASI-DAD base weight, $base\_weight_i^{DAD}$, as follows:

$$base\_weight_i{}^{DAD} = base\_adj_i{}^{LASI} \times (1/\widehat{p}_{i,selc})$$

This base weight accounts for both the probability of being a LASI respondent and the differential probability of selection of LASI respondents with into LASI-DAD.

In a second step, post-stratification weights are generated by means of a raking algorithm starting from the LASI-DAD base weights described above. The goal of this procedure is to align the weighted distributions of specific socio-demographic variables in the LASI-DAD survey sample to their population counterparts. Specifically, the set of socio-demographic variables used as raking factors includes: gender (Male/Female) × age (60-69/70+), gender × literacy (Literate/Illiterate), and location (Rural/Urban). Hence, the resulting post-stratification weights allow the sample distributions of age and literacy, overall and separately for men and women, and the distribution of rural versus urban residency to match exactly their population benchmarks and, therefore, to correct for differential non-response along such dimensions. Benchmark distributions are taken from the Indian Census 2011 and refer to the population of individuals aged 60 and above in India.

In Wave 1, the LASI-DAD sample includes 18 Indian states, covering about 92% of the Indian population. In Wave 2, the number of states represented in the LASI-DAD sample is 22, covering 98% of the Indian population. The excluded states

may have systematically different characteristics, which would prevent us from using national-level statistics as benchmarks at the post-stratification stage. We run an extensive battery of tests and find no evidence that LASI-DAD and non-LASI-DAD states differ systematically in terms of per capita net state domestic product, average gender, age, literacy, education, and cognitive functions.

In order to limit variability and improve efficiency of estimators, we trim extreme weights. We follow the general weight trimming and redistribution procedure described by Valliant, Dever and Kreuter (2013). Specifically, we compute relative weights by dividing weights by the sample mean, set the upper bound on relative weights to the 99th percentile, and trim all weights that exceed this bound (Battaglia et al., 2009). We compute the amount of weight lost by trimming and distribute it equally among the respondents whose weights are not trimmed. If all these new relative weights are within bounds, no further adjustment is performed. If any of these new weights are out of bounds, the trimming procedure is repeated iteratively until all weights are within bounds, or until the maximum number of 10 iterations is reached.

While raking weights can match population distributions of selected variables, trimmed weights typically do not. We therefore iterate the raking algorithm and the trimming procedure until post-stratification relative weights are within bounds and align sample and population distributions of selected variables. This procedure stops after 10 iterations if an exact alignment respecting the weight bounds cannot be achieved. In this case, the raked weights will ensure an exact match of (weighted) survey relative frequencies to their population counterparts, but some of them may be out of bounds.

Let $final\_weight_i^{DAD}$ be the post-stratification weight for respondent i, obtained by applying the raking/trimming algorithm to the base weights as described above. LASI-DAD final post-stratification weights, $final\_weight_i^{DAD}$, are expressed relative to their sample mean. Thus, they sum to the LASI-DAD sample size and average to 1.

Weights for the Sub-Sample with Lab Data

Lab data are available for 70% of the LASI-DAD sample in both waves. The sub-samples with and without lab data exhibit statistically significant differences as far as gender, literacy and residence in rural areas are concerned. Because of these observed differences in demographic characteristics, we implement the weighting/trimming procedure described above separately for the sub-sample of LASI-DAD respondents with lab data.

The resulting weights, $final\_weight_i^{DAD\ Lab}$, are expressed relative to their sample mean and align the sub-sample with lab data to the reference population in terms of gender, age, literacy and urbanicity. These weights sum to the size of the LASI-DAD sub-sample with lab data and average to 1.

3. Imputation

When test items or informant report items are missing, this poses a problem. A single missing item makes all summary scores that depend on it also missing, so even a small fraction of missings in each item can lead to a large fraction of observations that are missing summary scores, which would arguably be of primary interest to most researchers. Therefore, as is common in survey data, we impute most missing observations. The goal of imputation is to replace the missing values with random draws from a conditional distribution such that the estimated joint distribution from the completed (imputed) data is an unbiased estimator of the true joint distribution of these variables (e.g., Little & Rubin, 2002, sec. 10.2.1; Lee et al., 2015, sec. 2).

3.1. LASI-DAD Wave 1 Imputation Methods

For Wave 1, we imputed the cognitive test variables and the informant reports about the individuals' cognitive decline. Some tests were only administered to specific sub-samples: only those surveyed in phases 2 and 3 of the data collection, only literate respondents, or only illiterate respondents. We have not imputed these for the samples that the variables were not administered to. Moreover, in some cases, a certain answer on one question led to a skip of a later question, and the imputations follow such skip patterns. For example, if the imputation of the first trial in the 3-word recall test is 3, then the second and third trials logically follow as skips (.s). For the cognitive test items, we have recoded "don't know" (.d) as incorrect (0). There are some indications that other missing, especially "refuse" (.r) may also sometimes indicate that the respondent does not know the correct answer, but because we cannot be sure about this, we have imputed these in the regular way, with the exception of "not assessed" (.n) in the orientation items. The latter is common among interviews in Hindi and should be interpreted as "don't know", so we have set these to zero as well. In the Jorm IQCODE scale, the informant can indicate that the respondent does not do certain things, which is coded as "not applicable" (.n). For example, when asked whether the individual has more problems than before learning how to use new gadgets, this answer would be given if the person has not obtained any new gadgets. We have imputed such cases as well, based on the rationale that these items were intended to measure cognitive decline and that imputing this allows us to compute a summary score of cognitive decline for the Jorm scale as a whole, but if a researcher is interested in the literal meaning of a question like this, then it may be better to not use the imputations of such a question. Analogously, we have imputed the serial 7s score for individuals who cannot count, even though strictly speaking the individual gave no correct answers and would not be able to do this. This test was intended to measure processing speed and attention, not numerical ability, and a score of 0 for such individuals would not reflect the intended purpose well.

The imputation method we have implemented was inspired by the imputations of cognition variables in the HRS (Fisher et al., 2017). It is also similar to the method used in SHARE (De Luca et al., 2015, although they used a simpler method for variables with few missing values). We specified a regression model for each cognition variable as a function of the other cognition variables and a rich set of background variables: health, demographics, and socio-economic characteristics.

For binary variables, we generated imputations from (binary) logistic regression (i.e., logit) models; for ordinal variables, we used ordered logit; for count variables, we used negative binomial regression; and for unordered categorical variables, we used multinomial logit.

In these models, we used the following covariates: (1) demographics, socio-economic variables, health, and cognition variables from the LASI core survey; (2) demographics and socio-economic variables from LASI-DAD; (3) health variables from LASI-DAD; and (4) cognitive measures (tests and informant reports) from LASI-DAD. With the exception of the cognition measures, if we had the same variable for both LASI-DAD and LASI core, we only included the LASI-DAD version.

We imputed a large number of variables (more than 200). Including all of these among the covariates by themselves would create numerical problems. Therefore, we primarily used aggregate scores instead of individual items. This also likely filters out measurement error and guards against capitalizing on chance. The aggregate scores followed a nested structure based on the model from Gross et al. (2020) for the cognitive test items, theoretical considerations from Gross (2020) for some of the informant reports, and empirical analyses of correlations (principal components analysis).

As an example, consider the imputation of **`r1hcity`** (whether the respondent correctly names the city they are currently in). This item is part of a short battery for orientation to place. The other four items in this battery are included as regressors. The five items of the orientation to time battery are not included separately. Instead, their sum (0-5) is included as a

regressor. This is an example of a level-1 sum score. There are about 30 such level-1 sum scores, which are all simple sums, with one exception, every day activities. Empirical analysis showed that these items could not be satisfactorily summarized by one simple sum score, but that three principal components would represent these items well, so we computed those. The level-1 sum scores are further grouped into narrow domains of cognitive functioning (e.g., language fluency), and some of these are further grouped into broad domains (memory, executive function). The hierarchy is not complete: sometimes, levels are skipped (absent). The narrow domain scores are sums of the level-1 scores (and sometimes single items) that are nested below them. However, because the level-1 scores have different scales, we first standardized them before aggregating them into narrow domain scores. We found that the resulting sums of standardized scores correlated very highly (typically 0.98 or higher) with the first principal component of these level-1 scores. Because this imputation procedure was very computationally demanding, we preferred using these narrow domain scores as it is much faster than computing the principal components. Analogously, the two broad domain scores were computed as sums of the related standardized narrow domain scores. The rules for including items, level-1 sum scores, narrow domain scores, and broad domain scores were as follows:

1. A broad domain score was used (and none of the scores and items nested below it) if the item to be imputed was not a component of the broad domain score. This means both broad domain scores were included in the model for `r1hcity`, because `r1hcity` is not a Memory or Executive Function item.
2. A narrow domain score was used (and none of the scores and items nested below it) if (i) the narrow domain score was not a component of a broad domain score included, and (ii) the item to be imputed was not a component of the narrow domain score. For example, Language Fluency is included, because it is not a component of Memory or Executive Function and `r1hcity` is not a component of Language Fluency. But Orientation is not included, because `r1hcity` is an Orientation item.
3. A level-1 sum score was used (and none of the items nested below it) if (i) the level-1 score was not a component of a broad or narrow domain score that was already included, and (ii) the item to be imputed was not a component of the level-1 score. For example, because the Orientation narrow domain was not included and Orientation to Time does not contain `r1hcity`, Orientation to Time was included in the model for `r1hcity`.
4. A single item was used if (i) it was not a component of any higher-level score already included, and (ii) it is not the variable that is currently being imputed itself. For `r1hcity`, these are the other four Orientation to Place items, plus five items (mix-ups, recognizing words that were not part of the word recall list, and similar items) that are not part of any higher-level score.

The Phase 2 - 3 tests (hand sequencing; token test; and judgment and problem solving) were not included in the model for `r1hcity`, because they were not administered in Phase 1 and not imputed for Phase 1 either, so they remain systematically missing, whereas `r1hcity` was administered in all three phases. These Phase 2-3 tests are only included in the imputation models for items that were only administered in Phases 2 and 3. Analogously, the Blessed Part 1 scale (for the informant) was skipped for most observations in Phase 1 and not imputed, and therefore not included in the model for `r1hcity`.

In some cases, the items that were used as covariates were transformed versions of the raw items; for example, animal naming was censored at a maximum of 35 when used as a covariate. Also, because of (partial) mechanical dependencies, some variables were excluded from some models; for example, trials 2 and 3 of the 3-word recall were skipped if trial 1 resulted in all three correct, so for the imputation of trial 1, we did not include trials 2 and 3 as covariates. Note that the imputations themselves also respect such dependencies, for example, if trial 1 was imputed as 3, trials 2 and 3 were set to (.s) (skipped), and analogously if a Blessed Part 1 item was imputed as 1 (no loss), the corresponding Part 1a item was set to (.s). Also, if `r1hmo` (whether individual knows the current month) was imputed as 0, `r1hdate` (day of the month) was also set to 0, which respects the pattern in the nonmissing data.

3.2 Block-sequential and Chained Imputation

One or more of the regressors could themselves be missing and thus these needed to be imputed as well. Following the HRS (Fisher et al., 2017), we imputed variables in a sequence of blocks: (1) LASI core variables; (2) LASI-DAD demographics and socio-economic variables; (3) LASI-DAD health variables; (4) LASI-DAD cognitive tests and informant reports. The imputation of the LASI core variables itself uses a similar (though generally slightly simpler) approach as the one for the LASI-DAD variables. See the documentation of the Harmonized LASI data for details. The only variable from the LASI-DAD

demographics and socio-economic variables that had any missing was caste, and for this, we copied the corresponding value from the LASI core data. For the health variables, we used a similar chained imputation method as for the cognition variables described below.

Like HRS and SHARE, we used chained imputation (also known as fully conditional specification; Raghunathan et al., 2001; Van Buuren et al., 2006) for the cognition variables (and for the health variables, as mentioned above). This cycles over the cognition variables, in which each of them is imputed in turn, with the other cognition variables and background variables as regressors, and then repeats this cycle multiple times to account for updates of the imputations of the other variables. We used one cycle to initialize the chain and up to 10 cycles (iterations) to update the imputations.

With each imputed variable, the dataset also includes an imputation flag. Users who do not want to use our imputations, or who wish to perform nonresponse analyses, can reconstruct the non-imputed variables from these.

3.3 Exceptions, Special Cases, and Other Details

Because of the differential availability of regressors, we imputed the cognition variables in four stages, with each stage consisting of a chain as described in the previous section. The first two stages were for individuals who delivered a self-interview in the core data, whereas the last two stages were for individuals for whom we only have a proxy interview in the core data. The reason for treating proxy interviews differently is that the cognitive tests were not administered for them in the core data, and these are likely key predictors when available, so we want to use them when available. Conversely, the Jorm IQCODE variable from the core data was only available for the proxy interviews. Stages 1 and 3 imputed most cognition variables, the exception being the Blessed Part 1 items in Phase 1. In Phase 1, these items were only administered if the average of the reported Jorm IQCODE items was less than 3. In Phases 2 and 3, the Blessed Part 1 items were administered to all informants. For the imputation, this implies that in Stages 1 and 3, the Blessed Part 1 items were imputed for Phases 2 and 3, with the other Phase 2 and 3 variables (hand sequence; token test; and judgment and problem solving) included among the regressors. In Stages 2 and 4, the Blessed Part 1 items were imputed for Phase 1, with the estimation and imputation samples only consisting of individuals with an average reported Jorm IQCODE score of less than 3.

The imputation models did not always converge, due to a high degree of collinearity among some of the regressors. Hence, we defined a sequence of increasingly parsimonious fallback options that were used to impute the variables, in case such problems occur. The most common problematic variables were language (which is strongly related to state) and education as a categorical variable (which is strongly related to education in years). So the first fallback specification dropped these two variables. Other fallback specifications were specific to the variable being imputed.

There are more implementation details that are not discussed here. We will provide these upon request.

3.4 LASI-DAD Wave 2 Imputation Methods

The imputation methods for Wave 2 were similar to the methods for Wave 1, but Wave 2 introduced a few new considerations. The Trail Making Test was added, and one set of variables from this consists of the average times per path, which are continuous variables. We imputed these (after log transformation to reduce skewness) using predictive mean matching (Little, 1988), which is a semi-parametric method that is more robust to model misspecification than parametric methods (Kleinke, 2017), which is especially salient for continuous variables. Because of the very different nature of these variables, we imputed these as a small chained imputation (i.e., just the three Trail Making average time variables) after imputing all the other variables.

The main new consideration for wave 2 was whether and how to use the longitudinal dimension. In addition to the (other) Wave 2 variables and the demographics and other covariates from the core data, all LASI-DAD Wave 1 variables were available as potential covariates. Because this potentially exacerbates the risks of numerical problems and overfitting, we considered a wide range of modeling options, with inclusion or exclusion of different types of variables (health, economic variables) or different waves (LASI-DAD Wave 1, LASI Core Wave 1). To select the preferred model, we used Akaike's Information Criterion (AIC; e.g., Amemiya, 1980), a commonly used measure for assessing trade-offs between fit and parsimony. The AIC was designed to select the model with the best out-of-sample prediction. Because it is undesirable to select widely different models for different variables within the same imputation chain (e.g., which covariates are used affects the sample composi-

tion: LASI-DAD Wave 1 variables are unavailable for respondents who did not participate in LASI-DAD Wave 1), we computed the sum of the AICs for the different variables and selected the model specification that minimized this sum among the variations considered. We ensured that the different models that were being compared used the same sample. The most surprising result was that the LASI-DAD Wave 1 variables were not included, but the LASI Core Wave 1 variables were. This does not mean that there is no serial correlation in the variables in LASI-DAD (there is), but most of this serial correlation is catered for by the contemporaneous (LASI-DAD Wave 2) or earliest (LASI Core Wave 1) analogous measures. Adding these variables from LASI-DAD Wave 1 added a large number of parameters to the model while only modestly improving the fit. Hence, the model with these variables included would lead to noisier imputations than with them excluded.

4. Harmonized Domain-Specific Cognition Variables

The cognitive test battery in LASI-DAD was adapted from tests in the HCAP. The HCAP battery was designed to assess Mild Cognitive Impairment (MCI) and dementia in the US HRS and cross-nationally, and has been successfully adapted and deployed in the US, Mexico, Chile, Korea, China, Kenya, Chile, Lebanon, European countries (Italy, Germany, Czech Republic, France, Denmark) and South Africa (Lee et al., 2019). For LASI-DAD, some culturally and logically appropriate modifications were made to the HCAP, including identification of tests less dependent on schooling and literacy.

We organized tests into broad domains (orientation, attention/executive functioning, language, memory, and visuospatial) and further into narrow subdomains to be consistent with the CHC theory of human cognitive abilities. The orientation domain contained 5 questions about orientation to time (e.g., name the current month, year, season), 5 questions about orientation to place (e.g., state, city), and the question to name the Prime Minister. The language domain was represented by animal naming, writing or saying a sentence, phrase repetition, confrontational naming of common objects by sight (watch, pencil), naming of common objects by description (elbow, hammer, scissors, coconut, window), and following a read or acted command to close one's eyes. Memory tests included immediate, delayed, and recognition recall of a 10-word list; immediate, delayed, and recognition recall of the Logical Memory test, immediate and delayed recall of the East Boston Memory Test for story learning, and a three word recall task. Additionally, delayed recall of the constructional praxis test was used to measure delayed memory. Visuospatial function was measured by constructional praxis (drawing a circle, rectangle, cube, and diamond), and interlocking pentagons. Executive functioning, a broad domain that encompasses abstract reasoning, attention, and speed of cognitive processing, was represented by the Ravens progressive matrices task, clock drawing, two trials of the Go-No-Go test, a numeracy task, backwards day counting, symbol cancellation, completing a 3-stage task and the Digit Span forwards and backwards tasks.

We first estimated a series of unidimensional factor analysis models for each narrow and broad cognitive domain. Factor scores from these models are provided in the data, scaled to have a mean of 0 and variance of 1. Once adequate fit was obtained for each model, we combined all the domains into a hierarchical multiple domain factor analysis that included a general factor. Factor scores for the general factor are provided in the data. Model fit was evaluated based on a set of a priori cutoffs for the Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Squared Residual (SRMR) (Hu & Bentler, 1999). We characterized model fit as perfect if the CFI=1 and RMSEA=0 and SRMR=0, good if CFI>=0.95 and RMSEA<=0.05 and SRMR<=0.05, adequate if CFI>=0.90 and RMSEA<=0.08 and SRMR<=0.08, and poor if either CFI<0.9 or RMSEA>0.08 or SRMR>0.08. We chose this combination of fit statistics because each statistic has advantages and disadvantages. While low SRMR implies low model residuals, it does not incorporate model complexity and may be partial to overly complex models. The RMSEA provides an index of model discrepancy per degree of freedom (which accounts for model complexity), however it tends to improve with larger sample size. The CFI compares an estimated model to a hypothetical null baseline model which may itself be incorrect. Together, these three statistics considered in conjunction minimize risk of choosing a bad model (Kenny, Kaniskan, & McCoach, 2015).

See Gross et al. (2020) for further details of factor structure of cognitive tests in LASI-DAD.

4.1. Cross-Study Factor Scores

Cross-study factor scores are the result of a rigorous pre-statistical and statistical harmonization process, using an item-banking (fixed parameter calibration) approach. The first step is to conduct pre-statistical harmonization to evaluate differences in item administration, wording, or scoring, that would violate equivalence. Each item was rated as either a confident linking item (no issues violating equivalence), a tentative linking item (possible issues violating equivalence), or a non-linking item (unique or novel items with known issues violating equivalence).

Differential item functioning (DIF) was evaluated for all linking items using multiple indicator, multiple cause (MIMIC) models, adjusting for age and gender. We identified items as having salient DIF based on two criteria: 1) the odds ratio for the regression of an item on study membership was outside the range of 0.66-1.50 (Zwick et al., 2012), and 2) greater than 10% of respondents had differences of 0.3 or greater when comparing DIF-adjusted and DIF-unadjusted scores. First all confident linking items were tested for DIF; subsequently all tentative linking items were tested for DIF, using confident linking items without DIF as anchor items.

The item banking procedure was initialized with the estimation of a confirmatory factor analysis model in the HRS-HCAP sample for each cognitive domain. Model parameters from this model were then saved for use in subsequent models in other HCAP samples. In the next model, item parameters for linking items were set to the previously estimated values, whereas item parameters for novel items and the mean and variance of the underlying trait were also freely estimated. LASI-DAD was divided into literate and illiterate subgroups due to some administration differences in tests. Because the HRS-HCAP sample was estimated first, all scores are scaled to have a mean of 0 and variance of 1 in the HRS-HCAP sample.

Rather than using a hierarchical structure, the score for general cognitive performance is based on a factor analysis of all the specified items. Additional details on estimation details and the validation of these scores are available elsewhere (Gross et al. 2023).

5. Polygenic Risk Scores (PRSs)

Health outcomes and traits are often highly polygenic, reflecting the aggregate effect of many different genes so the use of single genetic variants or candidate genes may not capture the dynamic nature of more complex phenotypes. A polygenic risk score (PRS) aggregates individual loci across the genome and weights them by effect sizes derived from a genome-wide association study (GWAS) as an estimate of the strength of their association to produce a single quantitative measure of genetic risk and to increase power in genetic analysis.

PRSs were constructed for Alzheimer's Disease and general cognitive function for consenting LASI-DAD respondents who provided whole blood DNA in Wave 1. These scores will help harmonize research across studies among LASI-DAD data users. PRSs for each phenotype are based on a single, replicated GWAS and will be updated as sufficiently large GWAS are published for new phenotypes or as new meta-analyses for existing phenotypes emerge.

5.1. LASI-DAD Genomic Data

The DNA samples were genotyped at MedGenome. A total of 1008 study subjects and controls were genotyped on the Illumina Infinium Global Screening Array-24 v2.0 BeadChip, which measures 600,000 SNPs. All versions of the array are designed to Human Genome Build 37. The total 1008 scans derived from 993 unique subjects (including 960 LASI-DAD subjects and 33 1000G control subjects). Individuals with missing call rates > 2%, SNPs with call rates < 98%, HWE p-value < 0.0001, chromosomal anomalies, and kinship coefficient > 0.088 in the LASI-DAD were removed. Principal component (PC) analysis (Price et al., 2006) was performed to identify population group outliers and to provide sample eigenvectors as covariates in the statistical model used for association testing to adjust for possible population stratification. SNPs used for PC analysis were selected by linkage disequilibrium (LD) pruning from an initial pool consisting of all autosomal SNPs with a missing call rate < 5% and minor allele frequency (MAF) > 5%, and excluding any SNPs with a discordance between 1000G pedigree controls genotyped along with the study samples and those in the external 1000G (phase 3 version 5) data set. In addition, the 2q21 (LCT), HLA, 8p23, and 17q21.31 regions were excluded from the initial pool. The final sample set consisted of 932 unrelated study samples after quality control. For more information on the genotype data and quality control process see the LASI-DAD genotype data QC Report.

Imputation to the 1000G Genomes Project reference panel phase 3 version 5 (initial release on May 2013, haplotypes released Oct 2014) was performed by the University of Michigan using Minimac4 (http://genome.sph.umich.edu/wiki/Minimac4), with phasing performed using Eagle2.4. Overall, 49 million SNPs were imputed from the original 533,348 SNPs that were genotyped and passed quality control. Masking of genotyped SNPs to assess the accuracy of imputation was performed to estimate the median concordance between actual and imputed genotypes (median concordance>0.91 for common variants), and additional quality control metrics indicate high quality imputation. Please refer to the LASI-DAD Imputation report using the 1000 Genomes Project Phase 3 reference panel for more details.

5.2. PRS Construction

To best capture the most significant SNPs from the published GWAS meta-analysis studies, we construct PRSs for genome-wide significant SNPs only ($P < 5 \times 10^{-8}$), noted as a "top SNPs" PRS. In addition, for some traits, we also generated PRSs for all independent SNPs with ($P < 1 \times 10^{-4}$) after clumping ($r^2 < 0.25$ within a 250 kb window) using the LD structure in South Asian ancestry from 1000 Genome Reference Panel, indicated as an "all SNPs" PRS. In either case, only SNPs with high imputation quality ($R^2 > 0.8$) in LASI-DAD were included.

Weighted sums were chosen to calculate the PRSs. Weights were defined by the odds ratio or beta estimate from the GWAS meta-analysis files corresponding to the phenotype of interest. If the beta value from the GWAS meta-analysis was negative (or the odds ratio (OR) < 1), the beta/OR measures were converted to positive values (OR > 1) and the reference allele flipped to represent phenotype-increasing PRSs. PRSs are calculated using the following formula:

$$PRS_{\mathrm{i}} = \sum W_{\mathrm{j}} G_{\mathrm{ij}} / 2J$$

where *i* is individual *i* (*i*=1 to N), *j* is SNP *j* (*j*=1 to J), W_j is the meta-analysis effect size for SNP *j*, G_{ij} is the genotype, or the number of reference alleles (zero, one, or two), for individual *i* at SNP *j*, and *J* is the total number of SNPs. The "all SNPs" PRSs were constructed using PRScie-2 (Choi & O'Reilly, 2019) and the "top SNPs" PRSs were constructed in PLINK (Purcell et al., 2007).

5.2.1. Sources for SNP Weights

To incorporate externally valid SNP weights from replicated GWAS, we performed a search of the most recent literature to identify large GWAS meta-analysis studies related to the selected phenotype. SNP weights were downloaded from consortium webpages, requested from consortium authors, or obtained from published supplemental material. All base SNP files from GWAS meta-analyses were converted to NCBI build 37 annotation for compatibility with LASI-DAD SNP data.

5.2.2. Notes about the use of PRSs

PRSs are released for current LASI-DAD samples (N=932). However, it should be noted that the majority of GWAS used to inform the SNP weights come from GWAS on European ancestry groups and, as a result, PRSs for LASI-DAD samples from South Asian ancestry may not have the same predictive capacity (Martin et al., 2017; Smith et al., 2020).

Standardized versions of ancestry specific PCs 1-10 are included in the LASI-DAD PRS data release. **To protect identifiable information, PCs 1-5 and PCs 6-10 were scrambled.** To control for confounding from population stratification, or to account for any ancestry differences in genetic structures within populations that could bias estimates, **we highly recommend that users perform analyses adjusted for PCs 1-10**. The PCs control for any genetic aspects of common ancestry that could be spuriously correlated with the PRS and the outcome of interest (Price et al., 2006).

5.3. PRSs for Alzheimer's Disease (AD)

The three "top SNP" PRSs for Alzheimer's disease (AD) were created using results from three large-scale GWAS meta-analyses: 1) a 2013 GWAS conducted by the International Genomics of Alzheimer's Project (IGAP) (Lambert et al., 2013); 2) a 2019 GWAS meta-analysis using samples from the International Genomics of Alzheimer's Project (IGAP) (Kunkle et al., 2019); 3) a 2019 GWAS meta-analysis using cohorts from the Alzheimer's disease working group of Psychiatric Genomics Consortium (PGC-ALZ), the International Genomics of Alzheimer's Project (IGAP), the Alzheimer's Disease Sequencing Project (ADSP), and UKBiobank (Jansen et al., 2019).

Please note that all three GWAS are conducted using individuals of European ancestry. See Section 5.2.2.: "Notes about the use of PRSs" for more information on the use of PRSs in other ancestry groups.

Three PRSs were constructed using all the identified genome-wide significant AD risk SNPs from each AD GWAS separately. Note that there is overlap in some of the SNPs that comprise these three scores. Since key SNPs in the *APOE* gene have a strong association with AD, we excluded variants in the *APOE* region from the three PRSs, but also released rs7412 and rs429358 (the two SNPs that define the *APOE* ε2, ε3, and ε4 alleles) as independent units. The effect size of each SNP was calculated as the *ln(OR)* reported in the corresponding GWAS. The predictive performance of the three "top SNPs" PRSs on memory scores in LASI-DAD have been reported in Smith et al. (2020).

1) A GWAS meta-analysis (Lambert et al., 2013) of AD was conducted across 20 independent studies using data from four international consortia: Alzheimer's Disease Genetic Consortium (ADGC), the Cohorts for Heart and Aging Research in Genomic Epidemiology (CHARGE) Consortium, the European Alzheimer's Disease Initiative (EADI), and the Genetic and Environmental Risk in Alzheimer's Disease (GERAD) Consortium. The stage 1 meta-analysis included 54,162 participants (N_{cases} =17,008 and $N_{controls}$ =37,154) of European descent with a total of 7,055,881 SNPs imputed to 1000 Genomes (2010 release). The stage 2 replication sample included 19,884 participants of European ancestry (N_{cases} =8,572 and $N_{controls}$ =11,312) with a total of 11,632 genotyped SNPs. In addition to the APOE locus (encoding apolipoprotein E), the two-stage combined discovery and replication GWAS identified 19 SNPs with genome-wide significant associations with AD. Please refer to Table S1 in Smith et al. (2020) for the list of 19 SNPs. Adjustment covariates within each contributing cohort included age, sex, and genetic principal components.

The released PRSs in LASI-DAD contain all 19 SNPs. The descriptive statistics and the distribution of the PRS are presented in

Table 6 and Figure 2. The posted PRS have been standardized to a standard normal curve (mean=0, standard deviation=1).

2) Another GWAS meta-analysis (Kunkle et al., 2019) was conducted by the same group in (1) by using a larger Stage 1 discovery sample of 63,926 participants from 46 datasets (N_{cases} = 21,982, $N_{controls}$= 41,944) of non-Hispanic Whites (NHW) with a total of 36,648,992 SNPs imputed to 1000 Genomes (phase 1 integrated release 3, March 2012). After quality control, 9,456,058 common variants and 2,024,574 rare variants were selected for analysis. Stage 1 meta-analysis was first followed by Stage 2, using the I-select chip previously developed in Lambert et al. (2013) and finally Stage 3A (n = 11,666) or Stage 3B (n = 30,511) (for variants in regions not well captured in the I-select chip). The final sample was 35,274 clinical and autopsy-documented Alzheimer's disease cases and 59,163 controls. Meta-analysis of Stages 1 and 2 produced 24 genome-wide-significant associations with AD. Please refer to Table S1 in Smith et al. (2020) for the list of 24 SNPs.

The released PRS in LASI-DAD contain 20 SNPs that overlap between the LASI-DAD genetic data and the genome-wide significant SNPs from the GWAS meta-analysis. The descriptive statistics and the distribution of the PRS are presented in Table 6 and Figure 2. The posted PRS have been standardized to a standard normal curve (mean=0, standard deviation=1).

3) A large genome-wide association study of clinically diagnosed AD and AD-by-proxy was performed using a total sample of 455,258 participants (N_{cases} =71,880, $N_{controls}$ =383,378) (Jansen et al., 2019). Phase 1 involved a genome-wide meta-analysis for clinically diagnosed AD case-control status using cohorts collected by 3 independent consortia (Alzheimer's disease working group of the Psychiatric Genomics Consortium (PGC-ALZ), the International Genomics of Alzheimer's Project (IGAP), and the Alzheimer's Disease Sequencing Project (ADSP)), totaling 79,145 of European ancestry and 9,862,738 genetic variants passing quality control. In phase 2 they performed a GWAS of AD-by-proxy using 376,113 individuals of European ancestry from UKB. They defined proxy cases as individuals with one or two parents with AD (giving higher weight to cases with two parents). The proxy controls include individuals whose parents had no AD (giving higher weights to individuals with older parents as younger parents may still have a chance to develop AD). Given the high genetic overlap, in phase 3 they conducted a meta-analysis of the clinical AD GWASs and the AD-by-proxy GWAS. The meta-analysis in phase 3 identified 28 genome-wide significant loci associated with AD. Please refer to Table S1 in Smith et al. (2020) for the list of 28 SNPs.

The released PRSs in LASI-DAD contain 19 SNPs that overlap between the LASI-DAD genetic data and the genome-wide significant SNPs from the GWAS meta-analysis. The descriptive statistics and the distribution of the PRS are presented in Table 6 and Figure 2. The posted PRS have been standardized to a standard normal curve (mean=0, standard deviation=1).

5.4. PRSs for General Cognitive Function

The PRSs for general cognition were created using results from a 2018 GWAS (Davies et al., 2018) conducted using genetic data from the CHARGE and COGENT consortia, and UK Biobank (total N=300,486; ages 16–102). A total of 300,486 participants undertook multiple, diverse cognitive tests from which a general cognitive function phenotype was created within each cohort by principal component analysis. In some instances, a single test that captures multiple cognitive functions was used as a proxy for general cognitive ability (e.g. the Moray House Test of Verbal and Numerical Reasoning). A total of 178 genome-wide significant independent lead SNPs from 148 loci were identified for association with general cognitive function. Adjustments for age, sex and population stratification were included in study-specific GWAS association analyses. Cohort-specific covariates such as site or familial relationships were also included as required.

The summary results for all variants with z-score statistics were downloaded from https://www.ccace.ed.ac.uk/node/335. The formula below was used to further obtain the beta estimates for all the variants. Here, "p" was the minor allele frequency (MAF) of the European samples from the 1000G reference panel (phase 3 version 5).

$$Beta = \frac{z}{\sqrt{2p(1-p)(n+z^2)}}$$

We constructed two versions of the PRSs for general cognitive function: "top SNPs" and "all SNPs" PRSs. The "top SNPs" PRS included 130 lead SNPs out of the 178 reported lead SNPs from the 148 loci that overlap between the LASI-DAD genetic data and the GWAS meta-analysis. The "all SNPs" PRS included all independent lead SNPs with ($p < 1 \times 10^{-4}$). Clumping was used to obtain SNPs in linkage disequilibrium with $r^2 < 0.25$ within a 250kb window. The LD was hard to obtain in the MHC region on chromosome 6 (26-33MB) due to long-range LD structure, thus this region was omitted from "all SNPs" PRS.

The final "all SNPs" PRS contains 1,938 SNPs that overlap between the LASI-DAD genetic data and the GWAS meta-analysis. The descriptive statistics and the histogram of the PRSs are presented in Table 7 and Figure 3. The posted PRSs have been standardized within the study sample (mean = 0, standard deviation = 1).

Please note the GWAS was conducted using individuals of European ancestry. See Section 5.2.2.: "Notes about the use of PRSs" for more information on the use of PRSs in other ancestry groups.

Table 4. Descriptive statistics of polygenic risk scores (PRSs) for Alzheimer's disease

	Unstandardized PRS (original scale)					Standardized PRS				
Study	Min	Max	Median	Mean	SD	Min	Max	Median	Mean	SD
Lambert et al. 2013	0.0375	0.0889	0.0659	0.0654	0.0082	-3.4038	2.8821	0.0593	0.0000	1.0000
Kunkle et al. 2019	0.0297	0.0798	0.0523	0.0522	0.0075	-3.5223	2.7530	0.0170	0.0000	1.0000
Jansen et al. 2019	0.0046	0.0119	0.0087	0.0087	0.0012	-2.9886	3.6543	0.0065	0.0000	1.0000

The PRSs were constructed using the genome-wide significant SNPs reported from three independent genome-wide association studies (GWAS) of Alzheimer's disease (AD).

Table 5. Descriptive statistics of polygenic risk scores (PRSs) for general cognitive function

	Unstandardized PRS (original scale)					Standardized PRS				
	Min	Max	Median	Mean	SD	Min	Max	Median	Mean	SD
"top SNPs" PRS[a]	0.0081	0.0109	0.0093	0.0093	0.0005	-3.4305	3.6653	-0.0172	0.0000	1.0000
"all SNPs" PRS[b]	0.0092	0.0100	0.0096	0.0096	0.0001	-2.5715	3.4787	-0.0251	0.0000	1.0000

a. The "top SNPs" PRS was constructed using the genome-wide significant SNPs reported from the genome-wide association study (GWAS) of general cognitive function (Davies et al., 2018).

b. The "all SNPs" PRS was constructed using independent SNPs (p<10E-04) reported from the genome-wide association study (GWAS) of general cognitive function (Davies et al., 2018). Independent SNPs were selected using a clumping approach (r^2<0.25, window size 250kb) with LD estimated in South Asian ancestry from 1000 Genomes Reference Panel.

Figure 1. Histogram of the "top SNPs" polygenic risk scores (PRS) constructed using the genome-wide significant SNPs reported from genome-wide association studies (GWAS) of Alzheimer's disease (AD): (A) Lambert et al., 2013; (B) Kunkle et al., 2019; (C) Jansen et al., 2019.

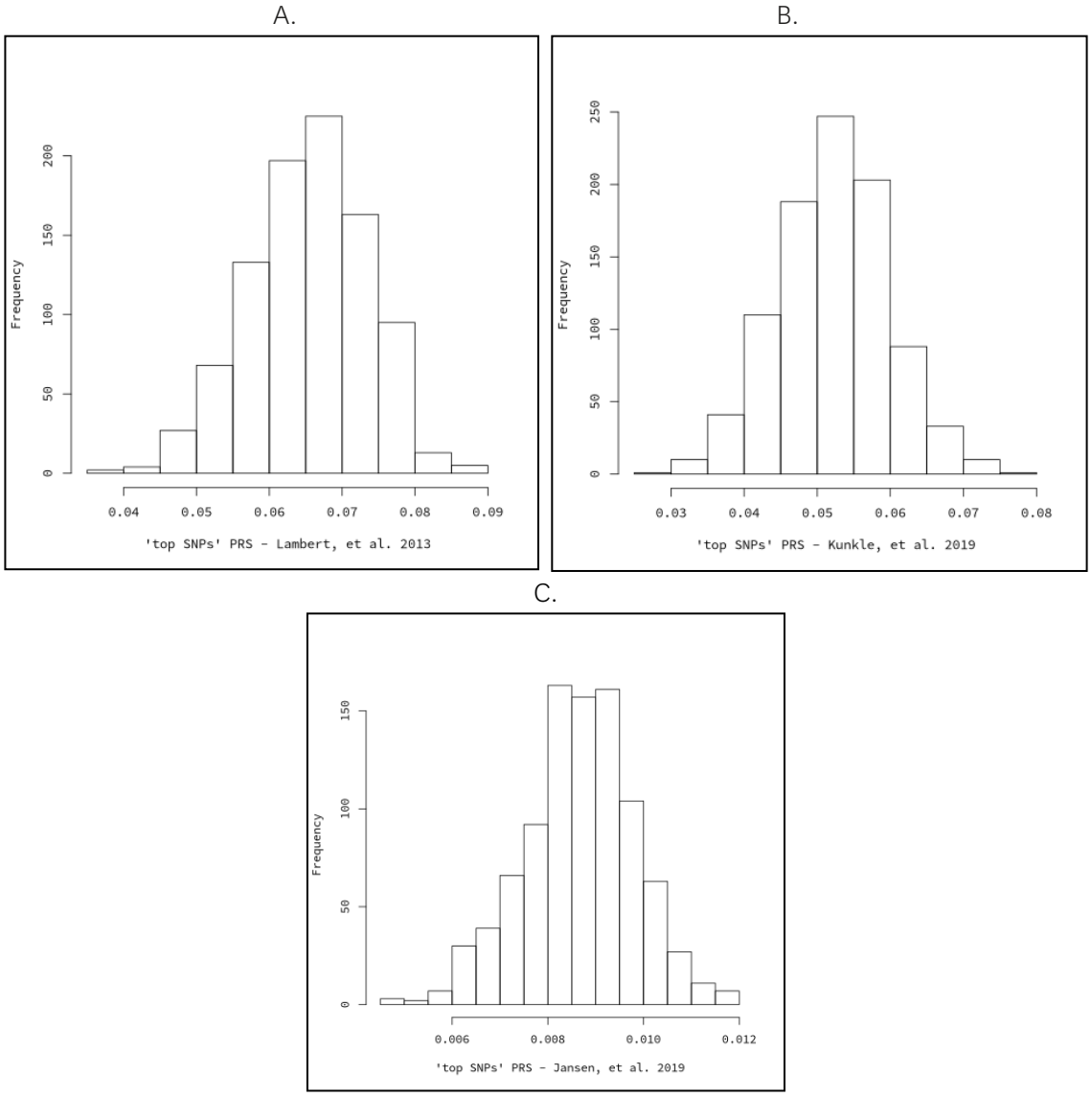
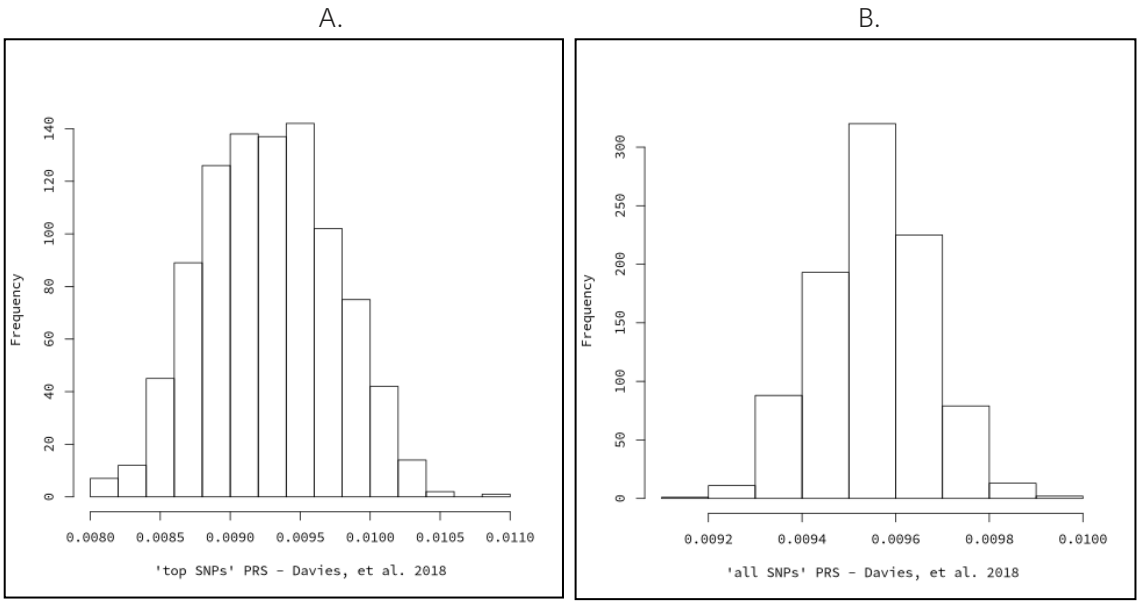


Figure 2. Histogram of the polygenic risk scores (PRS) constructed using (A) genome-wide significant SNPs or (B) independent SNPs at p<10E-4 reported from the genome-wide association study (GWAS) of general cognitive function (Davies et al., 2018).



6. Structure of Codebook

The Data Codebook contains the codebook documenting all variables in the Harmonized LASI-DAD Data. This section explains how to interpret the codebook entries. The figure below shows a typical codebook page; the blue numbers correspond to comments below.

Verbal Fluency 1

Variable	Waves	Label	Type
rWverbal	1-2	rWverbal:wW R verbal fluency:animal naming-correct	Cont
rWfverbal	1-2	rWfverbal:impflag wW R whether imputed value	Categ
rWverbal_inc	1-2	rWverbal_inc:wW R verbal fluency:animal naming-incorrect	Cont
rWfverbal_in	1-2	rWfverbal_in:impflag wW R whether imputed value	Categ
rWverbal_prb	1-2	rWverbal_prb:wW R verbal fluency:animal naming-problem	Categ

2

3 **How Constructed**

rWverbal and rWverbal_inc measures respondents' retrieval fluency. Specifically, the respondent has 60 seconds to name as many animals as fast as they can. rWverbal indicates the number of correct animals that the respondent names. We exclude some outliers and top-code the value to 32. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWverbal is set to plain missing (.) if the respondent did not participate in the current wave.

rWverbal_inc indicates the number of incorrect animals the respondent names in the 60 seconds window, including repetitions of animal names or non-animal responses. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWverbal_inc is set to plain missing (.) if the respondent did not participate in the current wave.

rWverbal_prb indicates whether any problems occurred while the respondent was naming animals. A value of 1 is assigned if there was an interruption during the 60 second response period, a technical/computer problem, the respondent did not understand the task, or another issue occurred. A value of 0 is assigned if there were no issues. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWverbal_prb is set to plain missing (.) if the respondent did not participate in the current wave.

rWfverbal and rWfverbal_in are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

4 **Cross Wave Differences in LASI-DAD**

No differences known.

5 **Differences with other HCAP studies**

In the LASI-DAD, all responses were recorded and once the task was completed or 60 seconds had passed, interviewers were asked to count incorrect (non-animal responses) and repeated items as incorrect. In the HRS-HCAP and ELSA-HCAP, interviewers were asked to keep a mental count of incorrect (non-animal) and repeated animal responses during the exercise and to record the best estimate of all incorrect responses once the task was completed or 60 seconds had passed. In the MHAS Mex-Cog and SPS Chile-Cog, interviewers

wrote down all animal names that the respondents named, including repeated items, and counted the number of correct and repeated animal items after the task was completed or 60 seconds had passed.

The LASI-DAD and ELSA-HCAP record whether any problems occurred during the task, included as variables in their respective Harmonized HCAP datasets, but this information is not provided for the HRS-HCAP, MHAS Mex-Cog, or SPS Chile-Cog.

`rWverbal_cat` is a MHAS Mex-Cog-specific variable and was created based on the Mex-Cog Flowcharts for Scoring and Constructed Variables by Domain (see Mex-Cog 2020).

The Harmonized LASI-DAD, Harmonized MHAS Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog provide imputed values and an accompanying flags for the number of incorrect responses, which are not provided in the Harmonized HRS-HCAP. Additionally in the Harmonized HRS-HCAP, responses are not imputed for `rWverbal` if only an informant interview was completed.

6 Comparability with the Harmonized LASI

`rWverbf` is the comparable variable in the Harmonized LASI.

7 Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
`r1verbal`	4,096	11.32	4.57	0.00	32.00	0
`r2verbal`	4,562	12.18	4.83	0.00	32.00	76
`r1verbal_inc`	4,096	0.14	0.66	0.00	16.00	0
`r2verbal_inc`	4,562	0.18	0.62	0.00	7.00	76

8 Categorical Variable Frequencies

	`r1fverbal`	`r2fverbal`
0.Not imputed	3,976	4,487
1.Dont know	11	11
2.Missing	17	32
4.Refused	92	32
12.Not interviewed	0	76
Total	4,096	4,638

	`r1fverbal_in`	`r2fverbal_in`
0.Not imputed	3,905	4,495
1.Dont know	10	10
2.Missing	100	25
4.Refused	81	32
12.Not interviewed	0	76
Total	4,096	4,638

	`r1verbal_prb`	`r2verbal_prb`
0.No	3,883	4,518
1.Yes	110	19
.d:DK	11	3
.i:No cognition IW	0	76
.r:Refuse	92	22
Total	4,096	4,638

9 **Original LASI-DAD Variables Used**

Wave 1 Cognitive Assessment:

rf103_animalsanswers	TOTAL ANIMAL ANSWERS
rf105_animalnumincorrect	NUMBER OF INCORRECT ANIMAL NAMES GIVEN
rf106_animalproblemss1	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 1 (InterrupOcc60Second) In
rf106_animalproblemss3	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 3 (TechnicalCompterProblem
rf106_animalproblemss4	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 4 (RDidNotUnderstand) R di
rf106_animalproblemss5	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 5 (OthProblem_PleaseSpecif

Wave 2 Cognitive Assessment:

rf103_animalsanswers	TOTAL ANIMAL ANSWERS
rf105_animalnumincorrect	NUMBER OF INCORRECT ANIMAL NAMES GIVEN
rf106_animalproblemss1	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 1 INTERRUPTION DURING 60
rf106_animalproblemss3	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 3 TECHNICAL/COMPUTER PR
rf106_animalproblemss4	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 4 R DID NOT UNDERSTAND TA
rf106_animalproblemss5	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 5 OTHER

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1 **Title**: The variables are documented in groups according to the concept that they measure. For example, there are ten variables related to verbal fluency, corresponding to two waves and the respondent.

2 **Variable Overview**: This entry overviews the provided variables in this group. The table incudes the names of variables with a "W" in place of individual wave numbers. The wave column displays the waves for which this variable is built or an "All" in the case of a variable which is not wave-specific (e.g. birth year). Variable labels are also included, which typically include the name of the variable and a short description. Lastly, the Type column indicates the variable type which may be continuous (Cont), categorical (Categ), or character (Char).

3 **How Constructed**: This entry provides background on the manner in which variables were constructed.

4 **Cross-Wave Differences in LASI-DAD**: This entry briefly describes differences in question wording or contents between interview waves.

5 **Differences with other HCAP Studies**: This entry describes any differences between the tests or between the version of the variable in the other Harmonized HCAP datasets. It is imperative these differences are understood when using harmonized measures.

6 **Comparability with the Harmonized LASI**: This entry describes any differences between the tests or between the versions of the variable in LASI and LASI-DAD. It is imperative these differences are understood when using harmonized measures.

7 **Continuous Variable Distributions**: This entry shows descriptive statistics of each continuous variable. They include the number of nonmissing values, the mean, standard deviation, minimum value, maximum value, and number of missing values in the wave.

8 **Categorical Variable Frequencies**: This entry shows the value label codes. These are only relevant for categorical variables. The first character(s) of the value labels indicate the value to which each label has been assigned. For example, value '1' is mapped into '1. Excellent' (not just 'Excellent'). The entry also indicates which labels are assigned to which variables, and shows frequency tabulations for all categorical variables.

9 **Original LASI-DAD Variables Used**: This entry provides the names and labels of raw LASI-DAD variables that were used to construct the new variables.

7. Distribution and Technical Notes

The Harmonized LASI-DAD Data file is distributed on the Gateway to Global Aging Data (https://g2aging.org/hrd/get-data) website along with the original LASI-DAD data. The Harmonized LASI-DAD Data file is made available free of charge but only to users who register with the Gateway to Global Aging Data and agree to the standard conditions. For more information on obtaining access to the LASI-DAD data visit: https://g2aging.org/hrd/get-data.

The Harmonized LASI-DAD Data file is distributed in Stata, SAS, SPSS, and tab delimited dataset formats.

This is **Version B** of the Harmonized LASI-DAD Data.

A copy of the Harmonized LASI-DAD dataset and a copy of this Harmonized LASI-DAD Codebook can be obtained on the Gateway to Global Aging Data at https://g2aging.org/hrd/get-data.

8. Data Codebook

A. Demographics, Identifiers, and Weights

Identifiers

Variable	Waves	Label	Type
prim_key	All	prim_key:primary key ID	Char
hhid	All	hhid:housedhold ID /15-char	Char
pnc	All	pnc:person id /2-char	Char
pn	All	pn:person id /Num	Cont

How Constructed

prim_key is the 15-digit character identifier that identifies each respondent uniquely. It consists of two separate parts: hhid and pnc.

hhid is a 15-digit character household identifier that indicates the household to which a respondent belonged when entering the panel. hhid ends in 00 to uniquely identify the household, but not the respondent within the household.

pnc is a 2-digit character person identifier that indicates each participant within the household. pn is the numeric version of the person identifier.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

No differences known.

Comparability with the Harmonized LASI

No differences known.

Original DAD Variables Used

Harmonized LASI:

prim_key	prim_key:primary key ID
hhid	hhid:HHold ID (char)
pnc	pnc:person ID (char)
pn	pn:person ID (num)

Country Indicator

Variable	Waves	Label	Type
isoa3	All	isoa3: Country indicator	Char

How Constructed

isoa3 is the country/state indicator for LASI-DAD. isoa3 is a 5-character code and is assigned "IND" to represent the country with a dash and an additional 2-characters to represent the state in India in which the respondent and their nominated informant were surveyed. The list of 2-character codes and the state they represent are as follows: AP (Andhra Pradesh), AS (Assam), BR (Bihar), CG (Chhattisgarh), DL (Delhi), GJ (Gujarat), HR (Haryana), JH (Jharkhand), JK (Jammu and Kashmir), KA (Karnataka), KL (Kerala), MH (Maharashtra), MP (Madhya Pradesh), OR (Odisha), PB (Punjab), PY (Pondicherry), RJ (Rajasthan), TG (Telangana), TN (Tamil Nadu), UP (Uttar Pradesh), UT (Uttarakhand/Uttranchal), and WB (West Bengal).

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

No differences known.

Comparability with the Harmonized LASI

This variable is equivalent to isoa3 and related to hhWstate in the Harmonized LASI.

Original DAD Variables Used

Wave 1 Cognitive Assessment:
stateid State ID

Wave 2 Cognitive Assessment:
stateid State ID

State in India

Variable	Waves	Label	Type
rWstateid	1-2	rWstateid: R interview state	Categ

How Constructed

rWstateid indicates the Indian state or union territory where the respondent lives. The corresponding codes of India's states are based on census data. rWstateid is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The interview state variable is only available in the Harmonized LASI-DAD.

Comparability with the Harmonized LASI

hhWstate is the comparable variable in the Harmonized LASI.

Categorical Variable Frequencies

	r1stateid	r2stateid
1.Jammu & Kashmir	152	149
3.Punjab	159	182
5.Uttaranchal	128	143
6.Haryana	209	240
7.Delhi	141	112
8.Rajasthan	251	262
9.Uttar Pradesh	217	255
10.Bihar	224	201
18.Assam	200	207
19.West Bengal	313	325
20.Jharkhand	0	102
21.Odisha	252	250
22.Chhattisgarh	0	101
23.Madhya Pradesh	100	185
24.Gujarat	288	264
27.Maharashtra	353	357
28.Andhra Pradesh	0	204
29.Karnataka	252	282
32.Kerala	350	341
33.Tamil Nadu	302	225
34.Pondicherry	0	51
36.Telangana	205	200
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

stateid	State ID

Wave 2 Cognitive Assessment:

stateid	State ID

HCAP Wave Status: Response Indicator

Variable	Waves	Label	Type
inhcapW	1-2	inhcapW:In HCAP Wave W	Categ

How Constructed

inhcapW indicates whether the respondent and/or their nominated informant participated in the current wave. inhcapW is coded as 0 if the respondent and their nominated informant did not participate in the wave. inhcapW is coded as 1 if the respondent and/or their nominated informant participated in the wave. In Wave 1, inhcapW is derived from the variable indicating which phase the respondent's interview took place in. In Wave 2, inhcapW is derived from a variable indicating participation.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

No differences known.

Comparability with the Harmonized LASI

inhcapW is related to inwW in the Harmonized LASI.

Categorical Variable Frequencies

	inhcap1	inhcap2
0.No	2,072	1,530
1.Yes	4,096	4,638
Total	6,168	6,168

Original DAD Variables Used

Wave 1 Cognitive Assessment:
phase2 Phase Categories

Wave 2 Cognitive Assessment:
inw2

Interview Phase

Variable	Waves	Label	Type
rWphase	1-2	rWphase:wW DAD phase	Categ

How Constructed

rWphase indicates whether the respondent is in phase I, phase II, or phase III of that wave's data collection. This variable is relevant since there were some questions added or dropped between the phases. rWphase is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

rWphase in the Harmonized LASI-DAD and Harmonized Mex-Cog indicate the phase in which the respondent's interview took place. The HRS-HCAP, ELSA-HCAP, and SPS Chile-Cog do not indicate interview phases.

Comparability with the Harmonized LASI

This variable is not created in the Harmonized LASI.

Categorical Variable Frequencies

	r1phase	r2phase
1.Phase 1	1,592	1,977
2.Phase 2	1,652	1,228
3.Phase 3	852	1,433
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:
- phase2 — Phase Categories

Wave 2 Cognitive Assessment:
- stateid — State ID

Interview Status

Variable	Waves	Label	Type
rWhiwstat	1-2	rWhiwstat:wW R Interview status	Categ
rWhiwstat_d	1-2	rWhiwstat_d:wW R Interview status alternate	Categ

How Constructed

rWhiwstat indicates the interview status for the types of tests conducted in the current wave of the HCAP interview. A value of 1 indicates that the cognitive tests and informant report were completed. A value of 2 indicates that only the cognitive tests were completed. A value of 3 indicates that only the informant report was completed. rWhiwstat_d indicates the alternate interview status for the types of tests conducted in the current wave of the HCAP interview including the geriatric tests. A value of 1 indicates that the cognitive tests, informant report, and geriatric assessment were completed. A value of 2 indicates that only the cognitive tests and informant report were completed. A value of 3 indicates that only the cognitive tests and the geriatric assessment were completed. A value of 4 indicates that only the informant report and the geriatric assessment were completed. A value of 5 indicates that only the cognitive tests were completed. A value of 6 indicates that only the informant report was completed. rWhiwstat and rWhiwstat_d are assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The ELSA-HCAP and SPS Chile-Cog have instances in which only a respondent interview was completed, but none in which only an informant interview was completed. The LASI-DAD, HRS-HCAP and MHAS Mex-Cog have instances in which only a respondent interview was completed and in which only an informant interview was completed. Cases in the MHAS Mex-Cog Wave 1 in which an informant report was completed but the respondent's cognitive tests were not completed are not currently included in the Harmonized Mex-Cog but have been released in a separate file as part of a secondary imputation of the Harmonized Mex-Cog Wave 1.

LASI-DAD is the only HCAP study with a separate geriatric assessment, so it includes rWhiwstat_d.

Comparability with the Harmonized LASI

rWiwstat in the Harmonized LASI indicates the response status of the respondent at each wave (whether the respondent participated in the current wave). In the Harmonized LASI-DAD, rWhiwstat indicates the interview status for each type of test: whether only the cognitive tests were completed, only the informant reports were completed, or both the cognitive tests and informant reports were completed.

Categorical Variable Frequencies

	r1hiwstat	r2hiwstat
1.Both cog and inf	4,046	4,490
2.Cognitive tests only	50	72
3.Informant tests only	0	76
Total	4,096	4,638

	r1hiwstat_d	r2hiwstat_d
1.Cog, inf, and ger	4,035	4,425
2.Cog and inf only	11	65
3.Cog and ger only	49	54
4.Inf and ger only	0	16
5.Cognition tests only	1	18

6.Informant tests only	0	60
Total	4,096	4,638

Weights

Variable	Waves	Label	Type
rWhwtresp	1-2	rWhwtresp:wW R post-stratification weight	Cont
rWhlwtresp	2	rWhlwtresp:wW R participant weight for waves 1 & 2	Cont

How Constructed

rWhwtresp is the person-level cross sectional survey weight. The weight is provided to make the data a nationally representative sample and to correct for differential non-response. Missing values are assigned special missing (.m). rWhwtresp is assigned plain missing (.) if the respondent did not participate in the current wave.

rWhlwtresp is the person-level survey weight that is provided to make the sample present at LASI-DAD Waves 1 and 2 representative of India. Missing values are assigned special missing (.m). rWhlwtresp is assigned plain missing (.) if the respondent did not participate in both Waves 1 and 2.

Cross Wave Differences in LASI-DAD

Additional weight variables are available.

Differences with other HCAP studies

Respondent-level weights have been constructed for all studies. The weight for MHAS Mex-Cog Wave 1 will be incorporated in the next release of Harmonized Mex-Cog.

Comparability with the Harmonized LASI

rWwtresp is the comparable variable in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hwtresp	4,096	1.00	0.25	0.01	1.57	0
r2hwtresp	4,638	1.00	0.51	0.01	2.28	0
r2hlwtresp	2,566	1.00	0.65	0.02	2.84	0

Original DAD Variables Used

Wave 1 Cognitive Assessment:

dad_final_weight	DAD final weight

Wave 2 Weights:

dad_w2_weight	DAD Wave-2 Weight
dad_w_1and2_weight	DAD Waves 1&2 Participants Weight

Interview Date: Year and Month

Variable	Waves	Label	Type
rWhiwy	1-2	rWhiwy:wW R year of DAD interview	Cont
rWhiwm	1-2	rWhiwm:wW R month of DAD interview	Cont
rWlasidy	1-2	rWlasidy:wW R # days between LASI w 1 and DAD wW interview	Cont
rWdaddy	2	rWdaddy:wW R # days between DAD w 1 and DAD w 2 interview	Cont

How Constructed

rWhiwy and rWhiwm indicate the respondent's LASI-DAD interview year and month respectively. rWhiwy and rWhiwm are assigned plain missing (.) if the respondent did not participate in the current wave.

rWlasidy indicates the number of days between the LASI-DAD interview and the core LASI Wave 1 interview. rWlasidy is assigned plain missing (.) if the respondent did not participate in the current wave.

rWdaddy indicates the number of days between the Wave 1 LASI-DAD interview and Wave 2 LASI-DAD interview. rWdaddy is assigned plain missing (.) if the respondent did not participate in both Waves 1 and 2.

Cross Wave Differences in LASI-DAD

rWdaddy is only available in Wave 2.

Differences with other HCAP studies

The Harmonized HRS-HCAP, Harmonized LASI-DAD, and Harmonized Chile-Cog have two variables indicating the month (rWhiwm) and year (rWhiwy) of the interview. Only the year of the interview is available for Harmonized Mex-Cog and Harmonized ELSA-HCAP.

Comparability with the Harmonized LASI

rWiwy and rWiwm are comparable variables in the Harmonized LASI. There are no comparable variables for rWlasidy or rWdaddy in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hiwy	4,096	2,018.50	0.78	2,017.00	2,020.00	0
r2hiwy	4,638	2,023.29	0.49	2,022.00	2,024.00	0
r1hiwm	4,096	5.48	4.18	1.00	12.00	0
r2hiwm	4,638	5.12	3.46	1.00	12.00	0
r1lasidy	4,096	326.36	274.86	10.00	1,084.00	0
r2lasidy	4,638	2,054.75	311.47	1,356.00	2,546.00	0
r2daddy	2,566	1,697.38	240.65	1,022.00	2,383.00	0

Original DAD Variables Used

Wave 1 Cognitive Assessment:
begintime TIMESTAMP START

Wave 2 Cognitive Assessment:
begintime TIMESTAMP START

Interview Language

Variable	Waves	Label	Type
rWhlang_d	1-2	rWhlang_d:wW R language of interview	Categ

How Constructed

rWhlang_d indicates the language that the respondent used for the interview. rWhlang_d is coded as follows: 1.English, 2.Hindi, 3.Kannada, 5.Malayalam, 6.Gujarati, 7.Tamil, 8.Punjabi, 11.Urdu, 15.Bengali, 16.Assamese, 17.Odiya, 18.Marathi, 19.Telugu. Don't know, refused, or other missing responses of rWhlang_d are set to (.d), (.r) and (.m), respectively. rWhlang_d is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

Only the Harmonized HRS-HCAP and Harmonized LASI-DAD provide indicators for the language the interview took place in. As different languages are used, these variables use study-specific naming in the respective Harmonized HCAP datasets.

Comparability with the Harmonized LASI

rWlang_l is the comparable variable in the Harmonized LASI.

Categorical Variable Frequencies

	r1hlang_d	r2hlang_d
1.English	10	10
2.Hindi	1,393	1,671
3.Kannada	245	258
5.Malayalam	349	340
6.Gujarati	288	260
7.Tamil	301	254
8.Punjabi	159	178
11.Urdu	152	149
15.Bengali	309	331
16.Assamese	199	199
17.Odiya	252	250
18.Marathi	250	293
19.Telugu	189	445
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

language_iw	Iwer Checkpoint: IW Language

Wave 2 Cognitive Assessment:

language_iw	Iwer Checkpoint: IW Language

Birth Date: Year and Month

Variable	Waves	Label	Type
rabyear	All	rabyear: R birth year	Cont
rabmonth	All	rabmonth: R birth month	Cont

How Constructed

rabyear and rabmonth are taken from Harmonized LASI.

rabyear is the respondent's reported birth year. rabmonth is the respondent's reported birth month. rabyear and rabmonth are derived through the face-to-face computer-assisted personal interview (CAPI), and if missing, rabyear is calculated by subtracting the respondent's age from their interview year. Don't know, refused, and other missing responses to rabyear and rabmonth are assigned special missing (.d), (.r), and (.m), respectively. rabyear and rabmonth are set to plain missing (.) if the respondent did not respond to any wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The respondent's reported birth month is not available for the Harmonized ELSA-HCAP or the Harmonized Chile-Cog. Additionally, ELSA is the only study to bottom-code birth year for individuals aged 90 or older at the time of their first survey, necessitating the use of a flag variable.

Comparability with the Harmonized LASI

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
rabyear	6,168	1,949.58	8.06	1,913.00	1,963.00	0
rabmonth	5,385	4.50	3.29	1.00	12.00	783

Original DAD Variables Used

Harmonized LASI:

rabyear	rabyear: r birth year
rabmonth	rabmonth: r birth month

Age at Interview

Variable	Waves	Label	Type
rWhagey	1-2	rWhagey:wW R age (years) at LASI-DAD ivw	Cont

How Constructed

rWhagey is the respondent's age in years at the time of the LASI-DAD interview. rWhagey is derived from the LASI-DAD interview month and year and the respondent's birth month and year. If the respondent's birth month is not available, then it is assumed to be January for this calculation. rWhagey will take the age given during their core interview in LASI, which is largely assigned based on self-reported age, if the calculated age is missing or if the self-reported age is greater than the calculated age. rWhagey is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The Harmonized ELSA-HCAP includes a flag variable to indicate where age has been top-coded for individuals aged 90 or older at the time of their first survey.

Comparability with the Harmonized LASI

rWagey is the comparable variable in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hagey	4,096	69.72	7.60	60.00	105.00	0
r2hagey	4,638	72.21	7.47	60.00	108.00	0

Original DAD Variables Used

Harmonized LASI:
- rabyear — rabyear: r birth year
- rabmonth — rabmonth: r birth month

Wave 1 Cognitive Assessment:
- begintime — TIMESTAMP START

Wave 2 Cognitive Assessment:
- begintime — TIMESTAMP START

Gender

Variable	Waves	Label	Type
ragender	All	ragender: R Gender	Categ
rafgendr	All	rafgendr: R flag gender corrected	Categ

How Constructed

ragender indicates the respondent's gender. Gender was self reported in LASI Wave 1 and in LASI-DAD Wave 2. Gender was confirmed based on genetic tests completed as part of LASI-DAD Wave 2. ragender takes the genetically confirmed gender from LASI-DAD Wave 1, and if not able to be confirmed through genetic testing, then takes the gender confirmed by LASI-DAD Wave 2 interviewers. ragender is coded as follows: 1.Man and 2.Woman. rafgendr is a flag variable indicating whether the respondent's gender information is collected from the LASI-DAD or Harmonized LASI, and is coded as follows: 0.From LASI wave 1 and 1.From LASI-DAD wave 2.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

rafgendr does not have a comparable variable in the other HCAP studies.

Comparability with the Harmonized LASI

rafgendr does not have a comparable variable in the Harmonized LASI.

Categorical Variable Frequencies

	ragender
1.Man	2,719
2.Woman	3,449
Total	6,168

	rafgendr
0.From LASI wave 1	6,165
1.From LASI-DAD wave 2	3
Total	6,168

Original DAD Variables Used

Harmonized LASI:	
ragender	ragender: r gender
Wave 1 Cognitive Assessment:	
rgender	Respondent gender
Wave 2 Cognitive Assessment:	
rgender	Respondent gender

Caste in India

Variable	Waves	Label	Type
rWhcastec	1-2	rWhcastec: R caste system at core ivw	Categ

How Constructed

rWhcastec is taken from Harmonized LASI.

rWhcastec provides the respondent's reported caste information. A code of 1 is assigned if the respondent is in a scheduled caste. A code of 2 is assigned if the respondent is in a scheduled tribe. A code of 3 is assigned if the respondent is in another backward class. A code of 4 is assigned if the respondent reports not belonging to any scheduled caste, scheduled tribe, or other backward class. Don't know, refused, and other missing responses to rWhcastec are assigned special missing (.d), (.r), and (.m), respectively. rWhcastec is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

Caste information is only available in the Harmonized LASI-DAD.

Comparability with the Harmonized LASI

This variable is taken from rWcaste in the Harmonized LASI.

Categorical Variable Frequencies

	r1hcastec	r2hcastec
1.scheduled caste	749	914
2.scheduled tribe	207	286
3.other backward class(obc)	1,739	1,979
4.no caste or other caste	1,380	1,438
.d:DK	16	21
.m:Missing	5	0
Total	4,096	4,638

Original DAD Variables Used

Harmonized LASI:

r1caste	r1caste: r caste system

Education

Variable	Waves	Label	Type
raeduc_l	All	raeduc_l: R highest level of education	Categ
raeducel	All	raeducel: R harmonized early education category	Categ
raeducl	All	raeducl: R harmonized education category	Categ
raedyrs	All	raedyrs: R years of education	Cont
rWilliterate	1-2	rWilliterate:wW R cannot read or write	Categ

How Constructed

In Wave 1, raeduc_l, raeducel, raeducl and raedyrs are taken from Harmonized LASI.

In Wave 2, questions about whether the respondent ever attended school and the highest level of education completed were added. If these questions were not answered in Wave 2, then the value for raeduc_l, raeducl, and raeducel are taken from Harmonized LASI.

raeduc_l identifies the highest level of education that the respondent has attained. raeduc_l is defined using the following codes: 0.Never attended school, 1.Less than primary school (Standard 1-4), 2.Primary school completed (Standard 5-7), 3.Middle school completed (Standard 8-9), 4.Secondary school/matriculation completed, 5.Higher secondary/Intermediate/Senior secondary school completed, 6.Diploma and certificate holders, 7.Graduate degree (B.A., B.Sc., B.Com.) completed, 8.Post-graduate degree (M.A., M.Sc., M.Com.) or above (M.Phil, Ph.D., Post-Doc) completed, 9.Professional course/degree (B.Ed, BE, B.Tech, MBBS, BHMS, BAMS, B.Pharm, BCS, BCA, BBA, LLB, BVSc., B.Arch, M.Ed, ME, M.Tech, MD, M.Pharm, MCS, MCA, MBA, LLM, MVSc., M.Arch, MS, CA, CS, CWA) completed.

raeducel and raeducl identify the level of education completed according to five-tier and three-tier harmonized scales that we developed to compare education levels across countries. These harmonized education scales are simplified versions of the 1997 International Standard Classification of Education (ISCED-97) codes. For more information on ISCED codes, see www.uis.unesco.org and the OECD document entitled "Classifying Educational Programmes: Manual for ISCED-97 Implementation in OECD Countries, 1999 Edition". raeducel is coded as follows: 1.Less than primary education, 2.Primary education, 3.Lower secondary education, 4.Upper secondary & vocational training, and 5.Tertiary education. Respondents are assigned a code of 1 if they completed no education or reported "less than primary school" as their highest level of education. Respondents are assigned a code of 2 if they reported "primary school completed" as their highest level of education. Respondents are assigned a code of 3 if they reported "Middle school completed" as their highest level of education. Respondents are assigned a code of 4 if their highest education level is reported as "secondary school/matriculation completed", "higher secondary/intermediate/senior secondary completed" or "diploma and certificate holders". Respondents are assigned a code of 5 if they reported their highest education level as "graduate degree completed", "post-graduate degree or above completed", or "professional course/degree completed". raeducl is a simplified version of raeducel and is coded as follows: 1.Less than upper secondary education, 2.Upper secondary education & vocational training, and 3.Tertiary education. raeducl is coded as 1 if the respondent completed less than primary, primary, or lower secondary education (raeducel has a value of 1, 2, or 3), is coded as 2 if the respondent completed upper secondary or vocational training (raeducel has a value of 4), and is coded as 3 if the respondent completed tertiary education (raeducel has a value of 5). Don't know, refused, or other missing responses are coded as special missing (.d), (.r), or (.m), respectively.

raedyrs indicates the number of years of education that the respondent completed. It is assigned a value of 0 if the respondent has completed no education.

rWilliterate indicates whether the respondent is illiterate. In both waves, responses were taken directly from a direct question asking the respondent whether they can read and write. If respondents did not answer whether they can read or write during the Wave 2 interview, values were then filled in using the Wave 1 illiteracy status (r1illiterate) first, responses to the Wave 2 language introduction question indicating the inability to read (LT_INTRO1) second, and indications of never attending school (raeduc_l) last. A 1 is assigned if the respondent reported that they cannot read and write. A 0 is assigned if the respondent reported that they can read and write. rWilliterate is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 2, questions about whether the respondent ever attended school and the highest level of education completed were added. If illiteracy status for Wave 2 was missing, values were then filled in using the Wave 1 illiteracy status (`r1illiterate`) first, responses to the Wave 2 language introduction question indicating the inability to read (`LT_INTRO1`) second, and indications of never attending school (`raeduc_l`) last.

Differences with other HCAP studies

The Harmonized HRS-HCAP, Harmonized ELSA-HCAP, Harmonized LASI-DAD, and Harmonized Chile-Cog include `raeduc_h`, `raeduc_e`, `raeduc_l`, and `raeduc_sp`, respectively, which denote the respondent's highest educational degree or qualification. Instead, the Harmonized Mex-Cog uses `raedisced` to indicate the level of education the respondent has completed using the International Standard Classification of Education (ISCED) codes. Two harmonized education variables have been created that use comparable variable coding across studies: raeducl is more general and is provided in all Harmonized HCAP datasets, while raeducel focuses more on early education and is provided in all Harmonized HCAP datasets except Harmonized ELSA-HCAP. The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog also have variables indicating the number of years of education the respondent completed.

The Harmonized LASI-DAD includes `rWilliterate`, which indicates whether the respondent cannot read or write.

Comparability with the Harmonized LASI

The Harmonized LASI includes `raliterate`, indicating whether the respondent is illiterate (0) or literate (1), while the Harmonized LASI-DAD includes `rWilliterate`, indicating whether the respondent is literate (0) or illiterate (1).

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
`raedyrs`	6,168	3.39	4.55	0.00	21.00	0

Categorical Variable Frequencies

	`raeduc_l`
0.never attended school	3,365
1.less than primary school(	784
2.primary school(standard 5	684
3.middle school(standard 8-	395
4.secondary school(standard	518
5.higher secondary(standard	140
6.diploma and certificate	29
7.graduate degree(ba,bs)	164
8.post-graduate degree(ma,m	61
9.professional course/degre	28
Total	6,168

	`raeducel`
1.less than primary	4,149
2.primary	684
3.lower secondary	395
4.upper secondary & vocatio	687
5.tertiary	253
Total	6,168

	`raeducl`
1.less than upper secondary	4,833

2.upper secondary & vocatio	1,082
3.tertiary	253
Total	6,168

	r1illiterate	r2illiterate
0.can read or write	1,741	1,655
1.cannot read or write	2,355	2,983
Total	4,096	4,638

Original DAD Variables Used

Harmonized LASI:

raeduc_l	raeduc_l: r highest level of education
raeducl	raeducl: r harmonized education category
raedyrs	raedyrs: r years of education
raeducel	raeducel: r harmonized early education category

Wave 1 Cognitive Assessment:

hmse117	can respondent Read and Write

Wave 2 Cognitive Assessment:

dm_educ1	Respondent Ever Attended School
dm_educ2	Respondent Highest Educ Level
hmse117	can respondent Read and Write
lt_intro1	intro1

Marital Status

Variable	Waves	Label	Type
rWhmstatc	1	rWhmstatc:wW R marital status at core ivw with partnership	Categ
rWhmstathc	1-2	rWhmstathc:wW R marital status at core ivw w/o partnership	Categ
rWhmstat	2	rWhmstat:wW R marital status updated with self-report	Categ
rWfhmstat_d	2	rWfhmstat_d:wW flag marital status reference study	Categ

How Constructed

rWhmstatc and rWhmstathc are both measures of the respondent's marital status at Wave 1's interview taken from rWmstat and rWmstath, respectively, in the Harmonized LASI. The categories are as follows: 1.Married, 3.Partnered, 4.Separated, 5.Divorced, 7.Widowed, 8.Never married. The key difference between the two variables is that partnership in rWmstath (rWhmstathc) is based only on self-reported partnership, while partnership in rWmstat (rWhmstatc) is based both on self-reported partnership and implied partnership based on rWcpl in the Harmonized LASI. These variables are assigned plain missing (.) if the respondent did not participate in the current wave.

rWhmstat indicates the respondent's marital status at Wave 2 of LASI-DAD, and is coded as follows: 1.Married, 3.Partnered, 4.Separated, 5.Divorced, 7.Widowed, 8.Never Married. If the respondent did not provide their current marital status during Wave 2's interview, then values are filled in from the respondent's marital status at Wave 1 of the Harmonized LASI. rWhmstat is set to plain missing (.) if the respondent did not participate in the current wave.

rWfhmstat_d indicates whether the respondent's marital status information is collected from the LASI-DAD or Harmonized LASI, and is coded as follows: 0.From LASI and 1.From LASI-DAD. rWfhmstat_d is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

rWhmstatc in Wave 1 is taken from rWmstat in Wave 1 of the Harmonized LASI. In Wave 2 of LASI-DAD, a question about the respondent's marital status was added in phase 2. If this question was not answered in Wave 2's interview, information is then taken from the Harmonized LASI.

Differences with other HCAP studies

All Harmonized HCAP datasets have marital status variables taken from the most recent core interview with available data. In the Harmonized HRS-HCAP, separated and divorced are collapsed into one category and coded as a 6.Separated/Divorced, while the Harmonized ELSA-HCAP uses 1.Married or civil partner in rWhmstathc. Also, the Harmonized ELSA-HCAP includes a flag variable, rWfhmstat_e, referencing which wave of ELSA was used to construct the variables. Because LASI-DAD Wave 2 took place prior to a second core LASI interview, an updated marital status was collected and a flag variable, rWfhmstat_d, references whether the marital status information came from the updated in LASI-DAD Wave 2 or from LASI Wave 1.

Comparability with the Harmonized LASI

rWhmstatc and rWhmstat are both comparable with rWmstat in the Harmonized LASI.

Categorical Variable Frequencies

	r1hmstatc
1.Married	2,642
3.Partnered	30
4.Separated	14
5.Divorced	19
7.Widowed	1,350
8.Never married	41
Total	4,096

	r1hmstathc	r2hmstathc
1.Married	2,642	3,025
3.Partnered	23	17
4.Separated	14	14
5.Divorced	20	17
7.Widowed	1,353	1,516
8.Never married	41	49
.m:Missing	3	0
Total	4,096	4,638

	r2hmstat
1.Married	2,656
3.Partnered	74
4.Separated	11
5.Divorced	11
7.Widowed	1,848
8.Never married	38
Total	4,638

	r2fhmstat_d
0.From LASI	1,510
1.From LASI-DAD	3,128
Total	4,638

Original DAD Variables Used

Harmonized LASI:	
r1mstat	r1mstat:w1 r marital status w/partners, filled
r1mstath	r1mstath:w1 r marital status, self-reported
Wave 2 Cognitive Assessment:	
dm021	current marital status

Living Situation: Wether Lives in Urban or Rural Area

Variable	Waves	Label	Type
rWhruralc	1-2	rWhruralc:wW R lives in rural or urban area at core ivw	Categ

How Constructed

rWhruralc is taken from Harmonized LASI.

rWhruralc indicates the respondent's living region. This variable is based on the information recorded in census data. A code of 0 indicates that the respondent is located in an urban region, and a code of 1 indicates that the respondent is located in a rural region. Don't know, refused, or other missing responses to rWhruralc are assigned special missing codes (.d), (.r), and (.m), respectively. rWhruralc is set to plain missing (.) for respondents who did not respond to the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The Harmonized HRS-HCAP, Harmonized LASI-DAD, and Harmonized Mex-Cog all have equivalent variables taken from the previous core interview. Urban/rural residence is not available for the ELSA-HCAP or the SPS Chile-Cog. The Harmonized Chile-Cog instead includes the respondent's region of residence.

Comparability with the Harmonized LASI

This variable is taken from hhWrural in the Harmonized LASI.

Categorical Variable Frequencies

	r1hruralc	r2hruralc
0.urban community	1,561	1,400
1.rural village	2,535	3,238
Total	4,096	4,638

Original DAD Variables Used

Harmonized LASI:

hh1rural	hh1rural:w1 lives in rural or urban area

Interviewer ID

Variable	Waves	Label	Type
rWurid	1-2	rWurid:interviewer ID	Cont

How Constructed

rWurid identifies each interviewer uniquely. rWurid is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

Interviewer's unique id is only available in the Harmonized LASI-DAD.

Comparability with the Harmonized LASI

There is no comparable variable in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1urid	4,096	48.15	31.36	1.00	104.00	0
r2urid	4,638	53.09	32.63	2.00	110.00	0

Original DAD Variables Used

Wave 1 Cognitive Assessment:
urid INTERVIEWER ID

Wave 2 Cognitive Assessment:
urid INTERVIEWER ID

Interviewer Observation

Variable	Waves	Label	Type
rWobsnoise	1-2	rWobsnoise:wW Interviewer observation - noise in R home	Categ
rWobsodor	1-2	rWobsodor:wW Interviewer observation - odor in R home	Categ
rWobsair	1-2	rWobsair:wW Interviewer observation - air pollution in R home	Categ
rWobshouse	1-2	rWobshouse:wW Interviewer observation - upkeep house in R home	Categ

How Constructed

Variables in this section refer to the interviewer's observations about various issues within the respondent's inside home environment. In Wave 1, these questions were asked starting in phase 3 of data collection.

rWobsnoise indicates the interviewer's ranking of the noise level in the respondent's inside home environment, and ranges from 1 to 5. A 1 indicates that the noise level is quiet and a 5 indicates that the noise level is noisy.

rWobsodor indicates the interviewer's ranking of the odor in the respondent's inside home environment, and ranges from 1 to 5. A 1 indicates that there is no smell inside the respondent's home environment and a 5 indicates that there is a strong smell inside the home.

rWobsair indicates the interviewer's ranking of the air pollution in the respondent's inside home environment, and ranges from 1 to 5. A 1 indicates that there is no air pollution and a 5 indicates that there is strong air pollution in the respondent's inside home environment.

rWobshouse indicates the interviewer's ranking of how well kept the respondent's inside home environment is, and ranges from 1 to 5. A 1 indicates that the respondent's inside home environment is very well kept and a 5 indicates that the inside home environment is very poorly kept and needs major repairs.

Refused, don't know or missing responses are coded as special missing (.r), (.d) or (.m), respectively. Since the questions were asked in the cognition section, a special missing (.i) is assigned if the respondent did not complete the cognition section. For Wave 1 only, responses are coded as special missing (.x) to indicate that the respondents from phase 1 and phase 2 of Wave 1 data collection were not asked these questions.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

Interviewer's observation variables are only available in the Harmonized LASI-DAD.

Comparability with the Harmonized LASI

There are no comparable variables in the Harmonized LASI.

Categorical Variable Frequencies

	r1obsnoise	r2obsnoise
1.Quiet	223	1,098
2.2	314	1,474
3.3	184	1,521
4.4	53	337
5.Noisy	26	87
.d:DK	0	2
.i:No cognition IW	0	76

.m:Missing	16	38
.r:Refuse	38	5
.x:Not in phase	3,242	0
Total	4,096	4,638

	r1obsodor	r2obsodor
1.No smell	286	1,492
2.2	297	1,455
3.3	172	1,292
4.4	23	231
5.Strong smell	22	47
.d:DK	0	2
.i:No cognition IW	0	76
.m:Missing	16	39
.r:Refuse	38	4
.x:Not in phase	3,242	0
Total	4,096	4,638

	r1obsair	r2obsair
1.No air pollution	395	1,701
2.2	254	1,302
3.3	126	1,280
4.4	23	193
5.Strong air pollution	2	32
.d:DK	0	11
.i:No cognition IW	0	76
.m:Missing	16	39
.r:Refuse	38	4
.x:Not in phase	3,242	0
Total	4,096	4,638

	r1obshouse	r2obshouse
1.Very well kept	191	993
2.2	225	1,414
3.3	239	1,685
4.4	108	352
5.Very poorly kept (needs m	37	73
.d:DK	0	2
.i:No cognition IW	0	76
.m:Missing	16	39
.r:Refuse	38	4
.x:Not in phase	3,242	0
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

ob001	iwer observation noise
ob002	iwer observation odor
ob003	iwer observation pollution
ob004	iwer observation upkeep house

Wave 2 Cognitive Assessment:

ob001	iwer observation noise
ob002	iwer observation odor
ob003	iwer observation pollution
ob004	iwer observation upkeep house

B. Cognition

Date Naming

Variable	Waves	Label	Type
rWhmo	1-2	rWhmo:wW R cognition date naming-month(0-1)	Categ
rWfhmo	1-2	rWfhmo:impflag wW R whether imputed value	Categ
rWhyr	1-2	rWhyr:wW R cognition date naming-year(0-1)	Categ
rWfhyr	1-2	rWfhyr:impflag wW R whether imputed value	Categ
rWhdw	1-2	rWhdw:wW R cognition date naming-day of week(0-1)	Categ
rWfhdw	1-2	rWfhdw:impflag wW R whether imputed value	Categ
rWhseason	1-2	rWhseason:wW R cognition date naming-season(0-1)	Categ
rWfhseason	1-2	rWfhseason:impflag wW R whether imputed value	Categ
rWhdate	1-2	rWhdate:wW R cognition date naming-date(0-1)	Categ
rWfhdate	1-2	rWfhdate:impflag wW R whether imputed value	Categ
rWorient_t5	1-2	rWorient_t5:wW R orientation to time(0-5)	Categ
rWorient_t4	1-2	rWorient_t4:wW R orientation to time(0-4)- comparable w LASI	Categ

How Constructed

The following variables indicate whether the respondent was able to report today's date correctly.

rWhmo indicates whether a respondent was able to report the month correctly. **rWhyr** indicates whether a respondent was able to report the year correctly. **rWhdw** indicates whether a respondent was able to report the day of the week correctly. **rWhseason** indicates whether a respondent was able to report the season of the year correctly. **rWhdate** indicates whether a respondent was able to report the date correctly.

rWhmo, **rWhyr**, **rWhdw**, **rWhseason**, and **rWhdate** are coded as 1 if the respondent answers correctly. **rWhmo**, **rWhyr**, **rWhdw**, **rWhseason**, and **rWhdate** are coded as 0 if the respondent answers incorrectly. At Wave 1, "Not assessed" responses are coded as special missing (.n) and are assigned when the test was not administered due to a respondent's physical disability or technical issues. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWorient_t5 is the summary measure for **rWhmo**, **rWhyr**, **rWhdw**, **rWhseason**, and **rWhdate**, ranging from 0 to 5. A value of 5 indicates all correct answers, and a value of 0 indicates all incorrect answers. If **rWhmo**, **rWhyr**, **rWhdw**, **rWhseason**, and **rWhdate** are assigned special missing (.n), (.i), (.d), (.r), or (.m), **rWorient_t5** is assigned special missing (.n), (.i), (.d), (.r), or (.m), respectively. **rWorient_t5** is set to plain missing (.) if the respondent did not participate in the current wave.

rWorient_t4 is the summary measure for **rWhmo**, **rWhyr**, **rWhdw**, and **rWhdate** ranging from 0 to 4. A value of 4 indicates all correct answers, and a value of 0 indicates all incorrect answers. This measure is comparable with the measures from the main LASI study. If **rWhmo**, **rWhyr**, **rWhdw**, and **rWhdate** are assigned special missing (.n), (.i), (.d), (.r), or (.m), **rWorient_t4** is assigned special missing (.n), (.i), (.d), (.r), or (.m), respectively. **rWorient_t4** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfhmo, **rWfhyr**, **rWfhdw**, **rWfhseason**, and **rWfhdate** are flag variables, indicating whether the corresponding variable was assigned an imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

"Not assessed" responses to these questions are only available in Wave 1. This option was removed in Wave 2.

Differences with other HCAP studies

The LASI-DAD, HRS-HCAP, ELSA-HCAP, and SPS Chile-Cog all ask the same 5 questions. The MHAS Mex-Cog does not ask the same fifth item and instead asks a question about time.

Due to copyright, the harmonized variable names for the individual items in the Harmonized HRS-HCAP are named differently from the naming convention used in the Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog. As a result, the individual components in the Harmonized HRS-HCAP cannot be identified, but the variables are theoretically comparable across studies.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP does not. Two summary measures are provided in the Harmonized HRS-HCAP: `rWorient_t5` provides a value only if there are no missing components but include missing values, and `rWorient_t5_h` (provided by the HRS) has a value even if some components are missing and includes some imputed values.

Comparability with the Harmonized LASI

In the Harmonized LASI, only 4 questions were asked: day of month, month, year, and day of week (`rWdw`, `rWmo`, `rWyr`, and `rWdw`). In LASI-DAD, there are 5 questions: day of month, month, year, date, and season (`rWhdw`, `rWhmo`, `rWhyr`, `rWhdate`, and `rWhseason`). `rWorient` in the Harmonized LASI is comparable to `rWorient_t4` in the Harmonized LASI-DAD.

Categorical Variable Frequencies

	r1hmo	r2hmo
0.Incorrect	784	1,218
1.Correct	3,312	3,344
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhmo	r2fhmo
0.Not imputed	3,628	3,947
1.Dont know	325	606
2.Missing	6	0
3.Not Assessed	110	0
4.Refused	27	9
12.Not interviewed	0	76
Total	4,096	4,638

	r1hyr	r2hyr
0.Incorrect	2,275	2,717
1.Correct	1,821	1,845
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhyr	r2fhyr
0.Not imputed	2,750	3,011
1.Dont know	867	1,542
2.Missing	6	0
3.Not Assessed	440	0
4.Refused	33	9

12.Not interviewed	0	76
Total	4,096	4,638

	r1hdw	r2hdw
0.Incorrect	777	684
1.Correct	3,319	3,878
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhdw	r2fhdw
0.Not imputed	3,779	4,286
1.Dont know	150	271
2.Missing	6	0
3.Not Assessed	135	0
4.Refused	26	5
12.Not interviewed	0	76
Total	4,096	4,638

	r1hseason	r2hseason
0.Incorrect	682	683
1.Correct	3,414	3,879
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhseason	r2fhseason
0.Not imputed	3,767	4,430
1.Dont know	235	129
2.Missing	6	0
3.Not Assessed	68	0
4.Refused	20	3
12.Not interviewed	0	76
Total	4,096	4,638

	r1hdate	r2hdate
0.Incorrect	1,598	2,247
1.Correct	2,498	2,315
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhdate	r2fhdate
0.Not imputed	3,247	3,498
1.Dont know	589	1,055
2.Missing	6	0
3.Not Assessed	226	0
4.Refused	28	9
12.Not interviewed	0	76
Total	4,096	4,638

	r1orient_t5	r2orient_t5
0	148	126
1	332	410
2	552	777

3	736	1,021
4	920	906
5	1,408	1,322
.i:No cognition IW	0	76
Total	4,096	4,638

	r1orient_t4	r2orient_t4
0	323	320
1	544	822
2	769	1,093
3	972	934
4	1,488	1,393
.i:No cognition IW	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

hmse102_year	CORRECT YEAR
hmse103_season	CURRENT SEASON OF THE YEAR–CORRECT
hmse104_date	DATE CORRECT
hmse105_day	CURRENT DAY OF THE WEEK–CORRECT
hmse106_month	CURRENT MONTH–CORRECT

Wave 2 Cognitive Assessment:

hmse102_year	CORRECT YEAR
hmse103_season	CURRENT SEASON OF THE YEAR–CORRECT
hmse104_date	DATE CORRECT
hmse105_day	CURRENT DAY OF THE WEEK–CORRECT
hmse106_month	CURRENT MONTH–CORRECT

Location Naming

Variable	Waves	Label	Type
rWhstate	1-2	rWhstate:wW R cognition place naming-state(0-1)	Categ
rWfhstate	1-2	rWfhstate:impflag wW R whether imputed value	Categ
rWhcity	1-2	rWhcity:wW R cognition place naming-city(0-1)	Categ
rWfhcity	1-2	rWfhcity:impflag wW R whether imputed value	Categ
rWhfloor	1	rWhfloor:wW R cognition place naming-floor(0-1)	Categ
rWfhfloor	1	rWfhfloor:impflag wW R whether imputed value	Categ
rWhhome	2	rWhhome:wW R cognition place naming-home (0-1)	Categ
rWfhhome	2	rWfhhome:impflag wW R whether imputed value	Categ
rWhname	1	rWhname:wW R cognition place naming-name of place/hospital(0-1)	Categ
rWfhname	1	rWfhname:impflag wW R whether imputed value	Categ
rWhdistrict	2	rWhdistrict:wW R cognition place naming-district of home(0-1)	Categ
rWfhdistrict	2	rWfhdistrict:impflag wW R whether imputed value	Categ
rWhaddress	1-2	rWhaddress:wW R cognition place naming-address(0-1)	Categ
rWfhaddress	1-2	rWfhaddress:impflag wW R whether imputed value	Categ
rWorient_p5	1-2	rWorient_p5:wW R orientation to place(0-5)	Categ
rWorient_p4	1-2	rWorient_p4:wW R orientation to place(0-4)-comparable w LASI	Categ

How Constructed

The following variables indicate whether the respondent was able to correctly report their current location.

rWhstate indicates whether a respondent was able to report the state they were in when interviewed. **rWhcity** indicates whether a respondent was able to report the city or village they were in at the time of the interview. In Wave 1, **rWhfloor** indicates whether a respondent was able to report which building floor they were on when interviewed. For interviews conducted at the respondent's home, **rWhfloor** indicates whether the respondent was able to answer the question "What is this place used for?" and is only asked in Wave 1. **rWhhome** is asked only in Wave 2 and indicates whether the respondent was able to answer the question "What is this place used for?". **rWhname** indicates whether a respondent was able to report the name of the hospital they were in during the interview and was asked in Wave 1 only. **rWhdistrict** indicates whether a respondent was able to report the name of their district and was asked starting in Wave 2. **rWhaddress** indicates whether a respondent was able to report their home address. If the respondent did not answer or did not know, they were asked for the name of the area of town/village, house number, or any landmark. If the respondent correctly identified the street name, this was coded as 1 for correct; the full address was not required.

rWhstate, **rWhcity**, **rWhfloor**, **rWhhome**, **rWhname**, **rWhdistrict**, and **rWhaddress** are coded as 1 if the respondent answered correctly and as 0 if the respondent answered incorrectly. At Wave 1, "Not assessed" responses are coded as special missing (.n) and are assigned when the test was not administered due to a respondent's physical disability or technical issues. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

In Wave 1, **rWorient_p5** is the summary measure for **rWhstate**, **rWhcity**, **rWhfloor**, **rWhname**, and **rWhaddress**, ranging from 0 to 5. A value of 5 indicates that all answers were correct, and a value of 0 indicates that all answers were incorrect. If **rWhstate**, **rWhcity**, **rWhfloor**, **rWhname**, and **rWhaddress** are coded as (.n), (.d), (.r), or (.m), **rWorient_p5** is

coded as (.n), (.d), (.r), or (.m), respectively. **rWorient_p5** is set to plain missing (.) if the respondent did not participate in the current wave.

In Wave 2, **rWorient_p5** is the summary measure for **rWhstate**, **rWhcity**, **rWhhome**, **rWhdistrict**, and **rWhaddress**, ranging from 0 to 5. A value of 5 indicates that all answers were correct, and a value of 0 indicates that all answers were incorrect. If **rWhstate**, **rWhcity**, **rWhhome**, **rWhdistrict**, and **rWhaddress** are coded as (.i), (.d), (.r), or (.m), **rWorient_p5** is coded as (.i), (.d), (.r), or (.m), respectively. **rWorient_p5** is set to plain missing (.) if the respondent did not participate in the current wave.

In Wave 1, **rWorient_p4** is the summary measure for **rWhstate**, **rWhcity**, **rWhname**, and **rWhaddress**, ranging from 0 to 4. A value of 4 indicates that all answers were correct, and a value of 0 indicates that all answers were incorrect. This measure is comparable with the measures from the main LASI study, except that LASI uses the respondent's district and LASI-DAD uses the respondent's state. If **rWhstate**, **rWhcity**, **rWhname**, and **rWhaddress** are coded as (.n), (.d), (.r), or (.m), **rWorient_p4** is coded as (.n), (.d), (.r), or (.m), respectively. **rWorient_p4** is set to plain missing (.) if the respondent did not participate in the current wave.

In Wave 2, **rWorient_p4** is the summary measure for **rWhhome**, **rWhcity**, **rWhdistrict**, and **rWhaddress**, ranging from 0 to 4. A value of 4 indicates that all answers were correct, and a value of 0 indicates that all answers were incorrect. This measure is comparable with the measures from the main LASI study. If **rWhhome**, **rWhcity**, **rWhdistrict**, and **rWhaddress** are coded as (.i), (.d), (.r), or (.m), **rWorient_p4** is coded as (.i), (.d), (.r), or (.m), respectively. **rWorient_p4** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfhstate, **rWfhcity** and **rWfhaddress** are flag variables for both waves. **rWfhfloor** and **rWfhname** are flag variables that are only available in Wave 1. **rWfhhome** and **rWfhdistrict** are flag variables that are only available in Wave 2. These flag variables indicate whether the corresponding variable has an imputed value assigned and are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

At Wave 1, respondents who were interviewed in a hospital were asked to name the building floor they were on at the time of the interview. If they were interviewed at home, then they were asked to describe what their current location is used for. At Wave 2, all respondents were interviewed at home for the cognitive interview, and so, were asked to describe what their current location is used for. Due to the location differences, this variable in Wave 1 is named **rWhfloor** and this variable at Wave 2 is named **rWhhome**.

At Wave 1, respondents were asked to report the name of the hospital they were in at the time of the interview. At Wave 2, respondents were asked to report the name of their district. As such, this variable in Wave 1 is named **rWhname** and this variable at Wave 2 is named **rWhdistrict**.

"Not assessed" responses to these questions are only available in Wave 1. This option was removed in Wave 2.

Differences with other HCAP studies

The LASI-DAD, HRS-HCAP, ELSA-HCAP, and SPS Chile-Cog all ask the same 5 questions. The MHAS Mex-Cog does not ask the same fifth item and instead asks a question about time.

Due to copyright, the harmonized variable names for the individual items in the Harmonized HRS-HCAP are named differently from the naming convention used in the Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog. As a result, the individual components in the Harmonized HRS-HCAP cannot be identified, but the variables are theoretically comparable across studies.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP does not. Two summary measures are provided in the Harmonized HRS-HCAP: **rWorient_p5** provides a value only if there are no missing components but includes missing values, and **rWorient_p5_h** (provided by the HRS) has a value even if some components are missing and includes some imputed values.

Comparability with the Harmonized LASI

In the Harmonized LASI interview, only 4 questions were asked: current place, city, street, and district where the respondent lives (**rWplace**, **rWcity**, **rWstreet**, and **rWdist**). In the LASI-DAD Wave 1, 5 questions were asked: current place, city, state, street, and floor (**rWhname**, **rWhcity**, **rWhstate**, **rWhaddress**, and **rWhfloor**). In the LASI-DAD Wave 2, 5 questions were asked: current district, city, state, street, and home (**rWhdistrict**, **rWhcity**, **rWhstate**, **rWhaddress**, and **rWhhome**). **rWorientp** in the Harmonized LASI is comparable with **rWorient_p4** in the Harmonized LASI-DAD.

Categorical Variable Frequencies

	r1hstate	r2hstate
0.Incorrect	1,671	1,818
1.Correct	2,425	2,744
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhstate	r2fhstate
0.Not imputed	3,232	3,785
1.Dont know	607	765
2.Missing	6	0
3.Not Assessed	226	0
4.Refused	25	12
12.Not interviewed	0	76
Total	4,096	4,638

	r1hcity	r2hcity
0.Incorrect	235	171
1.Correct	3,861	4,391
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhcity	r2fhcity
0.Not imputed	3,945	4,526
1.Dont know	75	33
2.Missing	6	1
3.Not Assessed	49	0
4.Refused	21	2
12.Not interviewed	0	76
Total	4,096	4,638

	r1hfloor
0.Incorrect	412
1.Correct	3,684
Total	4,096

	r1fhfloor
0.Not imputed	3,905
1.Dont know	95
2.Missing	6
3.Not Assessed	68
4.Refused	22
Total	4,096

	r2hhome
0.Incorrect	412
1.Correct	4,150
.i:No cognition IW	76
Total	4,638

	r2fhhome
0.Not imputed	4,486
1.Dont know	72
2.Missing	1
4.Refused	3
12.Not interviewed	76
Total	4,638

	r1hname
0.Incorrect	952
1.Correct	3,144
Total	4,096

	r1fhname
0.Not imputed	3,587
1.Dont know	365
2.Missing	6
3.Not Assessed	112
4.Refused	26
Total	4,096

	r2hdistrict
0.Incorrect	1,094
1.Correct	3,468
.i:No cognition IW	76
Total	4,638

	r2fhdistrict
0.Not imputed	4,196
1.Dont know	357
2.Missing	1
4.Refused	8
12.Not interviewed	76
Total	4,638

	r1haddress	r2haddress
0.Incorrect	555	522
1.Correct	3,541	4,040
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhaddress	r2fhaddress
0.Not imputed	3,755	4,409
1.Dont know	194	146
2.Missing	6	1
3.Not Assessed	117	0

4.Refused	24	6
12.Not interviewed	0	76
Total	4,096	4,638

	r1orient_p5	r2orient_p5
0	53	38
1	90	97
2	297	291
3	631	682
4	1,047	1,202
5	1,978	2,252
.i:No cognition IW	0	76
Total	4,096	4,638

	r1orient_p4	r2orient_p4
0	76	54
1	268	263
2	624	680
3	1,057	1,240
4	2,071	2,325
.i:No cognition IW	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

hmse107_state	CURRENT STATE R IN IS-CORRECT
hmse108_city	CURRENT CITY/VILLAGE-CORRECT
hmse109_floor	CURRENT FLOOR OF BLDG R IS ON
hmse109_floor_home	CURRENT FLOOR-CORRECT - CHANGED TO WHAT IS PLACE USED FOR
hmse110_name	CURRENT ADDRESS-CORRECT - CHANGED TO DISTRICT - BW: I CHANGED IT TO
hmse110_name_home	CURRENT ADDRESS-CORRECT - CHANGED TO DISTRICT
hmse111_address	HOME ADDRESS

Wave 2 Cognitive Assessment:

hmse107_state	CURRENT STATE R IN IS-CORRECT
hmse108_city	CURRENT CITY/VILLAGE-CORRECT
hmse109_floor_home	CURRENT FLOOR-CORRECT - CHANGED TO WHAT IS PLACE USED FOR
hmse110_name_home	CURRENT ADDRESS-CORRECT - CHANGED TO DISTRICT
hmse111_address	HOME ADDRESS

3-Word Recall

Variable	Waves	Label	Type
rWtrial1	1-2	rWtrial1:wW R 3-word recall trial 1(0-3)	Cont
rWftrial1	1-2	rWftrial1:impflag wW R whether imputed value	Categ
rWtrial2	1-2	rWtrial2:wW R 3-word recall trial 2(0-3)	Cont
rWftrial2	1-2	rWftrial2:impflag wW R whether imputed value	Categ
rWtrial3	1-2	rWtrial3:wW R 3-word recall trial 3(0-3)	Cont
rWftrial3	1-2	rWftrial3:impflag wW R whether imputed value	Categ
rWhimrc3	1-2	rWhimrc3:wW R immediate word recall(0-3)	Categ
rWfhimrc3	1-2	rWfhimrc3:impflag wW R whether imputed value	Categ
rWhdlrc3	1-2	rWhdlrc3:wW R delayed word recall(0-3)	Categ
rWfhdlrc3	1-2	rWfhdlrc3:impflag wW R whether imputed value	Categ

How Constructed

rWtrial1, **rWtrial2**, and **rWtrial3** indicate a series of consecutive trials that ask the respondent to repeat back three objects named by the interviewer.

rWtrial1 indicates the respondent's performance in the first trial in which interviewers name three objects and ask the respondent to repeat each object back. The respondents are asked to remember what the objects are because they will be asked to name them again in a few minutes. Interviewers record the number of correct words repeated with values ranging from 0-3 for correct words recalled.

rWtrial2 and **rWtrial3** indicate the respondent's performance in the second and third trial in which interviewers name the same three objects as in Trial 1. If the respondent correctly names all three objects in the first trial, trial 2 is skipped. If the respondent correctly names all three objects in the first or second trial, trial 3 is skipped. Otherwise, **rWtrial2** and **rWtrial3** follow the same procedure as **rWtrial1**.

rWtrial1, **rWtrial2**, and **rWtrial3** range from 0-3, indicating the number of correct responses. If the question is skipped in **rWtrial2** or **rWtrial3** because the respondent correctly answered all words in the previous trial, special missing (.s) is assigned. Don't know responses are coded as special missing (.d). Refused responses are coded as special missing codes (.r). Other missing is assigned as (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWhimrc3 provides a summary measure for immediate word recall. The first word recall trial, **rWtrial1**, is used for this variable. Interviewers record the number of correct words repeated with values ranging from 0-3 for correct words recalled. Don't know responses are coded as special missing (.d). Refused responses are coded as special missing codes (.r). Other missing is assigned as (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. **rWhimrc3** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhdlrc3 provides a measure for delayed word recall. **rWhdlrc3** is the number of words from the 3-word immediate recall list that were recalled correctly after a delay, in which other survey questions were asked and answered. Specifically, respondents were asked for the three objects they were asked to remember previously. Interviewers record the number of correct words repeated after the delay. At Wave 1, "Not assessed" responses are coded as special missing (.n) and are assigned when the test was not administered due to a respondent's physical disability or technical issues. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. **rWhdlrc3** is set to plain missing (.) if the respondent did not participate in the current wave.

rWftrial1, rWftrial2, rWftrial3, rWfhimrc3 and rWfhdlrc3 are flag variables, indicating whether the corresponding variable has an imputed value assigned. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, 11.Skipped, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

"Not assessed" responses to these questions are only available in Wave 1. This option was removed in Wave 2.

Differences with other HCAP studies

The HRS-HCAP and ELSA-HCAP use the same word list, while the LASI-DAD, MHAS Mex-Cog, and SPS Chile-Cog use different word lists that are better recognized by their respective study populations. Furthermore, the LASI-DAD and HRS-HCAP have three trials for the immediate recall of the three words, while the MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog only have one trial. However, the SPS Chile-Cog allows the respondent to repeat the word up to five times if they make a mistake.

The Harmonized LASI-DAD includes variables for each immediate recall trial (rWtrial1–3), which are not included in other Harmonized HCAP datasets.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP does not.

Comparability with the Harmonized LASI

In the LASI study, the HMSE three-word recall test is not administered.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1trial1	4,096	2.74	0.61	0.00	3.00	0
r2trial1	4,562	2.74	0.59	0.00	3.00	76
r1trial2	752	2.41	0.93	0.00	3.00	3,344
r2trial2	895	2.40	0.86	0.00	3.00	3,743
r1trial3	273	1.78	1.15	0.00	3.00	3,823
r2trial3	368	2.00	1.05	0.00	3.00	4,270

Categorical Variable Frequencies

	r1ftrial1	r2ftrial1
0.Not imputed	4,021	4,537
1.Dont know	22	13
2.Missing	6	1
4.Refused	47	11
12.Not interviewed	0	76
Total	4,096	4,638

	r1ftrial2	r2ftrial2
0.Not imputed	695	877
1.Dont know	28	14
2.Missing	6	1
4.Refused	49	12
11.Skipped	3,318	3,658
12.Not interviewed	0	76
Total	4,096	4,638

	r1ftrial3	r2ftrial3
0.Not imputed	219	344
1.Dont know	33	22
2.Missing	6	1
4.Refused	51	13
11.Skipped	3,787	4,182
12.Not interviewed	0	76
Total	4,096	4,638

	r1himrc3	r2himrc3
0	80	60
1	136	167
2	536	668
3	3,344	3,667
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhimrc3	r2fhimrc3
0.Not imputed	4,021	4,537
1.Dont know	22	13
2.Missing	6	1
4.Refused	47	11
12.Not interviewed	0	76
Total	4,096	4,638

	r1hdlrc3	r2hdlrc3
0	574	676
1	659	827
2	1,230	1,618
3	1,633	1,441
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhdlrc3	r2fhdlrc3
0.Not imputed	3,903	4,506
1.Dont know	129	42
2.Missing	6	2
3.Not Assessed	3	0
4.Refused	55	12
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

hmse112_trial1	TRIAL 1
hmse112_trial2	TRIAL 2
hmse112_trial3	TRIAL 3
hmse114_delayed	HMSE114 Delayed

Wave 2 Cognitive Assessment:

hmse112_trial1	TRIAL 1
hmse112_trial2	TRIAL 2

hmse112_trial3	TRIAL 3
hmse114_delayed	HMSE114 Delayed

Serial 7s

Variable	Waves	Label	Type
rWhser7	1-2	rWhser7:wW R serial 7s(0-5)	Categ
rWfhser7	1-2	rWfhser7:impflag wW R whether imputed value	Categ

How Constructed

rWhser7 provides the number of correct subtractions in the serial 7's test. This test asks the individual to subtract 7 from the prior result, beginning with 100, for five trials. Correct subtractions are based on the prior number given, so that even if one subtraction is incorrect, subsequent trials are evaluated on the given (perhaps wrong) answer. Valid scores are 0-5. If the respondent cannot count, special missing (.c) is assigned. Don't know responses are coded as (.d). Refused responses are assigned special missing code (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWhser7 is set to plain missing (.) if the respondent did not participate in the current wave.

rWfhser7 is a flag variable, indicating whether the corresponding variable has an imputed value. The flag variable is coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, 6.Cannot Count, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The LASI-DAD allowed only one correct answer for the first trial of the Serial 7's test. In the MHAS Mex-Cog and SPS Chile-Cog, two correct answers for the first trial were allowed. In the Harmonized LASI-DAD, Harmonized Mex-Cog, and Harmonized Chile-Cog answers are considered correct if it was 7 less than the prior number given, even if the prior number was incorrect. In the Harmonized ELSA-HCAP, answers were incorrect if they fell outside of the correct subtraction sequence.

The Serial 7's test was not conducted in the HRS-HCAP, and instead used a Number Series test. The MHAS Mex-Cog includes an additional task, the Serial 3's test, which was not conducted in the other HCAPs. In the MHAS Mex-Cog, the Serial 7's task was skipped if respondents refused to complete the Serial 3's task.

The Harmonized LASI-DAD includes a special missing code if the respondent cannot count, while the Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog do not.

Comparability with the Harmonized LASI

rWser7 is the comparable variable in the Harmonized LASI.

Categorical Variable Frequencies

	r1hser7	r2hser7
0	575	967
1	560	796
2	389	382
3	368	365
4	315	345
5	506	495
.c:Cannot Count	1,383	1,212
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhser7	r2fhser7
0.Not imputed	2,289	2,749

1.Dont know	155	323
2.Missing	24	26
4.Refused	245	252
6.Cannot Count	1,383	1,212
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

ss_1	subtraction from 100
ss_2	2nd time subtraction
ss_3	3rd time subtraction
ss_4	4th time subtraction
ss_5	5th time subtraction
ss_1number	7 Subtracted from 100

Wave 2 Cognitive Assessment:

ss_1	subtraction from 100
ss_2	2nd time subtraction
ss_3	3rd time subtraction
ss_4	4th time subtraction
ss_5	5th time subtraction
ss_1number	7 Subtracted from 100

Backward Day Naming

Variable	Waves	Label	Type
rWbackward_d6	1-2	rWbackward_d6:wW R backward day naming(0-6)	Categ
rWfbackward_d6	1-2	rWfbackward_d6:impflag wW R whether imputed value	Categ
rWbackward_d	1-2	rWbackward_d:wW R backward day naming(0-5)	Categ
rWfbackward_d	1-2	rWfbackward_d:impflag wW R whether imputed value	Categ

How Constructed

rWbackward_d6 indicates the number of days of the week the respondent was able to correctly list in backwards order, starting from Sunday. While there are 6 possible answers, rWbackward_d recodes 6 as 5 and thus, ranges from 0-5. Each day in the sequence was given one point if correctly reported. If the respondent gave the wrong response for the first day but a logically correct sequence, one point was deducted from the total score.

Don't know responses are coded as special missing (.d). Refused responses are coded as special missing (.r). Other missing responses are coded as (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete cognition tests. rWbackward_d6 and rWbackward_d are set to plain missing (.) if the respondent did not participate in the current wave.

rWfbackward_d6 and rWfbackward_d are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't Know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

In LASI-DAD, respondents were asked to say the days of the week backwards starting from Sunday (rWbackward_d and rWbackward_d6); this allowed illiterate adults to participate in the task. In HRS-HCAP and ELSA-HCAP, respondents were asked to spell the same common 5-letter noun backwards (rWbackward_s). However, in ELSA-HCAP, this question was only asked to respondents who refused to answer the Serial 7's task. In the SPS Chile-Cog, respondents were asked to say a specific number sequence backwards (rWbackward_l). In the MHAS Mex-Cog, respondents were not asked to complete this task and were only asked to subtract numbers in the Serial 7's and Serial 3's tasks.

The Harmonized LASI-DAD and Harmonized Chile-Cog include imputations for rWbackward_d and rWbackward_l, respectively, with an accompanying imputation flag, while the Harmonized HRS-HCAP and Harmonized ELSA-HCAP do not. As such, rWbackward_s in the Harmonized HRS-HCAP and Harmonized ELSA-HCAP includes special missing values.

Comparability with the Harmonized LASI

This question was not asked in the Harmonized LASI.

Categorical Variable Frequencies

	r1backward_d6	r2backward_d6
0	976	1,318
1	248	332
2	173	202
3	152	186
4	288	315
5	106	85
6	2,153	2,124
.i:No cognition IW	0	76

Total	4,096	4,638
	r1fbackward_d6	r2fbackward_d6
0.Not imputed	3,684	4,222
1.Dont know	200	251
2.Missing	60	16
4.Refused	152	73
12.Not interviewed	0	76
Total	4,096	4,638
	r1backward_d	r2backward_d
0	976	1,318
1	248	332
2	173	202
3	152	186
4	288	315
5	2,259	2,209
.i:No cognition IW	0	76
Total	4,096	4,638
	r1fbackward_d	r2fbackward_d
0.Not imputed	3,684	4,222
1.Dont know	200	251
2.Missing	60	16
4.Refused	152	73
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

hmse113_corrbackwards_1_	LIST Backwards
hmse113_corrbackwards_2_	LIST Backwards
hmse113_corrbackwards_3_	LIST Backwards
hmse113_corrbackwards_4_	LIST Backwards
hmse113_corrbackwards_5_	LIST Backwards
hmse113_corrbackwards_6_	LIST Backwards
hmse113_corrbackwards_7_	LIST Backwards

Wave 2 Cognitive Assessment:

hmse113_corrbackwards_1_	LIST Backwards
hmse113_corrbackwards_2_	LIST Backwards
hmse113_corrbackwards_3_	LIST Backwards
hmse113_corrbackwards_4_	LIST Backwards
hmse113_corrbackwards_5_	LIST Backwards
hmse113_corrbackwards_6_	LIST Backwards
hmse113_corrbackwards_7_	LIST Backwards

Object Naming

Variable	Waves	Label	Type
rWhobject1	1-2	rWhobject1:wW R naming 1st object correct(0-1)	Categ
rWfhobject1	1-2	rWfhobject1:impflag wW R whether imputed value	Categ
rWhobject2	1-2	rWhobject2:wW R naming 2nd object correct(0-1)	Categ
rWfhobject2	1-2	rWfhobject2:impflag wW R whether imputed value	Categ
rWhobject	1-2	rWhobject:wW R total object naming(0-2)	Categ

How Constructed

rWhobject1 and rWhobject2 indicate whether the respondent properly identified two commonly used objects that the interviewer pointed to, and the two objects are a pencil and a watch. These are assigned a value of 0 if an incorrect answer was given, and are assigned a value of 1 if a correct answer was given. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. "Not assessed" responses are coded as special missing (.n) and are assigned when the test was not administered due to a respondent's physical disability or technical issues. Don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWhobject indicates the number of correct responses between rWhobject1 and rWhobject2. rWhobject ranges from 0-2. rWhobject is calculated so that both components must have values for rWhobject to have a value. If rWhobject1 or rWhobject2 is assigned special missing (.n), (.i), (.d), (.r) or (.m), rWhobject is coded as special missing (.n), (.i), (.d), (.r), or (.m). rWhobject is set to plain missing (.) if the respondent did not participate in the current wave.

rWfhobject1 and rWfhobject2 are flag variables, indicating whether the corresponding variable was assigned an imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

All studies ask respondents to identify two specific objects, though the objects may differ in each study. The LASI-DAD, HRS-HCAP, and SPS Chile-Cog used the same commonly used objects. The MHAS Mex-Cog asked respondents to identify a different object in rWhobject1 and in the ELSA-HCAP, interviewers were allowed to provide an alternative for rWhobject2.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP does not. Two summary measures are provided in the Harmonized HRS-HCAP: rWhobject provides a value only if there are no missing components but includes missing values, and rWhobject_h (provided by the HRS) has a value even if some components are missing and includes some imputed values.

Comparability with the Harmonized LASI

rWobject1, rWobject2, and rWobject are the comparable variables in the Harmonized LASI. In LASI-DAD, the respondent is asked to identify two specific objects. Unlike LASI-DAD, LASI asks the respondent to name two random objects that the interviewer points to.

Categorical Variable Frequencies

	r1hobject1	r2hobject1
0.Incorrect	99	98
1.Correct	3,997	4,464

.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhobject1	r2fhobject1
0.Not imputed	4,007	4,515
1.Dont know	21	24
2.Missing	6	3
3.Not Assessed	29	5
4.Refused	33	15
12.Not interviewed	0	76
Total	4,096	4,638

	r1hobject2	r2hobject2
0.Incorrect	647	355
1.Correct	3,449	4,207
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhobject2	r2fhobject2
0.Not imputed	4,010	4,510
1.Dont know	17	30
2.Missing	6	3
3.Not Assessed	29	4
4.Refused	34	15
12.Not interviewed	0	76
Total	4,096	4,638

	r1hobject	r2hobject
0	56	55
1	634	343
2	3,406	4,164
.i:No cognition IW	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

hmse115_watch	WATCH ID–CORRECT
hmse115_pencil	PENCIL IDENTIFICATION–CORRECT

Wave 2 Cognitive Assessment:

hmse115_watch	WATCH ID–CORRECT
hmse115_pencil	PENCIL IDENTIFICATION–CORRECT

Whether Able to Repeat a Phrase

Variable	Waves	Label	Type
rWrepeat	1-2	rWrepeat:wW R able to repeat a phrase(0-1)	Categ
rWfrepeat	1-2	rWfrepeat:impflag wW R whether imputed value	Categ

How Constructed

rWrepeat indicates whether the respondent is able to repeat a short phrase back to the interviewer. If the respondent struggles to hear the phrase, the interviewer can repeat the phrase up to five times. The respondent is allowed only one attempt to repeat the phrase. The interviewer cannot repeat the phrase if the respondent has already attempted the phrase. rWrepeat is coded as 1 if the respondent was able to repeat the phrase and is coded as 0 if the respondent was not able to repeat the phrase. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. "Not assessed" responses are coded as special missing (.n) and are assigned when the test was not administered due to a respondent's physical disability or technical issues. Don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. rWrepeat is set to plain missing (.) if the respondent did not participate in the current wave.

rWfrepeat is a flag variable, indicating whether the corresponding variable has an imputed value assigned. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

All HCAP studies ask respondents to repeat a phrase, but each study used a different phrase. The LASI-DAD, HRS-HCAP, and ELSA-HCAP allowed the interviewer to repeat the phrase if the respondents ask, but both the MHAS Mex-Cog and SPS Chile-Cog did not allow the interviewer to repeat the phrase.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for this item with an accompanying imputation flag, while the Harmonized HRS-HCAP does not.

Comparability with the Harmonized LASI

This question was not asked in the LASI.

Categorical Variable Frequencies

	r1repeat	r2repeat
0.Incorrect	498	545
1.Correct	3,598	4,017
.i:No cognition IW	0	76
Total	4,096	4,638

	r1frepeat	r2frepeat
0.Not imputed	3,933	4,505
1.Dont know	40	31
2.Missing	6	3
3.Not Assessed	66	4
4.Refused	51	19
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:
hmse116_repeat REPEAT

Wave 2 Cognitive Assessment:
hmse116_repeat REPEAT

Whether Able to Follow Command

Variable	Waves	Label	Type
rWcopyfol	1-2	rWcopyfol:wW R able to follow example and close eyes(0-1)	Categ
rWfcopyfol	1-2	rWfcopyfol:impflag wW R whether imputed value	Categ
rWreadfol	1-2	rWreadfol:wW R able to read command and close eyes(0-1)	Categ
rWfreadfol	1-2	rWfreadfol:impflag wW R whether imputed value	Categ
rWcombfol	1-2	rWcombfol:wW R able to read/follow and close eyes(0-1)	Categ

How Constructed

The following variables indicate whether the respondent can follow an instruction. The respondent's ability to follow an instruction was assessed in two ways depending on literacy. The original MMSE asks the respondent to read. For illiterate respondents, the HMSE replaces this task with a copying task.

rWcopyfol indicates whether the respondent is able to perform a task that is given to them by gestures. This task is only given to respondents who report that they cannot read and write. If the respondent cannot read and write, the respondent is asked to mimic the interviewer's gesture. If the respondent does not repeat the gesture, a 0 is coded for incorrect. If the respondent repeats the gesture, a 1 is coded for correct. "Not assessed" responses are coded as special missing (.n) and are marked only if the respondent has some physical disability that prevents them from performing the test, e.g. if the respondent can not see. Special missing (.s) is assigned if this task is skipped because the respondent reported that they can read and write. At Wave 2, special missing (.i) is assigned if the respondent did not complete cognition tests. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing code (.r). Other missing is assigned special missing (.m). rWcopyfol is set to plain missing (.) if the respondent did not participate in the current wave.

rWreadfol indicates whether the respondent is able to perform a task that is given to them through text. This task is only given to respondents who report that they can read and write. If respondents can read and write, they are asked to read the words on a page and do as it says. If the respondent does not follow the instruction, a 0 is coded for incorrect. If the respondent follows the instruction, a 1 is coded for correct. Special missing (.l) is assigned if this task was skipped because the respondent reported they cannot read and write. "Not assessed" responses are coded as special missing (.n) and are assigned only if the respondent has some physical disability that prevents them from performing the test. At Wave 2, special missing (.i) is assigned if the respondent did not complete cognition tests. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing code (.r). Other missing is assigned special missing (.m). rWreadfol is set to plain missing (.) if the respondent did not participate in the current wave.

rWcombfol indicates whether the respondent is able to perform a task that is given to them by text or gesture. rWcombfol is derived from rWcopyfol and rWreadfol. If respondents can read and write, they are asked to read the words on a page and do as it says. If respondents cannot read and write, they are asked to mimic the interviewer's gesture. If the respondent does not do the gesture after reading the text or observing the gesture, a 0 is coded for incorrect. If the respondent does the gesture, a 1 is coded for correct. "Not assessed" responses are coded as special missing (.n) and are assigned when the test was not administered due to a respondent's physical disability. At Wave 2, special missing (.i) is assigned if the respondent did not complete cognition tests. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing code (.r). Other missing is assigned special missing (.m). rWcombfol is set to plain missing (.) if the respondent did not participate in the current wave.

rWfcopyfol and rWfreadfol are flag variables, indicating whether the corresponding variable has an assigned imputed value. rWfcopyfol is coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, 11.Skipped, and 12.Not interviewed. rWfreadfol is coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, 10.Cannot read/write, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The HRS-HCAP, MHAS Mex-Cog, and ELSA-HCAP asked respondents to read and follow the instructions. The HRS-HCAP allowed the interviewer to read the instructions aloud if the respondent could not read them, but this was not allowed in the MHAS Mex-Cog or ELSA-HCAP. The LASI-DAD first asked the respondents if they could read and write, and had an alternate test for illiterate respondents that asked them to watch the interviewer and copy the action the interviewer performed. The SPS Chile-Cog asked respondents to perform two separate tasks: first, to read and follow the instructions and second, to look at a picture and copy what the person in the picture was doing.

Special missing values are applied for respondents who cannot read in **rWcombfol** in Harmonized Mex-Cog and Harmonized Chile-Cog, and in **rWreadfol** in Harmonized LASI-DAD and Harmonized Chile-Cog. Additionally, a special missing value is included for **rWcopyfol** in Harmonized LASI-DAD if the respondent could read.

The Harmonized Mex-Cog and Harmonized ELSA-HCAP include imputations for **rWcombfol** with an accompanying imputation flag and the Harmonized LASI-DAD and Harmonized Chile-Cog include imputations for **rWcopyfol** and **rWreadfol** with accompanying imputation flags, while the Harmonized HRS-HCAP does not provide imputations for **rWcombfol**.

Comparability with the Harmonized LASI

rWread is the comparable variable in the Harmonized LASI to **rWreadfol**. In the LASI, respondents were asked to read a sentence on the paper and act out the action. If the respondents were illiterate, the question was skipped. In the LASI-DAD, if respondents could read or write, the question was asked the same way, while illiterate respondents were asked to copy the action that the interviewer performed.

Categorical Variable Frequencies

	r1copyfol	r2copyfol
0.Incorrect	421	390
1.Correct	1,934	2,537
.i:No cognition IW	0	62
.s:Skipped	1,741	1,649
Total	4,096	4,638

	r1fcopyfol	r2fcopyfol
0.Not imputed	2,270	2,829
1.Dont know	24	17
2.Missing	6	3
3.Not Assessed	0	53
4.Refused	60	25
11.Skipped	1,736	1,635
12.Not interviewed	0	76
Total	4,096	4,638

	r1readfol	r2readfol
0.Incorrect	1,003	862
1.Correct	738	773
.i:No cognition IW	0	14
.l:Cannot read and write	2,355	2,989
Total	4,096	4,638

	r1freadfol	r2freadfol
0.Not imputed	1,721	1,602
1.Dont know	1	2
2.Missing	41	11
3.Not Assessed	8	29

4.Refused	6	2
10.Cannot read/write	2,319	2,916
12.Not interviewed	0	76
Total	4,096	4,638

	r1combfol	r2combfol
0.Incorrect	1,424	1,252
1.Correct	2,672	3,310
.i:No cognition IW	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

hmse117_read	READ
hmse117_copy	COPY
hmse117	can respondent Read and Write

Wave 2 Cognitive Assessment:

hmse117_read	READ
hmse117_copy	COPY
hmse117	can respondent Read and Write

Able to Do 3-Stage Task

Variable	Waves	Label	Type
rWhexecu	1-2	rWhexecu:wW R cognition-able to do 3-stage task(0-3)	Categ
rWfhexecu	1-2	rWfhexecu:impflag wW R whether imputed value	Categ

How Constructed

rWhexecu counts the number of correct actions the respondent follows in a 3-step, paper-folding task. The interviewer can read the instructions only once. The interviewer can repeat the instructions only if the respondent did not hear the instructions.

rWhexecu ranges from 0-3, with 3 indicating that all 3 tasks were completed, and a 0 indicating that none of the tasks were completed. At Wave 1, "Not assessed" responses are coded as special missing (.n) and are assigned when the test was not administered due to a respondent's physical disability or technical issues. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. rWhexecu is set to plain missing (.) if the respondent did not participate in the current wave.

rWfhexecu is a flag variable, indicating whether the corresponding variable has an imputed value assigned. The flag variable is coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

The "Not assessed" option for these variables is only available in Wave 1. This option was removed in Wave 2.

Differences with other HCAP studies

All HCAP studies ask this question, though with some slight variation in the three steps.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for this item with an accompanying imputation flag, while the Harmonized HRS-HCAP does not.

Comparability with the Harmonized LASI

rWexecu is the comparable variable in the Harmonized LASI. In the LASI study, the interviewer gives similar but slightly different directions than in LASI-DAD.

Categorical Variable Frequencies

	r1hexecu	r2hexecu
0.None	94	178
1.One of the tasks	268	631
2.Two of the tasks	922	1,360
3.All of the tasks	2,812	2,393
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhexecu	r2fhexecu
0.Not imputed	3,998	4,496
1.Dont know	10	29
2.Missing	6	14
3.Not Assessed	43	0
4.Refused	39	23
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

hmse118_hand	HANDEDNESS
hmse118_folds	FOLDS PAPER
hmse118_back	GIVES PAPER BACK

Wave 2 Cognitive Assessment:

hmse118_hand	HANDEDNESS
hmse118_folds	FOLDS PAPER
hmse118_back	GIVES PAPER BACK

Writing or Saying Sentence

Variable	Waves	Label	Type
rWsay	1-2	rWsay:wW R able to say a sentence(0-1)	Categ
rWfsay	1-2	rWfsay:impflag wW R whether imputed value	Categ
rWwrite	1-2	rWwrite:wW R able to write a sentence(0-1)	Categ
rWfwrite	1-2	rWfwrite:impflag wW R whether imputed value	Categ
rWhsenten	1-2	rWhsenten:wW R able to write/say a sentence(0-1)	Categ

How Constructed

rWsay indicates whether a respondent can tell the interviewer something about their house. This is only asked if the respondent reports that they cannot read and write. A coded value of 1 indicates that the respondent was able to say one full sentence about their house. A coded value of 0 indicates that the respondent could not say one full sentence about their house. If this task was skipped because the respondent reports being able to read and write, the special missing (.s) is assigned. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. **rWsay** is set to plain missing (.) if the respondent did not participate in the current wave.

rWwrite indicates whether the respondent can write a complete sentence on a piece of paper. This is only asked if the respondent reports that they can read and write. A coded value of 1 indicates that the respondent was able to write a complete sentence or their full name. A coded value of 0 indicates that the respondent could not write a sentence. At Wave 1, "Not Assessed" responses are coded as special missing (.n). "Not Assessed" is assigned when the test was not administered because of the respondent's physical disability or technical issues. The "Not Assessed" option is only available in Wave 1. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, if this task was skipped because the respondent reported that they cannot read and write, special missing (.l) is assigned. Don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. **rWwrite** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhsenten indicates whether a respondent is able to write or say a complete sentence. **rWhsenten** uses **rWwrite** and **rWsay** to determine if either is successfully completed. A coded value of 1 indicates that the respondent was either able to write a complete sentence or their full name or was able to say one full sentence about their house. A coded value of 0 indicates that the respondent could not write a sentence or could not say one full sentence about their house. At Wave 1, "Not Assessed" responses are coded as special missing (.n). "Not Assessed" is assigned when the test was not administered because of the respondent's physical disability or technical issues. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. **rWhsenten** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfsay and **rWfwrite** are flag variables, indicating whether the corresponding variable has an assigned imputed value. **rWfsay** is coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, 11.Skipped, and 12.Not interviewed. **rWfwrite** is coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, 10.Cannot read/write, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

The "Not assessed" option for these variables is only available in Wave 1. This option was removed in Wave 2.

Differences with other HCAP studies

The studies differed slightly in how respondents' answers were scored. In the MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog, only complete sentences were considered correct, while in the LASI-DAD and HRS-HCAP, responses were considered correct if the respondent wrote a complete sentence or their full name. For illiterate respondents in the LASI-DAD, an alternate test was given and those who said a full sentence about their house were marked as having given a correct answer. In the ELSA-HCAP, an extra prompt was added if the respondent did not respond to the interviewer's request to write a sentence.

Special missing values are assigned if the respondent could not write in **rWhsenten** in Harmonized Mex-Cog and Harmonized Chile-Cog, and in **rWwrite** in Harmonized LASI-DAD. A special missing value is assigned if the respondent could write in **rWsay** in the Harmonized LASI-DAD.

The Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for **rWhsenten** with an accompanying imputation flag, and the Harmonized LASI-DAD includes imputations for **rWsay** and **rWwrite**, while the Harmonized HRS-HCAP does not include any imputed values for **rWhsenten**.

Comparability with the Harmonized LASI

rWsenten is the comparable variable in the Harmonized LASI. In the Harmonized LASI, the respondent was asked to write a sentence about how they are feeling today and the question was skipped if respondent is illiterate. In LASI-DAD, the respondent was asked to write a sentence or their full name if the respondent reports that they can read and write. If the respondent cannot read or write, they were asked to tell the interviewer something about their house.

Categorical Variable Frequencies

	r1say	r2say
0.Incorrect	417	306
1.Correct	1,938	2,621
.i:No cognition IW	0	62
.s:Skipped	1,741	1,649
Total	4,096	4,638

	r1fsay	r2fsay
0.Not imputed	2,260	2,902
1.Dont know	55	8
2.Missing	6	4
4.Refused	39	13
11.Skipped	1,736	1,635
12.Not interviewed	0	76
Total	4,096	4,638

	r1write	r2write
0.Incorrect	132	120
1.Correct	1,609	1,515
.i:No cognition IW	0	14
.l:Cannot read and write	2,355	2,989
Total	4,096	4,638

	r1fwrite	r2fwrite
0.Not imputed	1,678	1,598
1.Dont know	11	14
2.Missing	41	11
3.Not Assessed	22	0
4.Refused	25	23
10.Cannot read/write	2,319	2,916
12.Not interviewed	0	76
Total	4,096	4,638

	r1hsenten	r2hsenten
0.Incorrect	549	426
1.Correct	3,547	4,136

.i:No cognition IW	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:	
hmse119_write	WRITE COMPLETE SENTENCE
hmse119_say	Respondent says the sentence
hmse117	can respondent Read and Write
Wave 2 Cognitive Assessment:	
hmse119_sentence	WRITE COMPLETE SENTENCE
hmse119_say	Respondent says the sentence
hmse117	can respondent Read and Write

Drawing Geometric Shapes

Variable	Waves	Label	Type
rWhdrawa	1-2	rWhdrawa:wW R cognition able to draw assigned picture incl angles(0-1)	Categ
rWfhdrawa	1-2	rWfhdrawa:impflag wW R whether imputed value	Categ
rWhdraw2	1-2	rWhdraw2:wW R cognition able to draw assigned picture incl angles(0-2)	Categ
rWfhdraw2	1-2	rWfhdraw2:impflag wW R whether imputed value	Categ

How Constructed

rWhdrawa indicates whether the respondent was able to draw an assigned picture of two overlapping geometric shapes. The respondent is assigned 1 as correct if the drawing met two criteria: (1) maintains the same number of sides for each shape, including the resulting shape where they intersect, and (2) preserves all angles in the drawn figures. If the respondent's drawing doesn't meet both requirements, a 0 score is assigned.

rWhdraw2 more specifically scores the respondent's drawing in **rWhdrawa** with a score ranging from 0-2. It is coded as 2 if the respondent's drawing met both requirements listed above, coded as 1 if the drawing met a single requirement, and coded as 0 if the drawing met no requirements.

Cases where the respondent's uploaded images were blurry and not yet scored were assigned special missing (.b). At Wave 1, "Not assessed" responses are coded as special missing (.n) and are assigned when the test was not administered due to a respondent's physical disability or technical issues. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. **rWhdrawa** and **rWhdraw2** are set to plain missing (.) if the respondent did not participate in the current wave.

rWfhdrawa and **rWfhdraw2** are flag variables, indicating whether the corresponding variable was assigned an imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, 8.Bad image, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

The "Not assessed" option for these variables is only available in Wave 1. This option was removed in Wave 2.

Differences with other HCAP studies

The LASI-DAD and HRS-HCAP require that the drawing: (1) maintains the same number of sides for each shape, including the resulting shape where they intersect, and (2) all angles are preserved. For these Harmonized datasets, we use **rWhdrawa** as the variable name. The MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog require that the drawing: (1) maintains the same number of sides for each shape, and (2) the intersection of the figures maintains the same number of sides. For these Harmonized datasets, we use **rWhdraw** as the variable name. All Harmonized HCAPs provide a 1-point score, while the LASI-DAD provides both a MMSE-comparable 1-point score and a more detailed 2-point score.

Due to high illiteracy rates in the population, the SPS Chile-Cog asks an additional drawing task of two overlapping non-angular geometric shapes (**rWhdrawcir**). Thus, **rWhdrawcir** and the combined drawing task variable (**rWdrawcom_sp**) are not available in the other Harmonized HCAP datasets.

The Harmonized LASI-DAD, Harmonized MHAS Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for **rWhdraw** with an accompanying imputation flag, while the Harmonized HRS-HCAP does not.

Comparability with the Harmonized LASI

rWdraw is the comparable variable in the Harmonized LASI to **rWhdrawa**, providing a yes or no scoring. In the Harmonized LASI-DAD, a 2-point detailed score was also provided.

Categorical Variable Frequencies

	r1hdrawa	r2hdrawa
0.Incorrect	3,147	3,622
1.Correct	949	940
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhdrawa	r2fhdrawa
0.Not imputed	3,723	4,096
1.Dont know	18	0
2.Missing	157	466
3.Not Assessed	49	0
4.Refused	141	0
8.Bad image	8	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1hdraw2	r2hdraw2
0	2,963	3,361
1	184	261
2	949	940
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhdraw2	r2fhdraw2
0.Not imputed	3,723	4,096
1.Dont know	18	0
2.Missing	157	466
3.Not Assessed	49	0
4.Refused	141	0
8.Bad image	8	0
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

hmse120_draw	COPY DRAWING
hs001	Pentagon overlaps
hs002	Pentagon - 5 angles preserved

Wave 2 Cognitive Assessment:

hmse120_draw	COPY DRAWING
hs001	Pentagon overlaps
hs002	Pentagon - 5 angles preserved

HMSE Summary Score

Variable	Waves	Label	Type
rWhmse_score	1-2	rWhmse_score:wW R HMSE total score (0-30)	Cont
rWlasi_score	1-2	rWlasi_score:wW R LASI comparable HMSE total score (0-16)	Cont

How Constructed

rWhmse_score sums the total value between **rWorient_t5**, **rWorient_p5**, **rWhimrc3**, **rWbackward_d**, **rWhdlrc3**, **rWhobject**, **rWrepeat**, **rWcombfol**, **rWhexecu**, **rWhsenten**, and **rWhdrawa**. If any of the variables contain a missing value, **rWhmse_score** is missing. If **rWorient_t5**, **rWorient_p5**, **rWhimrc3**, **rWbackward_d**, **rWhdlrc3**, **rWhobject**, **rWrepeat**, **rWcombfol**, **rWhexecu**, **rWhsenten**, and **rWhdrawa** are assigned (.i), (.n), (.d), (.r) or (.m), **rWhmse_score** is coded as (.i), (.n), (.d), (.r) or (.m), respectively. Cases in which the respondents' images were blurry and not yet scored were assigned special missing (.b). **rWhmse_score** is set to plain missing (.) if the respondent did not participate in the current wave.

rWlasi_score sums the total value between **rWorient_t4**, **rWorient_p4**, **rWhobject**, **rWcombfol**, **rWhexecu**, **rWhsenten**, and **rWhdrawa**. If any of the variables contain a missing value, **rWlasi_score** is missing.If **rWorient_t4**, **rWorient_p4**, **rWhobject**, **rWcombfol**, **rWhexecu**, **rWhsenten**, and **rWhdrawa** are assigned (.i), (.n), (.d), (.r) or (.m), **rWlasi_score** is coded as (.i), (.n), (.d), (.r) or (.m), respectively. Cases in which the respondents' images were blurry and not yet scored were assigned special missing (.b). **rWlasi_score** is set to plain missing (.) if the respondent did not participate in the current wave.

For further information on the component variables used in this section, please refer to their respective sections above.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The LASI-DAD uses the Hindi Mental State Examination (HMSE), while the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog use the Mini-Mental State Examination (MMSE).

While the summary measure is largely similar across studies, there are three exceptions: the LASI-DAD used the Backward Day Naming exercise and the HRS-HCAP used the Backward Spelling task, while the MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog used the Serial 7's task. Secondly, the LASI-DAD and HRS-HCAP used more stringent scoring criteria for **rWhdrawa**, than the criteria used for the MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog for **rWhdraw**, though the scale remained the same. Additionally, the HMSE in the LASI-DAD (**rWhmse_score**) and the MMSE in the HRS-HCAP, ELSA-HCAP, and SPS Chile-Cog (**rWmmse_score**) are scored 0 to 30. The MMSE in MHAS Mex-Cog (**rWmmse_scr_m**) is scored 0 to 28 as the MHAS Mex-Cog only asks 3 items for orientation to place compared to the 5 items asked in the other HCAP studies.

rWmmse_scr_sp is a SPS Chile-Cog specific variable, as it uses the combined List Numbers Backwards and Serial 7's constructed variable, **rWbakward_sp**, and the combined drawing constructed variable, **rWdrawcom_sp**. **rWmmse_imp** is only calculated for the Harmonized Chile-Cog during the imputation process and is not recommended for use in cross-country or within-country analyses.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP does not. Two summary measures are provided in the HRS-HCAP: **rWmmse_score** provides a value only if there are no missing components but includes missing values, and **rWmmse_scr_h** (provided by the HRS) has a value even if some components are missing and includes some imputed values. In the Harmonized HRS-HCAP, responses are not imputed if only an informant interview was completed. The Harmonized Mex-Cog and Harmonized Chile-Cog include special missing values if the respondent cannot read or write in the MMSE summary score.

Comparability with the Harmonized LASI

A comparable summary measure is not provided in the Harmonized LASI but can be calculated from its components. In the Harmonized LASI, the summary score would count the total value between **rWorient** (4 points), **rWorientp** (4 points), **rWobject** (2 points), **rWread** (1 point), **rWexecu** (3 points), **rWsenten** (1 point), and **rWdraw** (1 point) to be comparable to **rWlasi_score**.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hmse_score	4,096	22.59	5.52	0.00	30.00	0
r2hmse_score	4,562	21.95	5.33	0.00	30.00	76
r1lasi_score	4,096	11.98	2.85	0.00	16.00	0
r2lasi_score	4,562	11.75	2.79	0.00	16.00	76

10-Word List Learning

Variable	Waves	Label	Type
rWword1	1-2	rWword1:wW R word list learning trial 1(0-10)	Cont
rWfword1	1-2	rWfword1:impflag wW R whether imputed value	Categ
rWword2	1-2	rWword2:wW R word list learning trial 2(0-10)	Cont
rWfword2	1-2	rWfword2:impflag wW R whether imputed value	Categ
rWword3	1-2	rWword3:wW R word list learning trial 3(0-10)	Cont
rWfword3	1-2	rWfword3:impflag wW R whether imputed value	Categ
rWword_total	1-2	rWword_total:wW R word list learning total(0-30)	Cont
rWword_d	1-2	rWword_d:wW R word list learning recall(0-10)	Cont
rWfword_d	1-2	rWfword_d:impflag wW R whether imputed value	Categ
rWword_int	1-2	rWword_int:wW R word list any interruption(0-1)	Categ
rWword_prob	1-2	rWword_prob:wW R word list had hearing problem(0-1)	Categ

How Constructed

rWword1, **rWword2**, and **rWword3** are a set of consecutive tasks asking the respondent to repeat a set of 10 words back to the interviewer. For this task, the interviewer reads a set of 10 words and asks the respondent to recall as many as they can. The interviewer states that the set of words is purposely made long so that it will be difficult for anyone to recall all the words and that most people recall just a few. The interviewer cannot repeat the words. The respondent can repeat back the set of words in any order and is given up to about 2 minutes. Once the respondent understands the task, the interviewer reads the items at a slow, steady rate, allowing the respondent to repeat the word before moving on to the next word on the list. Each task consists of the same words but in a different order each time.

rWword1, **rWword2**, and **rWword3** indicate the total number of correct words recalled in the first, second, and third lists of 10 words, respectively. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWword_total counts the total number of correct words between **rWword1**, **rWword2**, and **rWword3**. **rWword_total** is coded as don't know (.d), refused (.r), or missing (.m) if **rWword1**, **rWword2**, and **rWword3** are coded as don't know, refused, or missing. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. **rWword_total** is set to plain missing (.) if the respondent did not participate in the current wave.

rWword_d indicates the total number of correct words recalled from a 10-word list after a delay where other survey questions were asked and answered. Respondents were given up to 2 minutes to recall as many of the 10 words as they could remember. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. **rWword_d** is set to plain missing (.) if the respondent did not participate in the current wave.

rWword_int indicates whether there were any interruptions in the administration of any of the three word lists. A code of 0 indicates that there were no interruptions. A code of 1 indicates that there was an interruption. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. **rWword_int** is set to plain missing (.) if the respondent did not participate in the current wave.

rWword_prob indicates whether there were any interruptions in the administration of the word lists due to the respondent having difficulty hearing the words. A code of 0 indicates there were no issues with the respondent hearing the words. A code of 1 indicates there was an issue with the respondent hearing the words. At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are

coded as special missing (.d), (.r) and (.m), respectively. **rWword_prob** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfword1, **rWfword2**, **rWfword3**, and **rWfword_d** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

In the LASI-DAD, MHAS Mex-Cog, and SPS Chile-Cog, the interviewer read respondents a list of words, while in the HRS-HCAP and ELSA-HCAP, the interviewer showed respondents a set of words printed on cards.

The HRS-HCAP and ELSA-HCAP use the same set of words. In the LASI-DAD, MHAS Mex-Cog, and SPS Chile-Cog, some words were changed to be more culturally relevant for their respective study populations.

All HCAP studies ask respondents to repeat the word list 3 times. In the LASI-DAD, HRS-HCAP, and ELSA-HCAP, respondents repeat each word after the interviewer and each trial consists of the same words but in a different order. In the MHAS Mex-Cog and SPS Chile-Cog, the interviewer repeats the word list in the same order for each trial.

While each Harmonized HCAP provides imputations for **rWword1**, **rWword2**, **rWword3**, and **rWword_d**, the Harmonized HRS-HCAP does not provide imputed values if only an informant interview was completed. An additional flag variable is provided in the Harmonized HRS-HCAP (**rWfword_totl**), and variables indicating if an interruption took place (**rWword_int**) and if the respondent had difficulty hearing (**rWword_prob**) are provided in the Harmonized LASI-DAD.

Comparability with the Harmonized LASI

rWimrc and **rWdlrc** are comparable variables in the Harmonized LASI. In LASI-DAD, respondents were asked to perform 3 trials of word recalls. The respondent repeats each word after the interviewer. Each trial consists of the same words but in a different order each time. In the main LASI, there is only one trial for the word recall and the respondents don't repeat the words after the interviewer. The word list used in LASI-DAD is different from the word lists used in the main LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1word1	4,096	2.73	1.64	0.00	9.00	0
r2word1	4,562	2.84	1.66	0.00	9.00	76
r1word2	4,096	4.07	1.96	0.00	10.00	0
r2word2	4,562	4.21	1.87	0.00	10.00	76
r1word3	4,096	4.69	2.18	0.00	10.00	0
r2word3	4,562	4.89	2.06	0.00	10.00	76
r1word_total	4,096	11.49	5.11	0.00	28.00	0
r2word_total	4,562	11.94	4.96	0.00	27.00	76
r1word_d	4,096	3.08	2.32	0.00	10.00	0
r2word_d	4,562	3.21	2.29	0.00	10.00	76

Categorical Variable Frequencies

	r1fword1	r2fword1
0.Not imputed	3,992	4,526
1.Dont know	17	11
2.Missing	6	7
4.Refused	81	18
12.Not interviewed	0	76
Total	4,096	4,638

	r1fword2	r2fword2
0.Not imputed	3,983	4,511
1.Dont know	15	15
2.Missing	7	7
4.Refused	91	29
12.Not interviewed	0	76
Total	4,096	4,638

	r1fword3	r2fword3
0.Not imputed	3,959	4,499
1.Dont know	14	13
2.Missing	7	8
4.Refused	116	42
12.Not interviewed	0	76
Total	4,096	4,638

	r1fword_d	r2fword_d
0.Not imputed	3,965	4,489
1.Dont know	25	28
2.Missing	9	10
4.Refused	97	35
12.Not interviewed	0	76
Total	4,096	4,638

	r1word_int	r2word_int
0.No	3,847	4,254
1.Yes	188	288
.d:DK	4	0
.i:No cognition IW	0	76
.m:Missing	13	12
.r:Refuse	44	8
Total	4,096	4,638

	r1word_prob	r2word_prob
0.No	3,851	4,277
1.Yes	184	265
.d:DK	4	0
.i:No cognition IW	0	76
.m:Missing	13	12
.r:Refuse	44	8
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

wr102as1	WORD RECALL 1 1 Butter
wr102as2	WORD RECALL 1 2 Arm
wr102as3	WORD RECALL 1 3 Corner
wr102as4	WORD RECALL 1 4 Letter
wr102as5	WORD RECALL 1 5 Queen
wr102as6	WORD RECALL 1 6 Book
wr102as7	WORD RECALL 1 7 Stick
wr102as8	WORD RECALL 1 8 Ticket
wr102as9	WORD RECALL 1 9 Grass
wr102as10	WORD RECALL 1 10 Stone
wr102as97	WORD RECALL 1 97 No words remembered
wr103as1	Trial List 2 Recall 1 Butter
wr103as2	Trial List 2 Recall 2 Arm
wr103as3	Trial List 2 Recall 3 Corner
wr103as4	Trial List 2 Recall 4 Letter
wr103as5	Trial List 2 Recall 5 Queen
wr103as6	Trial List 2 Recall 6 Book
wr103as7	Trial List 2 Recall 7 Stick
wr103as8	Trial List 2 Recall 8 Ticket
wr103as9	Trial List 2 Recall 9 Grass
wr103as10	Trial List 2 Recall 10 Stone
wr103as97	Trial List 2 Recall 97 No words remembered
wr104as1	Trial List 3 Recall 1 Butter
wr104as2	Trial List 3 Recall 2 Arm
wr104as3	Trial List 3 Recall 3 Corner
wr104as4	Trial List 3 Recall 4 Letter
wr104as5	Trial List 3 Recall 5 Queen
wr104as6	Trial List 3 Recall 6 Book
wr104as7	Trial List 3 Recall 7 Stick
wr104as8	Trial List 3 Recall 8 Ticket
wr104as9	Trial List 3 Recall 9 Grass
wr104as10	Trial List 3 Recall 10 Stone
wr104as97	Trial List 3 Recall 97 No words remembered
wr105s1	WR ADMINISTRATION ISSUES 1 An interruption occurred during administration of Lis
wr105s2	WR ADMINISTRATION ISSUES 2 An interruption occurred during administration of Lis
wr105s3	WR ADMINISTRATION ISSUES 3 An interruption occurred during administration of Lis
wr105s4	WR ADMINISTRATION ISSUES 4 Respondent had difficulty hearing the words
dr100s1	DELAYED RECALL 1 Butter
dr100s2	DELAYED RECALL 2 Arm
dr100s3	DELAYED RECALL 3 Corner
dr100s4	DELAYED RECALL 4 Letter
dr100s5	DELAYED RECALL 5 Queen
dr100s6	DELAYED RECALL 6 Book
dr100s7	DELAYED RECALL 7 Stick
dr100s8	DELAYED RECALL 8 Ticket
dr100s9	DELAYED RECALL 9 Grass
dr100s10	DELAYED RECALL 10 Stone
dr100s97	DELAYED RECALL 97 No words remembered

Wave 2 Cognitive Assessment:

wr102as1	WORD RECALL 1 1 Butter

wr102as2	WORD RECALL 1 2 Arm
wr102as3	WORD RECALL 1 3 Corner
wr102as4	WORD RECALL 1 4 Letter
wr102as5	WORD RECALL 1 5 Queen
wr102as6	WORD RECALL 1 6 Book
wr102as7	WORD RECALL 1 7 Stick
wr102as8	WORD RECALL 1 8 Ticket
wr102as9	WORD RECALL 1 9 Grass
wr102as10	WORD RECALL 1 10 Stone
wr102as97	WORD RECALL 1 97 No words remembered
wr103as1	Trial List 2 Recall 1 Butter
wr103as2	Trial List 2 Recall 2 Arm
wr103as3	Trial List 2 Recall 3 Corner
wr103as4	Trial List 2 Recall 4 Letter
wr103as5	Trial List 2 Recall 5 Queen
wr103as6	Trial List 2 Recall 6 Book
wr103as7	Trial List 2 Recall 7 Stick
wr103as8	Trial List 2 Recall 8 Ticket
wr103as9	Trial List 2 Recall 9 Grass
wr103as10	Trial List 2 Recall 10 Stone
wr103as97	Trial List 2 Recall 97 No words remembered
wr104as1	Trial List 3 Recall 1 Butter
wr104as2	Trial List 3 Recall 2 Arm
wr104as3	Trial List 3 Recall 3 Corner
wr104as4	Trial List 3 Recall 4 Letter
wr104as5	Trial List 3 Recall 5 Queen
wr104as6	Trial List 3 Recall 6 Book
wr104as7	Trial List 3 Recall 7 Stick
wr104as8	Trial List 3 Recall 8 Ticket
wr104as9	Trial List 3 Recall 9 Grass
wr104as10	Trial List 3 Recall 10 Stone
wr104as97	Trial List 3 Recall 97 No words remembered
wr105s1	WR ADMINISTRATION ISSUES 1 An interruption occurred during administration of Lis
wr105s2	WR ADMINISTRATION ISSUES 2 An interruption occurred during administration of Lis
wr105s3	WR ADMINISTRATION ISSUES 3 An interruption occurred during administration of Lis
wr105s4	WR ADMINISTRATION ISSUES 4 Respondent had difficulty hearing the words
dr100s1	DELAYED RECALL 1 Butter
dr100s2	DELAYED RECALL 2 Arm
dr100s3	DELAYED RECALL 3 Corner
dr100s4	DELAYED RECALL 4 Letter
dr100s5	DELAYED RECALL 5 Queen
dr100s6	DELAYED RECALL 6 Book
dr100s7	DELAYED RECALL 7 Stick
dr100s8	DELAYED RECALL 8 Ticket
dr100s9	DELAYED RECALL 9 Grass
dr100s10	DELAYED RECALL 10 Stone
dr100s97	DELAYED RECALL 97 No words remembered

Word List Recognition

Variable	Waves	Label	Type
rWwre_org	1-2	rWwre_org:wW R word list recognition: original(0-10)	Cont
rWfwre_org	1-2	rWfwre_org:impflag wW R whether imputed value	Categ
rWwre_foil	1-2	rWwre_foil:wW R word list recognition: foil(0-10)	Cont
rWfwre_foil	1-2	rWfwre_foil:impflag wW R whether imputed value	Categ
rWwre_score	1-2	rWwre_score:wW R word List Recognition(0-20)	Cont

How Constructed

Respondents are presented with a list of 20 words, half of which were previously presented to the respondent in an earlier part of the interview. The interviewer states that some of the words are from the list of words they read to the respondent earlier and some of the words have not been read to them before. As the interviewer reads aloud the list of 20 words, the respondent is asked to say "Yes" after a word if they heard it earlier. The respondent is asked to say "No" if a word was not heard earlier.

rWwre_org counts the number of words that are correctly identified as repeated words. **rWwre_foil** counts the number of words correctly identified as new words, ones not previously seen in an earlier section of questionnaire.

rWwre_score is the sum of **rWwre_org** and **rWwre_foil**, indicating the total number of correct responses given by the respondent.

Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. **rWwre_org**, **rWwre_foil**, and **rWwre_score** are set to plain missing (.) if the respondent did not participate in the current wave.

rWfwre_org and **rWfwre_foil** are flag variables, indicating whether the corresponding variable was assigned an imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

In the LASI-DAD, MHAS Mex-Cog, and SPS Chile-Cog the interviewer read respondents a list of words, while interviewers in the HRS-HCAP and ELSA-HCAP showed respondents a set of words printed on cards. Additionally, the LASI-DAD, MHAS Mex-Cog, and SPS Chile-Cog used different lists of words, while the HRS-HCAP and ELSA-HCAP used the same list of 20 words.

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP includes imputations and an accompanying imputation flag only for the summary variable.

Comparability with the Harmonized LASI

This question was not asked in the LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1wre_org	4,096	8.15	2.34	0.00	10.00	0
r2wre_org	4,562	8.45	2.06	0.00	10.00	76
r1wre_foil	4,096	7.85	2.79	0.00	10.00	0
r2wre_foil	4,562	7.41	3.00	0.00	10.00	76
r1wre_score	4,096	16.00	3.57	0.00	20.00	0
r2wre_score	4,562	15.85	3.67	0.00	20.00	76

Categorical Variable Frequencies

	r1fwre_org	r2fwre_org
0.Not imputed	3,873	4,467
1.Dont know	58	40
2.Missing	11	10
4.Refused	154	45
12.Not interviewed	0	76
Total	4,096	4,638

	r1fwre_foil	r2fwre_foil
0.Not imputed	3,874	4,466
1.Dont know	59	42
2.Missing	11	10
4.Refused	152	44
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

wre_102	Butter
wre_104	Arm
wre_105	Corner
wre_107	Letter
wre_110	Queen
wre_111	Book
wre_113	Stick
wre_116	Ticket
wre_118	Grass
wre_119	Stone
wre_100	Temple
wre_101	Tea
wre_103	Key
wre_106	Five
wre_108	Hotel
wre_109	Mountain
wre_112	Slipper
wre_114	Village
wre_115	String
wre_117	Troops

Wave 2 Cognitive Assessment:

wre_102	Butter
wre_104	Arm
wre_105	Corner
wre_107	Letter
wre_110	Queen
wre_111	Book
wre_113	Stick
wre_116	Ticket
wre_118	Grass
wre_119	Stone
wre_100	Temple
wre_101	Tea
wre_103	Key
wre_106	Five
wre_108	Hotel
wre_109	Mountain
wre_112	Slipper
wre_114	Village
wre_115	String
wre_117	Troops

Logical Memory: Brave Man Story

Variable	Waves	Label	Type
rWbm_s1	1-2	rWbm_s1:wW R Brave man immediate: story point 1(0-2)	Categ
rWfbm_s1	1-2	rWfbm_s1:impflag wW R whether imputed value	Categ
rWbm_s2	1-2	rWbm_s2:wW R Brave man immediate: story point 2(0-2)	Categ
rWfbm_s2	1-2	rWfbm_s2:impflag wW R whether imputed value	Categ
rWbm_s3	1-2	rWbm_s3:wW R Brave man immediate: story point 3(0-2)	Categ
rWfbm_s3	1-2	rWfbm_s3:impflag wW R whether imputed value	Categ
rWbm_s4	1-2	rWbm_s4:wW R Brave man immediate: story point 4(0-2)	Categ
rWfbm_s4	1-2	rWfbm_s4:impflag wW R whether imputed value	Categ
rWbm_s5	1-2	rWbm_s5:wW R Brave man immediate: story point 5(0-2)	Categ
rWfbm_s5	1-2	rWfbm_s5:impflag wW R whether imputed value	Categ
rWbm_s6	1-2	rWbm_s6:wW R Brave man immediate: story point 6(0-2)	Categ
rWfbm_s6	1-2	rWfbm_s6:impflag wW R whether imputed value	Categ
rWbm_s7	1-2	rWbm_s7:wW R Brave man immediate: story point 7(0-2)	Categ
rWfbm_s7	1-2	rWfbm_s7:impflag wW R whether imputed value	Categ
rWbm_s8	1-2	rWbm_s8:wW R Brave man immediate: story point 8(0-2)	Categ
rWfbm_s8	1-2	rWfbm_s8:impflag wW R whether imputed value	Categ
rWbm_s9	1-2	rWbm_s9:wW R Brave man immediate: story point 9(0-2)	Categ
rWfbm_s9	1-2	rWfbm_s9:impflag wW R whether imputed value	Categ
rWbm_s10	1-2	rWbm_s10:wW R Brave man immediate: story point 10(0-2)	Categ
rWfbm_s10	1-2	rWfbm_s10:impflag wW R whether imputed value	Categ
rWbmex_s1	1-2	rWbmex_s1:wW R Brave man immediate: story point 1(0-1) exact	Categ
rWbmex_s2	1-2	rWbmex_s2:wW R Brave man immediate: story point 2(0-1) exact	Categ
rWbmex_s3	1-2	rWbmex_s3:wW R Brave man immediate: story point 3(0-1) exact	Categ
rWbmex_s4	1-2	rWbmex_s4:wW R Brave man immediate: story point 4(0-1) exact	Categ
rWbmex_s5	1-2	rWbmex_s5:wW R Brave man immediate: story point 5(0-1) exact	Categ
rWbmex_s6	1-2	rWbmex_s6:wW R Brave man immediate: story point 6(0-1) exact	Categ
rWbmex_s7	1-2	rWbmex_s7:wW R Brave man immediate: story point 7(0-1) exact	Categ
rWbmex_s8	1-2	rWbmex_s8:wW R Brave man immediate: story point 8(0-1) exact	Categ

rWbmex_s9	1-2	rWbmex_s9:wW R Brave man immediate: story point 9(0-1) exact	Categ
rWbmex_s10	1-2	rWbmex_s10:wW R Brave man immediate: story point 10(0-1) exact	Categ
rWbm_imm	1-2	rWbm_imm:wW R Brave man immediate: summary score, HRS comparable, 2pts-exact,1pt	Cont
rWbm_imm_d	1-2	rWbm_imm_d:wW R Brave man immediate: summary score 2pts-exact,1pt-gist(0-20)	Cont
rWbm_immex	1-2	rWbm_immex:wW R Brave man immediate: summary score exact(0-6)	Cont
rWbm_rs1	1-2	rWbm_rs1:wW R Brave man recall: story point 1(0-2)	Categ
rWfbm_rs1	1-2	rWfbm_rs1:impflag wW R whether imputed value	Categ
rWbm_rs2	1-2	rWbm_rs2:wW R Brave man recall: story point 2(0-2)	Categ
rWfbm_rs2	1-2	rWfbm_rs2:impflag wW R whether imputed value	Categ
rWbm_rs3	1-2	rWbm_rs3:wW R Brave man recall: story point 3(0-2)	Categ
rWfbm_rs3	1-2	rWfbm_rs3:impflag wW R whether imputed value	Categ
rWbm_rs4	1-2	rWbm_rs4:wW R Brave man recall: story point 4(0-2)	Categ
rWfbm_rs4	1-2	rWfbm_rs4:impflag wW R whether imputed value	Categ
rWbm_rs5	1-2	rWbm_rs5:wW R Brave man recall: story point 5(0-2)	Categ
rWfbm_rs5	1-2	rWfbm_rs5:impflag wW R whether imputed value	Categ
rWbm_rs6	1-2	rWbm_rs6:wW R Brave man recall: story point 6(0-2)	Categ
rWfbm_rs6	1-2	rWfbm_rs6:impflag wW R whether imputed value	Categ
rWbm_rs7	1-2	rWbm_rs7:wW R Brave man recall: story point 7(0-2)	Categ
rWfbm_rs7	1-2	rWfbm_rs7:impflag wW R whether imputed value	Categ
rWbm_rs8	1-2	rWbm_rs8:wW R Brave man recall: story point 8(0-2)	Categ
rWfbm_rs8	1-2	rWfbm_rs8:impflag wW R whether imputed value	Categ
rWbm_rs9	1-2	rWbm_rs9:wW R Brave man recall: story point 9(0-2)	Categ
rWfbm_rs9	1-2	rWfbm_rs9:impflag wW R whether imputed value	Categ
rWbm_rs10	1-2	rWbm_rs10:wW R Brave man recall: story point 10(0-2)	Categ
rWfbm_rs10	1-2	rWfbm_rs10:impflag wW R whether imputed value	Categ
rWbmex_rs1	1-2	rWbmex_rs1:wW R Brave man recall: story point 1(0-1) exact	Categ
rWbmex_rs2	1-2	rWbmex_rs2:wW R Brave man recall: story point 2(0-1) exact	Categ
rWbmex_rs3	1-2	rWbmex_rs3:wW R Brave man recall: story point 3(0-1) exact	Categ
rWbmex_rs4	1-2	rWbmex_rs4:wW R Brave man recall: story point 4(0-1) exact	Categ
rWbmex_rs5	1-2	rWbmex_rs5:wW R Brave man recall: story point 5(0-1) exact	Categ
rWbmex_rs6	1-2	rWbmex_rs6:wW R Brave man recall: story point 6(0-1) exact	Categ
rWbmex_rs7	1-2	rWbmex_rs7:wW R Brave man recall: story point 7(0-1) exact	Categ

rWbmex_rs8	1-2	rWbmex_rs8:wW R Brave man recall: story point 8(0-1) exact	Categ
rWbmex_rs9	1-2	rWbmex_rs9:wW R Brave man recall: story point 9(0-1) exact	Categ
rWbmex_rs10	1-2	rWbmex_rs10:wW R Brave man recall: story point 10(0-1) exact	Categ
rWbm_recl	1-2	rWbm_recl:wW R Brave man recall: summary score,HRS comparable,2pts-exact,1pt-gis	Cont
rWbm_recl_d	1-2	rWbm_recl_d:wW R Brave man recall: summary score 2pts-exact,1pt-gist(0-20)	Cont
rWbm_reclex	1-2	rWbm_reclex:wW R Brave man recall: summary score exact (0-6)	Cont

How Constructed

In this section, respondents were tested on their immediate and delayed recollection of a brave man story that was read aloud to them. The story is as follows: "Three children were alone at home and the house caught on fire. A brave man managed to climb in a back window and carry them to safety. Aside from minor cuts and bruises, all were well." After it was read aloud, respondents were asked to repeat as much of the story as they could remember. Later on in the interview, respondents were asked to recall and retell the story once again.

rWbm_s1 - **rWbm_s10** indicate how well respondents remembered the story's points immediately after it was read to them. They are coded as follows: 0.Not correct, not mentioned, 1.Approximate answer, and 2.Exact answer.

rWbmex_s1 - **rWbmex_s10** indicate how well respondents remembered the exact story points immediately after it was read to them. One point was given if respondents recalled the exact story point and no points were given if respondents either did not remember the story point or could only recall the general gist of the story point.

rWbm_imm, **rWbm_imm_d**, and **rWbm_immex** are summary scores for the respondents' immediate recollection of the brave man story. **rWbm_imm** is the summary score based on the 6-point system that the HRS-HCAP uses, with the summary scores ranging from 0 to 12. **rWbm_imm_d** follows the 10-point score used in LASI-DAD and is calculated as the total score of **rWbm_s1** - **rWbm_s10**, with scores ranging from 0 to 20. **rWbm_immex** is the summary score of exact story point responses and is based upon the total score of **rWbmex_s1** - **rWbmex_s10**, after converting to the 6-point score used in the HRS-HCAP. **rWbm_immex** has scores ranging from 0 to 6.

rWbm_rs1 - **rWbm_rs10** indicate how well respondents remembered the story points after some time had passed and they had answered some unrelated interview questions. They are coded as follows: 0.Not correct, not mentioned, 1.Approximate answer, and 2.Exact answer.

rWbmex_rs1 - **rWbmex_rs10** indicate how well respondents remembered the exact story points after a delay where the respondent was asked other survey questions. One point was given if respondents recalled the exact story point and no points were given if respondents either did not remember the story point or could only recall the general gist of the story point.

rWbm_recl, **rWbm_recl_d**, and **rWbm_reclex** are summary scores for the respondents' delayed recollection of the brave man story. **rWbm_recl** is the summary score based on the 6-point system that the HRS-HCAP uses, with the summary scores ranging from 0 to 12. **rWbm_recl_d** is calculated as the total score of **rWbm_rs1** - **rWbm_rs10**, with scores ranging from 0 to 20. **rWbm_reclex** is the summary score of exact story point responses and is based upon the total score of **rWbmex_rs1** - **rWbmex_rs10**, after converting to the 6-point score used in the HRS-HCAP. **rWbm_reclex** has scores ranging from 0 to 6.

At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing code (.r). Other missing is assigned special missing (.m). These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWfbm_s1 - **rWfbm_s10** and **rWfbm_rs1** - **rWfbm_rs10** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog score respondents' retellings based on 6 story points, while the LASI-DAD scores them based on 10 story points. To facilitate comparison across studies, the LASI-DAD also provides 6-point scores that match the scoring system used in the other HCAP studies by combining four detailed story points to create two comparable story points that match what the other HCAP studies used. Additionally, the LASI-DAD, HRS-HCAP, MHAS Mex-Cog, and SPS Chile-Cog distinguish between story points that were exactly recalled and those that were approximately correct, while the ELSA-HCAP does not provide that level of distinction.

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP does not. The HRS imputed values for the immediate recall summary scores if all items are refused or missing, and for the delayed recall summary score if all items are missing.

Comparability with the Harmonized LASI

This question was not asked in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1bm_imm	4,096	5.30	3.09	0.00	12.00	0
r2bm_imm	4,562	5.00	2.81	0.00	12.00	76
r1bm_imm_d	4,096	7.46	4.66	0.00	20.00	0
r2bm_imm_d	4,562	7.11	4.12	0.00	20.00	76
r1bm_immex	4,096	2.08	1.62	0.00	6.00	0
r2bm_immex	4,562	1.72	1.38	0.00	6.00	76
r1bm_recl	4,096	2.95	3.47	0.00	12.00	0
r2bm_recl	4,562	2.76	3.19	0.00	12.00	76
r1bm_recl_d	4,096	4.12	5.05	0.00	20.00	0
r2bm_recl_d	4,562	3.86	4.57	0.00	20.00	76
r1bm_reclex	4,096	1.19	1.61	0.00	6.00	0
r2bm_reclex	4,562	0.93	1.31	0.00	6.00	76

Categorical Variable Frequencies

	r1bm_s1	r2bm_s1
0.Not correct, not mentione	886	974
1.Approximate answer	603	795
2.Exact answer	2,607	2,793
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s1	r2fbm_s1
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s2	r2bm_s2
0.Not correct, not mentione	2,215	2,067
1.Approximate answer	1,068	1,714
2.Exact answer	813	781
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s2	r2fbm_s2
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s3	r2bm_s3
0.Not correct, not mentione	974	1,165
1.Approximate answer	894	1,187
2.Exact answer	2,228	2,210
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s3	r2fbm_s3
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s4	r2bm_s4
0.Not correct, not mentione	1,732	2,075
1.Approximate answer	1,539	1,848
2.Exact answer	825	639
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s4	r2fbm_s4
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s5	r2bm_s5
0.Not correct, not mentione	2,966	3,175
1.Approximate answer	457	904
2.Exact answer	673	483
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s5	r2fbm_s5
0.Not imputed	3,852	4,419
1.Dont know	29	23
2.Missing	27	54
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s6	r2bm_s6
0.Not correct, not mentione	2,233	2,524
1.Approximate answer	825	848
2.Exact answer	1,038	1,190
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s6	r2fbm_s6
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s7	r2bm_s7
0.Not correct, not mentione	1,809	1,867
1.Approximate answer	1,239	2,075
2.Exact answer	1,048	620
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s7	r2fbm_s7
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s8	r2bm_s8
0.Not correct, not mentione	2,712	3,098
1.Approximate answer	509	886
2.Exact answer	875	578
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s8	r2fbm_s8
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s9	r2bm_s9
0.Not correct, not mentione	3,206	3,475
1.Approximate answer	157	331
2.Exact answer	733	756
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s9	r2fbm_s9
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_s10	r2bm_s10
0.Not correct, not mentione	3,085	3,292
1.Approximate answer	427	773
2.Exact answer	584	497
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_s10	r2fbm_s10
0.Not imputed	3,852	4,452
1.Dont know	29	23
2.Missing	27	21
4.Refused	188	66
12.Not interviewed	0	76
Total	4,096	4,638

	r1bmex_s1	r2bmex_s1
0.Not correct/Not exact ans	1,489	1,769
1.Exact answer	2,607	2,793
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s2	r2bmex_s2
0.Not correct/Not exact ans	3,283	3,781
1.Exact answer	813	781
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s3	r2bmex_s3
0.Not correct/Not exact ans	1,868	2,352

1.Exact answer	2,228	2,210
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s4	r2bmex_s4
0.Not correct/Not exact ans	3,271	3,923
1.Exact answer	825	639
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s5	r2bmex_s5
0.Not correct/Not exact ans	3,423	4,079
1.Exact answer	673	483
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s6	r2bmex_s6
0.Not correct/Not exact ans	3,058	3,372
1.Exact answer	1,038	1,190
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s7	r2bmex_s7
0.Not correct/Not exact ans	3,048	3,942
1.Exact answer	1,048	620
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s8	r2bmex_s8
0.Not correct/Not exact ans	3,221	3,984
1.Exact answer	875	578
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s9	r2bmex_s9
0.Not correct/Not exact ans	3,363	3,806
1.Exact answer	733	756
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_s10	r2bmex_s10
0.Not correct/Not exact ans	3,512	4,065
1.Exact answer	584	497
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bm_rs1	r2bm_rs1
0.Not correct, not mentione	2,275	2,546
1.Approximate answer	358	549
2.Exact answer	1,463	1,467
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs1	r2fbm_rs1
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs2	r2bm_rs2
0.Not correct, not mentione	3,125	3,302
1.Approximate answer	456	796
2.Exact answer	515	464
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs2	r2fbm_rs2
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs3	r2bm_rs3
0.Not correct, not mentione	2,343	2,628
1.Approximate answer	445	699
2.Exact answer	1,308	1,235
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs3	r2fbm_rs3
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs4	r2bm_rs4
0.Not correct, not mentione	2,817	3,183
1.Approximate answer	766	1,013
2.Exact answer	513	366
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs4	r2fbm_rs4
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs5	r2bm_rs5
0.Not correct, not mentione	3,546	3,879
1.Approximate answer	198	452
2.Exact answer	352	231
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs5	r2fbm_rs5
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs6	r2bm_rs6
0.Not correct, not mentione	3,108	3,505
1.Approximate answer	385	394
2.Exact answer	603	663
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs6	r2fbm_rs6
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs7	r2bm_rs7
0.Not correct, not mentione	2,838	3,081
1.Approximate answer	617	1,133
2.Exact answer	641	348
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs7	r2fbm_rs7
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs8	r2bm_rs8
0.Not correct, not mentione	3,376	3,706
1.Approximate answer	236	504
2.Exact answer	484	352
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs8	r2fbm_rs8
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs9	r2bm_rs9
0.Not correct, not mentione	3,661	4,078
1.Approximate answer	83	180
2.Exact answer	352	304
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs9	r2fbm_rs9
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bm_rs10	r2bm_rs10
0.Not correct, not mentione	3,571	3,805
1.Approximate answer	200	478
2.Exact answer	325	279
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fbm_rs10	r2fbm_rs10
0.Not imputed	3,790	4,406
1.Dont know	68	57
2.Missing	11	18
4.Refused	227	81
12.Not interviewed	0	76
Total	4,096	4,638

	r1bmex_rs1	r2bmex_rs1
0.Not correct/Not exact ans	2,633	3,095
1.Exact answer	1,463	1,467
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_rs2	r2bmex_rs2
0.Not correct/Not exact ans	3,581	4,098
1.Exact answer	515	464
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_rs3	r2bmex_rs3
0.Not correct/Not exact ans	2,788	3,327

1.Exact answer	1,308
.i:No cognition IW	0
Total	4,096

	r1bmex_rs4	r2bmex_rs4
0.Not correct/Not exact ans	3,583	4,196
1.Exact answer	513	366
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_rs5	r2bmex_rs5
0.Not correct/Not exact ans	3,744	4,331
1.Exact answer	352	231
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_rs6	r2bmex_rs6
0.Not correct/Not exact ans	3,493	3,899
1.Exact answer	603	663
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_rs7	r2bmex_rs7
0.Not correct/Not exact ans	3,455	4,214
1.Exact answer	641	348
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_rs8	r2bmex_rs8
0.Not correct/Not exact ans	3,612	4,210
1.Exact answer	484	352
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_rs9	r2bmex_rs9
0.Not correct/Not exact ans	3,744	4,258
1.Exact answer	352	304
.i:No cognition IW	0	76
Total	4,096	4,638

	r1bmex_rs10	r2bmex_rs10
0.Not correct/Not exact ans	3,771	4,283
1.Exact answer	325	279
.i:No cognition IW	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

bm_1s1	BM1 - Recall of Story Points 1 Three children
bm_1s2	BM1 - Recall of Story Points 2 alone at home
bm_1s3	BM1 - Recall of Story Points 3 House caught on fire
bm_1s4	BM1 - Recall of Story Points 4 Brave man
bm_1s5	BM1 - Recall of Story Points 5 Climbed
bm_1s6	BM1 - Recall of Story Points 6 back window
bm_1s7	BM1 - Recall of Story Points 7 carry to safety
bm_1s8	BM1 - Recall of Story Points 8 Minor cuts
bm_1s9	BM1 - Recall of Story Points 9 bruises
bm_1s10	BM1 - Recall of Story Points 10 all were well
bm_1s101	BM1 - Recall of Story Points 101 Three children
bm_1s102	BM1 - Recall of Story Points 102 alone at home
bm_1s103	BM1 - Recall of Story Points 103 House caught on fire
bm_1s104	BM1 - Recall of Story Points 104 Brave man
bm_1s105	BM1 - Recall of Story Points 105 Climbed
bm_1s106	BM1 - Recall of Story Points 106 back window
bm_1s107	BM1 - Recall of Story Points 107 carry to safety
bm_1s108	BM1 - Recall of Story Points 108 Minor cuts
bm_1s109	BM1 - Recall of Story Points 109 bruises
bm_1s110	BM1 - Recall of Story Points 110 all were well
lm2b_1b_s1	Recall of Story 1 Points 1 Three children
lm2b_1b_s2	Recall of Story 1 Points 2 alone at home
lm2b_1b_s3	Recall of Story 1 Points 3 House caught on fire
lm2b_1b_s4	Recall of Story 1 Points 4 Brave man
lm2b_1b_s5	Recall of Story 1 Points 5 Climbed
lm2b_1b_s6	Recall of Story 1 Points 6 back window
lm2b_1b_s7	Recall of Story 1 Points 7 carry to safety
lm2b_1b_s8	Recall of Story 1 Points 8 Minor cuts
lm2b_1b_s9	Recall of Story 1 Points 9 bruises
lm2b_1b_s10	Recall of Story 1 Points 10 all were well
lm2b_1b_s101	Recall of Story 1 Points 101 Three children
lm2b_1b_s102	Recall of Story 1 Points 102 alone at home
lm2b_1b_s103	Recall of Story 1 Points 103 House caught on fire
lm2b_1b_s104	Recall of Story 1 Points 104 Brave man
lm2b_1b_s105	Recall of Story 1 Points 105 Climbed
lm2b_1b_s106	Recall of Story 1 Points 106 back window
lm2b_1b_s107	Recall of Story 1 Points 107 carry to safety
lm2b_1b_s108	Recall of Story 1 Points 108 Minor cuts
lm2b_1b_s109	Recall of Story 1 Points 109 bruises
lm2b_1b_s110	Recall of Story 1 Points 110 all were well

Wave 2 Cognitive Assessment:

bm_1s1	BM1 - Recall of Story Points 1 Three children
bm_1s2	BM1 - Recall of Story Points 2 alone at home
bm_1s3	BM1 - Recall of Story Points 3 House caught on fire
bm_1s4	BM1 - Recall of Story Points 4 Brave man
bm_1s5	BM1 - Recall of Story Points 5 Climbed
bm_1s6	BM1 - Recall of Story Points 6 back window
bm_1s7	BM1 - Recall of Story Points 7 carry to safety
bm_1s8	BM1 - Recall of Story Points 8 Minor cuts
bm_1s9	BM1 - Recall of Story Points 9 bruises
bm_1s10	BM1 - Recall of Story Points 10 all were well

bm_1s101	BM1 - Recall of Story Points 101 Three children
bm_1s102	BM1 - Recall of Story Points 102 alone at home
bm_1s103	BM1 - Recall of Story Points 103 House caught on fire
bm_1s104	BM1 - Recall of Story Points 104 Brave man
bm_1s105	BM1 - Recall of Story Points 105 Climbed
bm_1s106	BM1 - Recall of Story Points 106 back window
bm_1s107	BM1 - Recall of Story Points 107 carry to safety
bm_1s108	BM1 - Recall of Story Points 108 Minor cuts
bm_1s109	BM1 - Recall of Story Points 109 bruises
bm_1s110	BM1 - Recall of Story Points 110 all were well
lm2b_1b_s1	Recall of Story 1 Points 1 Three children
lm2b_1b_s2	Recall of Story 1 Points 2 alone at home
lm2b_1b_s3	Recall of Story 1 Points 3 House caught on fire
lm2b_1b_s4	Recall of Story 1 Points 4 Brave man
lm2b_1b_s5	Recall of Story 1 Points 5 Climbed
lm2b_1b_s6	Recall of Story 1 Points 6 back window
lm2b_1b_s7	Recall of Story 1 Points 7 carry to safety
lm2b_1b_s8	Recall of Story 1 Points 8 Minor cuts
lm2b_1b_s9	Recall of Story 1 Points 9 bruises
lm2b_1b_s10	Recall of Story 1 Points 10 all were well
lm2b_1b_s101	Recall of Story 1 Points 101 Three children
lm2b_1b_s102	Recall of Story 1 Points 102 alone at home
lm2b_1b_s103	Recall of Story 1 Points 103 House caught on fire
lm2b_1b_s104	Recall of Story 1 Points 104 Brave man
lm2b_1b_s105	Recall of Story 1 Points 105 Climbed
lm2b_1b_s106	Recall of Story 1 Points 106 back window
lm2b_1b_s107	Recall of Story 1 Points 107 carry to safety
lm2b_1b_s108	Recall of Story 1 Points 108 Minor cuts
lm2b_1b_s109	Recall of Story 1 Points 109 bruises
lm2b_1b_s110	Recall of Story 1 Points 110 all were well

Logical Memory: Robbery Story

Variable	Waves	Label	Type
rWlmb_s1	1-2	rWlmb_s1:wW R Robbery story immediate: story point 1(0-2)	Categ
rWflmb_s1	1-2	rWflmb_s1:impflag wW R whether imputed value	Categ
rWlmb_s2	1-2	rWlmb_s2:wW R Robbery story immediate: story point 2(0-2)	Categ
rWflmb_s2	1-2	rWflmb_s2:impflag wW R whether imputed value	Categ
rWlmb_s3	1-2	rWlmb_s3:wW R Robbery story immediate: story point 3(0-2)	Categ
rWflmb_s3	1-2	rWflmb_s3:impflag wW R whether imputed value	Categ
rWlmb_s4	1-2	rWlmb_s4:wW R Robbery story immediate: story point 4(0-2)	Categ
rWflmb_s4	1-2	rWflmb_s4:impflag wW R whether imputed value	Categ
rWlmb_s5	1-2	rWlmb_s5:wW R Robbery story immediate: story point 5(0-2)	Categ
rWflmb_s5	1-2	rWflmb_s5:impflag wW R whether imputed value	Categ
rWlmb_s6	1-2	rWlmb_s6:wW R Robbery story immediate: story point 6(0-2)	Categ
rWflmb_s6	1-2	rWflmb_s6:impflag wW R whether imputed value	Categ
rWlmb_s7	1-2	rWlmb_s7:wW R Robbery story immediate: story point 7(0-2)	Categ
rWflmb_s7	1-2	rWflmb_s7:impflag wW R whether imputed value	Categ
rWlmb_s8	1-2	rWlmb_s8:wW R Robbery story immediate: story point 8(0-2)	Categ
rWflmb_s8	1-2	rWflmb_s8:impflag wW R whether imputed value	Categ
rWlmb_s9	1-2	rWlmb_s9:wW R Robbery story immediate: story point 9(0-2)	Categ
rWflmb_s9	1-2	rWflmb_s9:impflag wW R whether imputed value	Categ
rWlmb_s10	1-2	rWlmb_s10:wW R Robbery story immediate: story point 10(0-2)	Categ
rWflmb_s10	1-2	rWflmb_s10:impflag wW R whether imputed value	Categ
rWlmb_s11	1-2	rWlmb_s11:wW R Robbery story immediate: story point 11(0-2)	Categ
rWflmb_s11	1-2	rWflmb_s11:impflag wW R whether imputed value	Categ
rWlmb_s12	1-2	rWlmb_s12:wW R Robbery story immediate: story point 12(0-2)	Categ
rWflmb_s12	1-2	rWflmb_s12:impflag wW R whether imputed value	Categ
rWlmb_s13	1-2	rWlmb_s13:wW R Robbery story immediate: story point 13(0-2)	Categ
rWflmb_s13	1-2	rWflmb_s13:impflag wW R whether imputed value	Categ
rWlmb_s14	1-2	rWlmb_s14:wW R Robbery story immediate: story point 14(0-2)	Categ
rWflmb_s14	1-2	rWflmb_s14:impflag wW R whether imputed value	Categ
rWlmb_s15	1-2	rWlmb_s15:wW R Robbery story immediate: story point 15(0-2)	Categ
rWflmb_s15	1-2	rWflmb_s15:impflag wW R whether imputed value	Categ
rWlmb_s16	1-2	rWlmb_s16:wW R Robbery story immediate: story point 16(0-2)	Categ
rWflmb_s16	1-2	rWflmb_s16:impflag wW R whether imputed value	Categ
rWlmb_s17	1-2	rWlmb_s17:wW R Robbery story immediate: story point 17(0-2)	Categ

rWflmb_s17	1-2	rWflmb_s17:impflag wW R whether imputed value	Categ
rWlmb_s18	1-2	rWlmb_s18:wW R Robbery story immediate: story point 18(0-2)	Categ
rWflmb_s18	1-2	rWflmb_s18:impflag wW R whether imputed value	Categ
rWlmb_s19	1-2	rWlmb_s19:wW R Robbery story immediate: story point 19(0-2)	Categ
rWflmb_s19	1-2	rWflmb_s19:impflag wW R whether imputed value	Categ
rWlmb_s20	1-2	rWlmb_s20:wW R Robbery story immediate: story point 20(0-2)	Categ
rWflmb_s20	1-2	rWflmb_s20:impflag wW R whether imputed value	Categ
rWlmb_s21	1-2	rWlmb_s21:wW R Robbery story immediate: story point 21(0-2)	Categ
rWflmb_s21	1-2	rWflmb_s21:impflag wW R whether imputed value	Categ
rWlmb_s22	1-2	rWlmb_s22:wW R Robbery story immediate: story point 22(0-2)	Categ
rWflmb_s22	1-2	rWflmb_s22:impflag wW R whether imputed value	Categ
rWlmb_s23	1-2	rWlmb_s23:wW R Robbery story immediate: story point 23(0-2)	Categ
rWflmb_s23	1-2	rWflmb_s23:impflag wW R whether imputed value	Categ
rWlmb_s24	1-2	rWlmb_s24:wW R Robbery story immediate: story point 24(0-2)	Categ
rWflmb_s24	1-2	rWflmb_s24:impflag wW R whether imputed value	Categ
rWlmb_s25	1-2	rWlmb_s25:wW R Robbery story immediate: story point 25(0-2)	Categ
rWflmb_s25	1-2	rWflmb_s25:impflag wW R whether imputed value	Categ
rWlmb_immex	1-2	rWlmb_immex:wW R Robbery story immediate:summary score,exact words(0-25)	Cont
rWlmb_immg	1-2	rWlmb_immg:wW R Robbery story immediate:summary score,with gist(0-25)	Cont
rWlmb_imm	1-2	rWlmb_imm:wW R Robbery story immediate:summary score,with gist(0-50)	Cont
rWlmb_rs1	1-2	rWlmb_rs1:wW R Robbery story recall: story point 1(0-2)	Categ
rWflmb_rs1	1-2	rWflmb_rs1:impflag wW R whether imputed value	Categ
rWlmb_rs2	1-2	rWlmb_rs2:wW R Robbery story recall: story point 2(0-2)	Categ
rWflmb_rs2	1-2	rWflmb_rs2:impflag wW R whether imputed value	Categ
rWlmb_rs3	1-2	rWlmb_rs3:wW R Robbery story recall: story point 3(0-2)	Categ
rWflmb_rs3	1-2	rWflmb_rs3:impflag wW R whether imputed value	Categ
rWlmb_rs4	1-2	rWlmb_rs4:wW R Robbery story recall: story point 4(0-2)	Categ
rWflmb_rs4	1-2	rWflmb_rs4:impflag wW R whether imputed value	Categ
rWlmb_rs5	1-2	rWlmb_rs5:wW R Robbery story recall: story point 5(0-2)	Categ
rWflmb_rs5	1-2	rWflmb_rs5:impflag wW R whether imputed value	Categ

rWlmb_rs6	1-2	rWlmb_rs6:wW R Robbery story recall: story point 6(0-2)	Categ
rWflmb_rs6	1-2	rWflmb_rs6:impflag wW R whether imputed value	Categ
rWlmb_rs7	1-2	rWlmb_rs7:wW R Robbery story recall: story point 7(0-2)	Categ
rWflmb_rs7	1-2	rWflmb_rs7:impflag wW R whether imputed value	Categ
rWlmb_rs8	1-2	rWlmb_rs8:wW R Robbery story recall: story point 8(0-2)	Categ
rWflmb_rs8	1-2	rWflmb_rs8:impflag wW R whether imputed value	Categ
rWlmb_rs9	1-2	rWlmb_rs9:wW R Robbery story recall: story point 9(0-2)	Categ
rWflmb_rs9	1-2	rWflmb_rs9:impflag wW R whether imputed value	Categ
rWlmb_rs10	1-2	rWlmb_rs10:wW R Robbery story recall: story point 10(0-2)	Categ
rWflmb_rs10	1-2	rWflmb_rs10:impflag wW R whether imputed value	Categ
rWlmb_rs11	1-2	rWlmb_rs11:wW R Robbery story recall: story point 11(0-2)	Categ
rWflmb_rs11	1-2	rWflmb_rs11:impflag wW R whether imputed value	Categ
rWlmb_rs12	1-2	rWlmb_rs12:wW R Robbery story recall: story point 12(0-2)	Categ
rWflmb_rs12	1-2	rWflmb_rs12:impflag wW R whether imputed value	Categ
rWlmb_rs13	1-2	rWlmb_rs13:wW R Robbery story recall: story point 13(0-2)	Categ
rWflmb_rs13	1-2	rWflmb_rs13:impflag wW R whether imputed value	Categ
rWlmb_rs14	1-2	rWlmb_rs14:wW R Robbery story recall: story point 14(0-2)	Categ
rWflmb_rs14	1-2	rWflmb_rs14:impflag wW R whether imputed value	Categ
rWlmb_rs15	1-2	rWlmb_rs15:wW R Robbery story recall: story point 15(0-2)	Categ
rWflmb_rs15	1-2	rWflmb_rs15:impflag wW R whether imputed value	Categ
rWlmb_rs16	1-2	rWlmb_rs16:wW R Robbery story recall: story point 16(0-2)	Categ
rWflmb_rs16	1-2	rWflmb_rs16:impflag wW R whether imputed value	Categ
rWlmb_rs17	1-2	rWlmb_rs17:wW R Robbery story recall: story point 17(0-2)	Categ
rWflmb_rs17	1-2	rWflmb_rs17:impflag wW R whether imputed value	Categ
rWlmb_rs18	1-2	rWlmb_rs18:wW R Robbery story recall: story point 18(0-2)	Categ
rWflmb_rs18	1-2	rWflmb_rs18:impflag wW R whether imputed value	Categ
rWlmb_rs19	1-2	rWlmb_rs19:wW R Robbery story recall: story point 19(0-2)	Categ
rWflmb_rs19	1-2	rWflmb_rs19:impflag wW R whether imputed value	Categ
rWlmb_rs20	1-2	rWlmb_rs20:wW R Robbery story recall: story point 20(0-2)	Categ
rWflmb_rs20	1-2	rWflmb_rs20:impflag wW R whether imputed value	Categ
rWlmb_rs21	1-2	rWlmb_rs21:wW R Robbery story recall: story point 21(0-2)	Categ
rWflmb_rs21	1-2	rWflmb_rs21:impflag wW R whether imputed value	Categ
rWlmb_rs22	1-2	rWlmb_rs22:wW R Robbery story recall: story point 22(0-2)	Categ
rWflmb_rs22	1-2	rWflmb_rs22:impflag wW R whether imputed value	Categ
rWlmb_rs23	1-2	rWlmb_rs23:wW R Robbery story recall: story point 23(0-2)	Categ
rWflmb_rs23	1-2	rWflmb_rs23:impflag wW R whether imputed value	Categ

rWlmb_rs24	1-2	rWlmb_rs24:wW R Robbery story recall: story point 24(0-2)	Categ
rWflmb_rs24	1-2	rWflmb_rs24:impflag wW R whether imputed value	Categ
rWlmb_rs25	1-2	rWlmb_rs25:wW R Robbery story recall: story point 25(0-2)	Categ
rWflmb_rs25	1-2	rWflmb_rs25:impflag wW R whether imputed value	Categ
rWlmb_reclex	1-2	rWlmb_reclex:wW R Robbery story recall: summary score,exact words(0-25)	Cont
rWlmb_reclg	1-2	rWlmb_reclg:wW R Robbery story recall: summary score,with gist(0-25)	Cont
rWlmb_recl	1-2	rWlmb_recl:wW R Robbery story recall: summary score,with gist(0-50)	Cont

How Constructed

rWlmb_immex, **rWlmb_immg**, and **rWlmb_imm** are scores based on the robbery story that was read aloud to the respondent. The story is as follows: "Manju Rani from East Delhi, employed as a cook in a school canteen, reported at the police station that she had been held up at Ramnagar Junction the night before and robbed of two hundred and fifty rupees. She had four small children, the rent was due, and they had not eaten for two days. The police, touched by the woman's story, took up a collection for her." After the story was read, the respondent was asked to retell as much of the story that they could remember. Before the story was read, the interviewer stated that the respondent should listen carefully as they will be asked to retell the story with as many details as the respondent can remember.

rWlmb_s1 - **rWlmb_s25** indicate how well the respondent remembered the robbery story's points immediately after hearing it. They are coded as follows: 0.Not correct, not mentioned, 1.Approximate answer, 2.Exact answer.

rWlmb_immex indicates the number of exact story points the respondent was able to recall when retelling a story immediately after it was read aloud to them. For this summary, exact answers add 1 to the score and incorrect or approximate answers add 0 to the score. Scores range from 0-25.

rWlmb_immg indicates the total score of exact story points and approximate answers of **rWlmb_s1** - **rWlmb_s25**. For this summary, exact answers add 1 to the score, approximate answers add 0.5 to the score, and incorrect answers add 0 to the score. Scores range from 0-25.

rWlmb_imm indicates the total score of exact story points and approximate answers of **rWlmb_s1** – **rWlmb_s25**. For this summary, exact answers add 2 to the score, approximate answers add 1 to the score, and incorrect answers add 0 to the score. Scores range from 0-50.

rWlmb_rs1 - **rWlmb_rs25** indicate how well the respondent remembered the story points when there was a delay between the story and interview questions. They are coded as follows: 0.Not correct, not mentioned, 1.Approximate answer, 2.Exact answer.

rWlmb_reclex, **rWlmb_reclg**, and **rWlmb_recl** provide aggregate measures of how well respondents remembered the robbery story's plot after some time has elapsed. As a prompt for respondents to start recalling the story, the interviewer reminded the respondents that they had been read aloud 2 different stories earlier in the survey, and at that time, they had been asked to retell the stories. The interviewer then asked if the respondents remembered anything from the stories at this later point in time. Respondents are first asked to think back to the first story and then the second story to recall as much as possible.

For the robbery story, **rWlmb_reclex** indicates the number of exact story points the respondent was able to recall about the robbery story when there was a delay between hearing the story and having to recall it. For this summary, exact answers add 1 to the score and incorrect or approximate answers add 0 to the score. Scores range from 0-25.

rWlmb_reclg indicates the total score of the exact story points and approximate answers given in **rWlmb_rs1** - **rWlmb_rs25**. For this summary, exact answers add 1 to the score, approximate answers add 0.5 to the score, and incorrect answers add 0 to the score. Scores range from 0-25.

rWlmb_recl indicates the total score of exact story points and approximate answers of **rWlmb_rs1** – **rWlmb_s25**. For this summary, exact answers add 2 to the score, approximate answers add 1 to the score, and incorrect answers add 0 to the score. Scores range from 0-50.

Don't know responses are assigned special missing (.d). Refused responses are assigned special missing code (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWflmb_s1 - **rWflmb_s25** and **rWflmb_rs1** - **rWflmb_rs25** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The HCAP studies all used a similar robbery story but changed some story details, such as the type of currency that was robbed, the protagonist's name, and some locations, so that the respective study populations could better relate to it.

Additionally, while the HRS-HCAP and ELSA-HCAP categorize each story point as correct or incorrect (using **rWlmbex_s#** and **rWlmbex_rs#** naming), the LASI-DAD, MHAS Mex-Cog, and SPS Chile-Cog allow for more nuanced scoring – identifying answers that were exactly correct, as well as those that were approximately correct (i.e., the general gist of a story point was communicated; using **rWlmb_s#** and **rWlmb_rs#** naming). As a result of this difference, these Harmonized HCAP datasets include two additional summary scores each for immediate and delayed recall that give values to approximate answers, one with a 0-25 score range (**rWlmb_immg** and **rWreclg**) and one with a 0-50 score range (**rWlmb_imm** and **rWlmb_recl**).

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP includes imputations and accompanying imputation flags only for the summary variables.

Comparability with the Harmonized LASI

This question was not asked in the LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1lmb_immex	4,096	3.86	4.02	0.00	24.00	0
r2lmb_immex	4,562	3.01	3.22	0.00	20.00	76
r1lmb_immg	4,096	4.42	4.22	0.00	24.50	0
r2lmb_immg	4,562	3.97	3.67	0.00	22.00	76
r1lmb_imm	4,096	8.83	8.43	0.00	49.00	0
r2lmb_imm	4,562	7.94	7.34	0.00	44.00	76
r1lmb_reclex	4,096	2.76	3.98	0.00	25.00	0
r2lmb_reclex	4,562	2.01	2.97	0.00	18.00	76
r1lmb_reclg	4,096	3.12	4.20	0.00	25.00	0
r2lmb_reclg	4,562	2.68	3.49	0.00	19.50	76

r1lmb_recl	4,096	6.23	8.41	0.00	50.00	0
r2lmb_recl	4,562	5.36	6.99	0.00	39.00	76

Categorical Variable Frequencies

	r1lmb_s1	r2lmb_s1
0.Not correct, not mentione	3,098	3,433
1.Approximate answer	275	331
2.Exact answer	723	798
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s1	r2flmb_s1
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s2	r2lmb_s2
0.Not correct, not mentione	2,897	3,017
1.Approximate answer	183	269
2.Exact answer	1,016	1,276
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s2	r2flmb_s2
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s3	r2lmb_s3
0.Not correct, not mentione	3,514	3,885
1.Approximate answer	52	126
2.Exact answer	530	551
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s3	r2flmb_s3
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s4	r2lmb_s4
0.Not correct, not mentione	2,870	3,106
1.Approximate answer	49	158

2.Exact answer	1,177	1,298
.i:No cognition IW	0	76
Total	4,096	4,638
	r1flmb_s4	**r2flmb_s4**
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638
	r1lmb_s5	**r2lmb_s5**
0.Not correct, not mentione	3,276	3,661
1.Approximate answer	249	392
2.Exact answer	571	509
.i:No cognition IW	0	76
Total	4,096	4,638
	r1flmb_s5	**r2flmb_s5**
0.Not imputed	3,766	4,350
1.Dont know	35	40
2.Missing	209	128
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638
	r1lmb_s6	**r2lmb_s6**
0.Not correct, not mentione	3,170	3,324
1.Approximate answer	210	518
2.Exact answer	716	720
.i:No cognition IW	0	76
Total	4,096	4,638
	r1flmb_s6	**r2flmb_s6**
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638
	r1lmb_s7	**r2lmb_s7**
0.Not correct, not mentione	3,630	3,959
1.Approximate answer	73	161
2.Exact answer	393	442
.i:No cognition IW	0	76
Total	4,096	4,638
	r1flmb_s7	**r2flmb_s7**
0.Not imputed	3,766	4,350
1.Dont know	35	40

2.Missing	209	128
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s8	r2lmb_s8
0.Not correct, not mentione	3,668	4,177
1.Approximate answer	99	129
2.Exact answer	329	256
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s8	r2flmb_s8
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s9	r2lmb_s9
0.Not correct, not mentione	3,313	3,870
1.Approximate answer	157	342
2.Exact answer	626	350
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s9	r2flmb_s9
0.Not imputed	3,766	4,361
1.Dont know	35	40
2.Missing	209	117
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s10	r2lmb_s10
0.Not correct, not mentione	2,949	3,229
1.Approximate answer	116	231
2.Exact answer	1,031	1,102
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s10	r2flmb_s10
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s11	r2lmb_s11
0.Not correct, not mentione	3,413	3,896

1.Approximate answer	36	112
2.Exact answer	647	554
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s11	r2flmb_s11
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s12	r2lmb_s12
0.Not correct, not mentione	3,929	4,280
1.Approximate answer	65	166
2.Exact answer	102	116
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s12	r2flmb_s12
0.Not imputed	3,766	4,306
1.Dont know	35	40
2.Missing	209	173
4.Refused	86	43
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s13	r2lmb_s13
0.Not correct, not mentione	3,802	4,272
1.Approximate answer	168	184
2.Exact answer	126	106
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s13	r2flmb_s13
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s14	r2lmb_s14
0.Not correct, not mentione	4,028	4,416
1.Approximate answer	24	75
2.Exact answer	44	71
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s14	r2flmb_s14
0.Not imputed	3,766	4,361

1.Dont know	35	40
2.Missing	209	117
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638
	r1lmb_s15	**r2lmb_s15**
0.Not correct, not mentione	2,838	3,130
1.Approximate answer	346	775
2.Exact answer	912	657
.i:No cognition IW	0	76
Total	4,096	4,638
	r1flmb_s15	**r2flmb_s15**
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638
	r1lmb_s16	**r2lmb_s16**
0.Not correct, not mentione	2,901	3,417
1.Approximate answer	347	455
2.Exact answer	848	690
.i:No cognition IW	0	76
Total	4,096	4,638
	r1flmb_s16	**r2flmb_s16**
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638
	r1lmb_s17	**r2lmb_s17**
0.Not correct, not mentione	3,044	3,365
1.Approximate answer	337	490
2.Exact answer	715	707
.i:No cognition IW	0	76
Total	4,096	4,638
	r1flmb_s17	**r2flmb_s17**
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638
	r1lmb_s18	**r2lmb_s18**

0.Not correct, not mentione	2,647	3,080
1.Approximate answer	513	1,125
2.Exact answer	936	357
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s18	r2flmb_s18
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s19	r2lmb_s19
0.Not correct, not mentione	3,751	4,138
1.Approximate answer	115	247
2.Exact answer	230	177
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s19	r2flmb_s19
0.Not imputed	3,766	4,361
1.Dont know	35	40
2.Missing	209	117
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s20	r2lmb_s20
0.Not correct, not mentione	3,390	3,710
1.Approximate answer	295	545
2.Exact answer	411	307
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s20	r2flmb_s20
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s21	r2lmb_s21
0.Not correct, not mentione	3,891	4,362
1.Approximate answer	41	80
2.Exact answer	164	120
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s21	r2flmb_s21

0.Not imputed	3,766	4,361
1.Dont know	35	40
2.Missing	209	117
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s22	r2lmb_s22
0.Not correct, not mentione	2,681	3,056
1.Approximate answer	74	170
2.Exact answer	1,341	1,336
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s22	r2flmb_s22
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s23	r2lmb_s23
0.Not correct, not mentione	3,310	3,675
1.Approximate answer	212	488
2.Exact answer	574	399
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s23	r2flmb_s23
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s24	r2lmb_s24
0.Not correct, not mentione	2,681	3,183
1.Approximate answer	398	805
2.Exact answer	1,017	574
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s24	r2flmb_s24
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_s25	r2lmb_s25
0.Not correct, not mentione	3,334	3,933
1.Approximate answer	137	349
2.Exact answer	625	280
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_s25	r2flmb_s25
0.Not imputed	3,766	4,383
1.Dont know	35	40
2.Missing	209	95
4.Refused	86	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs1	r2lmb_rs1
0.Not correct, not mentione	3,386	3,772
1.Approximate answer	176	235
2.Exact answer	534	555
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs1	r2flmb_rs1
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs2	r2lmb_rs2
0.Not correct, not mentione	3,329	3,534
1.Approximate answer	123	197
2.Exact answer	644	831
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs2	r2flmb_rs2
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs3	r2lmb_rs3
0.Not correct, not mentione	3,739	4,173
1.Approximate answer	22	61
2.Exact answer	335	328
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs3	r2flmb_rs3
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs4	r2lmb_rs4
0.Not correct, not mentione	3,244	3,598
1.Approximate answer	29	107
2.Exact answer	823	857
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs4	r2flmb_rs4
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs5	r2lmb_rs5
0.Not correct, not mentione	3,535	3,949
1.Approximate answer	137	262
2.Exact answer	424	351
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs5	r2flmb_rs5
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs6	r2lmb_rs6
0.Not correct, not mentione	3,473	3,709
1.Approximate answer	122	363
2.Exact answer	501	490
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs6	r2flmb_rs6
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs7	r2lmb_rs7
0.Not correct, not mentione	3,797	4,203
1.Approximate answer	43	97
2.Exact answer	256	262
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs7	r2flmb_rs7
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs8	r2lmb_rs8
0.Not correct, not mentione	3,755	4,272
1.Approximate answer	70	87
2.Exact answer	271	203
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs8	r2flmb_rs8
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs9	r2lmb_rs9
0.Not correct, not mentione	3,494	4,060
1.Approximate answer	99	242
2.Exact answer	503	260
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs9	r2flmb_rs9
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs10	r2lmb_rs10
0.Not correct, not mentione	3,280	3,665
1.Approximate answer	86	156
2.Exact answer	730	741
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs10	r2flmb_rs10
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs11	r2lmb_rs11
0.Not correct, not mentione	3,591	4,086
1.Approximate answer	14	80
2.Exact answer	491	396
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs11	r2flmb_rs11
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs12	r2lmb_rs12
0.Not correct, not mentione	3,974	4,407
1.Approximate answer	34	86
2.Exact answer	88	69
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs12	r2flmb_rs12
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs13	r2lmb_rs13
0.Not correct, not mentione	3,907	4,356
1.Approximate answer	108	133
2.Exact answer	81	73
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs13	r2flmb_rs13
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs14	r2lmb_rs14
0.Not correct, not mentione	4,025	4,485
1.Approximate answer	16	38
2.Exact answer	55	39
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs14	r2flmb_rs14
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs15	r2lmb_rs15
0.Not correct, not mentione	3,237	3,525
1.Approximate answer	227	593
2.Exact answer	632	444
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs15	r2flmb_rs15
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs16	r2lmb_rs16
0.Not correct, not mentione	3,168	3,698
1.Approximate answer	238	326
2.Exact answer	690	538
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs16	r2flmb_rs16
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs17	r2lmb_rs17
0.Not correct, not mentione	3,383	3,772
1.Approximate answer	214	337
2.Exact answer	499	453
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs17	r2flmb_rs17
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs18	r2lmb_rs18
0.Not correct, not mentione	3,183	3,592
1.Approximate answer	299	729
2.Exact answer	614	241
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs18	r2flmb_rs18
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs19	r2lmb_rs19
0.Not correct, not mentione	3,863	4,289
1.Approximate answer	71	162
2.Exact answer	162	111
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs19	r2flmb_rs19
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs20	r2lmb_rs20
0.Not correct, not mentione	3,650	4,069
1.Approximate answer	192	332
2.Exact answer	254	161
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs20	r2flmb_rs20
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs21	r2lmb_rs21
0.Not correct, not mentione	3,941	4,425
1.Approximate answer	32	48
2.Exact answer	123	89
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs21	r2flmb_rs21
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs22	r2lmb_rs22
0.Not correct, not mentione	3,078	3,515
1.Approximate answer	33	119
2.Exact answer	985	928
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs22	r2flmb_rs22
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs23	r2lmb_rs23
0.Not correct, not mentione	3,510	3,956
1.Approximate answer	166	381
2.Exact answer	420	225
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs23	r2flmb_rs23
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs24	r2lmb_rs24
0.Not correct, not mentione	3,087	3,565
1.Approximate answer	286	627
2.Exact answer	723	370
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs24	r2flmb_rs24
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

	r1lmb_rs25	r2lmb_rs25
0.Not correct, not mentione	3,539	4,109
1.Approximate answer	96	276
2.Exact answer	461	177
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flmb_rs25	r2flmb_rs25
0.Not imputed	3,584	4,319
1.Dont know	152	103
2.Missing	11	18
4.Refused	349	122
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

lm1b_1s1	LM1B - Recall of Story Points 1 Manju
lm1b_1s2	LM1B - Recall of Story Points 2 Rani
lm1b_1s3	LM1B - Recall of Story Points 3 From East
lm1b_1s4	LM1B - Recall of Story Points 4 Delhi
lm1b_1s5	LM1B - Recall of Story Points 5 employed
lm1b_1s6	LM1B - Recall of Story Points 6 as a cook
lm1b_1s7	LM1B - Recall of Story Points 7 in a school
lm1b_1s8	LM1B - Recall of Story Points 8 canteen
lm1b_1s9	LM1B - Recall of Story Points 9 reported
lm1b_1s10	LM1B - Recall of Story Points 10 at the police
lm1b_1s11	LM1B - Recall of Story Points 11 station
lm1b_1s12	LM1B - Recall of Story Points 12 that she had been held up
lm1b_1s13	LM1B - Recall of Story Points 13 at Ramnagar Junction
lm1b_1s14	LM1B - Recall of Story Points 14 the night before
lm1b_1s15	LM1B - Recall of Story Points 15 and robbed
lm1b_1s16	LM1B - Recall of Story Points 16 of two hundred and fifty rupees.
lm1b_1s17	LM1B - Recall of Story Points 17 She had four
lm1b_1s18	LM1B - Recall of Story Points 18 small children
lm1b_1s19	LM1B - Recall of Story Points 19 the rent was due
lm1b_1s20	LM1B - Recall of Story Points 20 and they had not eaten
lm1b_1s21	LM1B - Recall of Story Points 21 for two days.
lm1b_1s22	LM1B - Recall of Story Points 22 The police,
lm1b_1s23	LM1B - Recall of Story Points 23 touched by the womans story
lm1b_1s24	LM1B - Recall of Story Points 24 took up a collection
lm1b_1s25	LM1B - Recall of Story Points 25 for her
lm1b_1s97	LM1B - Recall of Story Points 97 R Cannot remember story

lm1b_1s101	LM1B - Recall of Story Points 101 Manju
lm1b_1s102	LM1B - Recall of Story Points 102 Rani
lm1b_1s103	LM1B - Recall of Story Points 103 From East
lm1b_1s104	LM1B - Recall of Story Points 104 Delhi
lm1b_1s105	LM1B - Recall of Story Points 105 employed
lm1b_1s106	LM1B - Recall of Story Points 106 as a cook
lm1b_1s107	LM1B - Recall of Story Points 107 in a school
lm1b_1s108	LM1B - Recall of Story Points 108 canteen
lm1b_1s109	LM1B - Recall of Story Points 109 reported
lm1b_1s110	LM1B - Recall of Story Points 110 at the police
lm1b_1s111	LM1B - Recall of Story Points 111 station
lm1b_1s112	LM1B - Recall of Story Points 112 that she had been held up
lm1b_1s113	LM1B - Recall of Story Points 113 at Ramnagar Junction
lm1b_1s114	LM1B - Recall of Story Points 114 the night before
lm1b_1s115	LM1B - Recall of Story Points 115 and robbed
lm1b_1s116	LM1B - Recall of Story Points 116 of two hundred and fifty rupees.
lm1b_1s117	LM1B - Recall of Story Points 117 She had four
lm1b_1s118	LM1B - Recall of Story Points 118 small children
lm1b_1s119	LM1B - Recall of Story Points 119 the rent was due
lm1b_1s120	LM1B - Recall of Story Points 120 and they had not eaten
lm1b_1s121	LM1B - Recall of Story Points 121 for two days.
lm1b_1s122	LM1B - Recall of Story Points 122 The police,
lm1b_1s123	LM1B - Recall of Story Points 123 touched by the womans story
lm1b_1s124	LM1B - Recall of Story Points 124 took up a collection
lm1b_1s125	LM1B - Recall of Story Points 125 for her
lm2b_1c_s1	Recall of Story 2 Points 1 Manju
lm2b_1c_s2	Recall of Story 2 Points 2 Rani
lm2b_1c_s3	Recall of Story 2 Points 3 From East
lm2b_1c_s4	Recall of Story 2 Points 4 Delhi
lm2b_1c_s5	Recall of Story 2 Points 5 employed
lm2b_1c_s6	Recall of Story 2 Points 6 as a cook
lm2b_1c_s7	Recall of Story 2 Points 7 in a school
lm2b_1c_s8	Recall of Story 2 Points 8 canteen
lm2b_1c_s9	Recall of Story 2 Points 9 reported
lm2b_1c_s10	Recall of Story 2 Points 10 at the police
lm2b_1c_s11	Recall of Story 2 Points 11 station
lm2b_1c_s12	Recall of Story 2 Points 12 that she had been held up
lm2b_1c_s13	Recall of Story 2 Points 13 at Ramnagar Junction
lm2b_1c_s14	Recall of Story 2 Points 14 the night before
lm2b_1c_s15	Recall of Story 2 Points 15 and robbed
lm2b_1c_s16	Recall of Story 2 Points 16 of two hundred and fifty rupees.
lm2b_1c_s17	Recall of Story 2 Points 17 She had four
lm2b_1c_s18	Recall of Story 2 Points 18 small children
lm2b_1c_s19	Recall of Story 2 Points 19 the rent was due
lm2b_1c_s20	Recall of Story 2 Points 20 and they had not eaten
lm2b_1c_s21	Recall of Story 2 Points 21 for two days.
lm2b_1c_s22	Recall of Story 2 Points 22 The police,
lm2b_1c_s23	Recall of Story 2 Points 23 touched by the womans story
lm2b_1c_s24	Recall of Story 2 Points 24 took up a collection
lm2b_1c_s25	Recall of Story 2 Points 25 for her
lm2b_1c_s101	Recall of Story 2 Points 101 Manju
lm2b_1c_s102	Recall of Story 2 Points 102 Rani
lm2b_1c_s103	Recall of Story 2 Points 103 From East
lm2b_1c_s104	Recall of Story 2 Points 104 Delhi

lm2b_1c_s105	Recall of Story 2 Points 105 employed
lm2b_1c_s106	Recall of Story 2 Points 106 as a cook
lm2b_1c_s107	Recall of Story 2 Points 107 in a school
lm2b_1c_s108	Recall of Story 2 Points 108 canteen
lm2b_1c_s109	Recall of Story 2 Points 109 reported
lm2b_1c_s110	Recall of Story 2 Points 110 at the police
lm2b_1c_s111	Recall of Story 2 Points 111 station
lm2b_1c_s112	Recall of Story 2 Points 112 that she had been held up
lm2b_1c_s113	Recall of Story 2 Points 113 at Ramnagar Junction
lm2b_1c_s114	Recall of Story 2 Points 114 the night before
lm2b_1c_s115	Recall of Story 2 Points 115 and robbed
lm2b_1c_s116	Recall of Story 2 Points 116 of two hundred and fifty rupees.
lm2b_1c_s117	Recall of Story 2 Points 117 She had four
lm2b_1c_s118	Recall of Story 2 Points 118 small children
lm2b_1c_s119	Recall of Story 2 Points 119 the rent was due
lm2b_1c_s120	Recall of Story 2 Points 120 and they had not eaten
lm2b_1c_s121	Recall of Story 2 Points 121 for two days.
lm2b_1c_s122	Recall of Story 2 Points 122 The police,
lm2b_1c_s123	Recall of Story 2 Points 123 touched by the womans story
lm2b_1c_s124	Recall of Story 2 Points 124 took up a collection
lm2b_1c_s125	Recall of Story 2 Points 125 for her
lm2b_1c_s97	Recall of Story 2 Points 97 R Cannot remember story

Wave 2 Cognitive Assessment:

lm1b_1s1	LM1B - Recall of Story Points 1 Manju
lm1b_1s2	LM1B - Recall of Story Points 2 Rani
lm1b_1s3	LM1B - Recall of Story Points 3 From East
lm1b_1s4	LM1B - Recall of Story Points 4 Delhi
lm1b_1s5	LM1B - Recall of Story Points 5 employed
lm1b_1s6	LM1B - Recall of Story Points 6 as a cook
lm1b_1s7	LM1B - Recall of Story Points 7 in a school
lm1b_1s8	LM1B - Recall of Story Points 8 canteen
lm1b_1s9	LM1B - Recall of Story Points 9 reported
lm1b_1s10	LM1B - Recall of Story Points 10 at the police
lm1b_1s11	LM1B - Recall of Story Points 11 station
lm1b_1s12	LM1B - Recall of Story Points 12 that she had been held up
lm1b_1s13	LM1B - Recall of Story Points 13 at Ramnagar Junction
lm1b_1s14	LM1B - Recall of Story Points 14 the night before
lm1b_1s15	LM1B - Recall of Story Points 15 and robbed
lm1b_1s16	LM1B - Recall of Story Points 16 of two hundred andfifty rupees.
lm1b_1s17	LM1B - Recall of Story Points 17 She had four
lm1b_1s18	LM1B - Recall of Story Points 18 small children
lm1b_1s19	LM1B - Recall of Story Points 19 the rent was due
lm1b_1s20	LM1B - Recall of Story Points 20 and they had not eaten
lm1b_1s21	LM1B - Recall of Story Points 21 for two days.
lm1b_1s22	LM1B - Recall of Story Points 22 The police,
lm1b_1s23	LM1B - Recall of Story Points 23 touched by thewomans story
lm1b_1s24	LM1B - Recall of Story Points 24 took up a collection
lm1b_1s25	LM1B - Recall of Story Points 25 for her
lm1b_1s97	LM1B - Recall of Story Points 97 R Cannot remember story
lm1b_1s101	LM1B - Recall of Story Points 101 Manju
lm1b_1s102	LM1B - Recall of Story Points 102 Rani
lm1b_1s103	LM1B - Recall of Story Points 103 From East
lm1b_1s104	LM1B - Recall of Story Points 104 Delhi
lm1b_1s105	LM1B - Recall of Story Points 105 employed

lm1b_1s106	LM1B - Recall of Story Points 106 as a cook
lm1b_1s107	LM1B - Recall of Story Points 107 in a school
lm1b_1s108	LM1B - Recall of Story Points 108 canteen
lm1b_1s109	LM1B - Recall of Story Points 109 reported
lm1b_1s110	LM1B - Recall of Story Points 110 at the police
lm1b_1s111	LM1B - Recall of Story Points 111 station
lm1b_1s112	LM1B - Recall of Story Points 112 that she had been held up
lm1b_1s113	LM1B - Recall of Story Points 113 at Ramnagar Junction
lm1b_1s114	LM1B - Recall of Story Points 114 the night before
lm1b_1s115	LM1B - Recall of Story Points 115 and robbed
lm1b_1s116	LM1B - Recall of Story Points 116 of two hundred and fifty rupees.
lm1b_1s117	LM1B - Recall of Story Points 117 She had four
lm1b_1s118	LM1B - Recall of Story Points 118 small children
lm1b_1s119	LM1B - Recall of Story Points 119 the rent was due
lm1b_1s120	LM1B - Recall of Story Points 120 and they had not eaten
lm1b_1s121	LM1B - Recall of Story Points 121 for two days.
lm1b_1s122	LM1B - Recall of Story Points 122 The police,
lm1b_1s123	LM1B - Recall of Story Points 123 touched by the womans story
lm1b_1s124	LM1B - Recall of Story Points 124 took up a collection
lm1b_1s125	LM1B - Recall of Story Points 125 for her
lm2b_1c_s1	Recall of Story 2 Points 1 Manju
lm2b_1c_s2	Recall of Story 2 Points 2 Rani
lm2b_1c_s3	Recall of Story 2 Points 3 From East
lm2b_1c_s4	Recall of Story 2 Points 4 Delhi
lm2b_1c_s5	Recall of Story 2 Points 5 employed
lm2b_1c_s6	Recall of Story 2 Points 6 as a cook
lm2b_1c_s7	Recall of Story 2 Points 7 in a school
lm2b_1c_s8	Recall of Story 2 Points 8 canteen
lm2b_1c_s9	Recall of Story 2 Points 9 reported
lm2b_1c_s10	Recall of Story 2 Points 10 at the police
lm2b_1c_s11	Recall of Story 2 Points 11 station
lm2b_1c_s12	Recall of Story 2 Points 12 that she had been held up
lm2b_1c_s13	Recall of Story 2 Points 13 at Ramnagar Junction
lm2b_1c_s14	Recall of Story 2 Points 14 the night before
lm2b_1c_s15	Recall of Story 2 Points 15 and robbed
lm2b_1c_s16	Recall of Story 2 Points 16 of two hundred andfifty rupees.
lm2b_1c_s17	Recall of Story 2 Points 17 She had four
lm2b_1c_s18	Recall of Story 2 Points 18 small children
lm2b_1c_s19	Recall of Story 2 Points 19 the rent was due
lm2b_1c_s20	Recall of Story 2 Points 20 and they had not eaten
lm2b_1c_s21	Recall of Story 2 Points 21 for two days.
lm2b_1c_s22	Recall of Story 2 Points 22 The police,
lm2b_1c_s23	Recall of Story 2 Points 23 touched by the womansstory
lm2b_1c_s24	Recall of Story 2 Points 24 took up a collection
lm2b_1c_s25	Recall of Story 2 Points 25 for her
lm2b_1c_s101	Recall of Story 2 Points 101 Manju
lm2b_1c_s102	Recall of Story 2 Points 102 Rani
lm2b_1c_s103	Recall of Story 2 Points 103 From East
lm2b_1c_s104	Recall of Story 2 Points 104 Delhi
lm2b_1c_s105	Recall of Story 2 Points 105 employed
lm2b_1c_s106	Recall of Story 2 Points 106 as a cook
lm2b_1c_s107	Recall of Story 2 Points 107 in a school
lm2b_1c_s108	Recall of Story 2 Points 108 canteen
lm2b_1c_s109	Recall of Story 2 Points 109 reported

lm2b_1c_s110	Recall of Story 2 Points 110 at the police
lm2b_1c_s111	Recall of Story 2 Points 111 station
lm2b_1c_s112	Recall of Story 2 Points 112 that she had been held up
lm2b_1c_s113	Recall of Story 2 Points 113 at Ramnagar Junction
lm2b_1c_s114	Recall of Story 2 Points 114 the night before
lm2b_1c_s115	Recall of Story 2 Points 115 and robbed
lm2b_1c_s116	Recall of Story 2 Points 116 of two hundred and fifty rupees.
lm2b_1c_s117	Recall of Story 2 Points 117 She had four
lm2b_1c_s118	Recall of Story 2 Points 118 small children
lm2b_1c_s119	Recall of Story 2 Points 119 the rent was due
lm2b_1c_s120	Recall of Story 2 Points 120 and they had not eaten
lm2b_1c_s121	Recall of Story 2 Points 121 for two days.
lm2b_1c_s122	Recall of Story 2 Points 122 The police,
lm2b_1c_s123	Recall of Story 2 Points 123 touched by the womans story
lm2b_1c_s124	Recall of Story 2 Points 124 took up a collection
lm2b_1c_s125	Recall of Story 2 Points 125 for her
lm2b_1c_s97	Recall of Story 2 Points 97 R Cannot remember story

Logical Memory: Recall Problem

Variable	Waves	Label	Type
rWlog_rcmix	1-2	rWlog_rcmix:wW R logical memory recall-mix up	Categ
rWflog_rcmix	1-2	rWflog_rcmix:impflag wW R whether imputed value	Categ
rWlog_wron	1-2	rWlog_wron:wW R logical memory recall-wrong story	Categ
rWflog_wron	1-2	rWflog_wron:impflag wW R whether imputed value	Categ

How Constructed

rWlog_rcmix indicates whether the respondent confused or mixed up story points from story 1 and story 2. A code of 0 is assigned if the respondent did not mix up story points, and a code of 1 is assigned if the respondent did mix up story points.

rWlog_wron indicates whether the respondent mentioned story points that did not belong to either story. A code of 0 is assigned if the respondent did not mention story points that did not belong to either story, and a code of 1 is assigned if the respondent did mention story points that did not belong to either story.

Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWlog_rcmix and rWlog_wron are set to plain missing (.) if the respondent did not participate in the current wave.

rWflog_rcmix and rWflog_wron are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

These questions were not asked in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP and SPS Chile-Cog.

Comparability with the Harmonized LASI

These questions were not asked in the LASI.

Categorical Variable Frequencies

	r1log_rcmix	r2log_rcmix
0.No	3,645	3,961
1.Yes	451	601
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flog_rcmix	r2flog_rcmix
0.Not imputed	3,513	4,105
1.Dont know	142	308
2.Missing	183	63
4.Refused	258	86
12.Not interviewed	0	76
Total	4,096	4,638

	r1log_wron	r2log_wron
0.No	3,548	3,986

1.Yes	548	576
.i:No cognition IW	0	76
Total	4,096	4,638

	r1flog_wron	r2flog_wron
0.Not imputed	3,587	4,098
1.Dont know	149	313
2.Missing	96	63
4.Refused	264	88
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

lm2_iwerckpt1	Iwer Checkpoint 1
lm2_iwerckpt2	Iwer Checkpoint 2

Wave 2 Cognitive Assessment:

lm2_iwerckpt1	Iwer Checkpoint 1
lm2_iwerckpt2	Iwer Checkpoint 2

Logical Memory: Recognition (0-15)

Variable	Waves	Label	Type
rWlog_reco	1-2	rWlog_reco:wW R logical memory recognition score(0-15)	Cont
rWflog_reco	1-2	rWflog_reco:impflag wW R whether imputed value	Categ

How Constructed

rWlog_reco is a score based on the respondent's number of correct answers when asked a series of questions about the second story that had been read to them earlier. The interviewer does not specify which story the second story was. One point is awarded for each correct answer, so scores range from 0-15. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWlog_reco is set to plain missing (.) if the respondent did not participate in the current wave.

rWflog_reco is a flag variable, indicating whether the corresponding variable has an assigned imputed value. The flag variable is coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The LASI-DAD, HRS-HCAP, and ELSA-HCAP all had interviewers read respondents a robbery story and a story about a brave man who rescued children from a burning house. The series of questions used for this entry's variable refer to the robbery story. Although none of the studies specifically stated that the questions would pertain to the robbery story, the LASI-DAD asked respondents to think back to the second story that was read to them. The HRS-HCAP and the ELSA-HCAP simply stated that the respondent would be asked questions about one of the two stories that they had heard earlier, without specifying whether it would be the first or second story that the respondent had heard.

The LASI-DAD and ELSA-HCAP also changed the story's character names and places so that respondents could better relate to it.

The MHAS Mex-Cog and SPS Chile-Cog had interviewers read respondents a robbery story and a story about a brave man but do not ask respondents questions in this specific section.

Comparability with the Harmonized LASI

This question was not asked in the LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1log_reco	4,096	7.46	3.14	0.00	15.00	0
r2log_reco	4,562	6.31	3.71	0.00	15.00	76

Categorical Variable Frequencies

	r1flog_reco	r2flog_reco
0.Not imputed	3,532	3,081
1.Dont know	180	640
2.Missing	99	762
4.Refused	285	79
12.Not interviewed	0	76

Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

lm2b_2	Womans Name
lm2b_3	Story location
lm2b_4	Cook
lm2b_5	Work in Restaurant
lm2b_6	Have Four Children
lm2b_7	Children Teens
lm2b_8	Robbery location
lm2b_9	Report Robbery 2 Nights Before
lm2b_10	Report Robbery at Police Station
lm2b_11	Robbed of 450 rupees
lm2b_12	No Food for 4 Days
lm2b_13	Was Rent Due
lm2b_14	Police Catch Thief
lm2b_15	Police Feel Sorry
lm2b_16	Police Take Up Collection
lm2b_2a	LM2b_2 Score
lm2b_3a	LM2b_3 Score
lm2b_4a	LM2b_4 Score
lm2b_5a	LM2b_5 Score
lm2b_6a	LM2b_6 Score
lm2b_7a	LM2b_7 Score
lm2b_8a	LM2b_ 8 Score
lm2b_9a	LM2b_9 Score
lm2b_10a	LM2b_10 Score
lm2b_11a	LM2b_11 Score
lm2b_12a	LM2b_12 Score
lm2b_13a	LM2b_13 Score
lm2b_14a	LM2b_14 Score
lm2b_15a	LM2b_15 Score
lm2b_16a	LM2b_16 Score

Wave 2 Cognitive Assessment:

lm2b_2	Womans Name
lm2b_3	Story location
lm2b_4	Cook
lm2b_5	Work in Restaurant
lm2b_6	Have Four Children
lm2b_7	Children Teens
lm2b_8	Robbery location
lm2b_9	Report Robbery 2 Nights Before
lm2b_10	Report Robbery at Police Station
lm2b_11	Robbed of 450 rupees
lm2b_12	No Food for 4 Days
lm2b_13	Was Rent Due
lm2b_14	Police Catch Thief
lm2b_15	Police Feel Sorry
lm2b_16	Police Take Up Collection
lm2b_2a	LM2b_2 Score
lm2b_3a	LM2b_3 Score

lm2b_4a	LM2b_4 Score
lm2b_5a	LM2b_5 Score
lm2b_6a	LM2b_6 Score
lm2b_7a	LM2b_7 Score
lm2b_8a	LM2b_ 8 Score
lm2b_9a	LM2b_9 Score
lm2b_10a	LM2b_10 Score
lm2b_11a	LM2b_11 Score
lm2b_12a	LM2b_12 Score
lm2b_13a	LM2b_13 Score
lm2b_14a	LM2b_14 Score
lm2b_15a	LM2b_15 Score
lm2b_16a	LM2b_16 Score

TICS

Variable	Waves	Label	Type
rWhscis	1-2	rWhscis:wW R cognition scissors(0-1)	Categ
rWfhscis	1-2	rWfhscis:impflag wW R whether imputed value	Categ
rWcoconut	1	rWcoconut:wW R cognition coconut(0-1)	Categ
rWfcoconut	1	rWfcoconut:impflag wW R whether imputed value	Categ
rWtree	2	rWtree:wW R cognition tree(0-1)	Categ
rWftree	2	rWftree:impflag wW R whether imputed value	Categ
rWhprime	1-2	rWhprime:wW R cognition Prime Minister(0-1)	Categ
rWfhprime	1-2	rWfhprime:impflag wW R whether imputed value	Categ
rWtics_score	1-2	rWtics_score:wW R TICS 3-item score(0-3)	Categ

How Constructed

rWhscis indicates whether a respondent can name the item that people usually use to cut paper; at Wave 1, the correct answers are scissors or shears, at Wave 2, the correct answers were changed to scissors or blades, as shears are not known in India.

rWcoconut indicates whether a respondent can name the fruit/thing that has a thick brown fibrous cover and water inside, with the correct answer being coconut. This question is only asked in Wave 1.

rWtree indicates whether a respondent can identify an object that is living that has roots, branches, and leaves, with the correct answer being a tree. This question is asked starting in Wave 2.

rWhprime indicates whether a respondent can name the current Prime Minister of India, with the correct answer being Modi.

rWhscis, **rWcoconut**, **rWtree**, and **rWhprime** are assigned a 1 if the respondent answers correctly and a 0 if they do not answer correctly. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing codes (.r). Other missing is assigned special missing (.m). At Wave 2, **rWhscis**, **rWtree**, and **rWhprime** are assigned special missing (.i) if the respondent did not complete the cognition tests. **rWhscis**, **rWcoconut**, **rWtree**, and **rWhprime** are set to plain missing (.) if the respondent did not participate in the current wave.

In Wave 1, **rWtics_score** indicates the number of correct responses between **rWhscis**, **rWcoconut**, and **rWhprime**. In Wave 2, **rWtics_score** indicates the number of correct responses between **rWhscis**, **rWtree**, and **rWhprime**. If **rWhscis**, **rWcoconut**, and **rWhprime** are assigned special missing (.d), (.r), or (.m), then **rWtics_score** is assigned special missing (.d), (.r), or (.m) in Wave 1. If **rWhscis**, **rWtree**, and **rWhprime** are assigned special missing (.i), (.d), (.r), or (.m), then **rWtics_score** is assigned special missing (,i), (.d), (.r), or (.m) in Wave 2. **rWtics_score** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfcoconut is flag variable that is available in Wave 1 only. **rWftree** is flag variable that is available in Wave 2 only. **rWfhscis** and **rWfhprime** are flag variables for both waves. These flag variables indicate whether the corresponding variable has an assigned imputed value and are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

In Wave 1, the correct answer to whether a respondent can name the item that people usually use to cut paper are scissors or shears, at Wave 2, the correct answers were changed to scissors or blades, as shears are not known in India.

In Wave 1, respondents were assessed on whether they could name the fruit/thing that has a thick brown fibrous cover and water inside, with the correct answer being coconut. In Wave 2, this question was replaced with having the respondent identify an object that is living that has roots, branches, and leaves, with the correct answer being a tree.

Differences with other HCAP studies

The HRS-HCAP asked respondents to identify: Scissors/Shears, a Cactus, and the President of the United States. In the ELSA-HCAP, respondents were asked to identify: Scissors/Shears, a Cactus, and the UK Prime Minister. In LASI-DAD, respondents were asked to identify: Scissors/Shears, a Coconut, and the Prime Minister of India at Wave 1, and Scissors/Blades, a Tree, and the Prime Minister at Wave 2. The MHAS Mex-Cog and SPS Chile-Cog only include one question about Scissors, and include it in the CSID section.

In the Harmonized LASI-DAD and Harmonized ELSA-HCAP each individual component includes imputed values, while the Harmonized HRS-HCAP does not. Two summary measures are provided in the Harmonized HRS-HCAP: `rWtics_score` provides a value only if there are no missing components but includes missing values, and `rWtics_scr_h` (provided by the HRS) has a value even if some components are missing and includes some imputed values.

Comparability with the Harmonized LASI

This question was not asked in LASI.

Categorical Variable Frequencies

	r1hscis	r2hscis
0.Incorrect	658	383
1.Correct	3,438	4,179
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhscis	r2fhscis
0.Not imputed	3,995	4,484
1.Dont know	63	62
2.Missing	7	5
4.Refused	31	11
12.Not interviewed	0	76
Total	4,096	4,638

	r1coconut
0.Incorrect	1,774
1.Correct	2,322
Total	4,096

	r1fcoconut
0.Not imputed	3,737
1.Dont know	304
2.Missing	7
4.Refused	48
Total	4,096

	r2tree
0.Incorrect	892
1.Correct	3,670
.i:No cognition IW	76
Total	4,638

	r2ftree
0.Not imputed	4,370
1.Dont know	174
2.Missing	5
4.Refused	13
12.Not interviewed	76
Total	4,638

	r1hprime	r2hprime
0.Incorrect	1,582	1,607
1.Correct	2,514	2,955
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fhprime	r2fhprime
0.Not imputed	3,239	3,829
1.Dont know	799	706
2.Missing	7	5
4.Refused	51	22
12.Not interviewed	0	76
Total	4,096	4,638

	r1tics_score	r2tics_score
0	257	149
1	861	512
2	1,521	1,411
3	1,457	2,490
.i:No cognition IW	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

ht102_scissors	Cut paper
ht103_coconut	NAME COCONUT
ht104_pm	Current Prime Minister

Wave 2 Cognitive Assessment:

ht102_scissors	Cut paper
ht103_tree	NAME TREE
ht104_pm	Current Prime Minister

Digit Span

Variable	Waves	Label	Type
rWds_for	1-2	rWds_for:wW R digit span forward(0-1)	Categ
rWfds_for	1-2	rWfds_for:impflag wW R whether imputed value	Categ
rWds_back	1-2	rWds_back:wW R digit span backward(0-1)	Categ
rWfds_back	1-2	rWfds_back:impflag wW R whether imputed value	Categ

How Constructed

rWds_for indicates whether the respondent was able to repeat 5 digits correctly in forward order after the digits were read aloud by the interviewer. rWds_back indicates whether the respondent was able to repeat 3 digits correctly in backwards order after the digits were read aloud by the interviewer. rWds_for and rWds_back are assigned a 1 if correctly repeated and a 0 if incorrectly repeated.

At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). rWds_for and rWds_back are set to plain missing (.) if the respondent did not participate in the current wave.

rWfds_for and rWfds_back are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

These tests are not included in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog.

Comparability with the Harmonized LASI

This question was not asked in the LASI.

Categorical Variable Frequencies

	r1ds_for	r2ds_for
0.Incorrect	2,990	3,346
1.Correct	1,106	1,216
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fds_for	r2fds_for
0.Not imputed	3,875	4,486
1.Dont know	46	32
2.Missing	7	8
4.Refused	168	36
12.Not interviewed	0	76
Total	4,096	4,638

	r1ds_back	r2ds_back
0.Incorrect	2,929	3,308
1.Correct	1,167	1,254
.i:No cognition IW	0	76

Total	4,096	4,638

	r1fds_back	r2fds_back
0.Not imputed	3,813	4,372
1.Dont know	75	118
2.Missing	8	8
4.Refused	200	64
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

ds001	Digits repeated in forward order
ds002	Digits in Backward order

Wave 2 Cognitive Assessment:

ds001	Digits repeated in forward order
ds002	Digits in Backward order

Verbal Fluency

Variable	Waves	Label	Type
rWverbal	1-2	rWverbal:wW R verbal fluency:animal naming-correct	Cont
rWfverbal	1-2	rWfverbal:impflag wW R whether imputed value	Categ
rWverbal_inc	1-2	rWverbal_inc:wW R verbal fluency:animal naming-incorrect	Cont
rWfverbal_in	1-2	rWfverbal_in:impflag wW R whether imputed value	Categ
rWverbal_prb	1-2	rWverbal_prb:wW R verbal fluency:animal naming-problem	Categ

How Constructed

rWverbal and rWverbal_inc measures respondents' retrieval fluency. Specifically, the respondent has 60 seconds to name as many animals as fast as they can. rWverbal indicates the number of correct animals that the respondent names. We exclude some outliers and top-code the value to 32. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWverbal is set to plain missing (.) if the respondent did not participate in the current wave.

rWverbal_inc indicates the number of incorrect animals the respondent names in the 60 seconds window, including repetitions of animal names or non-animal responses. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWverbal_inc is set to plain missing (.) if the respondent did not participate in the current wave.

rWverbal_prb indicates whether any problems occurred while the respondent was naming animals. A value of 1 is assigned if there was an interruption during the 60 second response period, a technical/computer problem, the respondent did not understand the task, or another issue occurred. A value of 0 is assigned if there were no issues. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWverbal_prb is set to plain missing (.) if the respondent did not participate in the current wave.

rWfverbal and rWfverbal_in are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

In the LASI-DAD, all responses were recorded and once the task was completed or 60 seconds had passed, interviewers were asked to count incorrect (non-animal responses) and repeated items as incorrect. In the HRS-HCAP and ELSA-HCAP, interviewers were asked to keep a mental count of incorrect (non-animal) and repeated animal responses during the exercise and to record the best estimate of all incorrect responses once the task was completed or 60 seconds had passed. In the MHAS Mex-Cog and SPS Chile-Cog, interviewers wrote down all animal names that the respondents named, including repeated items, and counted the number of correct and repeated animal items after the task was completed or 60 seconds had passed.

The LASI-DAD and ELSA-HCAP record whether any problems occurred during the task, included as variables in their respective Harmonized HCAP datasets, but this information is not provided for the HRS-HCAP, MHAS Mex-Cog, or SPS Chile-Cog.

rWverbal_cat is a MHAS Mex-Cog-specific variable and was created based on the Mex-Cog Flowcharts for Scoring and Constructed Variables by Domain (see Mex-Cog 2020).

The Harmonized LASI-DAD, Harmonized MHAS Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog provide imputed values and an accompanying flags for the number of incorrect responses, which are not provided in the Harmonized HRS-HCAP. Additionally in the Harmonized HRS-HCAP, responses are not imputed for `rWverbal` if only an informant interview was completed.

Comparability with the Harmonized LASI

`rWverbf` is the comparable variable in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
`r1verbal`	4,096	11.32	4.57	0.00	32.00	0
`r2verbal`	4,562	12.18	4.83	0.00	32.00	76
`r1verbal_inc`	4,096	0.14	0.66	0.00	16.00	0
`r2verbal_inc`	4,562	0.18	0.62	0.00	7.00	76

Categorical Variable Frequencies

	`r1fverbal`	`r2fverbal`
0.Not imputed	3,976	4,487
1.Dont know	11	11
2.Missing	17	32
4.Refused	92	32
12.Not interviewed	0	76
Total	4,096	4,638

	`r1fverbal_in`	`r2fverbal_in`
0.Not imputed	3,905	4,495
1.Dont know	10	10
2.Missing	100	25
4.Refused	81	32
12.Not interviewed	0	76
Total	4,096	4,638

	`r1verbal_prb`	`r2verbal_prb`
0.No	3,883	4,518
1.Yes	110	19
.d:DK	11	3
.i:No cognition IW	0	76
.r:Refuse	92	22
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

rf103_animalsanswers	TOTAL ANIMAL ANSWERS
rf105_animalnumincorrect	NUMBER OF INCORRECT ANIMAL NAMES GIVEN
rf106_animalproblemss1	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 1 (InterrupOcc60Second) In
rf106_animalproblemss3	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 3 (TechnicalCompterProblem
rf106_animalproblemss4	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 4 (RDidNotUnderstand) R di

rf106_animalproblemss5	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 5 (OthProblem_PleaseSpecif

Wave 2 Cognitive Assessment:

rf103_animalsanswers	TOTAL ANIMAL ANSWERS
rf105_animalnumincorrect	NUMBER OF INCORRECT ANIMAL NAMES GIVEN
rf106_animalproblemss1	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 1 INTERRUPTION DURING 60 S
rf106_animalproblemss3	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 3 TECHNICAL/COMPUTER PROBL
rf106_animalproblemss4	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 4 R DID NOT UNDERSTAND TAS
rf106_animalproblemss5	PROBLEMS THAT OCCURRED WHILE NAMING ANIMALS 5 OTHER

Symbol Cancellation

Variable	Waves	Label	Type
rWsc_score	1	rWsc_score:wW R symbol cancellation score - paper	Cont
rWfsc_score	1	rWfsc_score:impflag wW R whether imputed value	Categ
rWsc_scoret	2	rWsc_scoret:wW R symbol cancellation score - tablet	Cont
rWfsc_scoret	2	rWfsc_scoret:impflag wW R whether imputed value	Categ
rWsc_wr	1	rWsc_wr:wW R symbol cancellation wrong - paper	Cont
rWfsc_wr	1	rWfsc_wr:impflag wW R whether imputed value	Categ
rWsc_wrt	2	rWsc_wrt:wW R symbol cancellation wrong answer rate - tablet	Cont
rWfsc_wrt	2	rWfsc_wrt:impflag wW R whether imputed value	Categ

How Constructed

In Wave 1, **rWsc_score** and **rWsc_wr** pertain to a task in which respondents are asked to find figures that match a given figure shown to them, and the task is administered on paper. In Wave 2, the task is administered on a tablet and the variables are called **rWsc_scoret** and **rWsc_wrt** to indicate this change in interview mode. The respondent is asked to find as many matching figures as they can and draw a circle around each matching figure. The interviewer demonstrates to the respondent how the circle should be drawn in the middle of the page or tablet. The respondent is instructed to start from the top left corner of the page or tablet, go line by line, and work as fast as they can until the interviewer says to stop. The interviewer starts counting when the respondent circles the first figure and stops the respondent after 60 seconds. Circling at random is not allowed; if this starts to happen, the respondents are reminded to go from left to right, line by line.

rWsc_score and **rWscoret** indicate the number of correct symbol circled for Wave 1 and Wave 2, respectively. **rWsc_wr** and **rWsc_wrt** indicate the number of incorrect symbol cancellations for Wave 1 and Wave 2, respectively. Cases where the respondent's uploaded images are blurry and unreadable in Wave 1 are assigned special missing (.b). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

In Wave 1, the test was administered on a paper, and the total number of symbols shown is 374, with 60 correct symbols and 314 incorrect symbols. In Wave 2, the test was administered on a tablet, and the size of the tablet is smaller than the paper used in Wave 1. In order to keep the same symbol size between Wave 1 and Wave 2, the total number of symbols shown for Wave 2 is 192, with 28 correct symbols and 164 incorrect symbols.

rWfsc_score and **rWfsc_wr** are flag variables for Wave 1 only, indicating whether the corresponding variable has an assigned imputed value, and are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, 7.No Score, 8.Bad image, and 12.Not inerviewed. **rWfsc_scoret** and **rWfsc_wrt** are flag variables for Wave 2 only, indicating whether the corresponding variable has an assigned imputed value, and are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

In Wave 1, the symbol cancellation task was administered on paper, while in Wave 2, the task was administered on a tablet. The total number of symbols shown on paper in Wave 1 is 374, with 60 correct symbols and 314 incorrect symbols. The total number of symbols shown on tablet in Wave 2 is 192, with 28 correct symbols and 164 incorrect symbols.

Differences with other HCAP studies

The LASI-DAD, MHAS Mex-Cog, and SPS Chile-Cog administer the Symbol Cancellation test, where respondents were asked to circle specific symbols. LASI-DAD Wave 1, MHAS Mex-Cog, and SPS Chile-Cog administer this test on paper and LASI-DAD Wave 2 administers this test on a tablet. The HRS-HCAP and ELSA-HCAP asked respondents to complete the Letter Cancellation test, where respondents crossed out specific letters of the alphabet.

The Harmonized HRS-HCAP includes a flag variable for the total number of selected letters contained in the letter cancellation test, which is not provided in the Harmonized ELSA-HCAP. The Harmonized LASI-DAD, Harmonized Mex-Cog and Harmonized Chile-Cog provide the symbol cancellation summary score (`rWsc_score`) with an accompanying flag variable.

Comparability with the Harmonized LASI

This question was not asked in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
`r1sc_score`	4,096	8.34	8.13	0.00	58.00	0
`r2sc_scoret`	4,562	8.93	6.85	0.00	37.00	76
`r1sc_wr`	4,096	2.17	3.42	0.00	27.00	0
`r2sc_wrt`	4,562	2.91	4.32	0.00	46.00	76

Categorical Variable Frequencies

	`r1fsc_score`
0.Not imputed	3,937
1.Dont know	24
2.Missing	27
4.Refused	93
7.No score	9
8.Bad image	6
Total	4,096

	`r2fsc_scoret`
0.Not imputed	4,017
1.Dont know	12
2.Missing	83
3.Not Assessed	403
4.Refused	47
12.Not interviewed	76
Total	4,638

	`r1fsc_wr`
0.Not imputed	3,939
1.Dont know	30
2.Missing	26
4.Refused	92
7.No score	9
Total	4,096

	`r2fsc_wrt`
0.Not imputed	4,014
1.Dont know	12
2.Missing	86
3.Not Assessed	403
4.Refused	47

12.Not interviewed	76
Total	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

sc001	Phase 1
sc002	Phase 1 wrong
sc1_correct	correctly circled
sc1_incorrect	incorrectly circled

Wave 2 Cognitive Assessment:

sc1_correct	correctly circled
sc1_incorrect	incorrectly circled

Constructional Praxis

Variable	Waves	Label	Type
rWcp_circle	1-2	rWcp_circle:wW R circle drawing score(0-2)	Categ
rWfcp_circle	1-2	rWfcp_circle:impflag wW R whether imputed value	Categ
rWcp_rectan	1-2	rWcp_rectan:wW R drew a rectangle(0-2)	Categ
rWfcp_rectan	1-2	rWfcp_rectan:impflag wW R whether imputed value	Categ
rWcp_cube	1-2	rWcp_cube:wW R drew a cube(0-4)	Categ
rWfcp_cube	1-2	rWfcp_cube:impflag wW R whether imputed value	Categ
rWcp_diamon	1-2	rWcp_diamon:wW R drew a diamond(0-3)	Categ
rWfcp_diamon	1-2	rWfcp_diamon:impflag wW R whether imputed value	Categ
rWcp_score	1-2	rWcp_score:wW R Constructional Praxis score(0-11)	Categ
rWcpr_circle	1-2	rWcpr_circle:wW R drew a circle-recall(0-2)	Categ
rWfcpr_circl	1-2	rWfcpr_circl:impflag wW R whether imputed value	Categ
rWcpr_rectan	1-2	rWcpr_rectan:wW R drew a rectangle-recall(0-2)	Categ
rWfcpr_recta	1-2	rWfcpr_recta:impflag wW R whether imputed value	Categ
rWcpr_cube	1-2	rWcpr_cube:wW R drew a cube-recall(0-4)	Categ
rWfcpr_cube	1-2	rWfcpr_cube:impflag wW R whether imputed value	Categ
rWcpr_diamon	1-2	rWcpr_diamon:wW R drew a diamond-recall(0-3)	Categ
rWfcpr_diamo	1-2	rWfcpr_diamo:impflag wW R whether imputed value	Categ
rWcpr_score	1-2	rWcpr_score:wW R Constructional Praxis score-recall(0-11)	Categ

How Constructed

The following variables pertain to a series of questions asking the respondent to draw a shape. The respondent is asked to draw a circle, overlapping rectangles, a cube, and a diamond. Respondents are presented with each shape and asked to draw that shape freehand. The respondent is given one or two minutes to draw the figure with a pencil to allow for erasing errors. The interviewer is allowed to repeat the instructions once if the respondent does not understand the first time. If the respondent cannot draw the figure in the allotted time, the interviewer is instructed to reassure the respondent and select "Respondent Cannot Draw". Multiple self-starts were allowed but repeated attempts were not encouraged. In Wave 1, the respondent draws the shapes on a piece of paper, and in Wave 2, the respondent draws the shapes on a tablet.

In Wave 2, a consensus-driven standardized scoring protocol for assessing constructional praxis was developed to ensure scoring consistency across diverse literacy levels and cultural contexts. A custom website was created to display images from both waves, with scoring points visible below each image, and non-consensus cases were flagged for review during moderated consensus calls. Predefined rules, such as differences greater than 1 point for simpler figures or 2 points for the cube, guided decision-making. This protocol improved inter-rater reliability and led to increased task completion rates in Wave 2, demonstrating its effectiveness in enhancing scoring accuracy and consistency.

rWcp_circle indicates whether a respondent successfully drew a circle that met two required attributes. Drawings are awarded one point for each attribute, so **rWcp_circle** ranges from 0-2.

rWcp_rectan indicates whether a respondent successfully drew two overlapping rectangles that met two required attributes. Drawings are awarded one point for each attribute, so **rWcp_rectan** ranges from 0-2.

rWcp_cube indicates whether a respondent successfully drew a cube that met four required attributes. One point was awarded for each feature that was present in the drawing, so **rWcp_cube** ranges from 0-4.

rWcp_diamon indicates whether a respondent successfully drew a diamond that met three required attributes. One point was awarded for each feature that was present in a drawing, so **rWcp_diamon** ranges from 0-3.

rWcp_score provides the total score between **rWcp_circle**, **rWcp_rectan**, **rWcp_cube**, and **rWcp_diamon**.

In Wave 1, cases where the uploaded respondent's images were blurry were assigned special missing (.b). At Wave 1, if the respondent cannot draw, special missing (.n) is assigned as "Not assessed", which was marked only if the respondent has some physical disability that prevented them from performing the test. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. If any of the components of **rWcp_score** include a special missing code, then **rWcp_score** takes the value of the special missing code. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

The following variables pertain to a series of questions asking the respondent to draw from memory the same figures that they previously drew in the interview: a circle, two overlapping rectangles, a cube, and a diamond. The respondent is allowed up to 8 minutes to draw all 4 shapes. In Wave 1, the respondent draws the shapes on a piece of paper, and in Wave 2, the respondent draws the shapes on a tablet. If the respondent cannot remember any of the figures, a special missing (.n) is assigned. If the respondent can remember any of the figures, they are asked to draw the figures that they remember. Don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

The results of this second batch of drawings are stored in the variables **rWcpr_circle**, **rWcpr_rectan**, **rWcpr_cube**, and **rWcpr_diamon**, with the same scoring rules applied as in the first set of drawings. **rWcpr_score** provides the total score between **rWcpr_circle**, **rWcpr_rectan**, **rWcpr_cube**, and **rWcpr_diamon**. **rWcpr_score** is missing if any of its components are missing. **rWcpr_score** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfcp_circle, **rWfcp_rectan**, **rWfcp_cube**, **rWfcp_diamon**, **rWfcpr_circl**, **rWfcpr_recta**, **rWfcpr_cube**, and **rWfcpr_diamo** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, 8.Bad image, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

In Wave 1, the Constructional Praxis task was administered on paper, while in Wave 2, the task was administered on a tablet. In Wave 2, a consensus-driven standardized scoring protocol was implemented, leading to improved inter-rater reliability and higher task completion rates.

Differences with other HCAP studies

The LASI-DAD, HRS-HCAP, and ELSA-HCAP asked respondents to draw a diamond, while the MHAS Mex-Cog and SPS Chile-Cog asked respondents to draw a rhombus, but are scored similarly.

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP does not. Four summary measures are provided in the Harmonized HRS-HCAP: **rWcp_score** and **rWcpr_score** provide a value only if there are no missing components but include missing values, and **rWcp_scor_h** and **rWcpr_scor_h** (provided by the HRS) have a value even if some components are missing and include some imputed values.

Comparability with the Harmonized LASI

These questions were not asked in the LASI.

Categorical Variable Frequencies

	r1cp_circle	r2cp_circle
0	298	1,017
1	28	158
2	3,770	3,387
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fcp_circle	r2fcp_circle
0.Not imputed	3,666	4,284
1.Dont know	10	48
2.Missing	154	21
3.Not Assessed	129	0
4.Refused	131	209
8.Bad image	6	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1cp_rectan	r2cp_rectan
0	1,275	2,007
1	398	429
2	2,423	2,126
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fcp_rectan	r2fcp_rectan
0.Not imputed	3,634	4,184
1.Dont know	15	71
2.Missing	151	51
3.Not Assessed	137	0
4.Refused	152	256
8.Bad image	7	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1cp_cube	r2cp_cube
0	2,959	2,873
1	90	604
2	251	373
3	323	321
4	473	391
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fcp_cube	r2fcp_cube
0.Not imputed	3,584	4,005
1.Dont know	19	100
2.Missing	145	51
3.Not Assessed	162	0
4.Refused	181	406
8.Bad image	5	0
12.Not interviewed	0	76

Total	4,096	4,638

	r1cp_diamon	r2cp_diamon
0	1,606	2,384
1	69	279
2	708	698
3	1,713	1,201
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fcp_diamon	r2fcp_diamon
0.Not imputed	3,650	4,227
1.Dont know	11	55
2.Missing	152	51
3.Not Assessed	140	0
4.Refused	136	229
8.Bad image	7	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1cp_score	r2cp_score
0	278	553
1	22	135
2	746	797
3	148	374
4	524	690
5	200	409
6	446	338
7	682	315
8	143	328
9	225	211
10	286	176
11	396	236
.i:No cognition IW	0	76
Total	4,096	4,638

	r1cpr_circle	r2cpr_circle
0	1,927	3,339
1	7	74
2	2,162	1,149
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fcpr_circl	r2fcpr_circl
0.Not imputed	3,466	3,557
1.Dont know	76	126
2.Missing	135	51
3.Not Assessed	215	501
4.Refused	176	327
8.Bad image	28	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1cpr_rectan	r2cpr_rectan
0	2,669	3,765
1	278	200
2	1,149	597
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fcpr_recta	r2fcpr_recta
0.Not imputed	3,439	3,539
1.Dont know	83	138
2.Missing	105	49
3.Not Assessed	249	486
4.Refused	193	350
8.Bad image	27	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1cpr_cube	r2cpr_cube
0	3,779	3,409
1	29	83
2	80	565
3	84	90
4	124	415
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fcpr_cube	r2fcpr_cube
0.Not imputed	3,336	3,465
1.Dont know	94	164
2.Missing	74	47
3.Not Assessed	320	423
4.Refused	248	463
8.Bad image	24	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1cpr_diamon	r2cpr_diamon
0	2,996	3,250
1	26	491
2	265	461
3	809	360
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fcpr_diamo	r2fcpr_diamo
0.Not imputed	3,424	3,541
1.Dont know	88	133
2.Missing	136	49
3.Not Assessed	262	500
4.Refused	157	339
8.Bad image	29	0
12.Not interviewed	0	76

Total	4,096	4,638

	r1cpr_score	r2cpr_score
0	1,412	2,143
1	73	198
2	1,018	813
3	190	256
4	464	363
5	281	234
6	181	151
7	290	191
8	53	81
9	45	61
10	37	33
11	52	38
.i:No cognition IW	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

dc001	CP - Circular shape - Respondent
dc002	CP - Closed circle - Respondent
dr001	CP - Rectangle Both 4-Sided - Respondent
dr002	CP - Rectangle overlaps - Respondent
dd001	CP - Diamond draw 4 sides - Respondent
dd002	CP - Diamond close 4 angles - Respondent
dd003	CP - Diamond sides equal length - Respondent
ce001	CP - Cube 3D - Respondent
ce002	CP - Cube face correct oriented - Respondent
ce003	CP - Cube internal lines - Respondent
ce004	CP - Cube parallel sides - Respondent
rdc001	CPR - Circular shape - Respondent
rdc002	CPR - Closed circle - Respondent
rdr001	CPR - Rectangle both 4-Sided - Respondent
rdr002	CPR - Rectangle overlaps - Respondent
rdd001	CPR - Diamond draw 4 sides - Respondent
rdd002	CPR- Diamond close 4 angles - Respondent
rdd003	CPR - Diamond sides equal length - Respondent
rce001	CPR - Cube 3D - Respondent
rce002	CPR - Cube face correct oriented - Respondent
rce003	CPR - Cube internal lines - Respondent
rce004	CPR - Cube parallel sides - Respondent
cp_circle	Respondent attempted to draw a figure
cp_rectangle	Respondent attempted to draw a figure
cp_diamond	Respondent attempted to draw a figure
cp_cube	Respondent attempted to draw a figure
cpr_circle	CPR - Circular Shape
cpr_rectangle	CPR - rectangle Shape
cpr_diamond	CPR - Diamond shape
cpr_cube	CPR - Cube Shape

Wave 2 Cognitive Assessment:

dc001	CP - Circular shape - Respondent

dc002	CP - Closed circle - Respondent
dr001	CP - Rectangle Both 4-Sided - Respondent
dr002	CP - Rectangle overlaps - Respondent
dd001	CP - Diamond draw 4 sides - Respondent
dd002	CP - Diamond close 4 angles - Respondent
dd003	CP - Diamond sides equal length - Respondent
ce001	CP - Cube 3D - Respondent
ce002	CP - Cube face correct oriented - Respondent
ce003	CP - Cube internal lines - Respondent
ce004	CP - Cube parallel sides - Respondent
rdc001	CPR - Circular shape - Respondent
rdc002	CPR - Closed circle - Respondent
rdr001	CPR - Rectangle both 4-Sided - Respondent
rdr002	CPR - Rectangle overlaps - Respondent
rdd001	CPR - Diamond draw 4 sides - Respondent
rdd002	CPR- Diamond close 4 angles - Respondent
rdd003	CPR - Diamond sides equal length - Respondent
rce001	CPR - Cube 3D - Respondent
rce002	CPR - Cube face correct oriented - Respondent
rce003	CPR - Cube internal lines - Respondent
rce004	CPR - Cube parallel sides - Respondent
cp_circle_draw	draw circle
cp_rectangle_draw	draw rectangle
cp_diamond_draw	draw diamond
cp_cube_draw	draw cube
cpr_intro	CPR Introduction
cpr_draw	draw constructional praxis recall

Drawing: Clocks

Variable	Waves	Label	Type
rWdr_clock3	1-2	rWdr_clock3:wW R clock drawing score(0-3)	Categ
rWfdr_clock3	1-2	rWfdr_clock3:impflag wW R whether imputed value	Categ

How Constructed

rWdr_clock3 is based on 3 components, specifically: 1) whether the respondent drew a closed circle, 2) whether the respondent correctly placed and ordered clock numbers on the circle, and 3) whether the respondent drew two clock hands. Scores range from 0-3 with one point given for each correct component. In Wave 1, the respondent draws the clock on a piece of paper, and in Wave 2, the respondent draws the clock on a tablet.

In Wave 1, cases where the uploaded respondent's images were blurry and unreadable were assigned special missing (.b). At Wave 1, if the respondent cannot draw, special missing (.n) is assigned as "Not assessed", which was marked only if the respondent had some physical disability that prevented them from performing the test. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. rWdr_clock3 is set to plain missing (.) if the respondent did not participate in the current wave.

rWfdr_clock3 is a flag variable, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, 8.Bad image, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

In Wave 1, the clock drawing task was administered on paper, while in Wave 2, the task was administered on a tablet.

Differences with other HCAP studies

This test is not included in the HRS-HCAP, the ELSA-HCAP, the MHAS Mex-Cog, and the SPS Chile-Cog.

Comparability with the Harmonized LASI

rWdrawcl is the comparable variable in the Harmonized LASI.

Categorical Variable Frequencies

	r1dr_clock3	r2dr_clock3
0	1,822	1,985
1	1,090	1,314
2	644	681
3	540	582
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fdr_clock3	r2fdr_clock3
0.Not imputed	3,625	3,144
1.Dont know	22	539
2.Missing	170	96
3.Not Assessed	106	0
4.Refused	113	783
8.Bad image	60	0
12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

ck001	Clock - Closed circle
ck002	Clock - Numbers placed correctly
ck003	Clock - Two clock hands
ck004	Clock - Correct time
ck005	Clock - Hr and min hands diff length
cd1	CLOCK DRAWING

Wave 2 Cognitive Assessment:

ck001	Clock - Closed circle
ck002	Clock - Numbers placed correctly
ck003	Clock - Two clock hands
ck004	Clock - Correct time
ck005	Clock - Hr and min hands diff length
cd2	clock drawing

CSID

Variable	Waves	Label	Type
rWelbow	1-2	rWelbow:wW R cognition elbow(0-1)	Categ
rWfelbow	1-2	rWfelbow:impflag wW R whether imputed value	Categ
rWhammer_d	1	rWhammer_d:wW R cognition hammer (0-1)	Categ
rWfhammer_d	1	rWfhammer_d:impflag wW R whether imputed value	Categ
rWhammer	2	rWhammer:wW R cognition hammer(0-1)	Categ
rWfhammer	2	rWfhammer:impflag wW R whether imputed value	Categ
rWstore	1-2	rWstore:wW R cognition store(0-1)	Categ
rWfstore	1-2	rWfstore:impflag wW R whether imputed value	Categ
rWpoint	1-2	rWpoint:wW R cognition point(0-1)	Categ
rWfpoint	1-2	rWfpoint:impflag wW R whether imputed value	Categ
rWcsid_score_d	1	rWcsid_score:wW R CSID 4-item score(0-4)	Categ
rWcsid_score	2	rWcsid_score2:wW R CSID 4-item score(0-4)	Categ

How Constructed

rWelbow, **rWhammer_d**, **rWhammer**, **rWstore**, and **rWpoint** indicate a respondent's performance on four tasks that were taken from the Community Screening Instrument for Dementia.

rWelbow indicates whether the respondent correctly identified an elbow when pointed at by the interviewer. If the respondent correctly identified the elbow, a 1 is coded. If the respondent incorrectly identified the elbow, a 0 is coded.

rWhammer_d indicates whether the respondent correctly described what one does with a hammer with the correct answer as "driving a nail into something". **rWhammer_d** is only available in Wave 1. **rWhammer** indicates whether the respondent correctly described what one does with a hammer with the updated correct answer to accept both responses of: (1) "use to break things" and (2) "use to nail things". **rWhammer** is only available in Wave 2. Correct answers are coded as 1 and incorrect answers are coded as 0.

rWstore indicates whether the respondent correctly described where the local market/local store was located. Correct answers can be a specific address or a clear description on how to get to the market/store. Incorrect answers include just repeating the store's name or giving a very confused answer. If the respondent originally provided a vague response, interviewers are instructed to probe for a more specific answer. Correct answers are coded as 1 and incorrect answers are coded as 0.

rWpoint indicates whether the respondent correctly points first at a window and then at a door after being instructed to do so. If there is no window available, then the respondent is asked to point first at the ceiling and then at the door. If the respondent correctly follows the interviewer's directions, a 1 is coded. If the respondent does not point at the objects in the correct order, a 0 is coded.

In Wave 1, **rWcsid_score_d** provides a score indicating the total number of correct responses between **rWelbow**, **rWhammer_d**, **rWstore**, and **rWpoint**. Scores range from 0 to 4. In Wave 2, **rWcsid_score** provides a score indicating the total number of correct responses between **rWelbow**, **rWhammer**, **rWstore**, and **rWpoint**. Scores range from 0 to 4.

Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. If any of the components of **rWcsid_score_d** or **rWcsid_score** are missing, then **rWcsid_score_d** and **rWcsid_score** are assigned the same special missing value. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWfhammer_d is flag variable for Wave 1 only. **rWfhammer** is flag variable for Wave 2 only. **rWfelbow**, **rWfstore**, and **rWfpoint** are flag variables for both waves. These flag variables indicate whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

At Wave 1, the correct answer to "What do you do with a hammer" is "driving a nail into something". At Wave 2, correct answers to this question are updated to accept both responses of: (1) "use to break things" and (2) "use to nail things".

Differences with other HCAP studies

Each study differed in how they handled the pointing task. The LASI-DAD, HRS-HCAP, and ELSA-HCAP asked respondents to point first to a window and then at a door. If only a window or door was available (not both), then the LASI-DAD allowed interviewers to substitute the ceiling for whichever object was missing. In the HRS-HCAP and ELSA-HCAP, respondents were only asked to point at whichever object was present. The MHAS Mex-Cog and SPS Chile-Cog asked two separate pointing questions: "Point to the sky" and "Point to the ground".

Additionally, the wording for the shop location question varied between the studies. In the LASI-DAD and HRS-HCAP, respondents were asked: "Where is the local market/local store?". In the ELSA-HCAP, respondents were instead asked: "Where is the nearest local shop?". In the MHAS Mex-Cog and SPS Chile-Cog, respondents were asked to give directions to the nearest store.

The LASI-DAD used a more restrictive definition for what a hammer is used for in Wave 1, than the other studies. As a result, alternate variable names are used in Wave 1 for **rWhammer_d** and **rWcsid_score_d**.

The MHAS Mex-Cog and SPS Chile-Cog also asked respondents to describe what a bridge is, which is not asked in the other HCAP studies.

The MHAS Mex-Cog and SPS Chile-Cog include the question about scissors as part of the CSID. In the LASI-DAD, HRS-HCAP, and ELSA-HCAP, the question about scissors is asked as part of the TICS section.

The Harmonized LASI-DAD, Harmonized Mex-Cog, Harmonized ELSA-HCAP, and Harmonized Chile-Cog include imputations for each item with accompanying imputation flags, while the Harmonized HRS-HCAP does not. Two summary measures are provided in the Harmonized HRS-HCAP: **rWcsid_score** provides a value only if there are no missing components but includes missing values, and **rWcsid_scr_h** (provided by the HRS) has a value even if some components are missing and includes some imputed values.

Comparability with the Harmonized LASI

These questions were not asked in the LASI.

Categorical Variable Frequencies

	r1elbow	r2elbow
0.Incorrect	236	175
1.Correct	3,860	4,387
.i:No cognition IW	0	76
Total	4,096	4,638

	r1felbow	r2felbow
0.Not imputed	3,968	4,475
1.Dont know	28	20
2.Missing	21	22
4.Refused	79	45
12.Not interviewed	0	76

Total	4,096	4,638

	r1hammer_d
0.Incorrect	1,227
1.Correct	2,869
Total	4,096

	r1fhammer_d
0.Not imputed	3,947
1.Dont know	46
2.Missing	21
4.Refused	82
Total	4,096

	r2hammer
0.Incorrect	370
1.Correct	4,192
.i:No cognition IW	76
Total	4,638

	r2fhammer
0.Not imputed	4,481
1.Dont know	22
2.Missing	22
4.Refused	37
12.Not interviewed	76
Total	4,638

	r1store	r2store
0.Incorrect	427	363
1.Correct	3,669	4,199
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fstore	r2fstore
0.Not imputed	3,931	4,465
1.Dont know	62	35
2.Missing	15	22
4.Refused	88	40
12.Not interviewed	0	76
Total	4,096	4,638

	r1point	r2point
0.Incorrect	428	430
1.Correct	3,668	4,132
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fpoint	r2fpoint
0.Not imputed	3,938	4,461
1.Dont know	44	17
2.Missing	16	22
4.Refused	98	62

12.Not interviewed	0	76
Total	4,096	4,638

	r1csid_score_d
0	33
1	115
2	345
3	1,151
4	2,452
Total	4,096

	r2csid_score
0	9
1	57
2	185
3	761
4	3,550
.i:No cognition IW	76
Total	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

csid1_elbow	CSID1: Elbow
csid2_hammer	CSID2: Hammer
csid3_store	CSID3: Store
csid4_point	CSID4: Point

Wave 2 Cognitive Assessment:

csid1_elbow	CSID1: Elbow
csid2_hammer	CSID2: Hammer
csid3_store	CSID3: Store
csid4_point	CSID4: Point

Raven's Test

Variable	Waves	Label	Type
rWrv_score	1-2	rWrv_score:wW R Raven's test score(0-17)	Cont
rWfrv_score	1-2	rWfrv_score:impflag wW R whether imputed value	Categ

How Constructed

rWrv_score indicates the number of correct answers to a series of questions where respondents were presented with incomplete images and asked to identify the missing piece for each image out of six possible options. The Raven's booklet was used for this task (items A1-2, A4-8, A11-12, B1-6, B8, B10). For the first image that was presented to respondents, interviewers pointed out that the image had a pattern with a piece cut out of it. Next, the interviewer described why four of the six options for the image's missing pieces could not be correct and stated that only one of the options was correct. The respondent was then instructed to point to the correct answer. If the respondent did not point to the correct piece, the interviewer explained the answer. After working through the first image, the respondent continues with the following items without any feedback on whether the response is correct or incorrect. In Wave 1, this task was administered on paper, and in Wave 2, it was administered on a tablet. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. rWrv_score is set to plain missing (.) if the respondent did not participate in the current wave.

rWfrv_score is a flag variable, indicating whether the corresponding variable has an assigned imputed value. The flag variable is coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

In Wave 1, the Raven's task was administered on paper, while in Wave 2, the task was administered on a tablet.

Differences with other HCAP studies

There are no known differences between the LASI-DAD, HRS-HCAP, and ELSA-HCAP. This test is not included in the MHAS Mex-Cog or SPS Chile-Cog.

The Harmonized LASI-DAD and Harmonized ELSA-HCAP include imputations for the total score with an accompanying imputation flag. Two summary measures are provided in the Harmonized HRS-HCAP: rWrv_score provides a value only if there are no missing components but includes missing values, and rWrv_score_h (provided by the HRS) has a value even if some components are missing and includes some imputed values.

Comparability with the Harmonized LASI

This question was not asked in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1rv_score	4,096	7.48	3.32	0.00	17.00	0
r2rv_score	4,562	7.53	2.99	0.00	17.00	76

Categorical Variable Frequencies

	r1frv_score	r2frv_score
0.Not imputed	3,723	4,307
1.Dont know	92	80
2.Missing	0	23
4.Refused	281	152

12.Not interviewed	0	76
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

rv_a1	RAVEN A1
rv_a2	RAVEN A2
rv_a4	RAVEN A4
rv_a5	RAVEN A5
rv_a6	RAVEN A6
rv_a7	RAVEN A7
rv_a8	RAVEN A8
rv_a11	RAVEN A11
rv_a12	RAVEN A12
rv_b1	RAVEN B1
rv_b2	RAVEN B2
rv_b3	RAVEN B3
rv_b4	RAVEN B4
rv_b5	RAVEN B5
rv_b6	RAVEN B6
rv_b8	RAVEN B8
rv_b10	RAVEN B10

Wave 2 Cognitive Assessment:

rv_a1_show	RAVEN A1
rv_a2_show	RAVEN A2
rv_a4_show	RAVEN A4
rv_a5_show	RAVEN A5
rv_a6_show	RAVEN A6
rv_a7_show	RAVEN A7
rv_a8_show	RAVEN A8
rv_a11_show	RAVEN A11
rv_a12_show	RAVEN A12
rv_b1_show	RAVEN B1
rv_b2_show	RAVEN B2
rv_b3_show	RAVEN B3
rv_b4_show	RAVEN B4
rv_b5_show	RAVEN B5
rv_b6_show	RAVEN B6
rv_b8_show	RAVEN B8
rv_b10_show	RAVEN B10

Go-No-Go Score

Variable	Waves	Label	Type
rWgo_score1	1-2	rWgo_score1:wW R Go-no-go trial 1 total score(0-10)	Categ
rWfgo_score1	1-2	rWfgo_score1:impflag wW R whether imputed value	Categ
rWgo_score2	1-2	rWgo_score2:wW R Go-no-go trial 2 total score(0-10)	Categ
rWfgo_score2	1-2	rWfgo_score2:impflag wW R whether imputed value	Categ
rWgo_scores	1-2	rWgo_scores:wW R Go-no-go total score(sum,0-20)	Categ

How Constructed

The following variables pertain to the Go-no-go task. This task consists of two parts and allows for up to 3 practice trials until the subject can correctly respond (for both part 1 and part 2). For each part, the interviewer scores each response as either correct or incorrect.

The first part goes as follows:

"In this task, when I tap the table once, like this (tap), I want you to tap twice. And when I tap twice (tap tap) I want you to tap once. Let's practice."

“So when I tap once (tap) - you tap...?” (subject taps).

“...and when I tap twice (tap tap) - you tap...?” (subject taps).

If incorrect, the interviewer is instructed to say, "Let’s try again: remember when I tap once, you tap twice. And when I tap twice, you tap once - here we go” (examiner repeats above practice trial).

Instructions and practice rounds can be repeated one more time if necessary, making a maximum of three times.

If correct, the interviewer is instructed to say, "OK that's right, remember - I tap once, you tap twice. I tap twice, you tap once. Here we go.”

The examiner begins the test by tapping once. If the respondent responds incorrectly, the examiner stops and repeats the instructions. This will be the last time the subject can be reminded of the instructions.

There are 10 trials total. If the respondent has five consecutive incorrect responses, part 1 ends.

The second part goes as follows:

"Now I am going to change the rules. This time when I tap once, you tap twice just like before. But now, when I tap twice, you do nothing - OK? Let us practice. So, when I tap once (tap), you tap...? And when I tap twice (tap tap), you...?”

If an incorrect response is given, the interviewer says, "Let’s do that again. Remember, when I tap once, you tap twice, and when I tap twice, you do nothing – let’s practice again" (examiner taps once, then twice).

If the subject gives another incorrect response, the interviewer repeats the instructions again and allows one more practice round, making three rounds total in all.

When the subject has correctly completed the practice round(s), the interviewer says, "OK that's right. Remember, when I tap once, you tap twice. And when I tap twice, you do nothing - here we go." The examiner always begins the sequence with two taps. If the subject responds incorrectly, the examiner stops and reminds them of the instructions again. This is the last time a reminder can be given.

There are 10 trials total. If the respondent has five consecutive incorrect responses, part 2 ends.

rWgo_score1 provides the score indicating the number of correct responses to part one. **rWgo_score2** provides the score indicating the number of correct responses to part two. **rWgo_scores** is the sum of **rWgo_score1** and **rWgo_score2**.

rWgo_scores ranges from 0-20. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned special missing (.m). At Wave 2, special missing (.s) is assigned if the test is skipped because there are 5 wrong answers in a line. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWfgo_score1 and **rWfgo_score2** are flag variables, indicating whether the corresponding variable has an assigned imputed value. In Wave 1, the flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and in Wave 2, the flag variables are coded as follows: 1.Don't know, 2.Missing, 4.Refused, and 9.Error.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The LASI-DAD has two separate trials. In Trial 1, respondents are told "When I tap the table once, like this (tap), I want you to tap twice. And when I tap twice (tap tap) I want you to tap once". Instructions can be repeated up to a maximum of three times. Trial 1 ends if the respondent had five consecutive incorrect responses. In Trial 2, respondents are told "When I tap once, you tap twice just like before. But now, when I tap twice, you do nothing". Trial 2 ends if the respondent made five consecutive incorrect responses. The MHAS Mex-Cog and SPS Chile-Cog only have one trial, consisting of 10 attempts. In the MHAS Mex-Cog, respondents are asked to remember: "Clap once when I clap once" and "Don't clap when I clap two times". In the SPS Chile-Cog, respondents are asked to remember two sets of instructions: "Tap once when I tap once" and "Do not tap when I tap twice". In both the MHAS Mex-Cog and SPS Chile-Cog, respondents are given three practice runs for each set of instructions.

This test is not included in the HRS-HCAP and ELSA-HCAP.

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

Comparability with the Harmonized LASI

This question was not asked in the LASI.

Categorical Variable Frequencies

	r1go_score1	r2go_score1
0	380	461
1	157	172
2	190	185
3	216	224
4	260	225
5	386	346
6	266	298
7	268	318
8	310	360
9	372	473
10	1,291	1,500
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fgo_score1	r2fgo_score1
0.Not imputed	3,894	4,357
1.Dont know	21	18

2.Missing	19	36
4.Refused	162	107
9.Error	0	44
12.Not interviewed	0	76
Total	4,096	4,638

	r1go_score2	r2go_score2
0	731	927
1	246	284
2	292	275
3	322	250
4	388	297
5	369	465
6	265	344
7	209	326
8	234	333
9	310	333
10	730	728
.i:No cognition IW	0	76
Total	4,096	4,638

	r1fgo_score2	r2fgo_score2
0.Not imputed	3,871	4,306
1.Dont know	25	21
2.Missing	19	38
4.Refused	181	141
9.Error	0	56
12.Not interviewed	0	76
Total	4,096	4,638

	r1go_scores	r2go_scores
0	283	284
1	111	126
2	109	137
3	125	140
4	126	159
5	200	210
6	155	191
7	143	168
8	150	153
9	220	161
10	206	252
11	178	171
12	178	164
13	190	195
14	163	205
15	215	280
16	154	239
17	160	217
18	184	265
19	293	279
20	553	566
.i:No cognition IW	0	76

Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:	
g1_total	G1_Total Correct
g2_total	G2_Total Correct
Wave 2 Cognitive Assessment:	
g1_trial1	g1_trial
g1_trial2	g1_trial2
g1_trial3	g1_trial3
g1_trial4	g1_trial4
g1_trial5	g1_trial5
g1_trial6	g1_trial6
g1_trial7	g1_trial7
g1_trial8	g1_trial8
g1_trial9	g1_trial9
g1_trial10	g1_trial10
g2_trial1	g2_trial
g2_trial2	g2_trial2
g2_trial3	g2_trial3
g2_trial4	g2_trial4
g2_trial5	g2_trial5
g2_trial6	g2_trial6
g2_trial7	g2_trial7
g2_trial8	g2_trial8
g2_trial9	g2_trial9
g2_trial10	g2_trial10

Trail Making Test

Variable	Waves	Label	Type
rWtmt1_n	2	rWtmt1_n:wW Trail Making:Part A Circles - num correct paths	Cont
rWftmt1_n	2	rWftmt1_n:impflag wW R whether imputed value	Categ
rWtmt1_tpp	2	rWtmt1_tpp:wW Trail Making:Part A Circles - avg time per path	Cont
rWftmt1_tpp	2	rWftmt1_tpp:impflag wW R whether imputed value	Categ
rWtmt2_n	2	rWtmt2_n:wW Trail Making:Part A Squares - num correct paths	Cont
rWftmt2_n	2	rWftmt2_n:impflag wW R whether imputed value	Categ
rWtmt2_tpp	2	rWtmt2_tpp:wW Trail Making:Part A Squares - avg time per path	Cont
rWftmt2_tpp	2	rWftmt2_tpp:impflag wW R whether imputed value	Categ
rWtmt3_n	2	rWtmt3_n:wW Trail Making:Part B - num correct paths	Cont
rWftmt3_n	2	rWftmt3_n:impflag wW R whether imputed value	Categ
rWtmt3_tpp	2	rWtmt3_tpp:wW Trail Making:Part B - avg time per path	Cont
rWftmt3_tpp	2	rWftmt3_tpp:impflag wW R whether imputed value	Categ

How Constructed

The Trail Making Test (TMT) comprises three parts: Part A: Circles, Part A: Squares, and Part B: Alternating Between the Shapes and Sizes. Part A: Circles involves connecting circles from small to large as quickly as possible. Part A: Squares involves connecting squares from large to small as quickly as possible. Part B involves alternating between shapes and sizes, from the largest square to the smallest circle, then to the next largest square to the next smallest circle, continuing through all the shapes as quickly as possible. Each part consists of three practice rounds and one test round. In the first practice round, the interviewer will draw the trails and ask the respondent to do the same. In the second and third practice rounds, the respondent will draw the trails, and the interviewer will correct them if they make a mistake. In the test round, the respondent will make the trails without instructions. If the respondent completes fewer than two correct trails in the second and third practice rounds, the test round will be skipped.

rWtmt1_n, **rWtmt2_n**, and **rWtmt3_n** indicate the number of correct trails completed by the respondent in the Trail Making Test (TMT). **rWtmt1_tpp**, **rWtmt2_tpp**, and **rWtmt3_tpp** indicate the average time (in seconds) per correct trail completed by the respondent in the Trail Making Test (TMT).

rWtmt1_n indicates the number of correct trails completed by the respondent in Part A: Circles of the Trail Making Test. **rWtmt1_tpp** indicates the average time per correct trail completed by the respondent in Part A: Circles of the Trail Making Test. A special missing designation (.s) is assigned if the respondent completes fewer than two correct trails in the second and third practice rounds in Part A: Circles.

rWtmt2_n indicates the number of correct trails completed by the respondent in Part A: Squares of the Trail Making Test. **rWtmt2_tpp** indicates the average time per correct trail completed by the respondent in Part A: Squares of the Trail Making Test. A special missing designation (.s) is assigned if the respondent completes fewer than two correct trails in the second and third practice rounds in Part A: Squares.

rWtmt3_n indicates the number of correct trails completed by the respondent in Part B of the Trail Making Test. **rWtmt3_tpp** indicates the average time per correct trail completed by the respondent in Part B of the Trail Making Test. A special missing designation (.s) is assigned if the respondent completes fewer than two correct trails in the second and third practice rounds in Part B.

rWtmt1_tpp, **rWtmt2_tpp**, and **rWtmt3_tpp** are assigned special missing value (.x) if the respondent had 0 correct trails in **rWtmt1_n**, **rWtmt2_n**, and **rWtmt3_n** respectively. Don't know responses are assigned special missing (.d). Refused

responses are assigned special missing codes (.r). Other missing is assigned special missing (.m). At Wave 2, **rWtmt1_n**, **rWtmt2_tpp**, **rWtmt2_n**, **rWtmt2_tpp**, **rWtmt3_n**, and **rWtmt3_tpp** are assigned special missing (.i) if the respondent did not complete the cognition tests. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWftmt1_n, **rWftmt1_tpp**, **rWftmt2_n**, **rWftmt2_tpp**, **rWftmt3_n**, and **rWftmt3_tpp** are flag variables that are available in Wave 2 only. These flag variables indicate whether the corresponding variable has an assigned imputed value and are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, 11.Skipped, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

These questions were added in Wave 2.

Differences with other HCAP studies

Wave 2 of the LASI-DAD fields a 3-part Trail Making Test: 1) Part A: Circles; 2) Part A: Squares; and 3) Part B: Alternating Between the Shapes and Sizes. In these exercises, respondents are asked to draw trails based on specific instructions and are scored based on the number of correct trails completed. The HRS-HCAP and ELSA-HCAP field a 2-part Trail Making Test: Part A, which involves numbered circles, and Part B, which involves circled letters and circled numbers. Respondents are asked to draw lines based on specific instructions and are scored based on the number of seconds it took for them to complete Part A and Part B. As such, the Harmonized LASI-DAD includes **rWtmt1_n**, **rWtmt2_n**, and **rWtmt3_n**, while the Harmonized HRS-HCAP and Harmonized ELSA-HCAP include **rWtma_score** and **rWtmb_score**.

The Trail Making Test is not included in the MHAS Mex-Cog and the SPS Chile-Cog.

Comparability with the Harmonized LASI

These questions were not asked in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2tmt1_n	4,562	2.54	1.47	0.00	4.00	0
r2tmt1_tpp	4,013	11.40	12.70	1.00	173.50	625
r2tmt2_n	4,562	1.98	1.51	0.00	4.00	0
r2tmt2_tpp	3,386	12.21	11.98	1.00	243.00	1,252
r2tmt3_n	4,562	2.75	1.86	0.00	9.00	0
r2tmt3_tpp	3,852	15.03	14.25	1.20	160.00	786

Categorical Variable Frequencies

	r2ftmt1_n
0.Not imputed	3,775
1.Dont know	83
2.Missing	120
4.Refused	40
11.Skipped	544
12.Not interviewed	76
Total	4,638

r2ftmt1_tpp

0.Not imputed	3,434
1.Dont know	83
2.Missing	120
4.Refused	40
5.Not in phase	341
11.Skipped	544
12.Not interviewed	76
Total	4,638

	r2ftmt2_n
0.Not imputed	3,436
1.Dont know	85
2.Missing	192
4.Refused	31
11.Skipped	818
12.Not interviewed	76
Total	4,638

	r2ftmt2_tpp
0.Not imputed	2,693
1.Dont know	85
2.Missing	192
4.Refused	31
5.Not in phase	743
11.Skipped	818
12.Not interviewed	76
Total	4,638

	r2ftmt3_n
0.Not imputed	3,168
1.Dont know	84
2.Missing	96
4.Refused	47
11.Skipped	1,167
12.Not interviewed	76
Total	4,638

	r2ftmt3_tpp
0.Not imputed	2,813
1.Dont know	84
2.Missing	96
4.Refused	47
5.Not in phase	355
11.Skipped	1,167
12.Not interviewed	76
Total	4,638

Original DAD Variables Used

Wave 2 Cognitive Assessment:

ts004	Trail Making Test #4: Number of Correct Paths
ts004_time	Trail Making Test #4: Total Time (sec)

ts004_time_path	Trail Making Test #4: Avg Time per path (sec)
ts008	Trail Making Test #8: Number of Correct Paths
ts008_time	Trail Making Test #8: Total Time (sec)
ts008_time_path	Trail Making Test #8: Avg Time per path (sec)
ts012	Trail Making Test #12: Number of Correct Paths
ts012_time	Trail Making Test #12: Total Time (sec)
ts012_time_path	Trail Making Test #12: Avg Time per path (sec)

Hand Sequencing Test

Variable	Waves	Label	Type
rWef_palm	1	rWef_palm:wW R able to repeat palm-up, palm-down test(0-2)	Categ
rWfef_palm	1	rWfef_palm:impflag wW R whether imputed value	Categ
rWef_palm2h	2	rWef_palm2h:wW R able to repeat palm-up, palm-down test (2 hands) (0-2)	Categ
rWfef_palm2h	2	rWfef_palm2h:impflag wW R whether imputed value	Categ
rWef_clench	1	rWef_clench:wW R able to do clenched extended hand movement(0-2)	Categ
rWfef_clench	1	rWfef_clench:impflag wW R whether imputed value	Categ
rWef_clench2h	2	rWef_clench2h:wW R able to do clenched extended hand movement (2 hands) (0-2)	Categ
rWfef_clench2h	2	rWfef_clench2h:impflag wW R whether imputed value	Categ
rWef_fist	1-2	rWef_fist:wW R able to do fist-side-palm test(0-2)	Categ
rWfef_fist	1-2	rWfef_fist:impflag wW R whether imputed value	Categ
rWef_score	1	rWef_score:wW R Hand Sequencing 3-item score(0-6)	Categ
rWef_score2	2	rWef_score2:wW R Hand Sequencing 3-item score(0-6)	Categ

How Constructed

In Wave 1, the Hand Sequencing Test was fielded during phases 2 and 3 of data collection. In Wave 2, this test was fielded throughout all phases.

rWef_palm indicates how the respondent did on the Palm-Up Palm-Down task, using one hand, and is only available at Wave 1. For this task, the interviewer instructs the respondent to watch the demonstration of this task three times. Then, the respondent is asked to make the same movement with the interviewer and is then asked to perform it alone for 5 trials. **rWef_palm** is coded as follows: 0.Incorrect or did not repeat, 1.Correctly repeated 1-4 movements, and 2.Correctly repeated all 5 movements.

rWef_palm2h indicates how the respondent did on the Palm-Up Palm-Down task, using two hands, and is available starting in Wave 2. For this task, the interviewer instructs the respondent to watch the demonstration of this task three times. Then, the respondent is asked to make the same movement with the interviewer and is then asked to perform it alone for 5 trials. **rWef_palm2h** is coded as follows: 0.Incorrect or did not repeat, 1.Correctly repeated 1-4 movements, and 2.Correctly repeated all 5 movements.

rWef_clench indicates how the respondent performed on the Clenched Extended Hand Movement task, using one hand, and is only available at Wave 1. For this task, the interviewer instructs the respondent to watch the demonstration of this task three times. Then, the respondent is asked to make the same movement with the interviewer, and then asked to perform it alone for 5 trials. **rWef_clench** is coded as follows: 0.Incorrect or did not repeat, 1.Correctly repeated 1-4 movements, and 2.Correctly repeated all 5 movements.

rWef_clench2h indicates how the respondent performed on the Clenched Extended Hand Movement task, using two hands starting in Wave 2. For this task, the interviewer instructs the respondent to watch the demonstration of this task three times. Then, the respondent is asked to make the same movement with the interviewer, and then asked to perform it alone for 5 trials. **rWef_clench2h** is coded as follows: 0.Incorrect or did not repeat, 1.Correctly repeated 1-4 movements, and 2.Correctly repeated all 5 movements.

rWef_fist indicates how the respondent did on the Fist-Edge-Palm task. For this task, the interviewer instructs the respondent to watch the demonstration of this task three times. Then, the respondent is asked to make the same movement

with the interviewer, and then asked to perform it alone for 5 trials. **rWef_fist** is coded as follows: 0.Incorrect or did not repeat, 1.Correctly repeated 1-4 movements, and 2.Correctly repeated all 5 movements.

At Wave 1, special missing (.x) is assigned if the respondent was interviewed in Wave 1 phase 1 when these tests were not conducted. At Wave 1, if the respondent cannot perform the hand movements, special missing (.n) is assigned as "Not assessed", which was marked only if the respondent has some physical disability, which prevents them from performing the test. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

In Wave 1, **rWef_score** indicates a summary score between **rWef_palm**, **rWef_clench**, and **rWef_fist**. Scores range from 0-6. In Wave 2, **rWef_score2** indicates a summary score between **rWef_palm2h**, **rWef_clench2h**, and **rWef_fist**. Scores range from 0-6. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWfef_palm and **rWfef_clench** are flag variables for Wave 1 only. **rWfef_palm2h** and **rWfef_clench2** are flag variables for Wave 2 only. **rWfef_fist** is flag variable for both waves. These flag variables indicate whether the corresponding variable has an assigned imputed value and are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, 5.Not in phase, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

In Wave 1, the Palm-up Palm-down and Clench-Extended tasks were completed with one hand, while in Wave 2, the tasks were completed with two hands. The "Not Assessed" option is only available in Wave 1. This option was removed in Wave 2.

Additionally, the Hand Sequencing Test was fielded in Wave 1 during phases 2 and 3 of data collection while the test was fielded throughout all phases of Wave 2.

Differences with other HCAP studies

These tests are not included in the HRS-HCAP, the ELSA-HCAP, the MHAS Mex-Cog and the SPS Chile-Cog.

Comparability with the Harmonized LASI

These questions were not asked in the Harmonized LASI.

Categorical Variable Frequencies

	r1ef_palm
0.Incorrect or did not repe	56
1.Correctly repeated 1-4 mo	231
2.Correctly repeated all 5	2,217
.x:Not in phase	1,592
Total	4,096

	r1fef_palm
0.Not imputed	2,398
1.Dont know	9
2.Missing	8
3.Not Assessed	51
4.Refused	38
5.Not in phase	1,592
Total	4,096

	r2ef_palm2h
0.Incorrect or did not repe	639

1.Correctly repeated 1-4 mo	989
2.Correctly repeated all 5	2,934
.i:No cognition IW	76
Total	4,638

	r2fef_palm2h
0.Not imputed	4,363
1.Dont know	26
2.Missing	27
4.Refused	146
12.Not interviewed	76
Total	4,638

	r1ef_clench
0.Incorrect or did not repe	118
1.Correctly repeated 1-4 mo	287
2.Correctly repeated all 5	2,099
.x:Not in phase	1,592
Total	4,096

	r1fef_clench
0.Not imputed	2,396
1.Dont know	9
2.Missing	8
3.Not Assessed	49
4.Refused	42
5.Not in phase	1,592
Total	4,096

	r2ef_clench2h
0.Incorrect or did not repe	870
1.Correctly repeated 1-4 mo	1,326
2.Correctly repeated all 5	2,366
.i:No cognition IW	76
Total	4,638

	r2fef_clench2h
0.Not imputed	4,353
1.Dont know	25
2.Missing	27
4.Refused	157
12.Not interviewed	76
Total	4,638

	r1ef_fist	r2ef_fist
0.Incorrect or did not repe	881	2,078
1.Correctly repeated 1-4 mo	993	1,678
2.Correctly repeated all 5	630	806
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1fef_fist	r2fef_fist
0.Not imputed	2,329	4,352
1.Dont know	9	20
2.Missing	8	27
3.Not Assessed	111	0
4.Refused	47	163
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1ef_score
0	40
1	33
2	90
3	196
4	710
5	848
6	587
.x:Not in phase	1,592
Total	4,096

	r2ef_score2
0	384
1	307
2	596
3	641
4	1,030
5	961
6	643
.i:No cognition IW	76
Total	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

ef100b	Palm-up Palm-down
ef101b	Clenched Extended Hand movements
ef102b	fist-side-palm

Wave 2 Cognitive Assessment:

ef100b	Palm-up Palm-down
ef101b	Clenched Extended Hand movements
ef102b	fist-side-palm

Token Test

Variable	Waves	Label	Type
rWtt_crcl	1-2	rWtt_crcl:wW circle: R able to identify and touch(0-1)	Categ
rWftt_crcl	1-2	rWftt_crcl:impflag wW R whether imputed value	Categ
rWtt_sqr	1-2	rWtt_sqr:wW yellow square: R able to identify and touch(0-1)	Categ
rWftt_sqr	1-2	rWftt_sqr:impflag wW R whether imputed value	Categ
rWtt_dmnd	1-2	rWtt_dmnd:wW large diamond: R able to identify and touch(0-1)	Categ
rWftt_dmnd	1-2	rWftt_dmnd:impflag wW R whether imputed value	Categ
rWtt_blckcrl	1-2	rWtt_blckcrl:wW black circle,black diamond: R able to identify and touch(0-1)	Categ
rWftt_blckcr	1-2	rWftt_blckcr:impflag wW R whether imputed value	Categ
rWtt_blsqr	1-2	rWtt_blsqr:wW blue square,yellow square: R able to identify and touch(0-1)	Categ
rWftt_blsqr	1-2	rWftt_blsqr:impflag wW R whether imputed value	Categ
rWtt_yldmnd	1-2	rWtt_yldmnd:wW yellow diamond,blue circle: R able to identify and touch	Categ
rWftt_yldmn	1-2	rWftt_yldmn:impflag wW R whether imputed value	Categ
rWtt_ylsqr	1-2	rWtt_ylsqr:wW yellow square,black circle: R able to identify and touch(0-1)	Categ
rWftt_ylsqr	1-2	rWftt_ylsqr:impflag wW R whether imputed value	Categ
rWtt_score	1-2	rWtt_score:wW R Token Test 7-item score(0-7)	Categ

How Constructed

These questions indicate how the respondent did on the Token Test. In Wave 1, this test was administered on paper, while in Wave 2 the test was administered on a tablet.

rWtt_crcl indicates whether the respondent is able to identify the circle.

rWtt_sqr indicates whether the respondent is able to identify the yellow square.

rWtt_dmnd indicates whether the respondent is able to identify the large diamond.

rWtt_blckcrl indicates whether the respondent is able to identify the black circle and then the black diamond.

rWtt_blsqr indicates whether the respondent is able to identify the yellow square and then the blue square.

rWtt_yldmnd indicates whether the respondent is able to tap the yellow diamond and then the blue circle.

rWtt_ylsqr indicates whether the respondent is able to tap the black circle instead of tapping the yellow square.

rWtt_crcl, **rWtt_sqr**, **rWtt_dmnd**, **rWtt_blckcrl**, **rWtt_blsqr**, **rWtt_yldmnd**, **rWtt_ylsqr** are coded as follows: 0. No, 1. Yes. At Wave 1, special missing (.x) is assigned if the respondent was interviewed in Wave 1 phase 1 when these questions were not asked. At Wave 1, if the respondent cannot perform the requested actions, special missing (.n) is assigned as "Not assessed", which was marked only if the respondent has some physical disability, which prevents them from performing the test. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWtt_score is a summary score that sums between **rWtt_crcl**, **rWtt_sqr**, **rWtt_dmnd**, **rWtt_blckcrl**, **rWtt_blsqr**, **rWtt_yldmnd**, and **rWtt_ylsqr**. Scores range from 0-7. **rWtt_score** is assigned a special missing value if any of its components have a special missing value. **rWtt_score** is set to plain missing (.) if the respondent did not participate in the current wave.

rWftt_crcl, **rWftt_sqr**, **rWftt_dmnd**, **rWftt_blckcr**, **rWftt_blsqr**, **rWftt_yldmn** and **rWftt_ylsqr** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, 5.Not in phase, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

At Wave 1, these questions were asked starting in phase 2 of data collection. At Wave 2, these questions were asked throughout all phases.

In Wave 1, this test was administered on paper, while in Wave 2, the test was administered on a tablet.

In Wave 2 phase 1, the instructions and images for the token test were shown on the tablet screen. Starting in phase 2 of Wave 2, the instructions were printed out and carried by the interviewers. The tablet screen only showed the shapes for the test.

The "Not assessed" option is only available in Wave 1. This option was removed in Wave 2.

Differences with other HCAP studies

This test is not included in the HRS-HCAP, the ELSA-HCAP, the MHAS Mex-Cog, or the SPS Chile-Cog.

Comparability with the Harmonized LASI

These questions were not asked in the LASI.

Categorical Variable Frequencies

	r1tt_crcl	r2tt_crcl
0.No	173	460
1.Yes	2,331	4,102
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1ftt_crcl	r2ftt_crcl
0.Not imputed	2,344	4,321
1.Dont know	26	61
2.Missing	8	27
3.Not Assessed	67	0
4.Refused	59	153
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1tt_sqr	r2tt_sqr
0.No	627	1,474
1.Yes	1,877	3,088
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1ftt_sqr	r2ftt_sqr
0.Not imputed	2,346	4,317
1.Dont know	20	63
2.Missing	8	27
3.Not Assessed	69	0
4.Refused	61	155
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1tt_dmnd	r2tt_dmnd
0.No	931	1,531
1.Yes	1,573	3,031
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1ftt_dmnd	r2ftt_dmnd
0.Not imputed	2,330	4,308
1.Dont know	26	68
2.Missing	8	27
3.Not Assessed	77	0
4.Refused	63	159
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1tt_blckcrl	r2tt_blckcrl
0.No	1,167	1,925
1.Yes	1,337	2,637
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1ftt_blckcr	r2ftt_blckcr
0.Not imputed	2,330	4,310
1.Dont know	22	66
2.Missing	8	27
3.Not Assessed	80	0
4.Refused	64	159
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1tt_blsqr	r2tt_blsqr
0.No	1,434	3,421
1.Yes	1,070	1,141
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1ftt_blsqr	r2ftt_blsqr
0.Not imputed	2,331	4,306

1.Dont know	23	68
2.Missing	8	27
3.Not Assessed	79	0
4.Refused	63	161
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1tt_yldmnd	r2tt_yldmnd
0.No	1,488	2,716
1.Yes	1,016	1,846
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1ftt_yldmn	r2ftt_yldmn
0.Not imputed	2,334	4,307
1.Dont know	22	68
2.Missing	8	27
3.Not Assessed	74	0
4.Refused	66	160
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1tt_ylsqr	r2tt_ylsqr
0.No	1,001	1,648
1.Yes	1,503	2,914
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1ftt_ylsqr	r2ftt_ylsqr
0.Not imputed	2,327	4,305
1.Dont know	20	68
2.Missing	12	27
3.Not Assessed	76	0
4.Refused	69	162
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1tt_score	r2tt_score
0	73	188
1	166	299
2	233	468
3	418	638
4	418	857
5	420	922
6	383	758
7	393	432
.i:No cognition IW	0	76

.x:Not in phase	1,592	0
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

ef103a	Touch a circle
ef103b	Touch the yellow square
ef103c	Touch the large diamond
ef103d	Touch the black circle then the black diamond
ef103e	Before touching the blue square, touch the yellow square
ef103f	After tapping the yellow diamond, tap the blue circle
ef103g	Instead of tapping the yellow square, tap the black circle

Wave 2 Cognitive Assessment:

ef103a_show	Touch a circle
ef103b_show	Touch the yellow square
ef103c_show	Touch the large diamond
ef103d_show	Touch the black circle then the black diamond
ef103e_show	Before touching the blue square, touch the yellow square
ef103f_show	After tapping the yellow diamond, tap the blue circle
ef103g_show	Instead of tapping the yellow square, tap the black circle

Judgement and Problem Solving

Variable	Waves	Label	Type
rWjp_animl	1-2	rWjp_animl:wW similarities: R elephant and monkey	Categ
rWfjp_animl	1-2	rWfjp_animl:impflag wW R whether imputed value	Categ
rWjp_flwr	1-2	rWjp_flwr:wW similarities: R rose and jasmine	Categ
rWfjp_flwr	1-2	rWfjp_flwr:impflag wW R whether imputed value	Categ
rWjp_table	2	rWjp_table:wW similarities: R table and chair	Categ
rWfjp_table	2	rWfjp_table:impflag wW R whether imputed value	Categ
rWjp_lie	1-2	rWjp_lie:wW differences: R lie and mistake	Categ
rWfjp_lie	1-2	rWfjp_lie:impflag wW R whether imputed value	Categ
rWjp_river	1-2	rWjp_river:wW differences: R river and pond	Categ
rWfjp_river	1-2	rWfjp_river:impflag wW R whether imputed value	Categ
rWjp_stone	2	rWjp_stone:wW differences: R stone and potato	Categ
rWfjp_stone	2	rWfjp_stone:impflag wW R whether imputed value	Categ
rWjp_rupee1	1-2	rWjp_rupee1:wW R 25 paise coins for one Rupee	Categ
rWfjp_rupe1	1-2	rWfjp_rupe1:impflag wW R whether imputed value	Categ
rWjp_rupee2	1-2	rWjp_rupee2:wW R 25 paise coins for six and half rupees	Categ
rWfjp_rupe2	1-2	rWfjp_rupe2:impflag wW R whether imputed value	Categ
rWjp_rupee3	2	rWjp_rupee3:wW R bananas for 10 Rupees	Categ
rWfjp_rupe3	2	rWfjp_rupee3:impflag wW R whether imputed value	Categ
rWjp_fndkid	1-2	rWjp_fndkid:wW judgement: R find a lost child on road	Categ
rWfjp_fndki	1-2	rWfjp_fndki:impflag wW R whether imputed value	Categ
rWjp_rain	2	rWjp_rain:wW R raining while out	Categ
rWfjp_rain	2	rWfjp_rain:impflag wW R whether imputed value	Categ
rWhcompu1	2	rWhcompu1:wW R able to do computation 1	Categ
rWfhcompu1	2	rWfhcompu1:impflag wW R whether imputed value	Categ
rWhcompu2	2	rWhcompu2:wW R able to do computation 2	Categ
rWfhcompu2	2	rWfhcompu2:impflag wW R whether imputed value	Categ
rWhcompu	2	rWhcompu:wW R computation total	Cont
rWsmdf_score	1-2	rWsmdf_score:wW R similarity and difference summary score (0-4)	Categ
rWsmdf_score2	2	rWsmdf_score2:wW R similarity and difference summary score - Wave W total(0-6)	Categ
rWpro_score	1-2	rWpro_score:wW R problem solving summary score (0-3)	Categ
rWpro_score2	2	rWpro_score2:wW R problem solving summary score (0-7)	Categ

How Constructed

rWjp_animl, **rWjp_flwr** and **rWjp_table** ask the respondent to identify similarities between different things. Prior to these graded tasks, the respondent is given the example that pencils and pens are alike because both are writing instruments. **rWjp_animl** indicates whether the respondent correctly associated elephants and monkeys. **rWjp_flwr** indicates whether the respondent correctly associated roses and jasmine. **rWjp_table** indicates whether the respondent correctly associated table and chair, and was added in Wave 2. They are coded as follows: 0. Incorrect, 1. Correct.

rWjp_lie, **rWjp_river** and **rWjp_stone** ask the respondent to identify differences between different things. Prior to these tasks, the respondent is given the example that dogs and crows are different because one is an animal and the other is a bird. **rWjp_lie** indicates whether the respondent correctly distinguishes the difference between a lie and a mistake. At Wave 1, the correct answer is "Lie is deliberate, mistake is unintentional", and at Wave 2, the correct answer was updated to accept both (1)"Lie is deliberate, mistake is unintentional", and (2)"It is okay to do mistake, but lying is wrong". **rWjp_river** indicates whether the respondent correctly distinguishes the difference between a river and a pond. At Wave 1, the correct answer is "River is flowing water, pond is non-flowing water", and at Wave 2, the correct answer was updated to accept both (1)"River is flowing water, pond is non-flowing water", and (2)"River is bigger, pond is small". **rWjp_stone** indicates whether the respondent correctly distinguishes the difference between a stone and a potato, and was added in Wave 2. They are coded as follows: 0. Incorrect, 1. Correct.

rWsmdf_score is a similarities and differences summary score that sums **rWjp_animl**, **rWjp_flwr**, **rWjp_lie**, and **rWjp_river**. Scores range from 0-4. **rWsmdf_score2** is a similarities and differences summary score that sums **rWjp_animl**, **rWjp_flwr**, **rWjp_table**, **rWjp_lie**, **rWjp_river**, and **rWjp_stone**, and was added in Wave 2. Scores range from 0-6. **rWsmdf_score** and **rWsmdf_score2** are assigned a special missing value if any of their components have a special missing value. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWjp_rupee1 indicates whether the respondent correctly answers a calculation problem. The respondent is asked how many 25 paise coins will be given for one rupee. It is coded as follows: 0. Incorrect, 1. Correct.

rWjp_rupee2 indicates whether the respondent correctly answers a calculation problem. The respondent is asked how many 25 paise coins they will need to make six and a half rupees. It is coded as follows: 0. Incorrect, 1. Correct.

rWjp_rupee3 indicates whether the respondent correctly answers a calculation problem. The respondent is asked how many bananas they can get for 10 rupees if one costs 50 paise. It is coded as follows: 0. Incorrect, 1. Correct.

rWjp_fndkid and **rWjp_rain** indicate whether the respondent correctly indicates what they would do under different circumstances. **rWjp_fndkid** indicates whether the respondent correctly indicates what they would do if they found a lost child on the road. **rWjp_rain** indicates whether the respondent correctly indicates what they would do if it started raining heavily while they were out, and was added in Wave 2. They are coded as follows: 0. Incorrect, 1. Correct.

rWhcompu1 and **rWhcompu2** ask the respondent to complete two calculations. **rWhcompu1** indicates whether the respondent correctly answered how much a sari costs in a half-price sale. **rWhcompu2** indicates whether the respondent correctly answered how much will one person get after winning a lottery prize of 1,000 rupees with another 4 people. They are coded as follows: 0. Incorrect, 1. Correct.

rWhcompu is a calculation summary score summing **rWhcompu1** and **rWhcompu2**. Scores range from 0-2. **rWhcompu** is assigned a special missing value if any of its components have a special missing value.

At Wave 1, special missing (.x) is assigned if the respondent was interviewed in phase 1 when these questions were not asked. At Wave 2, special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWpro_score is a problem-solving summary score that sums **rWjp_rupee1**, **rWjp_rupee2**, and **rWjp_fndkid**. Scores range from 0-3. **rWpro_score2** is a problem-solving summary score that sums **rWhcompu1**, **rWhcompu2**, **rWjp_rupee1**, **rWjp_rupee2**, **rWjp_rupee3**, **rWjp_fndkid**, and **rWjp_rain**, and was added in Wave 2. Scores range from 0-7. **rWpro_score** and **rWpro_score2** are assigned a special missing value if any of their components have a special missing value. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWfjp_table, **rWfjp_stone**, **rWfjp_rupe3**, **rWfjp_rain**, **rWfhcompu1**, and **rWfhcompu2** are flag variables for Wave 2 only. **rWfjp_animl**, **rWfjp_flwr**, **rWfjp_lie**, **rWfjp_river**, **rWfjp_rupe1**, **rWfjp_rupe2**, and **rWfjp_fndki** are flag variables for both waves. These flag variables indicate whether the corresponding variable has an assigned imputed value and are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, 5.Not in phase, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

rWjp_animl, **rWjp_flwr**, **rWjp_lie**, **rWjp_river**, **rWjp_rupee1**, **rWjp_rupee2**, and **rWjp_fndkid** were asked starting in Wave 1 phase 2 of data collection.

At Wave 2, additional questions about similarity and differences, calculation, and judgment were added to further improve the assessment of the respondent's judgement and problem-solving abilities. These additional questions include: similarity between a table and chair; differences between a stone and a potato; what the respondent would do if it started raining while they were out; and calculating the cost of a sari during a half-price sale, how much a person will receive after winning a lottery prize of 1,000 rupees with four other people, and the number of bananas they can get for 10 rupees if one costs 50 paise. As such, additional summary scores have been added to Wave 2.

At Wave 1, the correct answer to **rWjp_lie** is "Lie is deliberate, mistake is unintentional", and at Wave 2, the correct answer was updated to accept both (1)"Lie is deliberate, mistake is unintentional", and (2)"It is okay to do mistake, but lying is wrong". At Wave 1, the correct answer to **rWjp_river** is "River is flowing water, pond is non-flowing water", and at Wave 2, the correct answer was updated to accept both (1)"River is flowing water, pond is non-flowing water", and (2)"River is bigger, pond is small".

Differences with other HCAP studies

The LASI-DAD has two questions on similarities, two questions on differences, and three questions on problem-solving in phases 2 and 3 of the data collection for Wave 1. Starting in Wave 2, the LASI-DAD has three questions on similarities, three questions on differences, five questions on problem-solving, and two problems on calculations. The Harmonized LASI-DAD provides two summary scores for similarities and differences (**rWsmdf_score**, **rWsmdf_score2**), one for problem solving (**rWpro_score**), and one for calculations (**rWcompu**). The MHAS Mex-Cog and SPS Chile-Cog have three questions on similarities and these Harmonized HCAP datasets include a similarity summary score (**rWsim_score**).

These types of questions were not asked in the HRS-HCAP and ELSA-HCAP.

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

Comparability with the Harmonized LASI

rWhcompu1, **rWhcompu2**, and **rWhcompu** in the Harmonized LASI-DAD are comparable to **rWcompu1**, **rWcompu2**, and **rWcompu** in the Harmonized LASI. LASI does not ask questions on similarity and differences, and judgement.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2hcompu	4,562	1.36	0.77	0.00	2.00	76

Categorical Variable Frequencies

	r1jp_animl	r2jp_animl
0.Incorrect	1,547	2,544
1.Correct	957	2,018
.i:No cognition IW	0	76
.x:Not in phase	1,592	0

Total	4,096	4,638

	r1fjp_animl	r2fjp_animl
0.Not imputed	2,222	4,156
1.Dont know	219	312
2.Missing	11	25
4.Refused	52	69
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1jp_flwr	r2jp_flwr
0.Incorrect	1,017	1,383
1.Correct	1,487	3,179
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1fjp_flwr	r2fjp_flwr
0.Not imputed	2,242	4,200
1.Dont know	197	267
2.Missing	8	25
4.Refused	57	70
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r2jp_table
0.Incorrect	2,332
1.Correct	2,230
.i:No cognition IW	76
Total	4,638

	r2fjp_table
0.Not imputed	4,276
1.Dont know	190
2.Missing	25
4.Refused	71
12.Not interviewed	76
Total	4,638

	r1jp_lie	r2jp_lie
0.Incorrect	2,062	2,510
1.Correct	442	2,052
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1fjp_lie	r2fjp_lie
0.Not imputed	2,178	4,182
1.Dont know	253	285
2.Missing	10	25
4.Refused	63	70

5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1jp_river	r2jp_river
0.Incorrect	1,017	744
1.Correct	1,487	3,818
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1fjp_river	r2fjp_river
0.Not imputed	2,359	4,355
1.Dont know	85	112
2.Missing	8	25
4.Refused	52	70
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r2jp_stone
0.Incorrect	573
1.Correct	3,989
.i:No cognition IW	76
Total	4,638

	r2fjp_stone
0.Not imputed	4,383
1.Dont know	88
2.Missing	25
4.Refused	66
12.Not interviewed	76
Total	4,638

	r1jp_rupee1	r2jp_rupee1
0.Incorrect	580	965
1.Correct	1,924	3,597
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1fjp_rupe1	r2fjp_rupe1
0.Not imputed	2,260	4,261
1.Dont know	162	204
2.Missing	8	26
4.Refused	74	71
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r1jp_rupee2	r2jp_rupee2
0.Incorrect	1,710	3,407

1.Correct	794	1,155
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1fjp_rupe2	r2fjp_rupe2
0.Not imputed	2,053	3,844
1.Dont know	343	610
2.Missing	8	26
4.Refused	100	82
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r2jp_rupee3
0.Incorrect	2,615
1.Correct	1,947
.i:No cognition IW	76
Total	4,638

	r2fjp_rupe3
0.Not imputed	4,041
1.Dont know	413
2.Missing	26
4.Refused	82
12.Not interviewed	76
Total	4,638

	r1jp_fndkid	r2jp_fndkid
0.Incorrect	728	1,039
1.Correct	1,776	3,523
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1fjp_fndki	r2fjp_fndki
0.Not imputed	2,419	4,418
1.Dont know	18	52
2.Missing	19	26
4.Refused	48	66
5.Not in phase	1,592	0
12.Not interviewed	0	76
Total	4,096	4,638

	r2jp_rain
0.Incorrect	394
1.Correct	4,168
.i:No cognition IW	76
Total	4,638

	r2fjp_rain
0.Not imputed	4,427

1.Dont know	42
2.Missing	26
4.Refused	67
12.Not interviewed	76
Total	4,638

	r2hcompu1
0.Incorrect	1,106
1.Correct	3,456
.i:No cognition IW	76
Total	4,638

	r2fhcompu1
0.Not imputed	4,464
2.Missing	26
4.Refused	72
12.Not interviewed	76
Total	4,638

	r2hcompu2
0.Incorrect	1,834
1.Correct	2,728
.i:No cognition IW	76
Total	4,638

	r2fhcompu2
0.Not imputed	4,450
2.Missing	26
4.Refused	86
12.Not interviewed	76
Total	4,638

	r1smdf_score	r2smdf_score
0	450	308
1	667	797
2	658	1,157
3	526	1,244
4	203	1,056
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r2smdf_score2
0	172
1	269
2	609
3	837
4	958
5	846
6	871
.i:No cognition IW	76
Total	4,638

	r1pro_score	r2pro_score
0	265	391
1	659	1,097
2	905	2,044
3	675	1,030
.i:No cognition IW	0	76
.x:Not in phase	1,592	0
Total	4,096	4,638

	r2pro_score2
0	104
1	193
2	389
3	625
4	865
5	809
6	816
7	761
.i:No cognition IW	76
Total	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

jp100a	Elephant - Monkey
jp100b	Rose - Jasmine
jp101a	Lie - Mistake
jp101b	River - Pond
jp102a	25paise coins will you give me for one Rupee
jp102b	25paise coins will you need to make six and half rupees
jp103a	find a lost child on road

Wave 2 Cognitive Assessment:

jp100a	Elephant - Monkey
jp100b	Rose - Jasmine
jp100c	Table - Chair
jp101a	Lie - Mistake
jp101b	River - Pond
jp101c	Stone - Potato
jp102a	25 paise coins will you give me for one Rupee
jp102b	25paise coins will you need to make six and half rupees
jp102c	calculate bananas get for Rs.10 if one costs 50 paise
jp103a	find a lost child on road
jp103b	what if it started raining heavily while you were out
jp046	calculate sale cost
jp047	calculate lottery prize

Literacy Test

Variable	Waves	Label	Type
rWltread	2	rWltread:wW R any reason cannot perform literacy task	Categ
rWltans1	2	rWltans1:wW R Literacy Answer 1: Where does Gita go everyday	Categ
rWltans2	2	rWltans2:wW R Literacy Answer 2: What Gita does on the way to School	Categ
rWltans3	2	rWltans3:wW R Literacy Answer 3: What Gita learned from the book	Categ
rWltans4	2	rWltans4:wW R Literacy Answer 4: Who gave the book to Gita	Categ
rWltans5	2	rWltans5:wW R Literacy Answer 5: What did Gita do with the book	Categ

How Constructed

The following variables pertain to a series of questions asking the respondent to read a story and understand it. These questions are asked in Wave 2. The respondent is asked to read a story out loud. After reading, the interviewer will stop recording and remove the passage from in front of the respondent and ask questions about the story. The reading passage is as follows: Gita goes to school every day. Her mother gave her a book. The book had a red cover. Gita read the book every morning on her way to school. Gita learned many new words from the book. That made her teacher happy. The teacher gave Gita another book. It had nice stories. She showed it to all her friends.

rWltread indicates if there is any reason the respondent cannot perform the literacy test. It is coded as follows: 1. Participated, 2. Respondent cannot read, 3. Respondent cannot see, or 4. Language barrier. "4. Language barrier" is assigned if a translation error was noted because the participant was literate in another language other than the one the test was administered in and the story was not available in that other language. For example, the participant spoke and completed the interview in Marathi, but could only read in Gujarati and the Gujarati translation of the story was not available.

rWltans1, **rWltans2**, **rWltans3**, **rWltans4**, and **rWltans5** indicate whether a respondent correctly answered the five questions. **rWltans1** indicates whether they answered correctly to "Where does Gita go everyday", **rWltans2** indicates whether they answered correctly to "What Gita does on the way to school", **rWltans3** indicates whether they answered correctly to "What Gita learned from the book", **rWltans4** indicates whether they answered correctly to "Who gave the book to Gita", and **rWltans5** indicates whether they answered correctly to "What Gita did with the book". They are coded as follows: 0. Incorrect, and 1. Correct. A special missing (.l) is assigned if the respondent reports that they cannot read, cannot see, or if there is a language barrier. Special missing (.i) is assigned if the respondent did not complete the cognition tests. Don't know responses are assigned special missing (.d). Refused responses are assigned special missing (.r). Other missing is assigned as special missing (.m). These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting in Wave 2 of data collection.

Differences with other HCAP studies

These questions are not asked in the HRS-HCAP, ELSA-HCAP, the MHAS Mex-Cog, or the SPS Chile-Cog.

Comparability with the Harmonized LASI

These questions were not asked in the LASI.

Categorical Variable Frequencies

	r2ltread
1.Participated	1,614
2.Respondent cannot read	2,720
3.Respondent cannot see	159
4.Language barrier	63
.d:DK	3
.i:No cognition IW	76
.r:Refuse	3
Total	4,638

	r2ltans1
0.Incorrect	92
1.Correct	1,443
.d:DK	72
.i:No cognition IW	76
.l:Cannot complete task	2,942
.m:Missing	1
.r:Refuse	12
Total	4,638

	r2ltans2
0.Incorrect	529
1.Correct	801
.d:DK	277
.i:No cognition IW	76
.l:Cannot complete task	2,942
.r:Refuse	13
Total	4,638

	r2ltans3
0.Incorrect	970
1.Correct	263
.d:DK	375
.i:No cognition IW	76
.l:Cannot complete task	2,942
.r:Refuse	12
Total	4,638

	r2ltans4
0.Incorrect	392
1.Correct	1,023
.d:DK	192
.i:No cognition IW	76
.l:Cannot complete task	2,942
.r:Refuse	13
Total	4,638

	r2ltans5
0.Incorrect	848
1.Correct	522
.d:DK	235

.i:No cognition IW	76
.l:Cannot complete task	2,942
.r:Refuse	15
Total	4,638

Original DAD Variables Used

Wave 2 Cognitive Assessment:

lt_intro1	intro1
lt_201	where Gita go every day
lt_202	what Gita do on her way to school
lt_203	what Gita learn from the book?
lt_204	who gave another book to Gita
lt_205	what did Gita do with the book

Factor Analysis

Variable	Waves	Label	Type
rWborient	1-2	rWborient: wW factor analysis broad domain: orientation	Cont
rWbexefu	1-2	rWbexefu: wW factor analysis broad domain: executive functioning	Cont
rWblangf	1-2	rWblangf: wW factor analysis broad domain: language/fluency	Cont
rWbmemory	1-2	rWbmemory: wW factor analysis broad domain: memory	Cont
rWbvsp	1-2	rWbvsp: wW factor analysis broad domain: visuospatial	Cont
rWsgcp	1-2	rWgcp: wW factor analysis: general cognitive factor	Cont

How Constructed

rWborient is a summary measure of cognitive tests that are organized into the orientation broad domain. This broad domain is represented by 5 questions about orientation to time (e.g., name the current month, year, season), 5 questions about orientation to place (e.g., state, city), and one question to name the Prime Minister.

rWbexefu is a summary measure of cognitive tests that are organized into the executive functioning broad domain. This broad domain consists of two narrow subdomains: attention/speed and abstract reasoning. Further information about the tests used are described in the narrow subdomains of executive functioning.

rWblangf is a summary measure of cognitive tests that are organized into the language/fluency broad domain. This domain is represented by animal naming, writing or saying a sentence, phrase repetition, naming of common objects by sight (watch, pencil), naming of common objects by description (elbow, hammer, scissors, coconut, window), following a read or acted command to close one's eyes, and completing a 3-stage task.

rWbmemory is a summary measure of cognitive tests that are organized into the memory broad domain. This broad domain consists of 3 narrow subdomains: immediate, delayed, and recognition recall of different cognitive tests used in LASI-DAD. The different cognitive tests used are further described for the memory variables in the narrow domain.

rWbvsp is a summary measure of cognitive tests that are organized into the visuospatial broad domain. This domain is measured by constructional praxis, drawing pentagons, and drawing clocks.

rWsgcp is a general cognitive factor score and can be used as a predictor or outcome in a model. It is the broadest cognitive summary variable, measured by memory, executive functioning, visuospatial, and language domains.

At Wave 2, special missing (.i) is assigned if the respondent did not complete cognition tests.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

Factor scores are available for the Harmonized HRS-HCAP, Harmonized LASI-DAD, and Harmonized ELSA-HCAP. Factor scores for the Harmonized MHAS Mex-Cog have been released as a separate contributed variable datafile that is available for download on the MHAS website.

The number of factor scores for domains vary per study. The Harmonized HRS-HCAP contains two sets of factor scores, EAP and Bayesian plausible values with 3 draws from the posterior, for the following domains: memory, executive function, language, and orientation. The Harmonized LASI-DAD, Harmonized ELSA-HCAP, and Harmonized Mex-Cog (in a separate file) include factor scores for broad domains: orientation, executive function, language/fluency, memory, and visuospatial. Additionally, the Harmonized LASI-DAD also includes factor scores for narrow subdomains: immediate episodic memory,

delayed episodic memory, recognition memory, abstract reasoning, and attention/speed. All studies have a general cognitive performance factor score. While the Harmonized HRS-HCAP includes two general cognitive performance factor scores (`rWeapgcp` and `rWb3gcp`), the other Harmonized HCAPs include one general cognitive performance factor score (`rWsgcp`).

Comparability with the Harmonized LASI

These summary measures were not created in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1borient	4,096	-0.04	0.82	-2.52	0.96	0
r2borient	4,562	-0.09	0.77	-2.47	0.92	76
r1bexefu	4,096	-0.04	0.90	-2.33	2.58	0
r2bexefu	4,562	-0.17	0.84	-2.62	2.25	76
r1blangf	4,096	-0.08	0.79	-3.29	2.62	0
r2blangf	4,562	0.06	0.72	-2.94	2.18	76
r1bmemory	4,096	-0.02	0.94	-2.53	3.40	0
r2bmemory	4,562	-0.11	0.86	-2.36	2.81	76
r1bvsp	4,096	0.05	0.86	-1.38	1.73	0
r2bvsp	4,562	-0.09	0.73	-1.20	1.53	76
r1sgcp	4,096	-0.02	0.97	-3.16	3.12	0
r2sgcp	4,562	-0.11	0.86	-3.04	2.57	76

Standardized Summary Scores

Variable	Waves	Label	Type
rWhmse_scorz	1-2	rWhmse_scorz:wW R HMSE total score(0-30) (stdized)	Cont
rWword_totaz	1-2	rWword_totaz:wW R word list learning total(0-30) (stdized)	Cont
rWword_dz	1-2	rWword_dz:wW R word list learning recall(0-10) (stdized)	Cont
rWwre_scorez	1-2	rWwre_scorez:wW R word list recognition(0-20) (stdized)	Cont
rWlog_recoz	1-2	rWlog_recoz:wW R logical memory recognition score(0-15) (stdized)	Cont
rWbm_immexz	1-2	rWbm_immexz:wW R Brave man immediate:summary score exact(0-6) (stdized)	Cont
rWbm_reclexz	1-2	rWbm_reclexz:wW R Brave man recall:summary score exact(0-6) (stdized)	Cont
rWverbalz	1-2	rWverbalz:wW R verbal fluency:animal naming-correct (stdized)	Cont
rWcsid_scorz_d	1	rWcsid_scorz_d:wW R CSID 4-item score(0-4) (stdized)	Cont
rWcsid_scorz	2	rWcsid_scorz:wW R CSID 4-item score(0-4) (stdized)	Cont
rWrv_scorez	1-2	rWrv_scorez:wW R Raven's test score(0-17) (stdized)	Cont
rWcog_totalz_d	1	rWcog_totalz_d:wW total cognition score (stdized)	Cont
rWcog_totalz	2	rWcog_totalz:wW total cognition score (stdized)	Cont

How Constructed

The following variables are the standardized cognition summary scores, for the common tests also administered in other HCAP studies.

rWhmse_scorz is the standardized summary score of **rWhmse_score**, which is the sum total value of **rWorient_t5**, **rWorient_p5**, **rWhimrc3**, **rWbackward_d**, **rWhdlrc3**, **rWhobject**, **rWrepeat**, **rWcombfol**, **rWhexecu**, **rWhsenten**, and **rWhdrawa**.

rWword_totaz is the standardized summary score of **rWword_total**, the total number of correct words between **rWword1**, **rWword2**, and **rWword3**.

rWword_dz is the standardized summary score of **rWword_d**, the total number of words recalled from the 10-word list after a delay.

rWwre_scorez is the standardized summary score of **rWwre_score**, the total number of correct responses given by the respondent for **rWwre_org** and **rWwre_foil**.

rWlog_recoz is the standardized summary score of **rWlog_reco**, which tests how well respondents remember the specific details of the second story that was read to them.

rWbm_immexz is the standardized summary score of **rWbm_immex**, which measures how well respondents remembered the exact story points of a brave man story.

rWbm_reclexz is the standardized summary score of **rWbm_reclex**, which measures how well respondents remembered the exact story points of a brave man story after a delay.

rWverbalz is the standardized summary score of **rWverbal**, the number of correct animals that the respondents named.

rWcsid_scorz_d is the standardized summary score of **rWcsid_score_d**, the total number of correct responses between **rWelbow**, **rWhammer_d**, **rWstore**, and **rWpoint**, and is only available in Wave 1.

rWcsid_scorz is the standardized summary score of **rWcsid_score**, the total number of correct responses between **rWelbow**, **rWhammer**, **rWstore**, and **rWpoint**, and is only available in Wave 2.

rWrv_scorez is the standardized summary score of **rWrv_score**, the number of correct answers to a series of questions where respondents identified the missing piece of each image in a set of images.

rWcog_totalz_d is the standardized total cognition score for Wave 1, and is calculated by adding **rWhmse_scorz**, **rWword_totaz**, **rWword_dz**, **rWwre_scorez**, **rWlog_recoz**, **rWbm_immexz**, **rWbm_reclexz**, **rWverbalz**, **rWcsid_scorz_d**, and **rWrv_scorez** together.

rWcog_totalz is the standardized total cognition score for Wave 2, and is calculated by adding **rWhmse_scorz**, **rWword_totaz**, **rWword_dz**, **rWwre_scorez**, **rWlog_recoz**, **rWbm_immexz**, **rWbm_reclexz**, **rWverbalz**, **rWcsid_scorz**, and **rWrv_scorez** together.

At Wave 1, "Not assessed" responses are coded as special missing (.n). Cases in which respondents' images were blurry and not yet scored were assigned special missing code (.b). At Wave 2, a special missing (.i) is assigned if the respondent did not complete the cognition tests. For all waves, don't know, refused or other missing responses are coded as special missing (.d), (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

For further information on the variables mentioned in this section, please reference their respective sections above.

Cross Wave Differences in LASI-DAD

"Not assessed" responses are available in Wave 1 only. Given the cross wave differences in Wave 1 only variable **rWcsid_score_d** and Wave 2 only variable **rWcsid_score**, the standardized summary scores of CSID differs across Wave 1 (**rWcsid_scorz_d**) and Wave 2 (**rWcsid_scorz**), and the standardized total cognition score also differs across Wave 1 (**rWcog_totalz_d**) and Wave 2 (**rWcog_totalz**).

Differences with other HCAP studies

rWmmse_scorz, the standardized summary score of **rWmmse_score**, differs across Harmonized HCAP datasets as the LASI-DAD used the HMSE test, while the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog used the MMSE test. Additionally, the LASI-DAD used the Backward Day Naming exercise and HRS-HCAP used the Backward Spelling task to create the MMSE score, while MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog used the Backwards Counting (Serial 7's) task. Lastly, the MHAS Mex-Cog included a 3-item place orientation, rather than a 5-item used in the other studies.

The Harmonized Mex-Cog and Harmonized Chile-Cog do not have a standardized summary score for logical memory recognition and the Raven's test, as these sections were not asked. As a result, **rWcog_totalz** is calculated for Harmonized LASI-DAD, Harmonized HRS-HCAP, and Harmonized ELSA-HCAP, which includes **rWlog_recoz** and **rWrv_scorez**. **rWcog_totaz2** is calculated in all Harmonized HCAP datasets, which leaves these two items out. However, because of the difference in MMSE scoring in Mex-Cog, this variable is called **rWcog_totaz2_m** in the Harmonized Mex-Cog.

Unlike the other Harmonized HCAPs, the Harmonized HRS-HCAP provides two versions of **rWcog_totalz**. **rWcog_totalz** provides a value only if there are no missing components but includes missing values, and **rWcog_totl_hz** has a value even if some components are missing and includes some imputed values.

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

Comparability with the Harmonized LASI

The standardized cognition summary scores were not created in the main Harmonized LASI study.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hmse_scorz	4,096	0.00	1.00	-4.09	1.34	0
r2hmse_scorz	4,562	0.00	1.00	-4.12	1.51	76
r1word_totaz	4,096	0.00	1.00	-2.25	3.23	0
r2word_totaz	4,562	0.00	1.00	-2.41	3.04	76
r1word_dz	4,096	0.00	1.00	-1.33	2.99	0
r2word_dz	4,562	0.00	1.00	-1.40	2.96	76
r1wre_scorez	4,096	0.00	1.00	-4.48	1.12	0
r2wre_scorez	4,562	0.00	1.00	-4.32	1.13	76
r1log_recoz	4,096	0.00	1.00	-2.38	2.40	0
r2log_recoz	4,562	0.00	1.00	-1.70	2.34	76
r1bm_immexz	4,096	0.00	1.00	-1.28	2.42	0
r2bm_immexz	4,562	0.00	1.00	-1.25	3.11	76
r1bm_reclexz	4,096	0.00	1.00	-0.74	2.99	0
r2bm_reclexz	4,562	0.00	1.00	-0.71	3.86	76
r1verbalz	4,096	0.00	1.00	-2.48	4.52	0
r2verbalz	4,562	0.00	1.00	-2.52	4.10	76
r1csid_scorz_d	4,096	0.00	1.00	-4.17	0.69	0
r2csid_scorz	4,562	0.00	1.00	-5.96	0.47	76
r1rv_scorez	4,096	0.00	1.00	-2.26	2.87	0
r2rv_scorez	4,562	0.00	1.00	-2.52	3.16	76
r1cog_totalz_d	4,096	0.00	6.75	-25.45	20.62	0
r2cog_totalz	4,562	0.00	6.42	-26.34	18.43	76

C. Informant Report

Informant Demographics

Variable	Waves	Label	Type
rWinf_age	1-2	rWinf_age:wW Informant: age	Cont
rWinf_gendr	1-2	rWinf_gendr:wW Informant: gender	Categ
rWinf_educ_d	1-2	rWinf_educ_d:wW Informant: education	Categ
rWinf_educl	1-2	rWinf_educl:wW Informant: harmonized education level	Categ
rWinf_educel	1-2	rWinf_educel:wW Informant: harmonized early education level	Categ
rWinf_rel_d	1-2	rWinf_rel_d:wW Informant: relationship with R (specific)	Categ
rWfinf_rel_d	1-2	rWfinf_rel_d:wW Informant flag: relationship with R	Categ
rWinf_relh	1-2	rWinf_relh:wW Informant: relationship with R (grouped)	Categ
rWinf_freq	1-2	rWinf_freq:wW Informant: freq contact with R	Categ
rWinf_yrs	1-2	rWinf_yrs:wW Informant: years know R	Cont
rWinf_same	2	rWinf_same:wW Informant: whether same person in w 1 and w 2	Categ

How Constructed

rWinf_age indicates the age of the informant. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWinf_age** is set to plain missing (.) if the respondent did not participate in the current wave.

rWinf_gendr indicates the gender of the informant. A code of 1 indicates a man and a code of 2 indicates a woman. Special missing (.h) is assigned if the respondent does not have an informant interview. Refused or other missing responses are assigned as special missing (.r) and (.m), respectively. **rWinf_gendr** is set to plain missing (.) if the respondent did not participate in the current wave.

rWinf_educ_d indicates the highest grade of school or year of college the informant completed. Education levels are assigned as follows: 0. Never attended school, 1. Less than primary school (standard 1-4), 2. Primary school completed (standard 5-7), 3. Middle school completed (standard 8- 9), 4. Secondary school completed (standard 10 -11), 5. Higher Secondary completed (standard 12), 6. Diploma and certificate holders, 7. Graduate degree (B.A., B.Sc., B. Com.) completed, 8. Post-graduate degree or (M.A., M.Sc., M. Com.) above (M.Phil, Ph.D.,Post-Doc) completed, and 9. Professional course/degree (B.Ed, BE, B.Tech, MBBS, BHMS, BAMS, B. Pharm, BCS, BCA, BBA,LLB, BVSc., B. Arch, M.Ed, ME, M.Tech, MD, M.Pharm, MCS, MCA, MBA, LLM, MVSc., M. Arch, MS, CA, CS, CWA). Special missing (.o) is assigned if the informant reports 'other'. Special missing (.h) is assigned if the respondent does not have an informant interview. Refused or other missing responses are assigned as special missing (.r) and (.m), respectively. **rWinf_educ_d** is set to plain missing (.) if the respondent did not participate in the current wave.

rWinf_educl and **rWinf_educel** indicate the highest level of education the informant completed. They have been created to provide comparable variables for the informant's education across the Harmonized HCAP datasets. **rWinf_educl** is more general and is coded as follows: 1.Less than upper secondary, 2.Upper secondary, vocational, 3.Tertiary. **rWinf_educel** provides further detail on early education and is coded as follows: 1.Less than primary, 2.Primary, 3.Lower secondary, 4.Upper secondary, vocational, 5.Tertiary. Less than primary education includes never attending school and completing less than primary education. Primary education includes completing primary school. Lower secondary education includes completing middle school. Less than upper secondary education encompasses less than primary, primary, and lower secondary education. Upper secondary, vocational education includes completing secondary school, high secondary school, or diploma and certificate holders. Tertiary education includes completing a graduate degree, post-graduate degree or above, and professional course/degree. Special missing (.o) is assigned if the informant reports 'other'. Special missing (.h) is assigned if the respondent does not have an informant interview. Special missing (.r) is assigned for refused responses. Other missing is as assigned special missing (.m). **rWinf_educl** and **rWinf_educel** are set to plain missing (.) if the respondent did not participate in the current wave.

rWinf_rel_d indicates the informant's specific relationship with the respondent. Information from the core LASI Cover-screen was used to verify the informant's relationship. **rWinf_rel_d** is coded as follows: 1. Spouse/partner, 2. Son, 3. Daughter, 4. Son-in-law, 5. Daughter-in-law, 6. Grandchild, 7. Parent, 8. Parent-in-law, 9. Brother, 10. Sister, 11. Grandparent, 12. Other relative, 13. Servant. 14. Friend, and 15. Other. Special missing (.h) is assigned if the respondent does not have an informant interview. Refused or other missing responses are assigned as special missing (.r) and (.m), respectively. **rWinf_rel_d** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfinf_rel_d is a flag variable indicating whether the respondent's relationship to the informant has been checked and/or recategorized. **rWfinf_rel_d** takes a value of -1 if the informant was reported to be the respondent's spouse/partner, brother, sister, other relative, servant, friend or other, or either respondent or informant age was missing and we could not use age to verify the informant's identity. It takes a value of 0 if the informant was reported to be the respondent's son, daughter, son-in-law, daughter-in-law, grandchild, parent, parent-in-law, and grandparent and the respondent was at least ten years older than their child or child-in-law, twenty years older than their grandchild, ten years younger than their parent or parent-in-law, and twenty years younger than their grandparent. It takes a value of 1 if the informant was reported to be the respondent's parent or parent-in-law but there is less than 10 years of age difference (either younger or older) and no change was made. It takes a value of 2 if the informant was reported to be the respondent's son, daughter, son-in-law, or daughter-in-law but there is less than 10 years of age difference (either younger or older) and no change was made. It takes a value of 3 if the informant was reported to be the respondent's grandparent but there is less than 20 years of age difference (either younger or older) and no change was made. It takes a value of 4 if the informant was reported to be the respondent's grandchild but there is less than 20 years of age difference (either younger or older) and no change was made. It takes a value of 5 if the informant was reported to be the respondent's parent or parent-in-law but the respondent is at least ten years older than the informant and the relationship was changed to son, daughter, son-in-law, or daughter-in-law. It takes a value of 6 if the informant was reported to be the respondent's son, daughter, son-in-law, or daughter-in-law but the respondent is at least ten years younger than the informant and the relationship was changed to parent or parent-in-law. It takes a value of 7 if the informant was reported to be the respondent's grandparent but the respondent is at least twenty years older than the informant and the relationship was changed to grandchild. It takes a value of 8 if the informant was reported to be the respondent's grandchild but the respondent is at least twenty years younger than the informant and the relationship was changed to grandparent. Special missing (.h) is assigned if the respondent does not have an informant interview. **rWfinf_rel_d** is set to plain missing (.) if the respondent did not participate in the current wave.

rWinf_relh indicates the informant's relationship with the respondent, grouped, using the corrected relationship. It was created to provide a comparable variable for the informant's relationship to the respondent across the Harmonized HCAP datasets. **rWinf_relh** is coded as follows: 1. Spouse/partner, 2. Child, 3. Grandchild, 4. Other relatives, and 5. Other, non-relatives. It is coded as 2 if the informant is the respondent's son, daughter, son-in-law, or daughter-in-law. It is coded as 4 if the informant is the respondent's parent, parent-in-law, brother, sister, grandparent or other relative. It is coded as 5 if the informant is the respondent's servant, friend, or other. Special missing (.h) is assigned if the respondent does not have an informant interview. Special missing (.r) is assigned for refused responses. Other missing is as assigned special missing (.m). **rWinf_relh** is set to plain missing (.) if the respondent did not participate in the current wave.

rWinf_freq indicates how often the informant generally saw the respondent in the last year. A code of 1 is assigned if the informant lives with the respondent. A code of 2 is assigned if the informant saw the respondent daily. A code of 3 is assigned if the informant saw the respondent between once a week and several times a week. A code of 4 is assigned if the informant never saw the respondent or saw the respondent up to one to three times a month. Special missing (.o) is assigned if the informant reports an unspecified other frequency. Special missing (.h) is assigned if the respondent does not have an informant interview. Refused or other missing responses are assigned as special missing (.r) and (.m), respectively. **rWinf_freq** is set to plain missing (.) if the respondent did not participate in the current wave.

rWinf_yrs indicates the number of years the informant has known the respondent. If the informant is a child, sibling, or parent, **rWinf_yrs** is coded as either the informant's age or respondent's age, whichever is younger. Otherwise, **rWinf_yrs** gives the reported number of years. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWinf_yrs** is set to plain missing (.) if the respondent did not participate in the current wave.

rWinf_same indicates whether the same person was the informant for both Waves 1 and 2 and is available starting in Wave 2. A code of 0 indicates that the informant in Wave 2 is not the same person who was the informant in Wave 1. A code of

1 indicates that the informant is the same person in Waves 1 and 2. Special missing (.h) is assigned if the respondent does not have an informant interview. Special missing (.z) is assigned if the respondent is new in Wave 2 and did not complete a Wave 1 interview. Other missing responses are assigned as special missing (.m). **rWinf_same** is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

rWinf_same is only available at Wave 2.

Differences with other HCAP studies

All HCAP studies ask the informant's age, gender, highest level of education completed, the informant's relationship with the respondent, and whether the informant lives in the same home as the respondent. The HRS-HCAP, ELSA-HCAP, and LASI-DAD also ask about the informant's frequency of contact with the respondent, whether the informant is a caregiver for the respondent, and the number of years that the informant has known the respondent, which are not asked in the SPS Chile-Cog or MHAS Mex-Cog. Unlike the other studies, the ELSA-HCAP top-codes informant age at 90 years.

However, each study uses different educational groupings. As a result, the **rWinf_educ** variables in the Harmonized HCAP datasets are study specific, and **rWinf_edyrs** is only available in the Harmonized HRS-HCAP. **rWinf_educl** and **rWinf_educel** were created in order to make the available information comparable across the studies, however **rWinf_educel** cannot be created in the Harmonized ELSA-HCAP.

Additionally, these studies collect the relationship between the informant and respondent in different categories. The categories used in the HRS-HCAP and ELSA-HCAP are comparable (**rWinf_rela**), the categories used in SPS Chile-Cog and MHAS Mex-Cog are comparable (**rWinf_relb**), and the categories used in LASI-DAD are different (**rWinf_rel_d**). As a result, **rWinf_relh** has been created to provide a comparable measure between Harmonized HCAP datasets. Furthermore, steps have been taken to correct the respondent's relationship with the informant using the respondent's and informant's ages in each Harmonized HCAP dataset.

There are also differences in how these studies ask how long the informant has known the respondent. In the LASI-DAD, the informant is not asked for this information if the informant is the respondent's son, daughter, parent, brother, or sister. In the HRS-HCAP, the informant is not asked for this information if the informant is the respondent's child, sibling, or parent. In the ELSA-HCAP, the informant is not asked for this information if the informant is the respondent's child, grandchild, sibling, or parent.

So far, only Harmonized LASI-DAD includes a variable indicating whether the same informant is used in Waves 1 and 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1inf_age	4,025	44.28	16.78	18.00	92.00	71
r2inf_age	4,485	45.13	16.63	18.00	100.00	153
r1inf_yrs	4,026	32.04	15.78	1.00	87.00	70
r2inf_yrs	4,486	33.37	16.03	1.00	88.00	152

Categorical Variable Frequencies

	r1inf_gendr	r2inf_gendr
1.Man	1,464	1,749
2.Woman	2,571	2,740
.h:Respondent IW only	50	72
.m:Missing	10	77
.r:Refuse	1	0
Total	4,096	4,638

	r1inf_educ_d	r2inf_educ_d
0.Never attended school	913	1,075
1.Less than primary school(	309	297
2.Primary school completed	482	519
3.Middle school completed (	495	558
4.Secondary school complete	724	769
5.Higher secondary complete	450	535
6.Diploma and certificate h	68	67
7.Graduate degree completed	418	467
8.Post-graduate degree	126	156
9.Professional course/degre	43	42
.h:Respondent IW only	50	72
.m:Missing	10	77
.o:Other	6	4
.r:Refuse	2	0
Total	4,096	4,638

	r1inf_educl	r2inf_educl
1.Less than upper secondary	2,199	2,449
2.Upper secondary, vocation	1,242	1,371
3.Tertiary	587	665
.h:Respondent IW only	50	72
.m:Missing	10	77
.o:Other	6	4
.r:Refuse	2	0
Total	4,096	4,638

	r1inf_educel	r2inf_educel
1.Less than Primary	1,222	1,372
2.Primary	482	519
3.Lower secondary	495	558
4.Upper secondary, vocation	1,242	1,371
5.Tertiary	587	665
.h:Respondent IW only	50	72
.m:Missing	10	77
.o:Other	6	4
.r:Refuse	2	0
Total	4,096	4,638

	r1inf_rel_d	r2inf_rel_d
1.Spouse/partner	1,204	1,076
2.Son	786	1,026
3.Daughter	346	402
4.Son-in-law	28	18
5.Daughter-in-law	1,069	1,271
6.Grandchild	300	398
7.Parent	4	6
8.Parent-in-law	3	5
9.Brother	32	29
10.Sister	29	31
12.Other relative	102	71
13.Servant	1	14
14.Friend	27	21

15.Other	104	121
.h:Respondent IW only	50	72
.m:Missing	10	77
.r:Refuse	1	0
Total	4,096	4,638

	r1finf_rel_d	r2finf_rel_d
-1.not checked	1,515	1,443
0.no change, expctd age dif	2,205	3,055
1.no change, <10yr diff r a	1	4
2.no change, <10yr diff r a	6	54
4.no change, <20yr diff r a	1	10
5.change parent to child, >	254	0
6.change child to parent, >	3	0
7.change gparent to gchild,	61	0
.h:Respondent IW only	50	72
Total	4,096	4,638

	r1inf_relh	r2inf_relh
1.Spouse/partner	1,204	1,076
2.Child/child-in-law	2,229	2,717
3.Grandchild	300	398
4.Other relative	170	142
5.Other, non-relative	132	156
.h:Respondent IW only	50	72
.m:Missing	10	77
.r:Refuse	1	0
Total	4,096	4,638

	r1inf_freq	r2inf_freq
1.Lives with respondent	3,056	3,704
2.Daily	819	618
3.Once to several times/wee	81	103
4.One-three time a month or	67	65
.h:Respondent IW only	50	72
.m:Missing	10	76
.o:Other	12	0
.r:Refuse	1	0
Total	4,096	4,638

	r2inf_same
0.No	1,741
1.Yes	824
.h:Respondent IW only	72
.m:Missing	1
.z:New Respondent	2,000
Total	4,638

Original DAD Variables Used

Wave 1 Informant Report:

dm_age Informant Age

dm_gender	Informant Gender
dm_educ1	EVER ATTENDED SCHOOL
dm_educ2	Informant Ed Level
dm_rtr	Informant Rel To Respondent
dm_freq	Informant Freq See Respondent
dm_years	Informant Yrs Known Respondent

Wave 2 Informant Report:

dm_age	Informant Age
dm_gender	Informant Gender
dm_educ1	Informant Ever Attended School
dm_educ2	Informant Highest Educ Level
dm_rtr	Informant Rel To Respondent
dm_freq	Informant Freq See Respondent
dm_years	Informant Yrs Known Respondent
same_inf	Same informant between w1 & w2

Diagnosed Health Conditions

Variable	Waves	Label	Type
rWinf_strok	1-2	rWinf_strok:wW Informant: R diagnosed with stroke	Categ
rWinf_parkn	1-2	rWinf_parkn:wW Informant: R diagnosed with Parkinsons	Categ
rWinf_alzhe	1-2	rWinf_alzhe:wW Informant: R diagnosed with Alzheimers	Categ
rWinf_memry	1-2	rWinf_memry:wW Informant: R diagnosed with memory problems	Categ

How Constructed

rWinf_strok indicates whether the informant reported that the respondent has been diagnosed with a stroke.

rWinf_parkn indicates whether the informant reported that the respondent has been diagnosed with Parkinson's disease.

rWinf_alzhe indicates whether the informant reported that the respondent has been diagnosed with Alzheimer's disease.

rWinf_memry indicates whether the informant reported that the respondent has been diagnosed with memory problems.

rWinf_strok, **rWinf_parkn**, **rWinf_alzhe**, and **rWinf_memry** are coded as 1 if the informant reports that the respondent was diagnosed with the corresponding health condition. A code of 0 is assigned if the informant reports that the respondent has not been diagnosed with the condition. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWinf_strok**, **rWinf_parkn**, **rWinf_alzhe**, and **rWinf_memry** are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

No differences known between the HRS-HCAP, ELSA-HCAP, and LASI-DAD. The MHAS Mex-Cog and SPS Chile-Cog do not include this section.

Categorical Variable Frequencies

	r1inf_strok	r2inf_strok
0.No	3,776	4,239
1.Yes	238	248
.d:DK	19	3
.h:Respondent IW only	50	72
.m:Missing	11	76
.r:Refuse	2	0
Total	4,096	4,638

	r1inf_parkn	r2inf_parkn
0.No	3,873	4,406
1.Yes	142	79
.d:DK	18	5
.h:Respondent IW only	50	72
.m:Missing	11	76
.r:Refuse	2	0
Total	4,096	4,638

	r1inf_alzhe	r2inf_alzhe
0.No	3,876	4,428
1.Yes	143	59
.d:DK	14	3
.h:Respondent IW only	50	72
.m:Missing	11	76
.r:Refuse	2	0
Total	4,096	4,638

	r1inf_memry	r2inf_memry
0.No	3,535	4,185
1.Yes	466	299
.d:DK	32	6
.h:Respondent IW only	50	72
.m:Missing	11	76
.r:Refuse	2	0
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Informant Report:

dm_stroke	Resp Diagnosed Stroke
dm_park	Resp Diagnosed Parkinsons
dm_ad	Resp Diagnosed Alzheimers
dm_mem	Resp Diagnosed Memory Probs

Wave 2 Informant Report:

dm_stroke	Resp Diagnosed Stroke
dm_park	Resp Diagnosed Parkinsons
dm_ad	Resp Diagnosed Alzheimers
dm_mem	Resp Diagnosed Memory Probs

JORM IQCODE Test

Variable	Waves	Label	Type
rWiqscore1	1-2	rWiqscore1:wW JORM R remember family/friend details	Categ
rWfiqscore1	1-2	rWfiqscore1:impflag wW R whether imputed value	Categ
rWiqscore2	1-2	rWiqscore2:wW JORM R remember recent events	Categ
rWfiqscore2	1-2	rWfiqscore2:impflag wW R whether imputed value	Categ
rWiqscore3	1-2	rWiqscore3:wW JORM R recall recent conversations	Categ
rWfiqscore3	1-2	rWfiqscore3:impflag wW R whether imputed value	Categ
rWiqscore4	1-2	rWiqscore4:wW JORM R remember address and telephone number	Categ
rWfiqscore4	1-2	rWfiqscore4:impflag wW R whether imputed value	Categ
rWiqscore5	1-2	rWiqscore5:wW JORM R remember day and month	Categ
rWfiqscore5	1-2	rWfiqscore5:impflag wW R whether imputed value	Categ
rWiqscore6	1-2	rWiqscore6:wW JORM R remember where things are usually kept	Categ
rWfiqscore6	1-2	rWfiqscore6:impflag wW R whether imputed value	Categ
rWiqscore7	1-2	rWiqscore7:wW JORM R remember where to find things	Categ
rWfiqscore7	1-2	rWfiqscore7:impflag wW R whether imputed value	Categ
rWiqscore8	1-2	rWiqscore8:wW JORM R work familiar machines	Categ
rWfiqscore8	1-2	rWfiqscore8:impflag wW R whether imputed value	Categ
rWiqscore9	1-2	rWiqscore9:wW JORM R learn new gadget or machine	Categ
rWfiqscore9	1-2	rWfiqscore9:impflag wW R whether imputed value	Categ
rWiqscore10	1-2	rWiqscore10:wW JORM R learn new things in general	Categ
rWfiqscore10	1-2	rWfiqscore10:impflag wW R whether imputed value	Categ
rWiqscore11	1-2	rWiqscore11:wW JORM R follow story in a book or on TV	Categ
rWfiqscore11	1-2	rWfiqscore11:impflag wW R whether imputed value	Categ
rWiqscore12	1-2	rWiqscore12:wW JORM R making decisions on everyday matters	Categ
rWfiqscore12	1-2	rWfiqscore12:impflag wW R whether imputed value	Categ
rWiqscore13	1-2	rWiqscore13:wW JORM R handling money for shopping	Categ
rWfiqscore13	1-2	rWfiqscore13:impflag wW R whether imputed value	Categ
rWiqscore14	1-2	rWiqscore14:wW JORM R handling financial matters	Categ
rWfiqscore14	1-2	rWfiqscore14:impflag wW R whether imputed value	Categ
rWiqscore15	1-2	rWiqscore15:wW JORM R handling other everyday arithmetic problems	Categ
rWfiqscore15	1-2	rWfiqscore15:impflag wW R whether imputed value	Categ
rWiqscore16	1-2	rWiqscore16:wW JORM R reason things through	Categ

rWfiqscore16	1-2	rWfiqscore16:impflag wW R whether imputed value	Categ
rWjormscore	1-2	rWjormscore:wW JORM average score	Cont

How Constructed

The following variables pertain to a series of questions asking the informant whether the respondent has improved, stayed the same, or gotten worse in various situations that require memory or intelligence. The interviewer emphasizes the importance of comparing present performance with past performance. The informant is asked to compare the current year with 10 years ago. If the informant has known the respondent for less than 10 years, they are asked to compare the current year with the year they first met the respondent.

In rWiqscore1, the informant compares the respondent's current ability to remember things about family and friends, such as occupations, birthdays, and addresses, with their ability to remember these things in the past.

In rWiqscore2, the informant compares the respondent's current ability to remember things that have happened recently with their ability in the past.

In rWiqscore3, the informant compares the respondent's current ability to recall conversations a few days later with their ability in the past.

In rWiqscore4, the informant compares the respondent's current ability to remember their address and telephone number with their ability in the past.

In rWiqscore5, the informant compares the respondent's current ability to remember what day and month it is with their ability in the past.

In rWiqscore6, the informant compares the respondent's current ability to remember where things are usually kept with their ability in the past.

In rWiqscore7, the informant compares the respondent's current ability to remember where to find things that have been put in a different place from usual with their ability in the past.

In rWiqscore8, the informant compares the respondent's current ability to know how to work familiar machines around the house with their ability in the past.

In rWiqscore9, the informant compares the respondent's current ability to learn to use a new gadget or machine around house with their ability in the past.

In rWiqscore10, the informant compares the respondent's current ability to learn new things in general with their ability in the past.

In rWiqscore11, the informant compares the respondent's current ability to follow a story in a book or on TV with their ability in the past.

In rWiqscore12, the informant compares the respondent's current ability to make decisions on everyday matters with their ability in the past.

In rWiqscore13, the informant compares the respondent's current ability to handle money for shopping with their ability in the past.

In rWiqscore14, the informant compares the respondent's current ability to handle financial matters with their ability in the past. Examples include pension-related decisions or dealing with a bank.

In rWiqscore15, the informant compares the respondent's current ability to handle other everyday arithmetic problems, such as knowing how much food to buy and knowing how much time elapsed between visits from family or friends, with their ability in the past.

In rWiqscore16, the informant compares the respondent's current ability to use their intelligence to understand what's going on and to reason things through with their ability in the past.

rWiqscore1- **rWiqscore16** are coded as follows: 1. Much improved, 2. A bit improved, 3. Not much changed, 4. A bit worse, and 5. Much worse. If the informant reports that a particular activity does not apply to the respondent, special missing (.n) is assigned. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWiqscore1** – **rWiqscore16** are set to plain missing (.) if the respondent did not participate in the current wave.

rWjormscore indicates the average value of **rWiqscore1**- **rWiqscore16**, ranging from 1 to 5. **rWjormscore** is calculated by taking the sum of values between **rWiqscore1**- **rWiqscore16** over the number of non-missing values between **rWiqscore1**- **rWiqscore16**. If the informant reports that no activities apply to the respondent, special missing (.n) is assigned. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWjormscore** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfiqscore1 - **rWfiqscore16** are flag variables, indicating whether the corresponding variable was assigned an imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 3.Not Assessed, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The LASI-DAD, HRS-HCAP, and ELSA-HCAP ask the same questions in this section, but the questions in the HRS are separated into primary questions indicating whether it has improved, worsened, or stayed the same, and two types of sub-questions: 1. Is it much improved or a bit improved?, and 2. Is it much worse or a bit worse?. In the LASI-DAD and ELSA-HCAP, a single question is asked and includes the following answer choices: much improved, a bit improved, not much changed, a bit worse, and much worse.

The mean score is calculated in the Harmonized LASI-DAD, Harmonized HRS-HCAP, and Harmonized ELSA-HCAP. In addition to the mean score, scored 1 to 5, the HRS-HCAP also calculates the trimmed mean score, scored 3 to 5, which is not included in the Harmonized HRS-HCAP.

The MHAS Mex-Cog and SPS Chile-Cog do not include this section.

The Harmonized LASI-DAD, Harmonized HRS-HCAP, and Harmonized ELSA-HCAP include imputed responses and accompanying imputation flags for each item, but only the Harmonized HRS-HCAP includes an imputation flag for the final score. Harmonized HRS-HCAP and Harmonized ELSA-HCAP do not provide imputed responses if there is no informant interview, while the Harmonized LASI-DAD imputes responses if there is no informant interview.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1jormscore	4,096	3.45	0.50	1.00	5.00	0
r2jormscore	4,638	3.41	0.45	1.88	5.00	0

Categorical Variable Frequencies

	r1iqscore1	r2iqscore1
1.Much improved	36	14
2.A bit improved	83	113
3.Not much changed	2,322	2,711
4.A bit worse	1,257	1,386
5.Much worse	398	342
.h:Respondent IW only	0	72

Total	4,096	4,638

	r1fiqscore1	r2fiqscore1
0.Not imputed	3,979	4,477
1.Dont know	9	1
2.Missing	13	76
3.Not Assessed	42	12
4.Refused	3	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore2	r2iqscore2
1.Much improved	34	4
2.A bit improved	82	93
3.Not much changed	2,410	2,779
4.A bit worse	1,231	1,394
5.Much worse	339	296
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore2	r2fiqscore2
0.Not imputed	4,000	4,488
1.Dont know	16	0
2.Missing	13	76
3.Not Assessed	14	2
4.Refused	3	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore3	r2iqscore3
1.Much improved	19	4
2.A bit improved	75	101
3.Not much changed	2,390	2,643
4.A bit worse	1,278	1,496
5.Much worse	334	322
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore3	r2fiqscore3
0.Not imputed	4,005	4,487
1.Dont know	16	0
2.Missing	13	76
3.Not Assessed	7	3
4.Refused	5	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore4	r2iqscore4
1.Much improved	22	8
2.A bit improved	68	47
3.Not much changed	2,518	3,092
4.A bit worse	1,067	1,084
5.Much worse	421	335

.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore4	r2fiqscore4
0.Not imputed	3,597	4,175
1.Dont know	17	0
2.Missing	13	76
3.Not Assessed	415	315
4.Refused	4	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore5	r2iqscore5
1.Much improved	29	4
2.A bit improved	75	59
3.Not much changed	2,583	3,045
4.A bit worse	1,040	1,126
5.Much worse	369	332
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore5	r2fiqscore5
0.Not imputed	3,905	4,453
1.Dont know	14	2
2.Missing	13	76
3.Not Assessed	111	35
4.Refused	3	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore6	r2iqscore6
1.Much improved	12	10
2.A bit improved	55	77
3.Not much changed	2,223	2,587
4.A bit worse	1,421	1,534
5.Much worse	385	358
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore6	r2fiqscore6
0.Not imputed	3,985	4,476
1.Dont know	11	1
2.Missing	13	76
3.Not Assessed	34	13
4.Refused	3	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore7	r2iqscore7
1.Much improved	15	5
2.A bit improved	53	49
3.Not much changed	1,985	2,355
4.A bit worse	1,592	1,776

5.Much worse	451	381
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore7	r2fiqscore7
0.Not imputed	3,978	4,463
1.Dont know	15	3
2.Missing	13	76
3.Not Assessed	37	24
4.Refused	3	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore8	r2iqscore8
1.Much improved	33	14
2.A bit improved	92	143
3.Not much changed	2,512	2,852
4.A bit worse	1,007	1,049
5.Much worse	452	508
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore8	r2fiqscore8
0.Not imputed	3,250	3,638
1.Dont know	29	0
2.Missing	13	76
3.Not Assessed	751	852
4.Refused	3	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore9	r2iqscore9
1.Much improved	48	39
2.A bit improved	153	275
3.Not much changed	2,061	2,207
4.A bit worse	1,247	1,392
5.Much worse	587	653
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore9	r2fiqscore9
0.Not imputed	2,824	3,430
1.Dont know	35	2
2.Missing	13	76
3.Not Assessed	1,170	1,057
4.Refused	4	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore10	r2iqscore10
1.Much improved	45	41
2.A bit improved	195	186
3.Not much changed	1,920	2,237

4.A bit worse	1,306	1,542
5.Much worse	630	560
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore10	r2fiqscore10
0.Not imputed	3,478	4,022
1.Dont know	32	6
2.Missing	13	76
3.Not Assessed	520	461
4.Refused	3	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore11	r2iqscore11
1.Much improved	37	24
2.A bit improved	127	165
3.Not much changed	2,675	3,133
4.A bit worse	881	892
5.Much worse	376	352
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore11	r2fiqscore11
0.Not imputed	3,450	3,909
1.Dont know	20	1
2.Missing	13	76
3.Not Assessed	559	578
4.Refused	4	2
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore12	r2iqscore12
1.Much improved	26	13
2.A bit improved	95	118
3.Not much changed	2,553	2,958
4.A bit worse	977	1,061
5.Much worse	445	416
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore12	r2fiqscore12
0.Not imputed	3,744	4,328
1.Dont know	15	1
2.Missing	13	76
3.Not Assessed	269	160
4.Refused	5	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore13	r2iqscore13
1.Much improved	31	19
2.A bit improved	81	110

3.Not much changed	2,645	3,046
4.A bit worse	863	972
5.Much worse	476	419
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore13	r2fiqscore13
0.Not imputed	3,664	4,277
1.Dont know	12	1
2.Missing	13	76
3.Not Assessed	352	212
4.Refused	5	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore14	r2iqscore14
1.Much improved	41	16
2.A bit improved	110	98
3.Not much changed	2,492	3,000
4.A bit worse	909	966
5.Much worse	544	486
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore14	r2fiqscore14
0.Not imputed	3,251	3,997
1.Dont know	15	0
2.Missing	14	76
3.Not Assessed	761	493
4.Refused	5	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore15	r2iqscore15
1.Much improved	28	13
2.A bit improved	74	86
3.Not much changed	2,609	2,991
4.A bit worse	960	1,067
5.Much worse	425	409
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore15	r2fiqscore15
0.Not imputed	3,671	4,289
1.Dont know	20	1
2.Missing	14	76
3.Not Assessed	336	200
4.Refused	5	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1iqscore16	r2iqscore16
1.Much improved	32	12

2.A bit improved	95	107
3.Not much changed	2,681	3,126
4.A bit worse	947	1,032
5.Much worse	341	289
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fiqscore16	r2fiqscore16
0.Not imputed	3,939	4,472
1.Dont know	17	2
2.Missing	14	77
3.Not Assessed	72	15
4.Refused	4	0
12.Not interviewed	50	72
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Informant Report:

j1a	Remembering Family, Friends, Dates
j2a	Remembering Recent Happenings
j3a	Recalling Conversations
j4a	Remembering Address and Telephone
j5a	Remembering Day and Month
j6a	Remembering Where Things Are Kept
j7a	Remembering Where to Find Things
j8a	Knowing How to Work Machines
j9a	Learning to Use a New Gadget
j10a	Learning New Things
j11a	Following a Story in Book or on TV
j12a	Making Everyday Decisions
j13a	Handling Money for Shopping
j14a	Handling Fin Matters with Bank
j15a	Handling Everyday Math
j16a	Using Intelligence to Reason

Wave 2 Informant Report:

j1a	Remembering Family, Friends, Dates
j2a	Remembering Recent Happenings
j3a	Recalling Conversations
j4a	Remembering Address and Telephone
j5a	Remembering Day and Month
j6a	Remembering Where Things Are Kept
j7a	Remembering Where to Find Things
j8a	Knowing How to Work Machines
j9a	Learning to Use a New Gadget
j10a	Learning New Things
j11a	Following a Story in Book or on TV
j12a	Making Everyday Decisions
j13a	Handling Money for Shopping
j14a	Handling Fin Matters with Bank
j15a	Handling Everyday Math
j16a	Using Intelligence to Reason

Blessed Test Part 2

Variable	Waves	Label	Type
rWbl2_2r	1-2	rWbl2_2r:wW Blessed Test part 2-R eating	Categ
rWfbl2_2r	1-2	rWfbl2_2r:impflag wW R whether imputed value	Categ
rWbl2_3r	1-2	rWbl2_3r:wW Blessed Test part 2-R toilet	Categ
rWfbl2_3r	1-2	rWfbl2_3r:impflag wW R whether imputed value	Categ
rWbl2_4r	1-2	rWbl2_4r:wW Blessed Test part 2-R dressing	Categ
rWfbl2_4r	1-2	rWfbl2_4r:impflag wW R whether imputed value	Categ
rWbl2score	1-2	rWbl2score:wW Blessed Test part 2 average score	Cont

How Constructed

The following variables pertain to a series of questions asked to the informant regarding how well the respondent does with different activities.

rWbl2_2r asks the informant how well the respondent feeds themselves. A 1 is coded for being able to feed oneself without assistance. A 2 is coded for being able to feed oneself with minor assistance. A 3 is coded for feeding oneself with much assistance. A 4 is coded for having to be fed. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing are assigned as special missing (.d), (.r), and (.m), respectively. rWbl2_2r is set to plain missing (.) if the respondent did not participate in the current wave.

rWbl2_3r asks the informant how well the respondent can clean and care for themselves at a toilet. A 1 indicates that the respondent is able to clean and care for oneself at a toilet. A 2 indicates that the respondent has occasional incontinence or needs to be reminded. A 3 indicates that the respondent has frequent incontinence or needs a lot of assistance. A 4 indicates that the respondent has little or no control over incontinence. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing are assigned as special missing (.d), (.r), and (.m), respectively. rWbl2_3r is set to plain missing (.) if the respondent did not participate in the current wave.

rWbl2_4r asks the informant how well the respondent is able to get dressed unaided. A 1 indicates that the respondent can dress unaided. A 2 indicates that the respondent occasionally misplaces buttons and requires minor help. A 3 indicates that the respondent gets dressed in the wrong sequence, forgets items, and requires much assistance. A 4 indicates that the respondent is unable to dress oneself. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing are assigned as special missing (.d), (.r), and (.m), respectively. rWbl2_4r is set to plain missing (.) if the respondent did not participate in the current wave.

rWbl2score indicates the average value of rWbl2_2r, rWbl2_3r, and rWbl2_4r. rWbl2score is calculated by taking the sum of values between rWbl2_2r, rWbl2_3r, and rWbl2_4r over the number of non-missing values between rWbl2_2r, rWbl2_3r, and rWbl2_4r. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing are assigned as special missing (.d), (.r), and (.m), respectively. rWbl2score is set to plain missing (.) if the respondent did not participate in the current wave.

rWfbl2_2r, rWfbl2_3r, and rWfbl2_4r are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

The LASI-DAD, HRS-HCAP, and ELSA-HCAP ask three questions in this section on eating, using the toilet, and dressing under part 2 of the Blessed test. As such, the Harmonized LASI-DAD, Harmonized HRS-HCAP, and Harmonized ELSA-HCAP use the

same variable naming, variable coding, and calculate average summary scores for this section. However, the MHAS Mex-Cog and SPS Chile-Cog ask 4 questions, two of which are on using the toilet, under Functional Decline, using alternative variable naming and coding. Unlike the other Harmonized HCAP datasets, Harmonized Mex-Cog and Harmonized Chile-Cog do not calculate an average summary score.

All the Harmonized HCAP datasets include imputations and accompanying imputation flags. Harmonized HRS-HCAP, Harmonized ELSA-HCAP, and Harmonized Chile-Cog do not provide imputed responses if there was no informant interview, while the Harmonized LASI-DAD and Harmonized Mex-Cog impute responses if there is no informant interview. Additionally, an imputation flag is included for the final score in the Harmonized HRS-HCAP, which is not included in the other datasets.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1bl2score	4,096	1.08	0.32	1.00	4.00	0
r2bl2score	4,638	1.11	0.38	1.00	4.00	0

Categorical Variable Frequencies

	r1bl2_2r	r2bl2_2r
1.Feeds self without assist	3,909	4,295
2.Feeds self with minor ass	88	123
3.Feeds self with much assi	38	38
4.Has to be fed	61	110
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fbl2_2r	r2fbl2_2r
0.Not imputed	4,028	4,488
1.Dont know	1	0
2.Missing	14	78
4.Refused	3	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl2_3r	r2bl2_3r
1.Clean, cares for self at	3,918	4,304
2.Occasional incontinence,	96	140
3.Frequent incontinence, or	56	81
4.Little or no control	26	41
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fbl2_3r	r2fbl2_3r
0.Not imputed	4,023	4,488
1.Dont know	2	0
2.Missing	14	78
4.Refused	7	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl2_4r	r2bl2_4r
1.Unaided	3,871	4,232
2.Occasionally misplaces bu	142	192

3.Wrong sequences, forgets	34	50
4.Unable to dress	49	92
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fbl2_4r	r2fbl2_4r
0.Not imputed	4,027	4,487
1.Dont know	1	0
2.Missing	14	78
4.Refused	4	1
12.Not interviewed	50	72
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Informant Report:

bl2_2	Ability to Feed Self
bl2_3	Ability to Use Toilet
bl2_4	Ability to Dress Self

Wave 2 Informant Report:

bl2_2	Ability to Feed Self
bl2_3	Ability to Use Toilet
bl2_4	Ability to Dress Self

Everyday Activities

Variable	Waves	Label	Type
rWact_tv	1-2	rWact_tv:wW Activities- R watching TV	Categ
rWfact_tv	1-2	rWfact_tv:impflag wW R whether imputed value	Categ
rWact_read	1-2	rWact_read:wW Activities- R reading	Categ
rWfact_read	1-2	rWfact_read:impflag wW R whether imputed value	Categ
rWact_chor	1-2	rWact_chor:wW Activities- R chores, maintenance, or gardening	Categ
rWfact_chor	1-2	rWfact_chor:impflag wW R whether imputed value	Categ
rWact_comp	1-2	rWact_comp:wW Activities- R computer or the internet	Categ
rWfact_comp	1-2	rWfact_comp:impflag wW R whether imputed value	Categ
rWact_nap	1-2	rWact_nap:wW Activities- R taking naps	Categ
rWfact_nap	1-2	rWfact_nap:impflag wW R whether imputed value	Categ
rWact_meal	1-2	rWact_meal:wW Activities- R preparing hot meals	Categ
rWfact_meal	1-2	rWfact_meal:impflag wW R whether imputed value	Categ
rWact_trav	1-2	rWact_trav:wW Activities- R traveling	Categ
rWfact_trav	1-2	rWfact_trav:impflag wW R whether imputed value	Categ
rWact_pubt	1-2	rWact_pubt:wW Activities- R public transit	Categ
rWfact_pubt	1-2	rWfact_pubt:impflag wW R whether imputed value	Categ
rWact_work	1-2	rWact_work:wW Activities- R work or volunteer	Categ
rWfact_work	1-2	rWfact_work:impflag wW R whether imputed value	Categ
rWact_stor	1-2	rWact_stor:wW Activities- R store or market for food	Categ
rWfact_stor	1-2	rWfact_stor:impflag wW R whether imputed value	Categ
rWact_walk	1-2	rWact_walk:wW Activities- R walks	Categ
rWfact_walk	1-2	rWfact_walk:impflag wW R whether imputed value	Categ
rWact_spor	1-2	rWact_spor:wW Activities- R yoga or any other exercise	Categ
rWfact_spor	1-2	rWfact_spor:impflag wW R whether imputed value	Categ
rWact_daila	1-2	rWact_daila:wW Activities- R daily activities	Categ
rWfact_daila	1-2	rWfact_daila:impflag wW R whether imputed value	Categ

How Constructed

The following variables pertain to a series of questions regarding the respondent's activity level, according to the informant.

rWact_tv asks the informant how many hours in an average day the respondent spends watching television. **rWact_tv** is coded as follows: 0. Never, 1. 30 minutes, 2. One hour, 3. Two to three hours, 4. Four to six hours, and 5. Seven or more hours. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_tv** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_read asks the informant how many hours in an average day the respondent spends reading. **rWact_read** is coded as follows: 0. Never, 1. 30 minutes, 2. One hour, 3. Two to three hours, 4. Four to six hours, and 5. Seven or more

hours. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_read** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_chor asks the informant how many hours in an average day the respondent spends doing chores, maintenance, or gardening. **rWact_chor** is coded as follows: 0. Never, 1. 30 minutes, 2. One hour, 3. Two to three hours, 4. Four to six hours, and 5. Seven or more hours. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_chor** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_comp asks the informant how many hours in an average day the respondent spends using a computer or the internet. **rWact_comp** is coded as follows: 0. Never, 1. 30 minutes, 2. One hour, 3. Two to three hours, 4. Four to six hours, and 5. Seven or more hours. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_comp** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_nap asks the informant how many hours in an average day the respondent spends taking naps. **rWact_nap** is coded as follows: 0. Never, 1. 30 minutes, 2. One hour, 3. Two to three hours, 4. Four to six hours, and 5. Seven or more hours. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_nap** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_meal asks the informant whether the respondent prepares hot meals. A 1 indicates that the respondent prepares hot meals. A 0 indicates that the respondent does not prepare hot meals or that it is not customary for the respondent to do this. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_meal** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_trav asks the informant whether the respondent is able to travel somewhere by themselves. A 1 is coded for yes. A 0 is coded for no. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_trav** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_pubt asks the informant whether the respondent can use public transit by themselves. A 1 is coded for yes. A 0 is coded for no. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_pubt** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_work asks the informant how often the respondent goes to work or volunteers. **rWact_work** is coded as follows: 1. Daily, 2. Several times a week, 3. Once a week, 4. Once a month, 5. Rarely, and 6. Never. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_work** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_stor asks the informant how often the respondent goes to the store or market for food or other things. **rWact_stor** is coded as follows: 1. Daily, 2. Several times a week, 3. Once a week, 4. Once a month, 5. Rarely, and 6. Never. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_stor** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_walk asks the informant how often the respondent goes for walks. **rWact_walk** is coded as follows: 1. Daily, 2. Several times a week, 3. Once a week, 4. Once a month, 5. Rarely, and 6. Never. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_walk** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_spor asks the informant how often the respondent does yoga or any other exercise. **rWact_spor** is coded as

follows: 1. Daily, 2. Several times a week, 3. Once a week, 4. Once a month, 5. Rarely, and 6. Never. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_stor** is set to plain missing (.) if the respondent did not participate in the current wave.

rWact_daila indicates how much, if any, the informant has seen a change in the respondent's daily activities in the past few years. **rWact_daila** is coded as follows: 1. No change, 2. Slowing down, and 3. Activities decreased or discontinued. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWact_daila** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfact_tv - **rWfact_daila** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

All studies ask about doing chores, preparing hot meals, working or volunteering, going to the store for food, and change in daily activities. In the question about chores, both LASI-DAD and HRS-HCAP ask in an average day how many hours do they spend doing "chores, maintenance, or gardening", ELSA-HCAP replaces the word "chores" with "housework", SPS Chile-Cog asks about "chores, like cleaning or gardening", and MHAS Mex-Cog asks about "house or daily chores" (**rWact_chor_m**). HRS-HCAP, MHAS Mex-Cog, and SPS Chile-Cog ask additional questions about preparing hot meals and going to the store for food, that are not included in LASI-DAD and ELSA-HCAP. LASI-DAD, HRS-HCAP, and ELSA-HCAP ask about the change in daily activities using a 3-point scale (**rWact_daila**): no change, slowing down, activities decreased or discontinued. MHAS Mex-Cog and SPS Chile-Cog ask about the change in daily activities using a 4-point scale (**rWact_dailb**): no change, decrease in the number/variety of activities, decrease in the capacity to perform the activities, decrease in number and capability.

Unlike the MHAS Mex-Cog and SPS Chile-Cog, the LASI-DAD, HRS-HCAP, and ELSA-HCAP ask about watching television, reading, using the computer, napping, traveling, using public transportation, going for walks, and playing sports or exercise. In the question about traveling, HRS-HCAP and ELSA-HCAP ask "Is R able to drive on his/her own?", while LASI-DAD asks "Is R able to travel somewhere on his/her own?". In the question about exercising, HRS-HCAP and ELSA-HCAP ask "How often does R play sports or exercise?", while LASI-DAD asks "How often does R do yoga or any other exercise?". The HRS-HCAP also asks whether the respondent walks or exercises alone or with someone, which is not asked in LASI-DAD or ELSA-HCAP.

Unlike the LASI-DAD, HRS-HCAP, and ELSA-HCAP, the MHAS Mex-Cog and SPS Chile-Cog ask about participating in activities for the elderly, doing puzzles or crosswords, having conversation, visiting friends or relatives, and attending religious or social events. They ask comparable questions about visiting friends or attending events alone or with someone. They also ask about the frequency of participating in activities for the elderly, but it is collected as the number of days in MHAS Mex-Cog (**rWact_senid**) and categorically in SPS Chile-Cog (**rWact_senif**).

Please note that for **rWact_work**, **rWact_stor**, **rWact_visi**, and **rWact_evnt**, the option is listed as "rarely" in the Harmonized LASI-DAD, Harmonized HRS-HCAP, Harmonized ELSA-HCAP, while it is listed as "sometimes" in Harmonized Mex-Cog, and "every now and then" in the Harmonized Chile-Cog, according to the text used in the questionnaire.

All the HCAP studies include imputations and accompanying imputation flags for variable based on the primary question about an activity, not those based on subsequent questions. The Harmonized HRS-HCAP also includes imputations and accompanying imputation flags for **rWact_meald**, **rWact_stora**, **rWact_walka**, and **rWact_spora**. The Harmonized HRS-HCAP, Harmonized ELSA-HCAP, and Harmonized Chile-Cog do not provide imputed responses if there was no informant interview, while the Harmonized LASI-DAD and Harmonized Mex-Cog impute responses if there was no informant interview.

Categorical Variable Frequencies

r1act_tv		r2act_tv	

0.None	1,301	1,583
1.Half an hour	575	724
2.One hour	934	954
3.Two to three hours	1,014	937
4.Four to six hours	211	290
5.Seven or more hours	61	78
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_tv	r2fact_tv
0.Not imputed	4,004	4,487
1.Dont know	18	0
2.Missing	15	78
4.Refused	9	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_read	r2act_read
0.None	2,841	3,362
1.Half an hour	512	586
2.One hour	529	421
3.Two to three hours	177	177
4.Four to six hours	31	20
5.Seven or more hours	6	0
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_read	r2fact_read
0.Not imputed	3,997	4,485
1.Dont know	26	2
2.Missing	15	78
4.Refused	8	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_chor	r2act_chor
0.None	1,327	1,398
1.Half an hour	428	728
2.One hour	786	914
3.Two to three hours	1,013	988
4.Four to six hours	371	381
5.Seven or more hours	171	157
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_chor	r2fact_chor
0.Not imputed	4,012	4,483
1.Dont know	12	1
2.Missing	16	80
4.Refused	6	2
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_comp	r2act_comp
0.None	3,959	4,168
1.Half an hour	35	123
2.One hour	57	123
3.Two to three hours	32	105
4.Four to six hours	8	38
5.Seven or more hours	5	9
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_comp	r2fact_comp
0.Not imputed	4,003	4,479
1.Dont know	16	5
2.Missing	16	80
4.Refused	11	2
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_nap	r2act_nap
0.None	846	716
1.Half an hour	496	753
2.One hour	1,188	1,509
3.Two to three hours	976	1,158
4.Four to six hours	310	209
5.Seven or more hours	280	221
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_nap	r2fact_nap
0.Not imputed	4,002	4,485
1.Dont know	23	1
2.Missing	16	80
4.Refused	5	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_meal	r2act_meal
0.No	2,452	2,672
1.Yes	1,644	1,894
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_meal	r2fact_meal
0.Not imputed	4,021	4,486
1.Dont know	3	0
2.Missing	16	80
4.Refused	6	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_trav	r2act_trav
0.No	1,579	1,811
1.Yes	2,517	2,755

.h:Respondent IW only	0	72
Total	4,096	4,638
	r1fact_trav	**r2fact_trav**
0.Not imputed	4,019	4,484
1.Dont know	7	0
2.Missing	16	81
4.Refused	4	1
12.Not interviewed	50	72
Total	4,096	4,638
	r1act_pubt	**r2act_pubt**
0.No	1,572	1,936
1.Yes	2,524	2,630
.h:Respondent IW only	0	72
Total	4,096	4,638
	r1fact_pubt	**r2fact_pubt**
0.Not imputed	4,018	4,483
1.Dont know	6	0
2.Missing	16	81
4.Refused	6	2
12.Not interviewed	50	72
Total	4,096	4,638
	r1act_work	**r2act_work**
1.Daily	587	445
2.Several times a week	230	263
3.Once a week	187	282
4.Once a month	178	317
5.Rarely	606	636
6.Never	2,308	2,623
.h:Respondent IW only	0	72
Total	4,096	4,638
	r1fact_work	**r2fact_work**
0.Not imputed	4,007	4,484
1.Dont know	16	0
2.Missing	16	81
4.Refused	7	1
12.Not interviewed	50	72
Total	4,096	4,638
	r1act_stor	**r2act_stor**
1.Daily	503	437
2.Several times a week	664	832
3.Once a week	576	886
4.Once a month	292	462
5.Rarely	716	538
6.Never	1,345	1,411
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_stor	r2fact_stor
0.Not imputed	4,011	4,481
1.Dont know	10	1
2.Missing	16	81
4.Refused	9	3
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_walk	r2act_walk
1.Daily	1,246	1,548
2.Several times a week	158	339
3.Once a week	85	210
4.Once a month	31	49
5.Rarely	372	560
6.Never	2,204	1,860
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_walk	r2fact_walk
0.Not imputed	4,010	4,482
1.Dont know	10	0
2.Missing	16	81
4.Refused	10	3
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_spor	r2act_spor
1.Daily	246	286
2.Several times a week	38	58
3.Once a week	26	45
4.Once a month	19	20
5.Rarely	177	185
6.Never	3,590	3,972
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_spor	r2fact_spor
0.Not imputed	4,005	4,478
1.Dont know	15	3
2.Missing	16	82
4.Refused	10	3
12.Not interviewed	50	72
Total	4,096	4,638

	r1act_daila	r2act_daila
1.No change	1,444	1,417
2.Slowing down	2,085	2,170
3.Activities decreased or d	567	979
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fact_daila	r2fact_daila
0.Not imputed	4,011	4,484

1.Dont know	11	0
2.Missing	16	82
4.Refused	8	0
12.Not interviewed	50	72
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Informant Report:

act_1	Hrs Spent Watching TV
act_2	Hrs Spent Reading
act_5	Hrs Spent Chores/Maint/Gardening
act_7	Hrs Spent Using Computer/Internet
act_8	Hrs Spent Taking Naps
act_10	Prepares Hot Meals
act_13	Able To Travel on Own
act_14	Use Public Transit on Own
act_15	Freq Go To Work/Volunteer
act_16	Freq Go To Store/Market
act_22	Freq Go for Walk
act_24	Freq Play Sports/Exercise
act_38	Change In Daily Activities

Wave 2 Informant Report:

act_1	Hrs Spent Watching TV
act_2	Hrs Spent Reading
act_5	Hrs Spent Chores/Maint/Gardening
act_7	Hrs Spent Using Computer/Internet
act_8	Hrs Spent Taking Naps
act_10	Prepares Hot Meals
act_13	Able To Travel on Own
act_14	Use Public Transit on Own
act_15	Freq Go To Work/Volunteer
act_16	Freq Go To Store/Market
act_22	Freq Go for Walk
act_24	Freq Play Sports/Exercise
act_38	Change In Daily Activities

Everyday Feelings

Variable	Waves	Label	Type
rWfeel1	1-2	rWfeel1:wW feelings: R happy	Categ
rWffeel1	1-2	rWffeel1:impflag wW R whether imputed value	Categ
rWfeel2	1-2	rWfeel2:wW feelings: R engaged	Categ
rWffeel2	1-2	rWffeel2:impflag wW R whether imputed value	Categ
rWfeel3	1-2	rWfeel3:wW feelings: R alert	Categ
rWffeel3	1-2	rWffeel3:impflag wW R whether imputed value	Categ
rWfeel4	1-2	rWfeel4:wW feelings: R interested	Categ
rWffeel4	1-2	rWffeel4:impflag wW R whether imputed value	Categ
rWfeel5	1-2	rWfeel5:wW feelings: R confused	Categ
rWffeel5	1-2	rWffeel5:impflag wW R whether imputed value	Categ
rWfeel6	1-2	rWfeel6:wW feelings: R withdrawn	Categ
rWffeel6	1-2	rWffeel6:impflag wW R whether imputed value	Categ
rWfeelpos	1-2	rWfeelpos:wW feelings: R mean positive emotions	Cont
rWfeelneg	1-2	rWfeelneg:wW feelings: R mean negative emotions	Cont

How Constructed

The following variables asks the informant a series of questions regarding the respondent's feelings during the day.

rWfeel1 indicates how much the informant would say that the respondent felt happy. The informant is instructed to answer this thinking about yesterday or the most recent time the informant observed the respondent for most of the day. **rWfeel1** is coded as follows: 1. Not at all, 2. A little, 3. Somewhat, 4. Quite a bit, and 5. Very much. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWfeel1** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfeel2 indicates how much the informant would say that the respondent felt engaged. The informant is instructed to answer this thinking about yesterday or the most recent time the informant observed the respondent for most of the day. **rWfeel2** is coded as follows: 1. Not at all, 2. A little, 3. Somewhat, 4. Quite a bit, and 5. Very much. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWfeel2** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfeel3 indicates how much the informant would say that the respondent felt alert. The informant is instructed to answer this thinking about yesterday or the most recent time the informant observed the respondent for most of the day. **rWfeel3** is coded as follows: 1. Not at all, 2. A little, 3. Somewhat, 4. Quite a bit, and 5. Very much. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWfeel3** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfeel4 indicates how much the informant would say that the respondent felt interested. The informant is instructed to answer this thinking about yesterday or the most recent time the informant observed the respondent for most of the day. **rWfeel4** is coded as follows: 1. Not at all, 2. A little, 3. Somewhat, 4. Quite a bit, and 5. Very much. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWfeel4** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfeel5 indicates how much the informant would say that the respondent felt confused. The informant is instructed to answer this thinking about yesterday or the most recent time the informant observed the respondent for most of the day. **rWfeel5** is coded as follows: 1. Not at all, 2. A little, 3. Somewhat, 4. Quite a bit, and 5. Very much. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWfeel5** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfeel6 indicates how much the informant would say that the respondent felt withdrawn. The informant is instructed to answer this thinking about yesterday or the most recent time the informant observed the respondent for most of the day. **rWfeel6** is coded as follows: 1. Not at all, 2. A little, 3. Somewhat, 4. Quite a bit, and 5. Very much. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWfeel6** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfeelpos indicates the mean value for positive emotions, including feeling happy, engaged, alert, and interested. **rWfeelpos** is calculated by taking the sum of **rWfeel1**, **rWfeel2**, **rWfeel3**, and **rWfeel4** over the number of non-missing values between **rWfeel1**, **rWfeel2**, **rWfeel3**, and **rWfeel4**. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWfeelpos** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfeelneg indicates the mean value for negative emotions, including feeling confused and withdrawn. **rWfeelneg** is calculated by taking the sum of **rWfeel5** and **rWfeel6** over the number of non-missing values between **rWfeel5** and **rWfeel6**. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWfeelneg** is set to plain missing (.) if the respondent did not participate in the current wave.

rWffeel1, **rWffeel2**, **rWffeel3**, **rWffeel4**, **rWffeel5**, and **rWffeel6** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

No differences known between the LASI-DAD, HRS-HCAP, and ELSA-HCAP.

The MHAS Mex-Cog and SPS Chile-Cog do not include this section.

The Harmonized HRS-HCAP and Harmonized ELSA-HCAP do not provide imputed responses if there was no informant interview, while the Harmonized LASI-DAD imputes responses if there is no informant interview.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1feelpos	4,096	2.93	0.95	1.00	5.00	0
r2feelpos	4,566	3.10	0.93	1.00	5.00	72
r1feelneg	4,096	1.91	1.01	1.00	5.00	0
r2feelneg	4,566	1.95	0.99	1.00	5.00	72

Categorical Variable Frequencies

	r1feel1	r2feel1
1.Not at all	519	282
2.A little	629	795
3.Somewhat	1,531	1,789
4.Quite a bit	964	1,005
5.Very much	453	695
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ffeel1	r2ffeel1
0.Not imputed	3,971	4,477
1.Dont know	49	7
2.Missing	16	82
4.Refused	10	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1feel2	r2feel2
1.Not at all	904	928
2.A little	687	946
3.Somewhat	1,265	1,194
4.Quite a bit	849	934
5.Very much	391	564
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ffeel2	r2ffeel2
0.Not imputed	3,992	4,475
1.Dont know	28	8
2.Missing	16	82
4.Refused	10	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1feel3	r2feel3
1.Not at all	823	551
2.A little	530	794
3.Somewhat	1,237	1,286
4.Quite a bit	946	1,037
5.Very much	560	898
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ffeel3	r2ffeel3
0.Not imputed	3,980	4,478
1.Dont know	40	6
2.Missing	16	82
4.Refused	10	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1feel4	r2feel4
1.Not at all	864	564
2.A little	558	838
3.Somewhat	1,251	1,343
4.Quite a bit	907	1,003
5.Very much	516	818
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ffeel4	r2ffeel4
0.Not imputed	3,695	4,476
1.Dont know	41	5
2.Missing	298	82
4.Refused	12	3
12.Not interviewed	50	72
Total	4,096	4,638

	r1feel5	r2feel5
1.Not at all	2,141	2,077
2.A little	719	1,074
3.Somewhat	705	823
4.Quite a bit	406	436
5.Very much	125	156
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ffeel5	r2ffeel5
0.Not imputed	3,968	4,475
1.Dont know	50	8
2.Missing	16	82
4.Refused	12	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1feel6	r2feel6
1.Not at all	2,334	2,483
2.A little	586	839
3.Somewhat	656	683
4.Quite a bit	355	401
5.Very much	165	160
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ffeel6	r2ffeel6
0.Not imputed	3,977	4,474
1.Dont know	43	9
2.Missing	16	82
4.Refused	10	1
12.Not interviewed	50	72
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Informant Report:

act_27	Felt Happy
act_29	Felt Engaged
act_30	Felt Alert
act_31	Felt Interested
act_36	Felt Confused
act_37	Felt Withdrawn

Wave 2 Informant Report:

act_27	Felt Happy
act_29	Felt Engaged
act_30	Felt Alert
act_31	Felt Interested
act_36	Felt Confused
act_37	Felt Withdrawn

Cognitive Activity Score (CSI)

Variable	Waves	Label	Type
rWcsi1	1-2	rWcsi1:wW CSI- general decline in R's mental functioning	Categ
rWfcsi1	1-2	rWfcsi1:impflag wW R whether imputed value	Categ
rWcsi1me	1-2	rWcsi1me:wW CSI- R calculated months elapsed in mental functioning decline	Cont
rWcsi1pace	1-2	rWcsi1pace:wW CSI- R pace of decline in mental functioning	Categ
rWcsi1prog	1-2	rWcsi1prog:wW CSI- R progression of decline in mental functioning	Categ
rWcsi2	1-2	rWcsi2:wW CSI- R remembering things a serious problems	Categ
rWfcsi2	1-2	rWfcsi2:impflag wW R whether imputed value	Categ
rWcsi2pace	1-2	rWcsi2pace:wW CSI- R pace of decline in remembering things	Categ
rWcsi2prog	1-2	rWcsi2prog:wW CSI- R progression of decline in remembering things	Categ
rWcsi3	1-2	rWcsi3:wW CSI- R forgets where put things	Categ
rWfcsi3	1-2	rWfcsi3:impflag wW R whether imputed value	Categ
rWcsi4	1-2	rWcsi4:wW CSI- R forgets where things are usually kept	Categ
rWfcsi4	1-2	rWfcsi4:impflag wW R whether imputed value	Categ
rWcsi5	1-2	rWcsi5:wW CSI- R forgets the names of friends	Categ
rWfcsi5	1-2	rWfcsi5:impflag wW R whether imputed value	Categ
rWcsi6	1-2	rWcsi6:wW CSI- R forgets the names of family members	Categ
rWfcsi6	1-2	rWfcsi6:impflag wW R whether imputed value	Categ
rWcsi7	1-2	rWcsi7:wW CSI- R forgets what R wanted to say in the middle of a conversation	Categ
rWfcsi7	1-2	rWfcsi7:impflag wW R whether imputed value	Categ
rWcsi8	1-2	rWcsi8:wW CSI- R has difficulty finding the right words	Categ
rWfcsi8	1-2	rWfcsi8:impflag wW R whether imputed value	Categ
rWcsi9	1-2	rWcsi9:wW CSI- R uses the wrong words	Categ
rWfcsi9	1-2	rWfcsi9:impflag wW R whether imputed value	Categ
rWcsi10	1-2	rWcsi10:wW CSI- R tends to talk about what happened long ago	Categ
rWfcsi10	1-2	rWfcsi10:impflag wW R whether imputed value	Categ
rWcsi11	1-2	rWcsi11:wW CSI- R forgets when last saw informant	Categ
rWfcsi11	1-2	rWfcsi11:impflag wW R whether imputed value	Categ
rWcsi12	1-2	rWcsi12:wW CSI- R forgets what happened the day before	Categ
rWfcsi12	1-2	rWfcsi12:impflag wW R whether imputed value	Categ
rWcsi13	1-2	rWcsi13:wW CSI- R forgets where they are	Categ
rWfcsi13	1-2	rWfcsi13:impflag wW R whether imputed value	Categ

rWcsi14	1-2	rWcsi14:wW CSI- R gets lost in the community	Categ
rWfcsi14	1-2	rWfcsi14:impflag wW R whether imputed value	Categ
rWcsi15	1-2	rWcsi15:wW CSI- R gets lost in own home	Categ
rWfcsi15	1-2	rWfcsi15:impflag wW R whether imputed value	Categ

How Constructed

The following variables pertain to a series of questions that ask the informant about any changes they may have noticed in the respondent.

rWcsi1 indicates whether the informant has noticed a general decline in the respondent's mental functioning.

rWcsi1me indicates the calculated months elapsed in mental functioning decline. The informant is asked to estimate the month and year the respondent's decline in mental functioning began. The CAPI program calculates the number of months elapsed between this date and the interview date during the interview.

rWcsi1pace indicates the pace of decline in mental functioning and is coded as follows: 1. Suddenly, 2. Slowly.

rWcsi1prog indicates the progression of decline in mental functioning and is coded as follows: 1. Abrupt, 2. Steady.

Special missing (.s) is assigned to rWcsi1me, rWcsi1pace, and rWcsi1prog if these questions were not asked because the informant did not notice a general decline in the respondent's mental functioning. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWcsi2 indicates whether the informant has noticed that remembering things has been a serious problem for the respondent.

rWcsi2pace indicates the pace of decline in remembering things and is coded as follows: 1. Suddenly, 2. Slowly.

rWcsi2prog indicates the progression of decline in remembering things and is coded as follows: 1. Abrupt, 2. Steady.

Special missing (.s) is assigned to rWcsi2pace and rWcsi2prog if these questions were not asked because the informant did not notice a general decline in remembering things for the respondent. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWcsi3 indicates whether the informant has noticed that the respondent forgets where they have put things.

rWcsi4 indicates whether the informant has noticed that the respondent forgets where things are usually kept.

rWcsi5 indicates whether the informant has noticed that the respondent forgets the name of friends.

rWcsi6 indicates whether the informant has noticed that the respondent forgets names of family members.

rWcsi7 indicates whether the informant has noticed that the respondent forgets what they wanted to say in the middle of a conversation.

rWcsi8 indicates whether the informant has noticed that the respondent has difficulty finding the right words.

rWcsi9 indicates whether the informant has noticed that the respondent uses the wrong words.

rWcsi10 indicates whether the informant has noticed that the respondent tends to talk about what happened long ago, rather than the present.

rWcsi11 indicates whether the informant has noticed that the respondent forgets when they last saw the informant.

rWcsi12 indicates whether the informant has noticed that the respondent forgets what happened the day before.

rWcsi13 indicates whether the informant has noticed that the respondent forgets where they are.

rWcsi14 indicates whether the informant has noticed that the respondent gets lost in the community, such as when finding the post office or friends' houses.

rWcsi15 indicates whether the informant has noticed that the respondent gets lost in their own home, such as when finding the toilet.

rWcsi1 and **rWcsi2** are coded as follows: 0. No and 1. Yes. **rWcsi3** - **rWcsi15** are coded as follows: 0. No, 1. Yes, and 2. Sometimes. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWfcsi1 - **rWfcsi15** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

All the Harmonized HCAP datasets include imputations and accompanying imputation flags. The Harmonized HRS-HCAP, Harmonized ELSA-HCAP, and Harmonized Chile-Cog do not provide imputed responses if there was no informant interview, while the Harmonized Mex-Cog and Harmonized LASI-DAD impute responses if there was no informant interview.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1csi1me	854	57.82	63.42	1.00	478.00	3,242
r2csi1me	1,029	50.94	51.85	0.00	608.00	3,609

Categorical Variable Frequencies

	r1csi1	r2csi1
0.No	2,917	3,290
1.Yes	1,179	1,276
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi1	r2fcsi1
0.Not imputed	3,999	4,478
1.Dont know	21	6
2.Missing	16	82
4.Refused	10	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi1pace	r2csi1pace
1.Suddenly	167	181
2.Slowly	974	1,064
.d:DK	25	6
.h:Respondent IW only	50	72
.m:Missing	16	82
.r:Refuse	11	0
.s:Skipped-no decline	2,853	3,233

Total	4,096	4,638
	r1csi1prog	**r2csi1prog**
1.Abrupt	170	195
2.Steady	969	1,049
.d:DK	27	7
.h:Respondent IW only	50	72
.m:Missing	16	82
.r:Refuse	11	0
.s:Skipped-no decline	2,853	3,233
Total	4,096	4,638
	r1csi2	**r2csi2**
0.No	3,136	3,595
1.Yes	960	971
.h:Respondent IW only	0	72
Total	4,096	4,638
	r1fcsi2	**r2fcsi2**
0.Not imputed	3,998	4,482
1.Dont know	21	1
2.Missing	16	82
4.Refused	11	1
12.Not interviewed	50	72
Total	4,096	4,638
	r1csi2pace	**r2csi2pace**
1.Suddenly	108	89
2.Slowly	822	862
.d:DK	22	1
.h:Respondent IW only	50	72
.m:Missing	16	82
.r:Refuse	11	1
.s:Skipped-no decline	3,067	3,531
Total	4,096	4,638
	r1csi2prog	**r2csi2prog**
1.Abrupt	122	106
2.Steady	808	844
.d:DK	22	2
.h:Respondent IW only	50	72
.m:Missing	16	82
.r:Refuse	11	1
.s:Skipped-no decline	3,067	3,531
Total	4,096	4,638
	r1csi3	**r2csi3**
0.No	1,514	1,708
1.Yes	623	609
2.Sometimes	1,959	2,249
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi3	r2fcsi3
0.Not imputed	3,998	4,478
1.Dont know	18	4
2.Missing	16	82
4.Refused	14	2
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi4	r2csi4
0.No	1,580	2,042
1.Yes	624	563
2.Sometimes	1,892	1,961
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi4	r2fcsi4
0.Not imputed	3,993	4,476
1.Dont know	25	4
2.Missing	16	83
4.Refused	12	3
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi5	r2csi5
0.No	3,135	3,623
1.Yes	249	260
2.Sometimes	712	683
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi5	r2fcsi5
0.Not imputed	3,976	4,478
1.Dont know	41	4
2.Missing	16	83
4.Refused	13	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi6	r2csi6
0.No	3,591	4,058
1.Yes	140	167
2.Sometimes	365	341
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi6	r2fcsi6
0.Not imputed	4,008	4,480
1.Dont know	12	2
2.Missing	16	83
4.Refused	10	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi7	r2csi7
0.No	2,606	2,839
1.Yes	362	325
2.Sometimes	1,128	1,402
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi7	r2fcsi7
0.Not imputed	3,991	4,482
1.Dont know	27	0
2.Missing	16	83
4.Refused	12	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi8	r2csi8
0.No	2,752	3,147
1.Yes	370	332
2.Sometimes	974	1,087
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi8	r2fcsi8
0.Not imputed	3,994	4,479
1.Dont know	23	2
2.Missing	16	83
4.Refused	13	2
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi9	r2csi9
0.No	3,102	3,600
1.Yes	268	221
2.Sometimes	726	745
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi9	r2fcsi9
0.Not imputed	3,995	4,479
1.Dont know	22	2
2.Missing	16	83
4.Refused	13	2
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi10	r2csi10
0.No	2,091	2,262
1.Yes	558	581
2.Sometimes	1,447	1,723
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi10	r2fcsi10
0.Not imputed	3,982	4,475
1.Dont know	32	6
2.Missing	16	83
4.Refused	16	2
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi11	r2csi11
0.No	3,477	3,901
1.Yes	219	196
2.Sometimes	400	469
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi11	r2fcsi11
0.Not imputed	3,994	4,479
1.Dont know	22	3
2.Missing	16	83
4.Refused	14	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi12	r2csi12
0.No	3,136	3,527
1.Yes	301	268
2.Sometimes	659	771
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi12	r2fcsi12
0.Not imputed	3,997	4,482
1.Dont know	21	0
2.Missing	16	83
4.Refused	12	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi13	r2csi13
0.No	3,677	4,166
1.Yes	121	126
2.Sometimes	298	274
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi13	r2fcsi13
0.Not imputed	4,006	4,482
1.Dont know	12	0
2.Missing	16	83
4.Refused	12	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi14	r2csi14
0.No	3,517	4,052
1.Yes	225	204
2.Sometimes	354	310
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi14	r2fcsi14
0.Not imputed	3,976	4,478
1.Dont know	33	1
2.Missing	16	83
4.Refused	21	4
12.Not interviewed	50	72
Total	4,096	4,638

	r1csi15	r2csi15
0.No	3,864	4,381
1.Yes	74	65
2.Sometimes	158	120
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fcsi15	r2fcsi15
0.Not imputed	4,000	4,477
1.Dont know	14	1
2.Missing	16	83
4.Refused	16	5
12.Not interviewed	50	72
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Informant Report:

csi_cogact1	Decline in Mental Functioning
csi_cogact2	Difficulty Remembering Things
csi_cogact3	Forget Where Put Things
csi_cogact4	Forget Where Things Kept
csi_cogact5	Forget Friends Names
csi_cogact6	Forget Family Member Names
csi_cogact7	Forget in Middle Convo
csi_cogact8	Hard Time Finding Right Words
csi_cogact9	Uses Wrong Word
csi_cogact10	Talks About Past Not Present
csi_cogact11	Forget When Last Saw Inf
csi_cogact12	Forget What Happened Prior Day
csi_cogact13	Forget Where He/She Is
csi_cogact14	Gets Lost in Community
csi_cogact15	Gets Lost in Own Home

Wave 2 Informant Report:

csi_cogact1	Decline in Mental Functioning
csi_cogact1a_me	Calculated Months Elapsed
csi_cogact1b	Pace of Decline

csi_cogact1c	Progression of Decline
csi_cogact2	Difficulty Remembering Things
csi_cogact2a	Pace of Memory Problems
csi_cogact2b	Progression of Memory Problems
csi_cogact3	Forget Where Put Things
csi_cogact4	Forget Where Things Kept
csi_cogact5	Forget Friends Names
csi_cogact6	Forget Family Member Names
csi_cogact7	Forget in Middle Convo
csi_cogact8	Hard Time Finding Right Words
csi_cogact9	Uses Wrong Word
csi_cogact10	Talks About Past Not Present
csi_cogact11	Forget When Last Saw Inf
csi_cogact12	Forget What Happened Prior Day
csi_cogact13	Forget Where He/She Is
csi_cogact14	Gets Lost in Community
csi_cogact15	Gets Lost in Own Home

10/66

Variable	Waves	Label	Type
rWten1	1-2	rWten1:wW 10-66- R has difficulty w/ household chores	Categ
rWften1	1-2	rWften1:impflag wW R whether imputed value	Categ
rWten2	1-2	rWten2:wW 10-66- R has stopped special skill or hobby	Categ
rWften2	1-2	rWften2:impflag wW R whether imputed value	Categ
rWten3	1-2	rWten3:wW 10-66- R has difficulty handling money	Categ
rWften3	1-2	rWften3:impflag wW R whether imputed value	Categ
rWten4	1-2	rWten4:wW 10-66- R has difficulty adjusting to routine change	Categ
rWften4	1-2	rWften4:impflag wW R whether imputed value	Categ
rWten5	1-2	rWten5:wW 10-66- change in R's ability to think and reason	Categ
rWften5	1-2	rWften5:impflag wW R whether imputed value	Categ

How Constructed

rWten1 asks the informant whether the respondent has difficulty performing household chores that they used to do, such as preparing food or boiling a pot of tea. **rWten1** is coded as follows: 0. No, 1. Yes, and 2. Sometimes. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWten1** is set to plain missing (.) if the respondent did not participate in the current wave.

rWten2 asks the informant whether the respondent has lost a special skill or hobby that was previously manageable. **rWten2** is coded as 0 if no and 1 if yes. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWten2** is set to plain missing (.) if the respondent did not participate in the current wave.

rWten3 asks the informant whether there has been a change in the respondent's ability to handle money. **rWten3** is coded as follows: 0. No difficulty, 1. Some difficulty, and 2. Cannot handle money. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWten3** is set to plain missing (.) if the respondent did not participate in the current wave.

rWten4 asks the informant whether the respondent has difficulty in adjusting to change in their daily routine. **rWten4** is coded as follows: 0. No, 1. Yes, and 2. Sometimes. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWten4** is set to plain missing (.) if the respondent did not participate in the current wave.

rWten5 asks the informant whether there has been a change in the respondent's ability to think and reason. **rWten5** is coded as 0 if no and 1 if yes. Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. **rWten5** is set to plain missing (.) if the respondent did not participate in the current wave.

rWften1 - **rWften5** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

Unlike the other HCAP studies, the SPS Chile-Cog only asks three questions in this section and does not include questions that ask the informant about the respondents' difficulty with household chores and handling money. The SPS Chile-Cog also provides more detailed responses to the question that asks about changes in the respondent's ability to think and reason: "no, it has not changed"; "yes, it has improved"; and "yes, it has worsened". For comparability with the other Harmonized HCAPs, the last two answer choices have been grouped into an overall "Yes" category to indicate change.

All the Harmonized HCAP datasets include imputations and accompanying imputation flags. The Harmonized HRS-HCAP, Harmonized ELSA-HCAP, and Harmonized Chile-Cog do not provide imputed responses if there was no informant interview, while the Harmonized LASI-DAD and Harmonized Mex-Cog impute responses if there was no informant interview.

Categorical Variable Frequencies

	r1ten1	r2ten1
0.No	2,665	2,803
1.Yes	848	1,002
2.Sometimes	583	761
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ften1	r2ften1
0.Not imputed	3,870	4,478
1.Dont know	42	2
2.Missing	17	83
4.Refused	117	3
12.Not interviewed	50	72
Total	4,096	4,638

	r1ten2	r2ten2
0.No	2,651	2,815
1.Yes	1,445	1,751
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ften2	r2ften2
0.Not imputed	3,757	4,465
1.Dont know	253	17
2.Missing	16	83
4.Refused	20	1
12.Not interviewed	50	72
Total	4,096	4,638

	r1ten3	r2ten3
0.No difficulty	2,415	2,790
1.Some difficulty	905	1,164
2.Cannot handle money	776	612
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1ften3	r2ften3
0.Not imputed	3,956	4,481
1.Dont know	48	1
2.Missing	16	83

4.Refused	26	1
12.Not interviewed	50	72
Total	4,096	4,638
	r1ten4	**r2ten4**
0.No	2,656	2,854
1.Yes	562	535
2.Sometimes	878	1,177
.h:Respondent IW only	0	72
Total	4,096	4,638
	r1ften4	**r2ften4**
0.Not imputed	3,960	4,474
1.Dont know	58	6
2.Missing	16	84
4.Refused	12	2
12.Not interviewed	50	72
Total	4,096	4,638
	r1ten5	**r2ten5**
0.No	2,913	3,229
1.Yes	1,183	1,337
.h:Respondent IW only	0	72
Total	4,096	4,638
	r1ften5	**r2ften5**
0.Not imputed	3,852	4,478
1.Dont know	160	3
2.Missing	19	84
4.Refused	15	1
12.Not interviewed	50	72
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Informant Report:

ten_1	Difficulty HH Chores
ten_2	Loss of Special Skill or Hobby
ten_3	Change in Handling Money
ten_4	Difficulty Daily Routine
ten_5	Change in Ability to Think/Reason

Wave 2 Informant Report:

ten_1	Difficulty HH Chores
ten_2	Loss of Special Skill or Hobby
ten_3	Change in Handling Money
ten_4	Difficulty Daily Routine
ten_5	Change in Ability to Think/Reason

Blessed Test Part 1

Variable	Waves	Label	Type
rWbl1_1	1-2	rWbl1_1:wW Blessed p1- R performing household tasks	Categ
rWfbl1_1	1-2	rWfbl1_1:impflag wW R whether imputed value	Categ
rWbl1_2	1-2	rWbl1_2:wW Blessed p1- R coping with small sums of money	Categ
rWfbl1_2	1-2	rWfbl1_2:impflag wW R whether imputed value	Categ
rWbl1_3	1-2	rWbl1_3:wW Blessed p1- R remembering a short list of items such as a shopping li	Categ
rWfbl1_3	1-2	rWfbl1_3:impflag wW R whether imputed value	Categ
rWbl1_4	1-2	rWbl1_4:wW Blessed p1- R finding their way about indoors at home or other famili	Categ
rWfbl1_4	1-2	rWfbl1_4:impflag wW R whether imputed value	Categ
rWbl1_5	1-2	rWbl1_5:wW Blessed p1- R finding their way around familiar streets	Categ
rWfbl1_5	1-2	rWfbl1_5:impflag wW R whether imputed value	Categ
rWbl1_6	1-2	rWbl1_6:wW Blessed p1- R grasping situations or explanations	Categ
rWfbl1_6	1-2	rWfbl1_6:impflag wW R whether imputed value	Categ
rWbl1_7	1-2	rWbl1_7:wW Blessed p1- R recalling recent events	Categ
rWfbl1_7	1-2	rWfbl1_7:impflag wW R whether imputed value	Categ
rWbl1_8	1-2	rWbl1_8:wW Blessed p1- R tending to dwell on the past	Categ
rWfbl1_8	1-2	rWfbl1_8:impflag wW R whether imputed value	Categ
rWbl1_1a	1-2	rWbl1_1a:wW Blessed p1- phys/ment- R performing household tasks	Categ
rWfbl1_1a	1-2	rWfbl1_1a:impflag wW R whether imputed value	Categ
rWbl1_2a	1-2	rWbl1_2a:wW Blessed p1- phys/ment- R coping with small sums of money	Categ
rWfbl1_2a	1-2	rWfbl1_2a:impflag wW R whether imputed value	Categ
rWbl1_3a	1-2	rWbl1_3a:wW Blessed p1- phys/ment- R remembering a short list of items such as a	Categ
rWfbl1_3a	1-2	rWfbl1_3a:impflag wW R whether imputed value	Categ
rWbl1_4a	1-2	rWbl1_4a:wW Blessed p1- phys/ment- R finding their way about indoors at home or	Categ
rWfbl1_4a	1-2	rWfbl1_4a:impflag wW R whether imputed value	Categ
rWbl1_5a	1-2	rWbl1_5a:wW Blessed p1- phys/ment- R finding their way around familiar streets	Categ
rWfbl1_5a	1-2	rWfbl1_5a:impflag wW R whether imputed value	Categ
rWbl1_6a	1-2	rWbl1_6a:wW Blessed p1- phys/ment- R grasping situations or explanations	Categ
rWfbl1_6a	1-2	rWfbl1_6a:impflag wW R whether imputed value	Categ

rWbl1_7a	1-2	rWbl1_7a:wW Blessed p1- phys/ment- R recalling recent events	Categ
rWfbl1_7a	1-2	rWfbl1_7a:impflag wW R whether imputed value	Categ
rWbl1_8a	1-2	rWbl1_8a:wW Blessed p1- phys/ment- R tending to dwell on the past	Categ
rWfbl1_8a	1-2	rWfbl1_8a:impflag wW R whether imputed value	Categ
rWbl1score	1-2	rWbl1score:wW Blessed p1 R total score (0-8)	Cont

How Constructed

The following variables pertain to a series of questions regarding the informant's perception about how well the respondent does with different activities.

rWbl1_1 indicates whether the informant would say that the respondent has no loss, some loss, or severe loss performing household tasks.

rWbl1_2 indicates whether the informant would say that the respondent has no loss, some loss, or severe loss coping with small sums of money.

rWbl1_3 indicates whether the informant would say that the respondent has no loss, some loss, or severe loss remembering a short list of items such as a shopping list.

rWbl1_4 indicates whether the informant would say that the respondent has no loss, some loss, or severe loss in their ability to find their way around indoor locations, such as at home or other familiar locations.

rWbl1_5 indicates whether the informant would say that the respondent has no loss, some loss, or severe loss finding their way around familiar streets.

rWbl1_6 indicates whether the informant would say that the respondent has no loss, some loss, or severe loss in their ability to grasp situations or explanations.

rWbl1_7 indicates whether the informant would say that the respondent has no loss, some loss, or severe loss in their ability to recall recent events.

rWbl1_1- rWbl1_7 are coded as follows: 1. No loss, 2. Some loss, and 3. Severe loss. Special missing (.e) is assigned if the interview took place during Wave 1 phase 1 when these questions were skipped due to a skip pattern error. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWbl1_8 indicates whether the informant would say that the respondent tends to dwell on the past: 1. None (of the time), 2. Sometimes, or 3. Frequently. Special missing (.e) is assigned if the interview took place during Wave 1 phase 1 when these questions were skipped due to a skip pattern error. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. rWbl1_8 is set to plain missing (.) if the respondent did not participate in the current wave.

rWbl1_1a - rWbl1_8a indicate whether the informant would say that the loss of rWbl1_1 - rWbl1_8 is due to physical reasons, mental reasons, or both. rWbl1_1a - rWbl1_8a are coded as follows: 1.Physical, 2.Mental and 3.Both. Special missing (.s) is assigned if the respondent skipped these questions due to answering "1. No loss" in the previous question (respective to rWbl1_1 - rWbl1_7) or "1. None (of the time)" to rWbl1_8. Special missing (.e) is assigned if the interview took place during phase 1 when these questions were skipped due to a skip pattern error. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWbl1score indicates the total score of rWbl1_1- rWbl1_8. rWbl1score is calculated by taking the sum of values between rWbl1_1 - rWbl1_8 if the loss is due to mental and/or both physical and mental reasons. Some loss/sometimes is scored as 0.5 and Severe loss/frequently is scored as 1. Special missing (.e) is assigned if the interview took place during Wave 1 phase 1 when these questions were skipped due to a skip pattern error. Don't know response is assigned special

missing (.d). Other missing is assigned as special missing (.m). **rWbl1score** is set to plain missing (.) if the respondent did not participate in the current wave.

rWfbl1_1 - **rWfbl1_8** and **rWfbl1_1a** - **rWfbl1_8a** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, 11.Skipped, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

Due to a skip pattern error in the Wave 1 phase 1 data, there are special missing (.e) for phase 1 respondents in Wave 1.

Differences with other HCAP studies

The LASI-DAD, HRS-HCAP, and ELSA-HCAP have the same questions for this section. However, the Harmonized LASI-DAD includes a special missing code (.e) for phase 1 respondents in Wave 1 due to a skip pattern error in the phase I data.

The MHAS Mex-Cog and SPS Chile-Cog do not include this section.

All the Harmonized HCAP datasets with this section include imputations and accompanying imputation flags. The Harmonized HRS-HCAP and Harmonized ELSA-HCAP do not provide imputed responses if there was no informant interview, while the Harmonized LASI-DAD imputes responses if there is no informant interview. Additionally, an imputation flag is included for the final score in the Harmonized HRS-HCAP, which is not included in the other datasets.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1bl1score	2,638	1.25	1.71	0.00	8.00	1,458
r2bl1score	4,638	1.19	1.69	0.00	8.00	0

Categorical Variable Frequencies

	r1bl1_1	**r2bl1_1**
1.No loss	1,167	2,085
2.Some loss	1,033	1,822
3.Severe loss	438	659
.e:Phase 1 skip error	1,458	0
.h:No informant IW	0	72
Total	4,096	4,638

	r1fbl1_1	**r2fbl1_1**
0.Not imputed	2,557	4,480
1.Dont know	7	1
2.Missing	11	84
4.Refused	13	1
11.Skipped	1,458	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_2	**r2bl1_2**
1.No loss	1,793	3,096
2.Some loss	572	1,054
3.Severe loss	273	416
.e:Phase 1 skip error	1,458	0
.h:Respondent IW only	0	72

Total	4,096	4,638
	r1fbl1_2	**r2fbl1_2**
0.Not imputed	2,556	4,479
1.Dont know	11	2
2.Missing	10	84
4.Refused	11	1
11.Skipped	1,458	0
12.Not interviewed	50	72
Total	4,096	4,638
	r1bl1_3	**r2bl1_3**
1.No loss	1,527	2,778
2.Some loss	801	1,277
3.Severe loss	310	511
.e:Phase 1 skip error	1,458	0
.h:Respondent IW only	0	72
Total	4,096	4,638
	r1fbl1_3	**r2fbl1_3**
0.Not imputed	2,532	4,473
1.Dont know	27	6
2.Missing	8	84
4.Refused	21	3
11.Skipped	1,458	0
12.Not interviewed	50	72
Total	4,096	4,638
	r1bl1_4	**r2bl1_4**
1.No loss	2,142	3,731
2.Some loss	370	591
3.Severe loss	126	244
.e:Phase 1 skip error	1,458	0
.h:Respondent IW only	0	72
Total	4,096	4,638
	r1fbl1_4	**r2fbl1_4**
0.Not imputed	2,562	4,479
1.Dont know	9	0
2.Missing	8	85
4.Refused	9	2
11.Skipped	1,458	0
12.Not interviewed	50	72
Total	4,096	4,638
	r1bl1_5	**r2bl1_5**
1.No loss	2,106	3,776
2.Some loss	407	553
3.Severe loss	125	237
.e:Phase 1 skip error	1,458	0
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fbl1_5	r2fbl1_5
0.Not imputed	2,563	4,476
1.Dont know	6	1
2.Missing	8	85
4.Refused	11	4
11.Skipped	1,458	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_6	r2bl1_6
1.No loss	1,796	3,423
2.Some loss	671	914
3.Severe loss	171	229
.e:Phase 1 skip error	1,458	0
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fbl1_6	r2fbl1_6
0.Not imputed	2,564	4,478
1.Dont know	6	1
2.Missing	8	85
4.Refused	10	2
11.Skipped	1,458	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_7	r2bl1_7
1.No loss	1,729	3,242
2.Some loss	734	1,108
3.Severe loss	175	216
.e:Phase 1 skip error	1,458	0
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fbl1_7	r2fbl1_7
0.Not imputed	2,559	4,479
1.Dont know	11	0
2.Missing	8	85
4.Refused	10	2
11.Skipped	1,458	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_8	r2bl1_8
1.None	1,346	2,283
2.Sometimes	1,106	1,956
3.Frequently	186	327
.e:Phase 1 skip error	1,458	0
.h:Respondent IW only	0	72
Total	4,096	4,638

	r1fbl1_8	r2fbl1_8
0.Not imputed	2,542	4,471

1.Dont know	27	7
2.Missing	8	86
4.Refused	11	2
11.Skipped	1,458	0
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_1a	r2bl1_1a
1.Physical	758	1,227
2.Mental	130	186
3.Both	583	1,068
.h:Respondent IW only	0	72
.s:Skipped-no loss	2,625	2,085
Total	4,096	4,638

	r1fbl1_1a	r2fbl1_1a
0.Not imputed	1,419	2,302
1.Dont know	13	5
2.Missing	11	216
4.Refused	13	1
11.Skipped	2,590	2,042
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_2a	r2bl1_2a
1.Physical	208	352
2.Mental	174	340
3.Both	463	778
.h:Respondent IW only	0	72
.s:Skipped-no loss	3,251	3,096
Total	4,096	4,638

	r1fbl1_2a	r2fbl1_2a
0.Not imputed	814	1,351
1.Dont know	17	4
2.Missing	10	171
4.Refused	11	1
11.Skipped	3,194	3,039
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_3a	r2bl1_3a
1.Physical	281	410
2.Mental	291	468
3.Both	539	910
.h:Respondent IW only	0	72
.s:Skipped-no loss	2,985	2,778
Total	4,096	4,638

	r1fbl1_3a	r2fbl1_3a
0.Not imputed	1,051	1,641
1.Dont know	39	9
2.Missing	8	189

4.Refused	21	3
11.Skipped	2,927	2,724
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_4a	r2bl1_4a
1.Physical	127	221
2.Mental	93	154
3.Both	276	460
.h:Respondent IW only	0	72
.s:Skipped-no loss	3,600	3,731
Total	4,096	4,638

	r1fbl1_4a	r2fbl1_4a
0.Not imputed	481	758
1.Dont know	11	1
2.Missing	8	144
4.Refused	9	3
11.Skipped	3,537	3,660
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_5a	r2bl1_5a
1.Physical	139	213
2.Mental	101	146
3.Both	292	431
.h:Respondent IW only	0	72
.s:Skipped-no loss	3,564	3,776
Total	4,096	4,638

	r1fbl1_5a	r2fbl1_5a
0.Not imputed	514	714
1.Dont know	8	3
2.Missing	8	140
4.Refused	11	4
11.Skipped	3,505	3,705
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_6a	r2bl1_6a
1.Physical	184	207
2.Mental	200	306
3.Both	458	630
.h:Respondent IW only	0	72
.s:Skipped-no loss	3,254	3,423
Total	4,096	4,638

	r1fbl1_6a	r2fbl1_6a
0.Not imputed	811	1,057
1.Dont know	15	2
2.Missing	8	150
4.Refused	10	2
11.Skipped	3,202	3,355

12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_7a	r2bl1_7a
1.Physical	204	226
2.Mental	244	381
3.Both	461	717
.h:Respondent IW only	0	72
.s:Skipped-no loss	3,187	3,242
Total	4,096	4,638

	r1fbl1_7a	r2fbl1_7a
0.Not imputed	877	1,205
1.Dont know	17	1
2.Missing	8	175
4.Refused	11	3
11.Skipped	3,133	3,182
12.Not interviewed	50	72
Total	4,096	4,638

	r1bl1_8a	r2bl1_8a
1.Physical	316	485
2.Mental	385	728
3.Both	591	1,070
.h:Respondent IW only	0	72
.s:Skipped-no loss	2,804	2,283
Total	4,096	4,638

	r1fbl1_8a	r2fbl1_8a
0.Not imputed	1,216	2,218
1.Dont know	48	16
2.Missing	8	86
4.Refused	12	2
11.Skipped	2,762	2,244
12.Not interviewed	50	72
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Informant Report:

bl1_1	Ability to Perform HH Tasks
bl1_2	Ability to Cope with Money
bl1_3	Ability to Remember Lists
bl1_4	Ability to Find Way in Home
bl1_5	Ability to Find Way on Streets
bl1_6	Ability to Grasp Situation
bl1_7	Ability to Recall Events
bl1_8	Tend to Dwell on Past
bl1_1a	HH Tasks - Physical/Mental/Both
bl1_2a	Coping with Money - Physical/Mental/Both
bl1_3a	Remembering Lists - Physical/Mental/Both
bl1_4a	Find Way in Home - Physical/Mental/Both

bl1_5a	Find Way on Streets - Physical/Mental/Both
bl1_6a	Grasp Situation - Physical/Mental/Both
bl1_7a	Recall Events - Physical/Mental/Both
bl1_8a	Dwell on Past - Physical/Mental/Both

Wave 2 Informant Report:

bl1_1	Ability to Perform HH Tasks
bl1_2	Ability to Cope with Money
bl1_3	Ability to Remember Lists
bl1_4	Ability to Find Way in Home
bl1_5	Ability to Find Way on Streets
bl1_6	Ability to Grasp Situation
bl1_7	Ability to Recall Events
bl1_8	Tend to Dwell on Past
bl1_1a	HH Tasks - Physical/Mental/Both
bl1_2a	Coping with Money - Physical/Mental/Both
bl1_3a	Remembering Lists - Physical/Mental/Both
bl1_4a	Find Way in Home - Physical/Mental/Both
bl1_5a	Find Way on Streets - Physical/Mental/Both
bl1_6a	Grasp Situation - Physical/Mental/Both
bl1_7a	Recall Events - Physical/Mental/Both
bl1_8a	Dwell on Past - Physical/Mental/Both

Judgement and Problem Solving - Informant

Variable	Waves	Label	Type
rWjsi_rude	2	rWjsi_rude:wW R speaks rudely	Categ
rWfjsi_rude	2	rWfjsi_rude:impflag wW R whether imputed value	Categ
rWjsi_laugh	2	rWjsi_laugh:wW R laughs/cries for no reason	Categ
rWfjsi_laugh	2	rWfjsi_laugh:impflag wW R whether imputed value	Categ
rWjsi_rpt	2	rWjsi_rpt:wW R repeats certain actions	Categ
rWfjsi_rpt	2	rWfjsi_rpt:impflag wW R whether imputed value	Categ
rWjsi_stll	2	rWjsi_stll:wW R can't sit still	Categ
rWfjsi_stll	2	rWfjsi_stll:impflag wW R whether imputed value	Categ
rWjsi_spk	2	rWjsi_spk:wW R only speaks when spoken to	Categ
rWfjsi_spk	2	rWfjsi_spk:impflag wW R whether imputed value	Categ
rWjsi_emt	2	rWjsi_emt:wW R shows little emotions	Categ
rWfjsi_emt	2	rWfjsi_emt:impflag wW R whether imputed value	Categ
rWjsi_pbmslv	2	rWjsi_pbmslv:wW R ability to solve problems	Categ
rWfjsi_pbmslv	2	rWfjsi_pbmslv:impflag wW R whether imputed value	Categ
rWjsi_emrgcy	2	rWjsi_emrgcy:wW R whether can handle emergency	Categ
rWfjsi_emrgcy	2	rWfjsi_emrgcy:impflag wW R whether imputed value	Categ
rWjsi_undsit	2	rWjsi_undsit:wW R whether understands situations/explanations	Categ
rWfjsi_undsit	2	rWfjsi_undsit:impflag wW R whether imputed value	Categ
rWjsi_bhvr	2	rWjsi_bhvr:wW R behaves appropriately when interacting with people	Categ
rWfjsi_bhvr	2	rWfjsi_bhvr:impflag wW R whether imputed value	Categ

How Constructed

The following variables pertain to a series of questions regarding the respondent's problem-solving levels according to the informant and are asked starting in Wave 2.

rWjsi_rude, indicates whether the respondent talks rudely to people which they never did before and is coded as: 0. No, 1. Yes.

rWjsi_laugh indicates whether the respondent laughs or cries for no reason and is coded as: 0. No, 1. Yes.

rWjsi_rpt indicates whether the respondent repeats certain actions or gets stuck on certain ideas and is coded as: 1. Never, 2. Sometimes, 3. Always.

rWjsi_stll indicates whether the respondent is hyperactive and is coded as: 1. Never, 2. Sometimes, 3. Always.

rWjsi_spk indicates whether the respondent speaks only when spoken to and is coded as: 1. Never, 2. Sometimes, 3. Always.

rWjsi_emt indicates whether the respondent shows little emotions, is unconcerned and unresponsive and is coded as: 1. Never, 2. Sometimes, 3. Always.

rWjsi_pbmslv indicates how the informant rates the respondent's problem solving ability at the present time: 1. As good as they have ever been, 2. Good, but not as good as before, 3. Fair, 4. Poor, and 5. No ability at all.

rWjsi_emrgcy indicates how well the respondent can handle a household emergency (e.g., water leak or small fire) and is coded as: 1. As well as before, 2. Worse than before because of trouble thinking, and 3. Worse than before, another reason.

rWjsi_undsit indicates how often the respondent understands situations or explanations and is coded as: 1.Usually, 2. Sometimes, or 3. Rarely.

rWjsi_bhvr indicates how often the respondent behaves appropriately in social situations and when interacting with other people and is coded as: 1.Usually, 2. Sometimes, or 3. Rarely.

Special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWfjsi_rude, **rWfjsi_laugh**, **rWfjsi_rpt**, **rWfjsi_stll**, **rWfjsi_spk**, **rWfjsi_emt**, **rWfjsi_pbmslv**, **rWfjsi_emrgcy**, **rWfjsi_undsit**, and **rWfjsi_bhvr** are flag variables, indicating whether the corresponding variable has an assigned imputed value. The flag variables are coded as follows: 0.Not imputed, 1.Don't know, 2.Missing, 4.Refused, and 12.Not interviewed.

Cross Wave Differences in LASI-DAD

These questions were asked starting in Wave 2 data collection.

Differences with other HCAP studies

These questions are not asked in other HCAP studies.

Categorical Variable Frequencies

	r2jsi_rude
0.No	3,828
1.Yes	738
.h:Respondent IW only	72
Total	4,638

	r2fjsi_rude
0.Not imputed	4,478
2.Missing	86
4.Refused	2
12.Not interviewed	72
Total	4,638

	r2jsi_laugh
0.No	4,263
1.Yes	303
.h:Respondent IW only	72
Total	4,638

	r2fjsi_laugh
0.Not imputed	4,477
1.Dont know	1
2.Missing	86
4.Refused	2

12.Not interviewed	72
Total	4,638

r2jsi_rpt

1.Never	3,152
2.Sometimes	1,145
3.Always	269
.h:Respondent IW only	72
Total	4,638

r2fjsi_rpt

0.Not imputed	4,472
1.Dont know	5
2.Missing	86
4.Refused	3
12.Not interviewed	72
Total	4,638

r2jsi_stll

1.Never	2,723
2.Sometimes	1,040
3.Always	803
.h:Respondent IW only	72
Total	4,638

r2fjsi_stll

0.Not imputed	4,475
1.Dont know	1
2.Missing	86
4.Refused	4
12.Not interviewed	72
Total	4,638

r2jsi_spk

1.Never	2,869
2.Sometimes	842
3.Always	855
.h:Respondent IW only	72
Total	4,638

r2fjsi_spk

0.Not imputed	4,477
1.Dont know	1
2.Missing	86
4.Refused	2
12.Not interviewed	72
Total	4,638

r2jsi_emt

1.Never	2,929
2.Sometimes	1,118
3.Always	519

.h:Respondent IW only	72
Total	4,638

r2fjsi_emt

0.Not imputed	4,478
2.Missing	86
4.Refused	2
12.Not interviewed	72
Total	4,638

r2jsi_pbmslv

1.As good as they have ever	1,040
2.Good, but not as good as	1,400
3.Fair	1,441
4.Poor	534
5.No ability at all	151
.h:Respondent IW only	72
Total	4,638

r2fjsi_pbmslv

0.Not imputed	4,480
2.Missing	86
12.Not interviewed	72
Total	4,638

r2jsi_emrgcy

1.As well as before	2,841
2.Worse than before because	1,051
3.Worse than before, anothe	674
.h:Respondent IW only	72
Total	4,638

r2fjsi_emrgcy

0.Not imputed	4,474
1.Dont know	3
2.Missing	86
4.Refused	3
12.Not interviewed	72
Total	4,638

r2jsi_undsit

1.Usually	3,409
2.Sometimes	826
3.Rarely	331
.h:Respondent IW only	72
Total	4,638

r2fjsi_undsit

0.Not imputed	4,480
2.Missing	86
12.Not interviewed	72
Total	4,638

	r2jsi_bhvr
1.Usually	3,949
2.Sometimes	425
3.Rarely	192
.h:Respondent IW only	72
Total	4,638

	r2fjsi_bhvr
0.Not imputed	4,476
1.Dont know	2
2.Missing	86
4.Refused	2
12.Not interviewed	72
Total	4,638

Original DAD Variables Used

Wave 2 Informant Report:

jsi_bea	R rudely take to ppl which R never did before
jsi_beb	often R laugh or cry for no reason
jsi_be1	repeat or get stuck on certain actions/ideas
jsi_be2	cant sit still
jsi_be3	speak only when spoken to
jsi_be4	show emotion with unconcern and unresponsive
jsi_5	consider what to rate abilities to solve problem
jsi_6	can R handle household emergency
jsi_7	can R understand situation or explanation
jsi_8	behave appropriately interacting with other people

Caregiver Stress/ Burden

Variable	Waves	Label	Type
rWinf_care	1-2	rWinf_care:wW Informant: caregiver for R	Categ
rWcg_care	2	rWcg_care:wW Whether Informant provides care	Categ
rWcg_prcare	2	rWcg_prcare:wW Whether Informant is R's primary caregiver	Categ
rWcg_gcaren	2	rWcg_gcaren:wW Number of people providing care for	Cont
rWcg_gcarehr	2	rWcg_gcarehr:wW Number of hours spent caregiving per day	Cont
rWcg_cntrl	2	rWcg_cntrl:wW Caregiver: Unable to control important things	Categ
rWcg_cnfd	2	rWcg_cnfd:wW Caregiver: Felt confident handling personal problems	Categ
rWcg_gnwy	2	rWcg_gnwy:wW Caregiver: Felt things going your way	Categ
rWcg_plng	2	rWcg_plng:wW Caregiver: Felt things piling up	Categ
rWcg_depres	2	rWcg_depres:wW Caregiver: CESD felt depressed	Categ
rWcg_ftired	2	rWcg_ftired: wW Caregiver: CESD felt tired	Categ
rWcg_fsatisl	2	rWcg_fsatisl:wW Caregiver: CESD felt overall satisfied	Categ
rWcg_flone	2	rWcg_flone:wW Caregiver: CESD felt alone	Categ
rWcg_whappy	2	rWcg_whappy:wW Caregiver: CESD was happy	Categ
rWcg_notime	2	rWcg_notime:wW Caregiver: no time for self	Categ
rWcg_strsp	2	rWcg_strsp:wW Caregiver: stressed meeting responsibilities	Categ
rWcg_cheer	2	rWcg_cheer:wW Caregiver: cheerful in past month	Categ
rWcg_calm	2	rWcg_calm:wW Caregiver: calm in past month	Categ
rWcg_mngfl	2	rWcg_mngfl:wW Caregiver: caregiving for R deeply meaningful	Categ
rWcg_innrpc	2	rWcg_innrpc:wW Caregiver: feelings of inner peace	Categ
rWcg_crtn	2	rWcg_crtn:wW Caregiver: touched by beauty of creation	Categ
rWcg_thank	2	rWcg_thank:wW Caregiver: thankful	Categ

How Constructed

The following variables pertain to a series of questions regarding the informant's stress and burden as a caregiver and are asked starting in Wave 2.

rWinf_care indicates whether the informant is a caregiver for the respondent. A code of 1 is assigned if the informant is a caregiver for the respondent. A code of 0 is assigned if the informant is not a caregiver for the respondent.

rWcg_care indicates whether the informant is currently providing care on an on-going basis. **rWcg_care** is coded as follows: 0. No, 1. Yes.

rWcg_prcare indicates whether the informant is the primary caregiver for the respondent. **rWcg_prcare** is coded as 1 if they are the primary caretaker, 2 if someone else is the primary caretaker, 3 if they share caretaking responsibilities, and 4 if the respondent cares for themselves.

rWcg_gcaren indicates the number of people the informant cares for on a daily basis. Special missing (.s) is assigned if the informant skipped this question because they do not provide care to anyone on an on-going basis.

rWcg_gcarehr indicates the number of hours the informant spends caregiving per day. Special missing (.s) is assigned if the informant skipped this question because they do not provide care to anyone on an on-going basis.

rWcg_cntrl, **rWcg_cnfd**, **rWcg_gnwy**, and **rWcg_plng** gauge the informant's current perceived stress levels by asking them to rate how often they have felt certain emotions in the last month. **rWcg_cntrl** indicates how often the informant has felt unable to control important things in life. **rWcg_cnfd** indicates how often the informant has felt confident about their ability to handle personal problems. **rWcg_gnwy** indicates how often the informant has felt that things were going their way. **rWcg_plng** indicates how often the informant has felt difficulties were piling up so high that they could not overcome them. They are coded as follows: 0. Never, 1. Almost never, 2. Sometimes, 3. Fairly often, 4. Very often.

rWcg_depres, **rWcg_ftired**, **rWcg_fsatisl**, **rWcg_flone**, and **rWcg_whappy** ask about the informant's depressive symptoms using items from the CESD test. **rWcg_depres** indicates how often the informant felt depressed. **rWcg_ftired** indicates how often the informant felt tired. **rWcg_fsatisl** indicates how often the informant felt overall satisfied. **rWcg_flone** indicates how often the informant felt alone. **rWcg_whappy** indicates how often the informant felt happy. They are coded as follows: 1. Rarely or never (less than 1 day), 2. Sometimes (1 or 2 days), 3.Often (3 or 4 days), 4.Most or all of the time (5-7 days).

rWcg_notime and **rWcg_strsp** gauge the informant's psychological overload. **rWcg_notime** indicates how often the informant felt that they lacked personal time due to caregiving responsibilities. **rWcg_strsp** indicates how often the informant felt stressed while balancing household caregiving and other responsibilities like work. They are coded as follows: 0. Never, 1. Rarely, 2. Sometimes, 3. Quite frequently, 4. Nearly always. Special missing (.s) is assigned if the informant skipped this question because they do not provide care to anyone on an on-going basis.

rWcg_cheer and **rWcg_calm** gauge the informant's positive affectivity. **rWcg_cheer** indicates how often the informant felt cheerful last month. **rWcg_calm** indicates how often the informant felt calm and peaceful last month. They are coded as follows: 0. Never, 1. Rarely, 2. Some days, 3. Most days, 4. Everyday.

rWcg_mngfl indicates the degree the informant agrees or disagrees that caring for their household members is deeply meaningful. It is coded as follows: 1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly agree. Special missing (.s) is assigned if the informant skipped this question because they do not provide care to anyone on an on-going basis.

rWcg_innrpc, **rWcg_crtn** and **rWcg_thank** are related to the informant's feelings of spirituality and religiosity every week. **rWcg_innrpc** indicates how often the informant felt deep inner peace. **rWcg_crtn** indicates how often the informant felt spiritually touched by the beauty of creation. **rWcg_thank** indicates how often the informant felt thankful for whatever they have received in life. **rWcg_innrpc**, **rWcg_crtn**, and **rWcg_thank** are coded as follows: 0. Never, 1. Occasionally, 2. Once in a week 3. Some days in a week, 4. Every day in a week.

For these variables, special missing (.h) is assigned if the respondent does not have an informant interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

rWinf_care is available in Waves 1 and 2. In Wave 2, more detailed questions on caregiving were added in the "Caregiver Stress/Burden" section.

Differences with other HCAP studies

These questions are not asked in other HCAP studies.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2cg_gcaren	1,000	2.78	2.49	0.00	20.00	3,638

r2cg_gcarehr	1,001	4.08	4.09	0.00	24.00	3,637

Categorical Variable Frequencies

	r1inf_care	r2inf_care
0.No	685	669
1.Yes	3,349	3,821
.h:Respondent IW only	50	72
.m:Missing	11	76
.r:Refuse	1	0
Total	4,096	4,638

	r2cg_care
0.No	3,476
1.Yes	1,004
.h:Respondent IW only	72
.m:Missing	86
Total	4,638

	r2cg_prcare
1.I am the primary caretake	1,657
2.Someone else is the prima	299
3.I share caretaking respon	1,096
4.Respondent cares for them	1,425
.d:DK	1
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	1
Total	4,638

	r2cg_cntrl
0.Never	1,631
1.Almost never	523
2.Sometimes	1,758
3.Fairly often	404
4.Very often	159
.d:DK	4
.h:Respondent IW only	72
.m:Missing	87
Total	4,638

	r2cg_cnfd
0.Never	425
1.Almost never	353
2.Sometimes	1,365
3.Fairly often	1,242
4.Very often	1,088
.d:DK	5
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	1
Total	4,638

	r2cg_gnwy
0.Never	460
1.Almost never	502
2.Sometimes	1,658
3.Fairly often	1,096
4.Very often	760
.d:DK	2
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	1
Total	4,638

	r2cg_plng
0.Never	1,163
1.Almost never	672
2.Sometimes	1,751
3.Fairly often	661
4.Very often	231
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	1
Total	4,638

	r2cg_depres
1.Rarely or never (less tha	1,852
2.Sometimes (1 or 2 days)	1,736
3.Often (3 or 4 days)	643
4.Most or all of the time (	244
.d:DK	1
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	3
Total	4,638

	r2cg_ftired
1.Rarely or never (less tha	1,350
2.Sometimes (1 or 2 days)	1,815
3.Often (3 or 4 days)	931
4.Most or all of the time (	382
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	1
Total	4,638

	r2cg_fsatisl
1.Rarely or never (less tha	591
2.Sometimes (1 or 2 days)	1,504
3.Often (3 or 4 days)	1,345
4.Most or all of the time (	1,035
.d:DK	2
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	2

Total	4,638

	r2cg_flone
1.Rarely or never (less tha	2,644
2.Sometimes (1 or 2 days)	1,195
3.Often (3 or 4 days)	436
4.Most or all of the time (	201
.d:DK	1
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	2
Total	4,638

	r2cg_whappy
1.Rarely or never (less tha	461
2.Sometimes (1 or 2 days)	1,405
3.Often (3 or 4 days)	1,451
4.Most or all of the time (	1,160
.d:DK	1
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	1
Total	4,638

	r2cg_notime
0.Never	414
1.Rarely	141
2.Sometimes	306
3.Quite frequently	90
4.Nearly always	53
.h:Respondent IW only	72
.m:Missing	86
.s:Skipped-provides no care	3,476
Total	4,638

	r2cg_strsp
0.Never	429
1.Rarely	129
2.Sometimes	321
3.Quite frequently	83
4.Nearly always	42
.h:Respondent IW only	72
.m:Missing	86
.s:Skipped-provides no care	3,476
Total	4,638

	r2cg_cheer
0.Never	128
1.Rarely	598
2.Some days	1,833
3.Most days	1,072
4.Everyday	845
.d:DK	2

.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	1
Total	4,638

r2cg_calm

0.Never	172
1.Rarely	633
2.Some days	1,771
3.Most days	1,016
4.Everyday	884
.d:DK	2
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	1
Total	4,638

r2cg_mngfl

1.Strongly disagree	53
2.Disagree	14
3.Neither agree nor disagre	47
4.Agree	466
5.Strongly agree	424
.h:Respondent IW only	72
.m:Missing	86
.s:Skipped	3,476
Total	4,638

r2cg_innrpc

0.Never	352
1.Occasionally	1,234
2.Once in a week	728
3.Some days in a week	1,184
4.Every day in a week	959
.d:DK	20
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	2
Total	4,638

r2cg_crtn

0.Never	249
1.Occasionally	1,169
2.Once in a week	581
3.Some days in a week	984
4.Every day in a week	1,489
.d:DK	4
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	3
Total	4,638

r2cg_thank

0.Never	128
1.Occasionally	922
2.Once in a week	461
3.Some days in a week	823
4.Every day in a week	2,140
.d:DK	3
.h:Respondent IW only	72
.m:Missing	87
.r:Refuse	2
Total	4,638

Original DAD Variables Used

Wave 1 Informant Report:	
dm_care	Inf Caregiver for Respondent
Wave 2 Informant Report:	
dm_care	Inf Caregiver for Respondent
cg001	currently providing care
cg002	whether primarily responsible for helping respondent with daily activities
cg003	number of people caring for on daily basis
cg004	hours spent caregiving
cg005	unable to control important things in life
cg006	felt confident about handling personal problems
cg007	felt that things were going your way
cg008	difficulty piling up high
cg009	Feel depressed
cg010	Feel tired
cg011	Feel overall satisfied
cg012	Feel alone
cg013	Feel happy
cg014	not enough time for yourself
cg015	stressed to meet caregiving and life responsibilities
cg016	feel cheerful
cg017	feel calk and peaceful
cg018	caring is deeply meaningful to me
cg019	feeling of deep inner peace
cg020	spiritually touched by the beauty of creation
cg021	thankful for what received in life

D. Health & Physical Measures

Self-rated Abilities

Variable	Waves	Label	Type
rWi_hear	1-2	rWi_hear:wW R whether any difficulty hearing or seeing(0-3)	Categ
rWi_sleepa	1-2	rWi_sleepa:wW R self-rated sleep quality,last night(1-5),alternate scale	Categ
rWi_memorya	1-2	rWi_memorya:wW R self-rated memory,present time(1-5),alternate scale	Categ
rWi_compmem	1-2	rWi_compmem:wW R self-rated memory compared to two years ago(1-3)	Categ
rWi_menabila	1-2	rWi_menabila:wW R self-rated mental abilities(1-5),alternate scale	Categ
rWi_compabil	1-2	rWi_compabil:wW R self-rated mental abilities compared to two years ago(1-3)	Categ

How Constructed

rWi_hear indicates whether the respondent has any difficulty in hearing or seeing. rWi_hear is coded as follows: 0.No difficulty, 1.Difficulty hearing, 2.Difficulty seeing, and 3.Difficulty hearing and seeing. This question was asked in all three phases of data collection in Wave 1 and Wave 2.

rWi_sleepa indicates how the respondent self-reported their sleep quality the night before. rWi_sleepa is coded as follows: 1.Very good, 2.Good, 3.Average, 4.Poor, and 5.Very poor. In Wave 1, this question was asked starting in phase 2 of data collection. In Wave 2, this question was asked to all respondents.

rWi_memorya indicates how the respondent self-reported their memory at the present interview. rWi_memorya is coded as follows: 1.Very good, 2.Good, 3.Average, 4.Poor, and 5.Very poor. In Wave 1, this question was asked starting in phase 2 of data collection. In Wave 2, this question was asked to all respondents.

rWi_compmem indicates how the respondent would compare their memory at the time of the current interview to two years ago. rWi_compmem is coded as follows: 1.Better now, 2.About the same, and 3.Worse now than it was then. In Wave 1, this question was asked starting in phase 2 of data collection. In Wave 2, this question was asked to all respondents.

rWi_menabila indicates how the respondent self-reported their mental abilities, such as thinking clearly and solving problems. rWi_menabila is coded as follows: 1.Very good, 2.Good, 3.Average, 4.Poor, and 5.Very poor. In Wave 1, this question was asked starting in phase 2 of data collection. In Wave 2, this question was asked to all respondents.

rWi_compabil indicates how the respondent would compare their mental abilities, such as thinking clearly and solving problems, at the time of the current interview to two years ago. rWi_compabil is coded as follows: 1.Better now, 2.About the same, and 3.Worse now than it was then. In Wave 1, this question was asked starting in phase 2 of data collection. In Wave 2, this question was asked to all respondents.

In Wave 1, a special missing (.x) is assigned if the respondent was not in the phase that the question was asked. In Wave 2, special missing (.i) is assigned if the respondent did not complete the cognitive interview. Don't know, refused, or other missing responses are assigned as special missing (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1, these questions were added starting in phase 2 of data collection. As such, in Wave 1, special missing (.x) is assigned if respondents were not interviewed in the phase that these questions were asked.

In Wave 2, these questions are asked in all phases of data collection, and special missing (.i) is assigned to indicate the instances where the respondent did not complete the cognitive interview.

Differences with other HCAP studies

LASI-DAD, MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog all ask the respondent to self-report their memory at the present interview. MHAS Mex-Cog, ELSA-HCAP, and SPS Chile-Cog ask on a scale from Excellent to Poor (or Bad) (**rWi_memory** in these Harmonized HCAP datasets), while LASI-DAD asks on a scale from Very Good to Very Poor (**rWi_memorya** in the Harmonized LASI-DAD). LASI-DAD, MHAS Mex-Cog, and SPS Chile-Cog also ask the respondent to rate their memory now compared to two years ago, which is not asked in ELSA-HCAP.

LASI-DAD asks additional questions on the respondent's: difficulty in hearing or seeing, self-reported sleep quality the night before, self-reported mental abilities, and comparison of their mental abilities at the time of the current interview to two years ago. ELSA-HCAP asks additional self-rated ability questions that are not asked in the other studies: their general health status, their eyesight, their hearing, and their sense of smell.

No comparable questions are asked in the HRS-HCAP.

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

Comparability with the Harmonized LASI

The Harmonized LASI includes the self-rated eyesight variables **rWnsighta** and **rWdsighta** and the self-rated hearing quality variable **rWhearcnde** that contain similar information to the LASI-DAD **rWi_hear** variable.

Categorical Variable Frequencies

	r1i_hear	r2i_hear
0.No difficulty	1,974	2,553
1.Difficulty hearing only	421	567
2.Difficulty seeing only	1,005	853
3.Difficulty hearing & seei	681	589
.d:DK	2	0
.i:No cognition IW	0	76
.m:Missing	6	0
.r:Refuse	7	0
Total	4,096	4,638

	r1i_sleepa	r2i_sleepa
1.Very good	176	362
2.Good	1,080	1,652
3.Average	666	1,509
4.Poor	487	900
5.Very poor	81	138
.d:DK	4	1
.i:No cognition IW	0	76
.m:Missing	3	0
.r:Refuse	7	0
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1i_memorya	r2i_memorya
1.Very good	95	128
2.Good	781	1,242
3.Average	1,012	1,980
4.Poor	515	1,109
5.Very poor	79	101

.d:DK	8	1
.i:No cognition IW	0	76
.m:Missing	3	0
.r:Refuse	11	1
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1i_compmem	r2i_compmem
1.Better now	94	92
2.About the same	1,087	2,061
3.Worse now than it was the	1,302	2,403
.d:DK	8	6
.i:No cognition IW	0	76
.m:Missing	3	0
.r:Refuse	10	0
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1i_menabila	r2i_menabila
1.Very good	55	80
2.Good	726	1,170
3.Average	919	2,212
4.Poor	474	1,005
5.Very poor	57	89
.d:DK	16	4
.i:No cognition IW	0	76
.m:Missing	248	0
.r:Refuse	9	2
.x:Not in phase	1,592	0
Total	4,096	4,638

	r1i_compabil	r2i_compabil
1.Better now	130	117
2.About the same	1,182	2,282
3.Worse now than it was the	1,166	2,161
.d:DK	13	2
.i:No cognition IW	0	76
.m:Missing	3	0
.r:Refuse	10	0
.x:Not in phase	1,592	0
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Cognitive Assessment:

intro_101s1	Respondent IW Introduction 1 Yes, difficulty in hearing
intro_101s2	Respondent IW Introduction 2 Yes, difficulty in seeing
intro_101s3	Respondent IW Introduction 3 None
cogval_101b	rating sleep quality
cogval_101c	rating current memory
cogval_101d	Compared to two years ago, memory is
cogval_101e	rating of other mental abilities

cogval_101f	Compared to two years ago,other mental abilities are

Wave 2 Cognitive Assessment:

intro_101s1	Respondent IW Introduction 1 Yes, difficulty in hearing
intro_101s2	Respondent IW Introduction 2 Yes, difficulty in seeing
intro_101s3	Respondent IW Introduction 3 None
cogval_101b	rating sleep quality
cogval_101c	rating current memory
cogval_101d	Compared to two years ago, memory is
cogval_101e	rating of other mental abilities
cogval_101f	Compared to two years ago,other mental abilities are

Health History

Variable	Waves	Label	Type
rWhhibpe	2	rWhhibpe:wW R ever had high blood pressure	Categ
rWhdiabe	2	rWhdiabe:wW R ever had diabetes	Categ
rWhhearte	2	rWhhearte:wW R ever had heart problem	Categ
rWhstroke	2	rWhstroke:wW R ever had stroke	Categ
rWhpsyche	2	rWhpsyche:wW R ever had psych problem	Categ
rWhdeprese	2	rWhdeprese:wW R ever had depression	Categ
rWhalzdeme	2	rWhalzdeme:wW R ever had alzheimers/dementia	Categ

How Constructed

rWhhibpe, **rWhdiabe**, **rWhhearte**, and **rWhstroke** indicate whether the respondent has ever been diagnosed by a health professional with the following chronic conditions or diseases: hypertension or high blood pressure(**rWhhibpe**), diabetes or high blood sugar (**rWhdiabe**), chronic heart diseases such as coronary heart disease (heart attack or myocardial infarction), congestive heart failure, or other chronic heart problems (**rWhhearte**), and stroke (**rWhstroke**). They are coded as follows: 0. No, 1. Yes.

Respondents are also asked about whether they have any neurological, or psychiatric problems such as depression, Alzheimer's/Dementia, bipolar disorders, convulsions, Parkinson's etc. If the respondent reports having a neurological or psychiatric problem, they are asked to specify the type of issue they have been diagnosed with. **rWhpsyche** indicates whether the respondent reported having a neurological or psychiatric problem and specified that they were diagnosed with depression or a psychiatric problem such as bipolar disorder or schizophrenia. **rWhdeprese**, indicates whether the respondent reported having a neurological or psychiatric problem and specified that they were diagnosed with depression. **rWhalzdeme**, indicates whether the respondent reported having a neurological or psychiatric problem and specified that they were diagnosed with Alzheimer's disease or dementia. **rWhpsyche**, **rWhdeprese**, and **rWhalzdeme** are coded as follows: 0. No, 1. Yes.

Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting in Wave 2.

Differences with other HCAP studies

The ELSA-HCAP includes a series of questions asking if the respondent has reported the onset of a condition since their last ELSA interview, which are included as variables in the Harmonized ELSA-HCAP. Because these variables indicate new diagnoses, they employ a different variable naming scheme than those in the Harmonized LASI-DAD. The LASI-DAD and ELSA-HCAP both include high blood pressure, diabetes, heart conditions, stroke, and psychological conditions. The LASI-DAD also distinguishes depression, and a combined diagnosis of Alzheimer's or dementia, while the ELSA-HCAP distinguishes Parkinson's disease, cancer, lung disease, and separate diagnoses of Alzheimer's and dementia.

The HRS-HCAP, MHAS Mex-Cog, and SPS Chile-Cog do not ask questions about chronic conditions.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

`rWhibpe`, `rWdiabe`, `rWhearte`, `rWstroke`, `rWpsyche`, and `rWalzdeme` are comparable variables in the Harmonized LASI, and `rWdeprese` could be created.

Categorical Variable Frequencies

	r2hhibpe
0.no	2,623
1.yes	1,826
.d:DK	21
.g:No geriatric assessment	143
.m:Missing	4
.r:Refuse	21
Total	4,638

	r2hdiabe
0.no	3,601
1.yes	845
.d:DK	24
.g:No geriatric assessment	143
.m:Missing	4
.r:Refuse	21
Total	4,638

	r2hhearte
0.no	4,088
1.yes	360
.d:DK	22
.g:No geriatric assessment	143
.m:Missing	4
.r:Refuse	21
Total	4,638

	r2hstroke
0.no	4,229
1.yes	218
.d:DK	22
.g:No geriatric assessment	143
.m:Missing	4
.r:Refuse	22
Total	4,638

	r2hpsyche
0.no	4,395
1.yes	50
.d:DK	23
.g:No geriatric assessment	143
.m:Missing	4
.r:Refuse	23
Total	4,638

	r2hdeprese
0.no	4,410

1.yes	35
.d:DK	23
.g:No geriatric assessment	143
.m:Missing	4
.r:Refuse	23
Total	4,638

	r2halzdeme
0.no	4,434
1.yes	11
.d:DK	23
.g:No geriatric assessment	143
.m:Missing	4
.r:Refuse	23
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

ht002	hypertension or high blood pressure
ht003	Diabetes or high blood sugar
ht006	heart disease
ht007	stroke
ht009	neurological or psychiatric problem
ht009as1	type of neurological or psychiatric problem 1 Depression
ht009as2	type of neurological or psychiatric problem 2 Alzheimers disease, dementia
ht009as3	type of neurological or psychiatric problem 3 Psychiatric problems such as bipol

Head Injury

Variable	Waves	Label	Type
rWheadinje	2	rWheadinje:wW R ever had head injury	Categ

How Constructed

rWheadinje indicates whether the respondent has ever had a blow to the head, a head injury, or head trauma that was severe enough to require medical attention, or to cause loss of consciousness or memory loss for a period of time and is coded as follows: 0. No, 1. Yes.

Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. This variable is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This question was asked starting in Wave 2.

Differences with other HCAP studies

The MHAS Mex-Cog and SPS Chile-Cog include questions on head or neck injuries throughout their lifetime, as well as separately asking whether the respondent lost consciousness as a result of their injury. The LASI-DAD asks about head injuries that required medical attention or a loss of consciousness, but rWheadinje is roughly comparable between the different Harmonized HCAP datasets.

The HRS-HCAP and ELSA-HCAP do not ask questions about head or neck injuries.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

LASI does not ask whether the respondent has ever had a blow to the head, a head injury, or head trauma that was severe enough to require medical attention, or to cause loss of consciousness or memory loss for a period of time.

Categorical Variable Frequencies

	r2headinje
0.No	3,880
1.Yes	566
.d:DK	23
.g:No geriatric assessment	143
.m:Missing	4
.r:Refuse	22
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

ht500	head injury

Blood Pressure Measurements

Variable	Waves	Label	Type
rWhsysto1	1-2	rWhsysto1:wW R blood pressure measure (systolic) 1	Cont
rWhsysto2	1-2	rWhsysto2:wW R blood pressure measure (systolic) 2	Cont
rWhsysto3	1-2	rWhsysto3:wW R blood pressure measure (systolic) 3	Cont
rWhsysto	1-2	rWhsysto:wW R average blood pressure measure (systolic) 2 & 3	Cont
rWhdiasto1	1-2	rWhdiasto1:wW R blood pressure measure (diastolic) 1	Cont
rWhdiasto2	1-2	rWhdiasto2:wW R blood pressure measure (diastolic) 2	Cont
rWhdiasto3	1-2	rWhdiasto3:wW R blood pressure measure (diastolic) 3	Cont
rWhdiasto	1-2	rWhdiasto:wW R average blood pressure measure (diastolic) 2 & 3	Cont
rWhpulse1	1-2	rWhpulse1:wW R pulse measure 1	Cont
rWhpulse2	1-2	rWhpulse2:wW R pulse measure 2	Cont
rWhpulse3	1-2	rWhpulse3:wW R pulse measure 3	Cont
rWhpulse	1-2	rWhpulse:wW R average pulse measure 2 & 3	Cont
rWbphigh	1-2	rWbphigh:wW R measured high blood pressure (140/90)	Categ
rWhbpact30	1-2	rWhbpact30:wW R did activity last 30 min that affects BP	Categ
rWhbparm	1-2	rWhbparm:wW R arm used for blood pressure test	Categ
rWhbldpos	1-2	rWhbldpos:wW R position for blood pressure test	Categ
rWhbpcompl	1-2	rWhbpcompl:wW R compliance during blood pressure test	Categ

How Constructed

rWhsysto1, **rWhsysto2**, and **rWhsysto3** are the respondent's first, second, and third systolic blood pressure readings. **rWhsysto** is the average of the second and third systolic blood pressure readings. If either the second or the third systolic blood pressure reading is missing, but not both, the first systolic blood pressure reading and the non-missing second or third reading is used to calculate **rWhsysto**. Special missing (.x) is assigned if the respondent tried to do the test but was unable to complete it. Special missing (.n) is employed if the questions were skipped because the respondent did not understand the directions, was unwilling to participate in the blood pressure measurement, or had a rash, a cast, edema, open sores or wounds, or a significant bruise where the blood pressure cuff would be placed. Special missing (.i) is assigned for invalid readings (values of 0 through 20). Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWhdiasto1, **rWhdiasto2**, **rWhdiasto3** are the respondent's first, second, and third diastolic blood pressure readings. **rWhdiasto** is the average of the second and the third diastolic blood pressure readings. If either the second or the third diastolic blood pressure reading is missing, but not both, the first diastolic blood pressure reading and the non-missing second or third reading is used to calculate **rWhdiasto**. Special missing (.x) is assigned if the respondent tried to do the test but was unable to complete it. Special missing (.n) is employed if the questions were skipped because the respondent did not understand the directions, was unwilling to participate in the blood pressure measurement, or had a rash, a cast, edema, open sores or wounds, or a significant bruise where the blood pressure cuff would be placed. Special missing (.i) is assigned for invalid readings (values of 0 through 20). Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWhpulse1, **rWhpulse2**, and **rWhpulse3** are the respondent's first, second, and third pulse readings. **rWhpulse** is the average of the second and the third pulse readings. If either the second or the third pulse reading is missing, but not both, the first pulse reading and the non-missing second or third reading is used to calculate **rWhpulse**. Special missing (.x) is assigned if the respondent tried to do the test but was unable to complete it. Special missing (.n) is employed if the questions were skipped because the respondent did not understand the directions, was unwilling to participate in the blood pressure measurement, or had a rash, a cast, edema, open sores or wounds, or a significant bruise where the blood pressure cuff would be placed. Special missing (.i) is assigned for invalid readings (values of 0 through 26 or greater than 500). Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWbphigh indicates whether the respondent has high blood pressure. If **rWhsysto** is 140 mmHg or higher or **rWhdiasto** is 90 mmHg or higher, a 1 is coded. If **rWhsysto** is below 140 mmHg and **rWhdiasto** is below 90 mmHg, a 0 is coded. Special missing (.x) is assigned if the respondent tried to do the test but was unable to complete it. Special missing (.n) is employed if the questions were skipped because the respondent did not understand the directions, was unwilling to participate in the blood pressure measurement, or had a rash, a cast, edema, open sores or wounds, or a significant bruise where the blood pressure cuff would be placed. Special missing (.i) is assigned for invalid readings. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. If **rWhsysto** or **rWhdiasto** have don't know, refused, or other missing responses they are assigned special missing codes (.d), (.r), and (.m), respectively. **rWbphigh** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhbpact30 indicates whether the respondent had smoked, exercised, or consumed alcohol or food within 30 minutes prior to the blood pressure test. A code of 1 indicates the respondent had smoked, exercised, or consumed alcohol or food within the 30 minutes prior to the blood pressure test. A code of 0 indicates the respondent had not smoked, exercised, or consumed alcohol or food within the 30 minutes prior to the blood pressure test. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Refused and other missing responses are assigned special missing codes (.r) and (.m), respectively. **rWhbpact30** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhbparm indicates the arm the respondent used for the blood pressure tests. **rWhbparm** is coded as follows: 1.Left arm and 2.Right arm. Special missing (.n) is employed if the questions were skipped because the respondent did not understand the directions, was unwilling to participate in the blood pressure measurement, or had a rash, a cast, edema, open sores or wounds, or a significant bruise where the blood pressure cuff would be placed. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Refused and other missing responses are assigned special missing codes (.r) and (.m), respectively. **rWhbparm** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhbldpos indicates the position the respondent was in for the blood pressure tests. **rWhbldpos** is coded as 2 if sitting and 3 if lying down. Special missing (.n) is employed if the questions were skipped because the respondent did not understand the directions, was unwilling to participate in the blood pressure measurement, or had a rash, a cast, edema, open sores or wounds, or a significant bruise where the blood pressure cuff would be placed. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Refused and other missing responses are assigned special missing codes (.r) and (.m), respectively. **rWhbldpos** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhbpcompl indicates how compliant the respondent was for the blood pressure tests. **rWhbpcompl** is coded as follows: 1.Fully compliant, 2.Prevented from fully complying due to illness, pain, or other symptoms or discomfort, and 3.Not fully compliant. Special missing (.n) is employed if the questions were skipped because the respondent did not understand the directions, was unwilling to participate in the blood pressure measurement, or had a rash, a cast, edema, open sores or wounds, or a significant bruise where the blood pressure cuff would be placed. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know and other missing responses are assigned special missing codes (.d) and (.m), respectively. **rWhbpcompl** is set to plain missing (.) if the respondent did not participate in the current wave.

Besides invalidating very extreme values, we have left the determination of valid and invalid measurement values to the discretion of the user.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

Blood pressure measurements were not collected in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog. The ELSA-HCAP asks respondents whether they had been diagnosed with high blood pressure since the last ELSA interview.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

`rWsysto1`, `rWsysto2`, `rWsysto3`, `rWsysto`, `rWdiasto1`, `rWdiasto2`, `rWdiasto3`, `rWdiasto`, `rWpulse1`, `rWpulse2`, `rWpulse3`, `rWpulse`, `rWbpact30`, `rWbparm`, `rWbldpos`, and `rWbpcompl` are the comparable variables in the Harmonized LASI. The Harmonized LASI does not include an indicator of measured high blood pressure.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hsysto1	4,017	140.49	24.39	75.00	232.00	79
r2hsysto1	4,444	140.09	24.45	73.00	275.00	194
r1hsysto2	4,011	137.56	23.48	72.00	232.00	85
r2hsysto2	4,429	137.65	23.48	68.00	258.00	209
r1hsysto3	4,007	136.14	22.88	77.00	235.00	89
r2hsysto3	4,412	136.13	22.78	67.00	229.00	226
r1hsysto	4,011	136.85	22.82	76.50	233.50	85
r2hsysto	4,429	136.95	22.85	68.00	230.00	209
r1hdiasto1	4,016	83.56	12.82	46.00	149.00	80
r2hdiasto1	4,445	83.03	13.09	40.00	189.00	193
r1hdiasto2	4,010	82.35	12.57	43.00	162.00	86
r2hdiasto2	4,431	81.80	12.43	42.00	152.00	207
r1hdiasto3	4,004	81.72	12.39	43.00	155.00	92
r2hdiasto3	4,413	81.20	12.32	39.00	165.00	225
r1hdiasto	4,011	82.04	12.14	47.50	137.00	85
r2hdiasto	4,431	81.52	12.06	40.50	153.50	207
r1hpulse1	4,014	80.65	13.04	39.00	136.00	82
r2hpulse1	4,444	80.53	12.80	39.00	137.00	194
r1hpulse2	4,009	80.07	12.91	34.00	160.00	87
r2hpulse2	4,432	80.12	12.84	37.00	170.00	206
r1hpulse3	3,998	79.94	12.86	39.00	188.00	98
r2hpulse3	4,412	80.03	12.58	36.00	137.00	226
r1hpulse	4,010	80.01	12.71	39.00	160.00	86
r2hpulse	4,433	80.07	12.52	36.50	138.00	205

Categorical Variable Frequencies

	r1bphigh	r2bphigh
0.No	2,190	2,476
1.Yes	1,821	1,953
.d:DK	5	3
.g:No geriatric assessment	12	143
.i:Invalid	1	1
.m:Missing	11	0
.n:Not Assessed	28	24
.r:Refuse	3	35
.x:Not in phase	25	3
Total	4,096	4,638

	r1hbpact30	r2hbpact30
0.No	3,417	3,999
1.Yes	644	463
.d:DK	0	1
.g:No geriatric assessment	12	143
.m:Missing	22	0
.r:Refuse	1	32
Total	4,096	4,638

	r1hbparm	r2hbparm
1.Left arm	3,967	4,318
2.Right arm	73	126
.d:DK	1	2
.g:No geriatric assessment	12	143
.m:Missing	27	2
.n:Not Assessed	14	8
.r:Refuse	2	39
Total	4,096	4,638

	r1hbldpos	r2hbldpos
2.Sitting	4,019	4,404
3.Lying down	21	45
.d:DK	1	1
.g:No geriatric assessment	12	143
.m:Missing	27	2
.n:Not Assessed	14	8
.r:Refuse	2	35
Total	4,096	4,638

	r1hbpcompl	r2hbpcompl
1.Fully compliant	4,005	4,402
2.Prevented from being full	20	29
3.Not fully compliant	16	20
.d:DK	2	1
.g:No geriatric assessment	12	143
.m:Missing	27	2
.n:Not Assessed	14	8
.r:Refuse	0	33
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga101	Blood Pressure
ga102	ACTIVITY PRIOR TO BP TEST
ga103	INJURY WHERE BP CUFF CONTACTS ARM
ga104	INJURY WHERE BP CUFF CONTACTS ARM
ga106	SYSTOLIC READING 1
ga107	DIASTOLIC READING 1
ga108	PULSE READING 1
ga110	SYSTOLIC READING 2
ga111	DIASTOLIC READING 2
ga112	PULSE READING 2
ga114	SYSTOLIC READING 3
ga115	DIASTOLIC READING 3
ga116	PULSE READING 3
ga120	ARM USED FOR BP MEASUREMENTS
ga121	RS POSITION FOR BP TEST
ga122	HOW COMPLIANT DURING TEST

Wave 2 Geriatric Assessment:

ga101	Blood Pressure
ga102	ACTIVITY PRIOR TO BP TEST
ga103	INJURY WHERE BP CUFF CONTACTS ARM
ga104	INJURY WHERE BP CUFF CONTACTS ARM
ga106	SYSTOLIC READING 1
ga107	DIASTOLIC READING 1
ga108	PULSE READING 1
ga110	SYSTOLIC READING 2
ga111	DIASTOLIC READING 2
ga112	PULSE READING 2
ga114	SYSTOLIC READING 3
ga115	DIASTOLIC READING 3
ga116	PULSE READING 3
ga120	ARM USED FOR BP MEASUREMENTS
ga121	RS POSITION FOR BP TEST
ga122	HOW COMPLIANT DURING TEST

Height, Weight, and BMI

Variable	Waves	Label	Type
rWhmheight	1-2	rWhmheight:wW R height measurement in meters	Cont
rWhmweight	1-2	rWhmweight:wW R weight measurement in kilograms	Cont
rWht_flag	1	rWht_flag:wW Flag: R LASI height measurement in meters	Categ
rWwt_flag	1	rWwt_flag:wW Flag: R LASI weight measurement in kilograms	Categ
rWhmbmi	1-2	rWhmbmi:wW R Body Mass Index=kg/m2	Cont
rWhmbmicat_d	1-2	rWhmbmicat_d:wW R bmi categorization	Categ
rWmstand	1-2	rWmstand:wW R whether able to stand for measurements	Categ
rWhhtlimbs	1	rWhhtlimbs:wW R whether wearing artificial limb/orthosis during height measure	Categ
rWhwtlimbs	1	rWhwtlimbs:wW R whether wearing artificial limb/orthosis during weight measure	Categ
rWhhtcompl	1-2	rWhhtcompl:wW R compliance during height measurement	Categ
rWhwtcompl	1-2	rWhwtcompl:wW R compliance during weight measurement	Categ

How Constructed

rWhmheight and **rWhmweight** indicate the respondent's measured height in meters and measured weight in kilograms, respectively. Special missing (.q) is assigned if the respondent tried to be measured but received an error message record. Special missing (.n) is employed if the questions were skipped because the respondent could not stand to complete the test. Special missing (.i) is assigned for invalid readings (values under 1 for height). Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWht_flag and **rWwt_flag** indicate whether **rWmheight** and **rWmweight** use DAD's Wave 1 or LASI height and weight measurements, respectively. These variables are only available at Wave 1. A 0 indicates DAD measurements were used and a 1 indicates LASI measurements were used. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWhmbmi is the respondent's body mass index and it is calculated by dividing the respondent's weight (kg) by the squared value of their height (m). **rWhmbmicat_d** assigns **rWhmbmi** into four categories. **rWhmbmicat_d** includes the following BMI ranges: 0. Underweight (0-18.49), 1. Normal weight (18.5-24.99), 2. Overweight (25.0-29.99), and 3. Obese (30.0 and up). Special missing (.n) is employed if the questions were skipped because the respondent could not stand to complete the test. Special missing (.i) is assigned for invalid readings. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Refused or other missing responses are assigned special missing codes (.r) and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWmstand indicates whether the respondent is able to stand for the height and weight measurements. **rWmstand** is coded as 1 if the respondent was able to stand and is coded as 0 if the respondent was unable to stand. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. **rWmstand** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhhtlimbs indicates whether the respondent was wearing any artificial limbs or orthosis during the height measurements and **rWwtlimbs** indicates whether the respondent was wearing any artificial limbs or orthosis during the weight measurements. These questions were only asked in Wave 1. **rWhtlimbs** and **rWwtlimbs** are coded as 1 if the respondent was wearing an artificial limb or orthosis during the measurement and coded as 0 if the respondent was not wearing any artificial limb or orthosis. Special missing (.n) is employed if the questions were skipped because the respondent could not stand to

complete the test. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWhhtcompl and **rWhwtcompl** indicate how compliant the respondent was during the height and weight measurements, respectively. **rWhhtcompl** and **rWhwtcompl** are coded as follows: 1.Fully compliant, 2.Prevented from fully complying due to illness, pain, or other symptoms or discomforts, and 3.Not fully compliant, but no obvious reason for this. Special missing (.n) is employed if the questions were skipped because the respondent could not stand to complete the test. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Besides invalidating very extreme values, we have left the determination of valid and invalid measurement values to the discretion of the user.

rWhhtlimbs and **rWhhtcompl** have high (.m) missing values in Wave 1.

Cross Wave Differences in LASI-DAD

In Wave 2, the two questions related to artificial limbs were no longer asked. In Wave 2, the height and weight flag variables are not included.

Differences with other HCAP studies

Height and weight measurements were not collected in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

rWmheight, **rWmweight**, **rWmbmi**, **rWmbmicat**, **rWhtlimbs**, **rWwtlimbs**, **rWhtcompl**, and **rWwtcompl** are the comparable variables in the Harmonized LASI. Please note that **rWmbmicat** ranges from 1-6 with additional categories for obesity, while **rWhmbmicat_d** ranges from 0-3 with a single obesity category. The Harmonized LASI does not include height and weight flag variables or a separate variable indicating if the respondent can stand.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hmheight	3,808	1.54	0.09	1.03	2.05	288
r2hmheight	4,288	1.54	0.10	1.05	2.11	350
r1hmweight	3,992	53.58	13.30	12.30	111.40	104
r2hmweight	4,298	53.54	13.18	22.90	122.00	340
r1hmbmi	3,775	22.50	5.05	9.53	47.69	321
r2hmbmi	4,279	22.58	4.99	8.31	60.55	359

Categorical Variable Frequencies

	r1ht_flag
0.DAD	1,504
1.LASI	2,585
.g:No geriatric assessment	7
Total	4,096

	r1wt_flag
0.DAD	3,886
1.LASI	203
.g:No geriatric assessment	7
Total	4,096

	r1hmbmicat_d	r2hmbmicat_d
0.underweight (less than 18	860	911
1.normal weight (18.5-24.9)	1,843	2,156
2.overweight (25.0-29.9)	770	879
3.obese (30.0 and greater)	302	333
.d:DK	0	2
.g:No geriatric assessment	7	143
.i:Invalid	36	14
.m:Missing	118	9
.n:Not Assessed	42	171
.r:Refuse	118	20
Total	4,096	4,638

	r1mstand	r2mstand
0.No	132	171
1.Yes	3,884	4,308
.d:DK	3	1
.g:No geriatric assessment	12	143
.m:Missing	4	3
.r:Refuse	61	12
Total	4,096	4,638

	r1hhtlimbs
0.No	2,261
1.Yes	263
.d:DK	397
.g:No geriatric assessment	12
.m:Missing	540
.n:Not Assessed	132
.r:Refuse	491
Total	4,096

	r1hwtlimbs
0.No	3,848
1.Yes	5
.d:DK	32
.g:No geriatric assessment	12
.m:Missing	4
.n:Not Assessed	132
.r:Refuse	63
Total	4,096

	r1hhtcompl	r2hhtcompl
1.Fully compliant	2,296	4,250
2.Prevented from being full	86	44
3.Not fully compliant	56	11
.d:DK	486	1

.g:No geriatric assessment	12	143
.m:Missing	540	3
.n:Not Assessed	132	171
.r:Refuse	488	15
Total	4,096	4,638

	r1hwtcompl	r2hwtcompl
1.Fully compliant	3,824	4,267
2.Prevented from being full	15	33
3.Not fully compliant	7	6
.d:DK	36	1
.g:No geriatric assessment	12	143
.m:Missing	4	3
.n:Not Assessed	132	171
.r:Refuse	66	14
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga123	CAN RESPONDENT STAND
ga123b	Measurement height
ga124	R WEARING ARTIFICIAL LIMBS OR ORTHOSIS
ga125	HOW COMPLIANT DURING TEST
ga127b	Measurement weight
ga128	ARTIFICIAL LIMB
ga129	HOW COMPLIANT DURING TEST

Wave 2 Geriatric Assessment:

ga123	CAN RESPONDENT STAND
ga123a	RESPONDENT HEIGHT
ga125	HOW COMPLIANT DURING TEST
ga127	WEIGHT
ga129	HOW COMPLIANT DURING TEST

Mid Arm Circumference, Calf Circumference and Knee Height

Variable	Waves	Label	Type
rWmidarm	1-2	rWmidarm:wW R mid-arm circumference(cm)	Cont
rWcalf	1-2	rWcalf:wW R calf circumference(cm)	Cont
rWkneeht	1	rWkneeht:wW R knee height(cm)	Cont

How Constructed

rWmidarm, rWcalf, and rWkneeht indicate the respondent's measured mid-arm circumference (cm), measured calf circumference (cm), and measured knee height (cm), respectively. rWkneeht is only available at Wave 1. Special missing (.i) is assigned for invalid readings (3 or less for mid-arm and calf circumference, and 10 or less for knee height). Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Besides invalidating very extreme values, we have left the determination of valid and invalid measurement values to the discretion of the user.

Cross Wave Differences in LASI-DAD

In Wave 2, knee height was no longer measured.

Differences with other HCAP studies

Mid-arm and calf circumference, and knee height were not collected in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These measurements were not collected in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1midarm	4,051	25.17	3.79	11.70	55.80	45
r2midarm	4,464	25.19	3.96	13.00	90.20	174
r1calf	4,049	29.41	4.23	15.20	62.00	47
r2calf	4,456	29.20	4.30	16.00	84.50	182
r1kneeht	3,848	49.10	3.54	25.00	61.00	248

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga131	MID ARM CIRCUMFERENCE
ga134	CALF CIRCUMFERENCE
ga137	Knee measurement

Wave 2 Geriatric Assessment:

ga131	MID ARM CIRCUMFERENCE

ga134	CALF CIRCUMFERENCE

Head Circumference

Variable	Waves	Label	Type
rWmhead1	2	rWmhead1:wW R head circumference measure 1 (cm)	Cont
rWmhead2	2	rWmhead1:wW R head circumference measure 2 (cm)	Cont
rWmhead	2	rWmhead:wW R average head circumf measure 1 & 2	Cont

How Constructed

Starting in Wave 2, measurements of the respondent's head circumference were taken.

rWmhead1, **rWmhead2**, and **rWmhead** indicate the respondent's head circumference (cm) measurements. **rWmhead1** indicates the first record of head circumference (cm), **rWmhead2** indicates the second record of head circumference (cm), and **rWmhead** is the average of the two measurements. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

The head circumference measurements were taken starting in Wave 2.

Differences with other HCAP studies

Head circumference measurements were not collected in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These measurements were not collected in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2mhead1	4,463	52.87	2.38	25.50	63.00	175
r2mhead2	4,463	52.87	2.37	25.60	63.10	175
r2mhead	4,463	52.87	2.37	25.55	63.05	175

Original DAD Variables Used

Wave 2 Geriatric Assessment:

ga141	head circum measurements 1
ga142	head circum measurements 2

Waist Circumference

Variable	Waves	Label	Type
rWhmwaist	2	rWhmwaist:wW R waist measurement in cm	Cont
rWhbulky	2	rWhbulky:wW R wearing bulky clothes for waist measurement	Categ

How Constructed

Starting in Wave 2, the respondent's waist measurement was taken.

rWhmwaist indicates the measurement of the respondent's waist circumference (cm). rWhbulky indicates whether the respondent wears bulky clothes for waist measurement and is coded as follows: 0. No and 1. Yes. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting in Wave 2.

Differences with other HCAP studies

Waist circumference measurements were not collected in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

rWmwaist and rWbulky are the comparable variables in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2hmwaist	4,396	85.30	13.91	27.30	151.10	242

Categorical Variable Frequencies

	r2hbulky
0.No	3,898
1.Yes	557
.d:DK	3
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	34
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

bm076_intro	R's waist measurement
bm077	R wear bulky cloth?

Repeated Chair Stand

Variable	Waves	Label	Type
rWhchr1res	2	rWhchr1res:wW R result 1 chair stand	Categ
rWhchr1comp	2	rWhchr1comp:wW R willing and able to complete 1 chair stand	Categ
rWhchr5sec	2	rWhchr5sec:wW # seconds for R to do 5 chair stands	Cont
rWhchr5num	2	rWhchr5num:wW R number chair stands completed	Cont
rWhchr5comp	2	rWhchr5comp:wW R willing and able to complete 5 chair stands	Categ
rWhchrsft	2	rWhchrsft:wW R didn't complete chair stand: unsafe/health reason	Categ
rWhchrref	2	rWhchrref:wW R didn't complete chair stand: refused	Categ
rWhchrtryu	2	rWhchrtryu:wW R didn't complete chair stand: tried but unable	Categ
rWhchrothr	2	rWhchrothr:wW R didn't complete chair stand: other reason	Categ

How Constructed

In Wave 2, a Repeated Chair Stand test was conducted to measure the strength of the respondent's legs.

rWhchr1res indicates the outcome of the respondent's single chair stand and is coded as follows: 1. stood w/out using arms, 2.used arms to stand, and 3.not completed. Respondents were asked to attempt this task only if they were able to stand. Therefore, a special missing (.s) is assigned if the respondent cannot stand. Special missing (.n) is assigned if the respondent felt it would not be safe or a suitable chair was not available. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. **rWhchr1res** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhchr1comp indicates whether the respondent is willing and able to complete 1 chair stand, and is coded as follows: 0. No, 1. Yes. Respondents were asked to attempt this task only if they were able to stand. Therefore, a special missing (.s) is assigned if the respondent cannot stand. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. **rWhchr1comp** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhchr5sec indicates the number of seconds for the respondent to do five chair stands. Respondents were asked to attempt this task only if they were able to stand and were able to complete the single chair stand. Therefore, a special missing (.s) is assigned if the respondent cannot stand. Special missing (.n) is assigned if the respondent felt it would not be safe, a suitable chair was not available, or they could not complete the single chair stand. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. **rWhchr5sec** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhchr5num indicates the number of chair stands that the respondent completed. Respondents were asked to attempt this task only if they were able to stand and were able to complete the single chair stand. Therefore, a special missing (.s) is assigned if the respondent cannot stand. Special missing (.n) is assigned if the respondent felt it would not be safe, a suitable chair was not available, or they could not complete the single chair stand. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. **rWhchr5num** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhchr5comp indicates whether the respondent is willing and able to complete five chair stands and is coded as follows: 0. No, 1. Yes. Respondents were asked to attempt this task only if they were able to stand. Therefore, a special missing (.s) is assigned if the respondent cannot stand. Special missing (.g) is assigned if the respondent did not complete the

geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. **rWhchr5comp** is set to plain missing (.) if the respondent did not participate in the current wave.

rWhchrsft, **rWhchrref**, **rWhchrtryu** and **rWhchrothr** indicate the reason the respondent didn't complete either the single or 5-chair stand tests. **rWhchrsft** indicates whether the respondent didn't complete the chair stands because the respondent or interviewer felt it would be unsafe or the respondent could not hold the position unassisted.. **rWhchrref** indicates whether the respondent refused to complete the chair stand. **rWhchrtryu** indicates whether the respondent tried but was unable to complete the chair stand. **rWhchrothr** indicates whether the respondent didn't complete the chair stand due to other reasons such as the participant was unable to understand the instructions or the reason was unspecified. These variables are coded as follows: 0. No, 1. Yes. Special missing (.c) is assigned if the respondent completed the chair stand test. Respondents were asked to attempt this task only if they were able to stand. Therefore, a special missing (.s) is assigned if the respondent cannot stand. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

The repeated chair stand tests were completed starting in Wave 2.

Differences with other HCAP studies

The Repeated Chair Stand Test measurements were not collected in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

The Repeated Chair Stand test was not conducted in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2hchr5sec	2,932	17.13	5.11	2.18	71.51	1,706
r2hchr5num	2,937	4.95	0.34	0.00	5.00	1,701

Categorical Variable Frequencies

	r2hchr1res
1.stood w/out using arms	2,998
2.used arms to stand	136
3.not completed	14
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	16
.n:Not Assessed	1,134
.r:Refuse	25
.s:Skipped	171
Total	4,638

	r2hchr1comp
0.No	1,134

1.Yes	3,148
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	16
.r:Refuse	25
.s:Skipped	171
Total	4,638

r2hchr5comp

0.No	1,344
1.Yes	2,937
.g:No geriatric assessment	143
.m:Missing	21
.r:Refuse	22
.s:Skipped	171
Total	4,638

r2hchrsft

0.No	112
1.Yes	1,188
.c:Completed test	3,004
.g:No geriatric assessment	143
.m:Missing	20
.s:Skipped	171
Total	4,638

r2hchrref

0.No	1,260
1.Yes	40
.c:Completed test	3,004
.g:No geriatric assessment	143
.m:Missing	20
.s:Skipped	171
Total	4,638

r2hchrtryu

0.No	1,255
1.Yes	45
.c:Completed test	3,004
.g:No geriatric assessment	143
.m:Missing	20
.s:Skipped	171
Total	4,638

r2hchrothr

0.No	1,277
1.Yes	23
.c:Completed test	3,004
.g:No geriatric assessment	143
.m:Missing	20
.s:Skipped	171
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

cs100	suitable chair available
cs101	R feels safe to do single chair rise
cs102	outcome of single chair rise measure
cs103	Reason single chair rise not completed
cs104	R feels safe to do repeated chair rise
cs105	outcome of repeated chair rise measure
cs106	time to complete 5 chair rises
cs107	Reason repeated chair rise not completed
ga123	CAN RESPONDENT STAND

Activities of Daily Living (ADLs): Some Difficulty

Variable	Waves	Label	Type
rWhdressa	1-2	rWhdressa:wW R Some Diff-Dressing	Categ
rWhwalkra	1-2	rWhwalkra:wW R Some Diff-Walk across room	Categ
rWhbatha	1-2	rWhbatha:wW R Some Diff-Bathing	Categ
rWheata	1-2	rWheata:wW R Some Diff-Eating	Categ
rWhbeda	1-2	rWhbeda:wW R Some Diff-Get in/out bed	Categ
rWhtoilta	1-2	rWhtoilta:wW R Some Diff-Using the toilet	Categ
rWhgrooma	2	rWhgrooma:wW R Some Diff-Grooming	Categ

How Constructed

These variables pertain to questions regarding Activities of Daily Living (ADLs) and whether the respondent experienced any difficulty performing said tasks due to health or memory problems. The ADLs include dressing (**rWhdressa**), walking across a room (**rWhwalkra**), bathing (**rWhbatha**), eating (**rWheata**), getting in and out of bed (**rWhbeda**), using the toilet (**rWhtoilta**), and grooming, such as combing hair, cleaning teeth, and shaving (**rWhgrooma**). The question about grooming (**rWhgrooma**) was asked starting in Wave 2. The respondent was instructed to exclude any difficulties they expect to last less than three months.

A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates that the respondent reported some difficulty with the activity due to health or memory problems. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

The question about any difficulty with grooming was added in Wave 2.

Differences with other HCAP studies

ELSA-HCAP asks the same questions about dressing, walking across a room, bathing, eating, getting in and out of bed, and using the toilet, but not about grooming. These questions are not asked in the HRS-HCAP, MHAS Mex-Cog, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

rWdressa, **rWwalkra**, **rWbatha**, **rWeata**, **rWbeda**, and **rWtoilta** are comparable variables in the Harmonized LASI. The LASI does not ask whether the respondent has any difficulty with grooming.

Categorical Variable Frequencies

	r1hdressa	r2hdressa
0.No	3,408	3,818
1.Yes	657	657
.d:DK	4	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	10	16

Total	4,096	4,638
	r1hwalkra	**r2hwalkra**
0.No	3,012	3,569
1.Yes	1,053	906
.d:DK	4	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	10	16
Total	4,096	4,638
	r1hbatha	**r2hbatha**
0.No	3,370	3,850
1.Yes	694	625
.d:DK	5	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	10	16
Total	4,096	4,638
	r1heata	**r2heata**
0.No	3,447	4,140
1.Yes	618	335
.d:DK	4	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	10	16
Total	4,096	4,638
	r1hbeda	**r2hbeda**
0.No	2,662	3,327
1.Yes	1,403	1,148
.d:DK	4	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	10	16
Total	4,096	4,638
	r1htoilta	**r2htoilta**
0.No	2,562	3,181
1.Yes	1,503	1,294
.d:DK	4	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	10	16
Total	4,096	4,638
	r2hgrooma	
0.No	4,020	
1.Yes	454	
.d:DK	2	
.g:No geriatric assessment	143	
.m:Missing	3	

.r:Refuse	16
Total	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga201	Dressing, including putting on chappals, shoes
ga202	Walking across a room
ga203	Bathing
ga204	Eating, breaking chapatti, mixing rice
ga205	Getting in or out of bed
ga206	Using the toilet, including getting up and down

Wave 2 Geriatric Assessment:

ga201	Dressing, including putting on chappals, shoes
ga202	Walking across a room
ga203	Bathing
ga204	Eating, breaking chapatti, mixing rice
ga205	Getting in or out of bed
ga206	Using the toilet, including getting up and down
ga219	Grooming, such as combing hair, cleaning teeth, shaving

ADL Summary: Any Difficulty

Variable	Waves	Label	Type
rWhadltot6	1-2	rWhadltot6:wW R Some Diff-ADLs(0-6)	Categ
rWhadltot6m	1-2	rWhadltot6m:wW R Some Diff-Missing ADLs(0-6)	Categ
rWhadltot6a	1-2	rWhadltot6a:wW R Any ADL Diff (0-6)	Categ
rWhadltot2_d	2	rWhadltot2_d:wW R Some Diff-ADLs(0-7)	Categ
rWhadltot2m_d	2	rWhadltot2m_d:wW R Some Diff-Missing ADLs(0-7)	Categ
rWhadltot2a_d	2	rWhadltot2a_d:wW R Any ADL Diff (0-7)	Categ

How Constructed

rWhadltot6 and **rWadltot2_d** are the Activities of Daily Living (ADL) summary, indicating the number of ADLs that are difficult for the respondents. Specifically, **rWhadltot6** is summed as long as one component is not missing, and is constructed as:

rWhadltot6 = sum(**rWhwalkra**, **rWhbatha**, **rWhdressa**, **rWheata**, **rWhbeda**, **rWhtoilta**)

rWhadltot6m counts the number of missing components, and can have values between 0 and 6.

rWadltot2_d is summed as long as one component is not missing and is constructed as:

rWadltot2_d = sum(**rWhwalkra**, **rWhbatha**, **rWhdressa**, **rWheata**, **rWhbeda**, **rWhtoilta**, **rWhgrooma**)

rWadltot2m_d counts the number of missing components, and can have values between 0 and 7.

rWhadltot6a indicates whether the respondent had any difficulty with one or more ADLs between **rWhwalkra**, **rWhbatha**, **rWhdressa**, **rWheata**, **rWhbeda**, and **rWhtoilta**. **rWadltot2a_d** indicates whether the respondent had any difficulty with one or more ADLs between **rWhwalkra**, **rWhbatha**, **rWhdressa**, **rWheata**, **rWhbeda**, **rWhtoilta** and **rWhgrooma**, and is calculated starting in Wave 2. A 1 is coded if the respondent reported having difficulty with one or more ADLs. A 0 indicates no difficulty with any of the included ADLs.

Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Please see "Activities of Daily Living (ADLs): Some Difficulty" for a description of how each individual ADL was constructed.

Cross Wave Differences in LASI-DAD

The question about any difficulty with grooming was added in Wave 2. Therefore, an additional summary measure including all 7-items was included.

Differences with other HCAP studies

Questions on Activities of Daily Living (ADL) are not asked in the HRS-HCAP, MHAS Mex-Cog, or SPS Chile-Cog. There are no differences in the 6-item ADL summary measure between the ELSA-HCAP and the LASI-DAD. The LASI-DAD asks an additional question about grooming, and thus, the 7-item ADL summary measure is only available in the Harmonized LASI-DAD starting in Wave 2.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

The Harmonized LASI-DAD and Harmonized LASI both construct an Activities of Daily Living (ADL) summary measure, **rWhadltot6** and **rWadltot6**, respectively, using the following activities: walking across a room, bathing, dressing, eating, getting in and out of bed, and using the toilet. The Harmonized LASI constructs three additional Activities of Daily Living (ADL) summary measures. One uses the ADLs proposed by Wallace and Herzog in their paper (Wallace and Herzog, 1995) to define an ADL summary (**rWadlwa**): bathe, dress, and eat. The second includes the aforementioned ADLs and adds getting in/out of bed and walking across a room (**rWadla**). The third includes the three ADLs from the three-item summary and adds getting in/out of bed and using the toilet (**rWadlfive**). The Harmonized LASI does not ask a question about grooming.

Categorical Variable Frequencies

	r1hadltot6	r2hadltot6
0	1,927	2,565
1	606	635
2	542	466
3	333	291
4	253	204
5	197	175
6	207	139
.d:DK	4	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	10	16
Total	4,096	4,638

	r1hadltot6m	r2hadltot6m
0	4,064	4,475
1	1	0
6	19	20
.g:No geriatric assessment	12	143
Total	4,096	4,638

	r1hadltot6a	r2hadltot6a
0.No	1,927	2,565
1.Yes	2,138	1,910
.d:DK	4	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	10	16
Total	4,096	4,638

	r2hadltot2_d
0	2,538
1	617
2	447
3	293
4	206
5	156
6	101
7	117
.d:DK	1
.g:No geriatric assessment	143

.m:Missing	3
.r:Refuse	16
Total	4,638

r2hadltot2m_d	
0	4,474
1	1
7	20
.g:No geriatric assessment	143
Total	4,638

r2hadltot2a_d	
0.No	2,538
1.Yes	1,937
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	16
Total	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga201	Dressing, including putting on chappals, shoes
ga202	Walking across a room
ga203	Bathing
ga204	Eating, breaking chapatti, mixing rice
ga205	Getting in or out of bed
ga206	Using the toilet, including getting up and down

Wave 2 Geriatric Assessment:

ga201	Dressing, including putting on chappals, shoes
ga202	Walking across a room
ga203	Bathing
ga204	Eating, breaking chapatti, mixing rice
ga205	Getting in or out of bed
ga206	Using the toilet, including getting up and down
ga219	Grooming, such as combing hair, cleaning teeth, shaving

Activities of Daily Living (ADLs): Receives Help

Variable	Waves	Label	Type
rWhdresshlp	2	rWhdresshlp:wW R Receives Help-Dressing	Categ
rWhwalkhlp	2	rWhwalkhlp:wW R Receives Help-Walk across room	Categ
rWhbathehlp	2	rWhbathehlp:wW R Receives Help-Bathing	Categ
rWheathlp	2	rWheathlp:wW R Receives Help-Eating	Categ
rWhbedhlp	2	rWhbedhlp:wW R Receives Help-Get in/out bed	Categ
rWhtoilethlp	2	rWhtoilethlp:wW R Receives Help-Using the toilet	Categ
rWhgroomhlp	2	rWhgroomhlp:wW R Receives Help-Grooming	Categ

How Constructed

Respondents were first asked whether they have difficulties with ADLs including dressing, waking across a room, bathing, eating, getting in and out of bed, using a toilet, and grooming. If they reported that they had difficulty, they were then asked if they received help with said activity. These questions were asked starting near the end of Wave 2 phase 1.

rWhdresshlp indicates if the respondent receives help with dressing.

rWhwalkhlp indicates if the respondent receives help with walking across a room.

rWhbathehlp indicates if the respondent receives help bathing.

rWheathlp indicates if the respondent receives help eating.

rWhbedhlp indicates if the respondent receives help getting in and out of bed.

rWhtoilethlp indicates if the respondent receives help using the toilet.

rWhgroomhlp indicates if the respondent receives help with grooming, such as combing hair, cleaning teeth, and shaving.

A code of 0 indicates that the respondent did not receive any help with the activity. A code of 1 indicates that the respondent received some help with the activity. Special missing (.s) is assigned if the question was skipped because the respondent does not have any difficulty doing the activity. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Special missing (.x) is assigned in Wave 2 if the respondent was interviewed in phase 1 before these questions began to be asked. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting near the end of Wave 2 phase 1.

Differences with other HCAP studies

Questions about whether the respondent received help with any of the ADL activities are not asked in the HRS-HCAP, ELSA-HCAP, MHAS Mex-Cog, or the SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These variables are not included in LASI.

Categorical Variable Frequencies

	r2hdresshlp
0.No	299
1.Yes	133
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	7
.s:Skipped	2,480
.x:Not in phase	1,573
Total	4,638

	r2hwalkhlp
0.No	401
1.Yes	191
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	8
.s:Skipped	2,319
.x:Not in phase	1,573
Total	4,638

	r2hbathehlp
0.No	200
1.Yes	166
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	7
.s:Skipped	2,546
.x:Not in phase	1,573
Total	4,638

	r2heathlp
0.No	113
1.Yes	63
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	7
.s:Skipped	2,737
.x:Not in phase	1,573
Total	4,638

	r2hbedhlp
0.No	562
1.Yes	170
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	7
.s:Skipped	2,179
.x:Not in phase	1,573
Total	4,638

	r2htoilethlp
0.No	654
1.Yes	146
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	7
.s:Skipped	2,112
.x:Not in phase	1,573
Total	4,638

	r2hgroomhlp
0.No	136
1.Yes	146
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	7
.s:Skipped	2,630
.x:Not in phase	1,573
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

ga201a	help with dressing
ga202a	help with walking across a room
ga203a	help with bathing
ga204a	help with eating
ga205a	help getting in or out of bed
ga206a	help using the toilet
ga234	help with grooming

Instrumental Activities of Daily Living (IADLs): Some Difficulty

Variable	Waves	Label	Type
rWhmealsa	1-2	rWhmealsa:wW R Some Diff-Prepare hot meal	Categ
rWhshopa	1-2	rWhshopa:wW R Some Diff-Shop for grocery	Categ
rWhphonea	1-2	rWhphonea:wW R Some Diff-Use telephone	Categ
rWhmedsa	1-2	rWhmedsa:wW R Some Diff-Take medications	Categ
rWhhousewka	1-2	rWhhousewka:wW R Some Diff-Doing hhold chores	Categ
rWhmoneya	1-2	rWhmoneya:wW R Some Diff-Managing money	Categ
rWhgeta	1-2	rWhgeta:wW R Some Diff-Getting around	Categ
rWhlaundrya	2	rWhlaundrya:wW R Some Diff-Washing clothes	Categ

How Constructed

These variables pertain to questions regarding Instrumental Activities of Daily Living (IADLs) and whether the respondent experienced any difficulty performing said tasks due to health or memory problems. The IADLs included are as follows: preparing a meal (**rWhmealsa**), shopping for groceries (**rWhshopa**), making telephone calls (**rWhphonea**), taking medications (**rWhmedsa**), doing work around the house or garden (**rWhhousewka**), managing money, such as paying bills and keeping track of expenses (**rWhmoneya**), getting around or finding an address in an unfamiliar place (**rWhgeta**), and washing clothes (**rWhlaundrya**). **rWhlaundrya** was asked starting in Wave 2. The respondent was instructed to exclude any difficulties they expect to last less than three months.

A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates that the respondent reported some difficulty with the activity due to health or memory problems. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

The question about any difficulty with washing clothes was added in Wave 2.

Differences with other HCAP studies

These questions are not asked in the HRS-HCAP, MHAS Mex-Cog, or SPS Chile-Cog. Both the LASI-DAD and ELSA-HCAP ask the same questions about preparing a meal, shopping for groceries, making telephone calls, taking medications, doing work around the house or garden, managing money, such as paying bills and keeping track of expenses, and getting around or finding an address in an unfamiliar place. The ELSA-HCAP asks additional questions on whether the respondent has difficulty with recognizing when they are in physical danger or with communicating, such as speech, hearing, or eyesight. The LASI-DAD, starting in Wave 2, asks an additional question on whether the respondent has difficulty with washing clothes.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

rWmealsa, **rWshopa**, **rWphonea**, **rWmedsa**, **rWhousewka**, **rWmoneya**, and **rWgeta** are the comparable variables in the Harmonized LASI. The LASI does not ask whether the respondent has difficulty with washing clothes.

Categorical Variable Frequencies

	r1hmealsa	r2hmealsa
0.No	2,750	3,102
1.Yes	1,283	1,357
.d:DK	35	12
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	11	21
Total	4,096	4,638

	r1hshopa	r2hshopa
0.No	2,788	3,149
1.Yes	1,254	1,319
.d:DK	21	5
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	16	19
Total	4,096	4,638

	r1hphonea	r2hphonea
0.No	2,264	2,501
1.Yes	1,697	1,953
.d:DK	106	19
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	12	19
Total	4,096	4,638

	r1hmedsa	r2hmedsa
0.No	3,372	3,705
1.Yes	684	769
.d:DK	12	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	11	17
Total	4,096	4,638

	r1hhousewka	r2hhousewka
0.No	2,686	3,039
1.Yes	1,358	1,424
.d:DK	19	6
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	16	23
Total	4,096	4,638

	r1hmoneya	r2hmoneya
0.No	2,548	3,166
1.Yes	1,469	1,298
.d:DK	47	6
.g:No geriatric assessment	12	143
.m:Missing	5	3

.r:Refuse	15	22
Total	4,096	4,638

	r1hgeta	r2hgeta
0.No	2,335	2,798
1.Yes	1,705	1,666
.d:DK	24	6
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	15	22
Total	4,096	4,638

	r2hlaundrya
0.No	3,034
1.Yes	1,425
.d:DK	9
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	24
Total	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga207	Preparing a hot meal
ga208	Shopping for groceries
ga209	Making telephone calls
ga210	Taking medications
ga211	Doing work around the house or garden
ga212	Money, such as paying bills and keeping track of expenses
ga213	Getting around or finding address in unfamiliar place

Wave 2 Geriatric Assessment:

ga207	Preparing a hot meal
ga208	Shopping for groceries
ga209	Making telephone calls
ga210	Managing medications
ga211	Doing work around the house or garden
ga212	Money, such as paying bills and keeping track of expenses
ga213	Getting around or finding address in unfamiliar place
ga220	Washing clothes

IADL Summary: Any Difficulty

Variable	Waves	Label	Type
rWhiadltot1_d	1-2	rWhiadltot1_d:wW R Some Diff-IADLs(0-7)	Categ
rWhiadltot1m_d	1-2	rWhiadltot1m_d:wW R Some Diff-Missing IADLs(0-7)	Categ
rWhiadltot1a_d	1-2	rWiadltot1a_d:wW R Any IADL Diff	Categ
rWhiadltot2_d	2	rWhiadltot2_d:wW R Some Diff-IADLs(0-8)	Categ
rWhiadltot2m_d	2	rWhiadltot2m_d:wW R Some Diff-Missing IADLs(0-8)	Categ
rWhiadltot2a_d	2	rWhiadltot2a_d:wW R Any IADL Diff (0-8)	Categ

How Constructed

rWhiadltot1_d and rWhiadltot2_d are the Instrumental Activities of Daily Living (IADL) summary measures, indicating the number of IADLs that are difficult for the respondent. Both variables are summed as long as at least one component is not missing and each limitation adds one to the summary measure, that is:

rWhiadltot1_d = sum (rWhphonea, rWhmoneya, rWhmedsa, rWhshopa, rWhmealsa, rWhhousewka, rWhgeta).

rWhiadltot1m_d counts the number of missing components, and can have values between 0 and 7.

rWhiadltot2_d = sum (rhWphonea, rhWmoneya, rWhmedsa, rWhshopa, rWhmealsa, rWhhousewka, rWhgeta, rWhlaundrya).

rWhiadltot2m_d counts the number of missing components, and can have values between 0 and 8.

rWhiadlto1a_d indicates whether the respondent has any difficulty with one or more IADL between rWhphonea, rWhmoneya, rWhmedsa, rWhshopa, rWhmealsa, rWhhousewka, and rWhgeta. rWhiadlto2a_d indicates whether the respondent has any difficulty with one or more IADL between rWhphonea, rWhmoneya, rWhmedsa, rWhshopa, rWhmealsa, rWhhousewka, rWhgeta, and rWhlaundrya, and is calculated starting in Wave 2. A 1 is coded if the respondent reported having difficulty with one or more IADLs. A 0 indicates no difficulty with any of the included IADLs.

Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Please see "Instrumental Activities of Daily Living (IADLs): Some Difficulty" for a description of how individual IADL variables were constructed.

Cross Wave Differences in LASI-DAD

The question about any difficulty with washing clothes was added in Wave 2. Therefore, an additional summary measure including all 8-items was included.

Differences with other HCAP studies

Questions on Instrumental Activities of Daily Living (IADL) are not asked in the HRS-HCAP, the MHAS Mex-Cog, or the SPS Chile-Cog. Both the LASI-DAD and ELSA-HCAP ask the same questions about preparing a meal, shopping for groceries, making telephone calls, taking medications, doing work around the house or garden, managing money, such as paying bills and keeping track of expenses, and getting around or finding an address in an unfamiliar place. The ELSA-HCAP asks additional questions on whether the respondent has difficulty with recognizing when they are in physical danger or with communicating, such as speech, hearing, or eyesight. The LASI-DAD, starting in Wave 2, asks an additional question on whether the respondent has difficulty with washing clothes. Therefore, the Harmonized LASI-DAD and Harmonized ELSA-HCAP both include one summary measure that is scored 0-7 using the same IADL component variables. The Harmonized ELSA-HCAP also includes a second summary measure that adds the two additional IADL components, scored 0-9. The Harmonized LASI-DAD also includes a second summary measure that adds one additional IADL components, scored 0-8.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

The Harmonized LASI-DAD and Harmonized LASI both construct an Instrumental Activities of Daily Living (IADL) summary measure, **rWhiadltot1_d** and **rWiadltot_l**, respectively, using the following activities: using the phone, managing money, taking medication, shopping for groceries, preparing hot meals, doing housework, and getting around. The Harmonized LASI constructs three additional Instrumental Activities of Daily Living (IADL) summary measures. One summarizes the commonly used IADLs: using the phone, managing money, and taking medications (**rWiadla**). The second summarizes managing money, taking medications, shopping for groceries, and preparing hot meals (**rWiadlfour**). The third includes the three IADLs from the three-item summary and adds shopping for groceries and preparing hot meals (**rWiadlza**). The LASI does not ask whether the respondent has difficulty with washing clothes.

Categorical Variable Frequencies

	r1hiadltot1_d	r2hiadltot1_d
0	1,285	1,292
1	669	901
2	490	623
3	407	497
4	324	383
5	313	285
6	299	267
7	275	227
.d:DK	6	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	11	16
Total	4,096	4,638

	r1hiadltot1m_d	r2hiadltot1m_d
0	3,930	4,420
1	69	41
2	43	7
3	8	5
4	2	1
5	6	1
6	4	0
7	22	20
.g:No geriatric assessment	12	143
Total	4,096	4,638

	r1hiadltot1a_d	r2hiadltot1a_d
0.No	1,285	1,292
1.Yes	2,777	3,183
.d:DK	6	1
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	11	16
Total	4,096	4,638

	r2hiadltot2_d
0	1,204
1	837
2	609
3	451
4	392
5	296
6	249
7	235
8	202
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	17
Total	4,638

	r2hiadltot2m_d
0	4,416
1	40
2	10
3	4
4	3
5	1
6	1
8	20
.g:No geriatric assessment	143
Total	4,638

	r2hiadltot2a_d
0.No	1,204
1.Yes	3,271
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	17
Total	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga207	Preparing a hot meal
ga208	Shopping for groceries
ga209	Making telephone calls
ga210	Taking medications
ga211	Doing work around the house or garden
ga212	Money, such as paying bills and keeping track of expenses
ga213	Getting around or finding address in unfamiliar place

Wave 2 Geriatric Assessment:

ga207	Preparing a hot meal
ga208	Shopping for groceries
ga209	Making telephone calls
ga210	Managing medications
ga211	Doing work around the house or garden
ga212	Money, such as paying bills and keeping track of expenses

ga213	Getting around or finding address in unfamiliar place
ga220	Washing clothes

Instrumental Activities of Daily Living (ADLs): Receives Help

Variable	Waves	Label	Type
rWhmealhlp	2	rWhmealhlp:wW R Receives Help-Prepare hot meal	Categ
rWhshophlp	2	rWhshophlp:wW R Receives Help-Shop for grocery	Categ
rWhphonehlp	2	rWhphonehlp:wW R Receives Help-Use telephone	Categ
rWhmedhlp	2	rWhmedhlp:wW R Receives Help-Take medications	Categ
rWhhswkhlp	2	rWhhswkhlp:wW R Receives Help-Doing hhold chores	Categ
rWhmoneyhlp	2	rWhmoneyhlp:wW R Receives Help-Managing money	Categ
rWhgethlp	2	rWhgethlp:wW R Receives Help-Getting around	Categ
rWhlndryhlp	2	rWhlndryhlp:wW R Receives Help-Washing clothes	Categ

How Constructed

Respondents were first asked whether they have difficulties with Instrumental Activities of Daily Living (IADLs) including, preparing a meal, shopping for groceries, making telephone calls, taking medications, doing work around the house or garden, managing money, such as paying bills and keeping track of expenses, getting around or finding an address in an unfamiliar place, and washing clothes. If they reported having difficulty, they were then asked if they received help with said activity. These questions were asked starting near the end of Wave 2 phase 1.

rWhmealhlp indicates whether the respondent receives help preparing meals.

rWhshophlp indicates whether the respondent receives help shopping for groceries.

rWhphonehlp indicates whether the respondent receives help making telephone calls.

rWhmedhlp indicates whether the respondent receives help taking medications.

rWhhswkhlp indicates whether the respondent receives help doing work around the house or garden.

rWhmoneyhlp indicates whether the respondent receives help managing money.

rWhgethlp indicates whether the respondent receives help getting around or finding an address in an unfamiliar place.

rWhlndryhlp indicates whether the respondent receives help washing clothes.

A code of 0 indicates that the respondent did not receive any help with the activity. A code of 1 indicates that the respondent received some help with the activity. Special missing (.s) is assigned if the question was skipped because the respondent does not have any difficulty doing the activity. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Special missing (.x) is assigned in Wave 2 if the respondent was interviewed in phase 1 before these questions began to be asked. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting near the end of Wave 2 phase 1.

Differences with other HCAP studies

Questions about whether the respondent received help with any of the IADL activities are not asked in the HRS-HCAP, ELSA-HCAP, MHAS Mex-Cog, or the SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These variables are not included in LASI.

Categorical Variable Frequencies

	r2hmealhlp
0.No	145
1.Yes	729
.d:DK	7
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	13
.s:Skipped	2,025
.x:Not in phase	1,573
Total	4,638

	r2hshophlp
0.No	133
1.Yes	756
.d:DK	4
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	12
.s:Skipped	2,014
.x:Not in phase	1,573
Total	4,638

	r2hphonehlp
0.No	51
1.Yes	1,224
.d:DK	18
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	10
.s:Skipped	1,616
.x:Not in phase	1,573
Total	4,638

	r2hmedhlp
0.No	65
1.Yes	388
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	8
.s:Skipped	2,458
.x:Not in phase	1,573
Total	4,638

	r2hhswkhlp
0.No	218
1.Yes	694
.d:DK	5
.g:No geriatric assessment	143

.m:Missing	3
.r:Refuse	17
.s:Skipped	1,985
.x:Not in phase	1,573
Total	4,638

	r2hmoneyhlp
0.No	94
1.Yes	726
.d:DK	4
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	14
.s:Skipped	2,081
.x:Not in phase	1,573
Total	4,638

	r2hgethlp
0.No	182
1.Yes	946
.d:DK	5
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	13
.s:Skipped	1,773
.x:Not in phase	1,573
Total	4,638

	r2hlndryhlp
0.No	143
1.Yes	746
.d:DK	5
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	14
.s:Skipped	2,011
.x:Not in phase	1,573
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

ga207a	help with preparing a meal
ga208a	help shopping for groceries
ga209a	helping making telephone calls
ga210a	help managing medications
ga211a	help around the house or garden
ga212a	help managing money
ga213a	help getting around
ga220a	help with washing clothes

Other Functional Limitations: Some Difficulty

Variable	Waves	Label	Type
rWhwalk100a	2	rWhwalk100a:wW R some diff-Walk 100y	Categ
rWhsita	2	rWhsita:wW R some diff-Sit for 2 hours	Categ
rWhchaira	2	rWhchaira:wW R some diff-Get up fr chair	Categ
rWhclim1a	2	rWhclim1a:wW R some diff-Clmb 1 flt str	Categ
rWhstoopa	2	rWhstoopa:wW R some diff-Stoop/kneel/crch	Categ
rWharmsa	2	rWharmsa:wW R some diff-Rch/xtnd arms up	Categ
rWhpusha	2	rWhpusha:wW R some diff-Push/pull lg obj	Categ
rWhlifta	2	rWhlifta:wW R diff-Lift/carry 5 kilos	Categ
rWhdimea	2	rWhdimea:wW R diff-Pick up a coin	Categ

How Constructed

These variables indicate whether the respondent has any difficulty in functional limitations other than ADLs and IADLs. The other functional limitations include: walking 100 yards (**rWhwalk100a**), sitting for 2 hours or more (**rWhsita**), getting up from a chair after sitting for a long period (**rWhchaira**), climbing one flight of stairs without resting (**rWhclim1a**), stooping, kneeling, or crouching (**rWhstoopa**), reaching or extending arms above shoulder level (either arm) (**rWharmsa**), pulling or pushing large objects (**rWhpusha**), lifting or carrying weights over 5 kilos, like a heavy bag of groceries (**rWhlifta**), and picking up a coin from a table (**rWhdimea**). These questions were asked starting near the middle of Wave 2 phase 1. The respondent was instructed to exclude any difficulties they expect to last less than three months. A code of 0 indicates that the respondent did not report any problems with the activity. A code of 1 indicates that the respondent reported some difficulty with the activity due to physical or health problems. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Special missing (.x) is assigned in Wave 2 if the respondent was interviewed in phase 1 before these questions began to be asked. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting near the middle of Wave 2 phase 1.

Differences with other HCAP studies

Questions about whether the respondent has any difficulty in functional limitations other than ADLs or IADLs are not asked in the HRS-HCAP, ELSA-HCAP, MHAS Mex-Cog, or the SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

rWwalk100a, **rWsita**, **rWchaira**, **rWclim1a**, **rWstoopa**, **rWarmsa**, **rWpusha**, **rWlifta**, and **rWdimea** are the comparable variables in the Harmonized LASI.

Categorical Variable Frequencies

	r2hwalk100a
0.No	2,112
1.Yes	1,174
.d:DK	1

.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13
.x:Not in phase	1,193
Total	4,638

r2hsita

0.No	1,785
1.Yes	1,501
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13
.x:Not in phase	1,193
Total	4,638

r2hchaira

0.No	1,615
1.Yes	1,671
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13
.x:Not in phase	1,193
Total	4,638

r2hclim1a

0.No	1,380
1.Yes	1,906
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13
.x:Not in phase	1,193
Total	4,638

r2hstoopa

0.No	1,405
1.Yes	1,881
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13
.x:Not in phase	1,193
Total	4,638

r2harmsa

0.No	2,321
1.Yes	965
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13

.x:Not in phase	1,193
Total	4,638

r2hpusha

0.No	1,472
1.Yes	1,813
.d:DK	2
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13
.x:Not in phase	1,193
Total	4,638

r2hlifta

0.No	1,612
1.Yes	1,673
.d:DK	2
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13
.x:Not in phase	1,193
Total	4,638

r2hdimea

0.No	2,815
1.Yes	471
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	2
.r:Refuse	13
.x:Not in phase	1,193
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

ht303	Walking 100 yards
ht304	Sitting for 2 hours or more
ht305	Getting up from a chair after sitting for a long period
ht306	Climbing one flight of stairs without resting
ht307	Stooping, kneeling, or crouching
ht308	Reaching or extending arms above shoulder level (either arm)
ht309	Pulling or pushing large objects
ht310	Lifting or carrying weights over 5 kilos, like a heavy bag of groceries
ht311	Picking up a coin from a table

Daily Walking

Variable	Waves	Label	Type
rWwalkdy	2	rWwalkdy:wW R days walk outside per week	Cont
rWwalknw	2	rWwalknw:wW R time walking non-work activities	Categ
rWwalkrec	2	rWwalkrec:wW R time walking recreationally	Categ
rWwalkwrk	2	rWwalkwrk:wW R time walking for work	Categ

How Constructed

These variables pertain to questions regarding walkability and how much time the respondent spends walking daily. These questions were asked starting in the middle of Wave 2 phase 1.

rWwalkdy indicates the number of days the respondent spends walking outside per week, and ranges from 0-7 days.

rWwalknw, rWwalkrec, and rWwalkwrk indicate the time the respondent spends walking daily for different purposes. rWwalknw indicates the time the respondent spends walking per day for non-work activities (e.g. visiting friends and family, taking grandchildren to school, going to the temple, going grocery shopping, etc.). rWwalkrec indicates the time the respondent spends per day walking recreationally (for exercise). rWwalkwrk indicates the time the respondent spends per day walking for work (commuting or as part of work). These variables are coded as follows: 1. None, 2. 1-15 minutes, 3. 16-30 minutes, 4. 31 min to 1 hr, and 5. More than 1 hour.

Special missing (.x) is assigned in Wave 2 if the respondent was interviewed in phase 1 before these questions began to be asked. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting in the middle of Wave 2 phase 1.

Differences with other HCAP studies

Questions about daily walking are not asked in the HRS-HCAP, ELSA-HCAP, MHAS Mex-Cog, or the SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These questions are not included in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2walkdy	3,273	3.85	3.21	0.00	7.00	1,365

Categorical Variable Frequencies

	r2walknw
1.None	1,425
2.1-15 minutes	646
3.16-30 minutes	700
4.31 min to 1 hr	328

5.More than 1 hour	180
.d:DK	3
.g:No geriatric assessment	143
.r:Refuse	18
.x:Not in phase	1,195
Total	4,638

	r2walkrec
1.None	2,241
2.1-15 minutes	401
3.16-30 minutes	347
4.31 min to 1 hr	201
5.More than 1 hour	91
.d:DK	2
.g:No geriatric assessment	143
.r:Refuse	17
.x:Not in phase	1,195
Total	4,638

	r2walkwrk
1.None	1,932
2.1-15 minutes	349
3.16-30 minutes	476
4.31 min to 1 hr	284
5.More than 1 hour	239
.d:DK	3
.g:No geriatric assessment	143
.r:Refuse	17
.x:Not in phase	1,195
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

ga230	days walk outside per week
ga231	time spent walking non-work activities
ga232	time spent walking recreationally
ga233	time spent walking for work

Social Activities

Variable	Waves	Label	Type
rWsaeat	2	rWsaeat:wW R eats outside house	Categ
rWsapark	2	rWsapark:wW R goes to park/beach	Categ
rWsaigame	2	rWsaigame:wW R plays indoor games	Categ
rWsaogame	2	rWsaogame:wW R plays outdoor games	Categ
rWsavstff	2	rWsavstff:wW R visits friends and family	Categ
rWsashow	2	rWsashow:wW R attends performance/show	Categ
rWsarlgn	2	rWsarlgn:wW R attends religious functions	Categ
rWsameet	2	rWsameet:wW R attends community group meetings	Categ
rWsaread	2	rWsaread:wW R reads books/newspaper/magazine	Categ
rWsatv	2	rWsatv:wW R watches tv/listen to radio	Categ
rWsacmptr	2	rWsacmptr:wW R uses a computer	Categ
rWsavote	2	rWsavote:wW R voted in last election	Categ

How Constructed

These variables pertain to questions regarding Social Activities and whether the respondent did any of the said activities. These questions were asked starting in Wave 2. The social activities included are: eat out of the house (Restaurant/Hotel) (**rWsaeat**), go to park/beach for relaxing/entertainment (**rWsapark**), play cards or indoor games (**rWsaigame**), play outdoor games/sports/exercise/jog/yoga (**rWsaogame**), visit relatives /friends (**rWsavstff**), attend cultural performances /shows/Cinema (**rWsashow**), attend religious functions /events such as bhajan/satsang/prayer (**rWsarlgn**), attend political/community/organization group meetings (**rWsameet**), read books/newspapers/magazines (**rWsaread**), watch television/listen to radio (**rWsatv**), use a computer for e-mail/net surfing etc. (**rWsacmptr**), and whether the respondent voted in the last panchayat/municipal/assembly/parliament elections (**rWvote**).

A code of 0 indicates that the respondent did not do the activity. A code of 1 indicates that the respondent did the activity. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting in Wave 2.

Differences with other HCAP studies

Questions about social activities are not asked in the HRS-HCAP, ELSA-HCAP, MHAS Mex-Cog, or the SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These questions are not asked in the LASI.

Categorical Variable Frequencies

	r2saeat
0.No	3,283
1.Yes	1,189
.d:DK	3
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	17
Total	4,638

	r2sapark
0.No	3,848
1.Yes	625
.d:DK	2
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	17
Total	4,638

	r2saigame
0.No	4,057
1.Yes	415
.d:DK	2
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	18
Total	4,638

	r2saogame
0.No	3,774
1.Yes	698
.d:DK	2
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	18
Total	4,638

	r2savstff
0.No	1,647
1.Yes	2,825
.d:DK	2
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	18
Total	4,638

	r2sashow
0.No	3,540
1.Yes	931
.d:DK	3
.g:No geriatric assessment	143
.m:Missing	3

.r:Refuse	18
Total	4,638

r2sarlgn

0.No	2,089
1.Yes	2,382
.d:DK	3
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	18
Total	4,638

r2sameet

0.No	3,784
1.Yes	686
.d:DK	4
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	18
Total	4,638

r2saread

0.No	3,220
1.Yes	1,245
.d:DK	6
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	21
Total	4,638

r2satv

0.No	1,664
1.Yes	2,800
.d:DK	5
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	23
Total	4,638

r2sacmptr

0.No	4,114
1.Yes	342
.d:DK	12
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	24
Total	4,638

r2savote

0.No	267
1.Yes	4,205
.d:DK	6
.g:No geriatric assessment	143

.m:Missing	3
.r:Refuse	14
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

fs504	Eat out of the house
fs505	Go to park/beach for relaxing/entertainment
fs506	Play cards or indoor games
fs507	Play out door games/sports/exercise/jog/yoga
fs508	Visit relatives /friends
fs509	Attend cultural performances /shows/Cinema
fs510	Attend religious functions /events such as bhajan/satsang/prayer
fs511	Attend political/community/organization group meetings
fs512	Read books/newspapers/magazines
fs513	Watch television/listen radio
fs514	Use a computer for e-mail/net surfing etc.
fs515	Voting in last elections

Falls

Variable	Waves	Label	Type
rWhfall1y	2	rWhfall1y:wW R fallen in past 12 months	Categ
rWhfallnum1y	2	rWhfallnum1y:wW R number of falls in past 12 months	Cont
rWhfallinj1y	2	rWhfallinj1y:wW R injured from fall in past 12 months	Categ
rWhfallunstdy	2	rWhfallunstdy:wW R feel unsteady standing/walking	Categ
rWhfallwry	2	rWhfallwry:wW R worries about falling	Categ

How Constructed

These variables pertain to questions regarding Fall Risk and are asked starting in Wave 2.

rWhfall1y indicates whether the respondent has fallen at any time in the past 12 months, and is coded as follows: 0. No, 1. Yes.

rWhfallnum1y indicates the number of times the respondent has fallen.

rWhfallinj1y indicates whether the respondent was injured from falling, and is coded as follows: 0. No, 1. Yes. Special missing (.s) is assigned if the respondent hasn't fallen in the past 12 months.

rWhfallunstdy indicates whether the respondent feels unsteady standing or walking, and is coded as follows: 0. No, 1. Yes.

rWhfallwry indicates whether the respondent worries about falling, and is coded as follows: 0. No, 1. Yes.

Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These questions were asked starting in Wave 2.

Differences with other HCAP studies

Questions about falls are not asked in the HRS-HCAP, ELSA-HCAP, MHAS Mex-Cog, or the SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

The Harmonized LASI includes rWfall, rWfallnum, and rWfallinj which indicate whether the respondent has fallen, the number of falls and if they were injured from falling in the last 2 years. These are similar variables to the Harmonized LASI-DAD variables rWhfall1y, rWhfallnum1y, and rWhfallinj1y which ask about falls in the past 12 months. LASI does not ask whether the respondent feels unsteady standing or walking or whether the respondent worries about falling.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2hfallnum1y	4,460	0.91	1.87	0.00	24.00	178

Categorical Variable Frequencies

	r2hfall1y
0.No	3,043
1.Yes	1,424
.d:DK	9
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	16
Total	4,638

	r2hfallinj1y
0.No	528
1.Yes	894
.d:DK	11
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	16
.s:Skipped	3,043
Total	4,638

	r2hfallunstdy
0.No	2,164
1.Yes	2,309
.d:DK	2
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	17
Total	4,638

	r2hfallwry
0.No	2,204
1.Yes	2,270
.d:DK	1
.g:No geriatric assessment	143
.m:Missing	3
.r:Refuse	17
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:

fr100	fallen in past 12 months
fr101	number of times fallen
fr102	whether injured after fall
fr103	feel unsteady when standing or walking
fr104	worry about falling

Mental Health (CESD Score)

Variable	Waves	Label	Type
rWhmindtsl	1-2	rWhmindtsl:wW R CESD trouble concentrating	Categ
rWhdepresl	1-2	rWhdepresl:wW R CESD felt depressed	Categ
rWhftiredl	1-2	rWhftiredl: wW R CESD felt tired	Categ
rWhfearfll	1-2	rWhfearfll:wW R CESD afraid of something	Categ
rWhfsatisl	1-2	rWhfsatisl:wW R CESD felt overall satisfied	Categ
rWhflonel	1-2	rWhflonel:wW R CESD lonely	Categ
rWhbotherl	1-2	rWhbotherl:wW R CESD bothered by things	Categ
rWheffortl	1-2	rWheffortl:wW R CESD everything was an effort	Categ
rWhfhopel	1-2	rWhfhopel:wW R CESD felt hopeful	Categ
rWhwhappyl	1-2	rWhwhappyl:wW R CESD was happy	Categ
rWhcesdl10	1-2	rWhcesdl10:wW R CESD score 10 item likert(0-30)	Cont
rWhcesdl10m	1-2	rWhcesdl10m:wW missings in R CESD score	Cont

How Constructed

The following variables indicate the frequency with which a respondent experienced different feelings in the past week.

rWhmindtsl indicates how often the respondent had trouble concentrating during the past week.

rWhdepresl indicates how often the respondent felt depressed during the past week.

rWhftiredl indicates how often the respondent felt tired or low in energy during the past week.

rWhfearfll indicates how often the respondent was afraid of something during the past week.

rWhfsatisl indicates how often the respondent felt generally satisfied during the past week.

rWhflonel indicates how often the respondent felt alone during the past week.

rWhbotherl indicates how often the respondent was bothered by things that do not usually bother them during the past week.

rWheffortl indicates how often the respondent felt everything they did was an effort during the past week.

rWhfhopel indicates how often the respondent felt hopeful about the future during the past week.

rWhwhappy indicates how often the respondent felt happy during the past week.

Each variable is coded as follows: 1. Rarely or never (less than 1 day), 2. Sometimes (1 or 2 days), 3. Often (3 or 4 days), and 4. Most or all of the time (5-7 days). Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWhcesdl10 is a summary of rWhmindtsl, rWhdepresl, rWhftiredl, rWhfearfll, rWhfsatisl, rWhflonel, rWhbotherl, rWheffortl, rWhfhopel, and rWhwhappy. rWhfsatisl, rWhfhopel, and rWhwhappy are reverse coded for rWhcesdl10. Additionally, the scales for each of the ten questions were adjusted so that answers ranged from 0 to 3, rather than 1 to 4. rWhcesdl10 is the sum of these variables, and is calculated as long as at least one of the comprising measures is not missing. As such, the higher the score, the more negative the respondent felt in the past week. rWhcesdl10m indicates how many individual measures used to derive rWhcesdl10 are missing. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are

assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

Each study varies in the number and type of questions asked in this section. Both the HRS-HCAP and ELSA-HCAP ask the same 11 items using a binary scale, MHAS Mex-Cog asks 9 items using a binary scale, and SPS Chile-Cog asks 15 items using a binary scale, while the LASI-DAD asks 10 items using a likert scale.

Scores in the HRS-HCAP, MHAS Mex-Cog ELSA-HCAP, and SPS Chile-Cog are based on a "0.No" and "1.Yes" scale. The LASI-DAD uses the following scale: "1.Rarely or never (less than 1 day)", "2.Sometimes (1 or 2 days)", "3.Often (3 or 4 days)", and "4.Most or all of the time (5-7 days)".

The MHAS Mex-Cog and SPS Chile-Cog include a total (long) version and a partial (short) version of the cognitive assessment based on the respondent's MMSE score. As a result, these variables in these Harmonized HCAP datasets include special missing values for those who completed the short version of the assessment.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

The comparable variables in the Harmonized LASI are `rWmindtsl`, `rWdepresl`, `rWftiredl`, `rWfearfll`, `rWfsatisl`, `rWflonel`, `rWbotherl`, `rWeffortl`, `rWfhopel`, `rWwhappy`, `rWcesd10`, and `rWcesd10m`.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
`r1hcesdl10`	4,048	10.00	5.40	0.00	30.00	48
`r2hcesdl10`	4,471	10.74	5.20	0.00	30.00	167
`r1hcesdl10m`	4,084	0.17	1.10	0.00	10.00	12
`r2hcesdl10m`	4,495	0.09	0.83	0.00	10.00	143

Categorical Variable Frequencies

	`r1hmindtsl`	`r2hmindtsl`
1.Rarely or never (less tha	2,218	1,946
2.Sometimes (1 or 2 days)	1,186	1,652
3.Often (3 or 4 days)	410	621
4.Most or all of the time (	218	238
.d:DK	19	14
.g:No geriatric assessment	12	143
.m:Missing	5	3
.r:Refuse	28	21
Total	4,096	4,638

	`r1hdepresl`	`r2hdepresl`
1.Rarely or never (less tha	1,680	1,569
2.Sometimes (1 or 2 days)	1,395	1,712
3.Often (3 or 4 days)	590	798

4.Most or all of the time (	359	381
.d:DK	22	9
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	33	22
Total	4,096	4,638

	r1hftiredl	r2hftiredl
1.Rarely or never (less tha	998	1,047
2.Sometimes (1 or 2 days)	1,398	1,474
3.Often (3 or 4 days)	997	1,264
4.Most or all of the time (	642	677
.d:DK	13	6
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	31	23
Total	4,096	4,638

	r1hfearfll	r2hfearfll
1.Rarely or never (less tha	2,842	2,846
2.Sometimes (1 or 2 days)	783	1,089
3.Often (3 or 4 days)	286	393
4.Most or all of the time (	108	134
.d:DK	27	6
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	33	23
Total	4,096	4,638

	r1hfsatisl	r2hfsatisl
1.Rarely or never (less tha	1,049	856
2.Sometimes (1 or 2 days)	949	1,520
3.Often (3 or 4 days)	934	1,145
4.Most or all of the time (	1,077	932
.d:DK	37	14
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	33	24
Total	4,096	4,638

	r1hflonel	r2hflonel
1.Rarely or never (less tha	2,397	2,312
2.Sometimes (1 or 2 days)	898	1,246
3.Often (3 or 4 days)	411	563
4.Most or all of the time (	316	336
.d:DK	22	11
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	35	23
Total	4,096	4,638

	r1hbotherl	r2hbotherl
1.Rarely or never (less tha	2,107	2,226

2.Sometimes (1 or 2 days)	1,176	1,515
3.Often (3 or 4 days)	476	524
4.Most or all of the time (	252	188
.d:DK	32	13
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	36	25
Total	4,096	4,638

	r1heffortl	r2heffortl
1.Rarely or never (less tha	1,760	1,606
2.Sometimes (1 or 2 days)	1,161	1,604
3.Often (3 or 4 days)	691	796
4.Most or all of the time (	380	441
.d:DK	49	16
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	38	28
Total	4,096	4,638

	r1hfhopel	r2hfhopel
1.Rarely or never (less tha	1,069	1,188
2.Sometimes (1 or 2 days)	1,113	1,481
3.Often (3 or 4 days)	875	932
4.Most or all of the time (	941	842
.d:DK	43	19
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	38	29
Total	4,096	4,638

	r1hwhappyl	r2hwhappyl
1.Rarely or never (less tha	818	671
2.Sometimes (1 or 2 days)	1,098	1,603
3.Often (3 or 4 days)	979	1,183
4.Most or all of the time (	1,126	996
.d:DK	17	12
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	41	26
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga402	TROUBLE CONCENTRATING
ga403	FELT DEPRESSED
ga404	FEEL TIRED
ga405	AFRAID OF SOMETHING
ga406	OVERALL SATISFIED
ga407	FEEL ALONE
ga408	BOTHERED BY THINGS

ga409	EVERYTHING WAS AN EFFORT
ga410	HOPEFUL ABOUT FUTURE
ga411	FEEL HAPPY

Wave 2 Geriatric Assessment:

ga402	TROUBLE CONCENTRATING
ga403	FELT DEPRESSED
ga404	FEEL TIRED
ga405	AFRAID OF SOMETHING
ga406	OVERALL SATISFIED
ga407	FEEL ALONE
ga408	BOTHERED BY THINGS
ga409	EVERYTHING WAS AN EFFORT
ga410	HOPEFUL ABOUT FUTURE
ga411	FEEL HAPPY

Anxiety Inventory (BAI)

Variable	Waves	Label	Type
rWworst	1-2	rWworst:wW R BAI worst happening	Categ
rWnerv	1-2	rWnerv:wW R BAI nervous	Categ
rWtremb	1-2	rWtremb:wW R BAI hands trembling	Categ
rWfdying	1-2	rWfdying:wW R BAI fear of dying	Categ
rWfaint	1-2	rWfaint:wW R BAI felt faint	Categ
rWanx5	1-2	rWanx5:wW R anxiety score 5 item(0-15)	Cont
rWanx5m	1-2	rWanx5m:wW missings in anxiety score(0-5)	Cont

How Constructed

The following variables indicate the frequency that respondents experienced various feelings during the past week. For each variable, a statement about a feeling is read to the respondents and then they are asked how often they felt that way during the past week.

rWworst indicates how often the respondent feared the worst would happen in the past week. **rWnerv** indicates how often the respondent felt nervous in the past week. **rWtremb** indicates how often the respondent felt their hands trembling. **rWfdying** indicates how often the respondent had a fear of dying. **rWfaint** indicates how often the respondent felt faint. **rWworst**, **rWnerv**, **rWtremb**, **rWfdying**, and **rWfaint** are coded as follows: 1. Never, 2. Hardly ever, 3. Some of the time, and 4. Most of the time. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWanx5 is a summary measure based on **rWworst**, **rWnerv**, **rWtremb**, **rWfdying**, and **rWfaint**. **rWanx5** is the sum of these variables after their ranges were recoded from 1-4 to 0-3. The higher the score, the more anxious the respondent felt in the past week. **rWanx5** is calculated as long as at least one component variable is not missing. **rWanx5m** indicates the number of components with missing values. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

This series of questions was not asked in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or the SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These questions are not included in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1anx5	4,042	2.76	3.25	0.00	15.00	54
r2anx5	4,460	3.12	3.21	0.00	15.00	178

r1anx5m	4,084	0.06	0.53	0.00	5.00	12
r2anx5m	4,495	0.04	0.45	0.00	5.00	143

Categorical Variable Frequencies

	r1worst	r2worst
1.Never	2,826	2,755
2.Hardly ever	415	713
3.Some of the time	606	805
4.Most of the time	190	182
.d:DK	11	12
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	31	24
Total	4,096	4,638

	r1nerv	r2nerv
1.Never	2,558	2,431
2.Hardly ever	514	843
3.Some of the time	745	936
4.Most of the time	215	247
.d:DK	14	9
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	33	25
Total	4,096	4,638

	r1tremb	r2tremb
1.Never	2,557	2,650
2.Hardly ever	489	662
3.Some of the time	722	807
4.Most of the time	270	339
.d:DK	9	8
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	32	25
Total	4,096	4,638

	r1fdying	r2fdying
1.Never	3,241	3,447
2.Hardly ever	267	428
3.Some of the time	393	437
4.Most of the time	126	145
.d:DK	18	9
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	34	25
Total	4,096	4,638

	r1faint	r2faint
1.Never	2,832	2,874
2.Hardly ever	418	751
3.Some of the time	605	670

4.Most of the time	176	163
.d:DK	15	8
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	33	25
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga422	FEAR OF WORST HAPPENING
ga423	NERVOUS
ga424	HANDS TREMBLING
ga425	FEAR OF DYING
ga426	FELT FAINT

Wave 2 Geriatric Assessment:

ga422	FEAR OF WORST HAPPENING
ga423	NERVOUS
ga424	HANDS TREMBLING
ga425	FEAR OF DYING
ga426	FELT FAINT

Mini Nutritional Assessment (MNA)

Variable	Waves	Label	Type
rWmna_dfood	1-2	rWmna_dfood:wW R MNA declined food intake(0-2)	Categ
rWmna_wloss	1-2	rWmna_wloss:wW R MNA weight loss(0-3)	Categ
rWmna_mob	1-2	rWmna_mob:wW R MNA mobility(0-2)	Categ
rWmna_stress	1-2	rWmna_stress:wW R MNA stress(0-2)	Categ
rWmna_psycho	1-2	rWmna_psycho:wW R MNA neuropsychological problem(0-2)	Categ
rWmna_live	1-2	rWmna_live:wW R MNA lives independently (0-1)	Categ
rWmna_drug	1-2	rWmna_drug:wW R MNA takes 3+ prescription drugs(0-1)	Categ
rWmna_sores	1-2	rWmna_sores:wW R MNA has pressure sores or skin ulcers(0-1)	Categ
rWmna_meals	1-2	rWmna_meals:wW R MNA number of meals(0-2)	Categ
rWmna_protn	1-2	rWmna_protn:wW R MNA protein intake(0-1)	Categ
rWmna_protn3	1-2	rWmna_protn3:wW R MNA protein intake(0-3)	Categ
rWmna_veg	1-2	rWmna_veg:wW R MNA vegetables intake(0-1)	Categ
rWmna_fluid	1-2	rWmna_fluid:wW R MNA fluid intake(0-1)	Categ
rWmna_feed	1-2	rWmna_feed:wW R MNA mode of feeding(0-2)	Categ
rWmna_nstat	1-2	rWmna_nstat:wW R MNA nutritional status(0-2)	Categ
rWmna_hstat	1-2	rWmna_hstat:wW R MNA health status(0-2)	Categ
rWmna_mac	1-2	rWmna_mac:wW R MNA mid-arm circumference(0-1)	Categ
rWmna_cc	1-2	rWmna_cc:wW R MNA calf circumference(0-1)	Categ
rWmna_screen	1-2	rWmna_screen:wW R MNA total score of screening(0-14)	Cont
rWmna_assess	1-2	rWmna_assess:wW R MNA assessment(0-16)	Cont
rWmna_scale	1-2	rWmna_scale:wW R MNA assessment scale(0-30)	Cont

How Constructed

The following variables are part of the Mini Nutritional Assessment. These variables pertain to the respondent's appetite and eating habits.

rWmna_dfood indicates the degree to which the respondent's food intake declined over the past 3 months due to a loss of appetite, digestive problems, or chewing or swallowing difficulties. **rWmna_dfood** is coded as follows: 0. Severe decrease in food intake, 1. Moderate decrease in food intake, and 2. No decrease in food intake.

rWmna_wloss indicates the degree to which the respondent experienced weight loss during the last 3 months. **rWmna_wloss** is coded as follows: 0. Weight loss greater than 3 kg (6.6lbs), 1. Does not know, 2. Weight loss between 1 and 3 kg (2.2 and 6.6 lbs), and 3. No weight loss.

rWmna_mob indicates a self-reported value of mobility given 3 answer options. **rWmna_mob** is coded as follows: 0. Bed or chair bound, 1. Able to get out of bed/chair but does not go out, and 2. Goes out.

rWmna_stress indicates whether the respondent reports suffering from psychological stress or acute disease in the past 3 months. A 0 is coded if the respondent reports they did suffer psychological stress or acute disease in the past 3 months. A 2 is coded if the respondent reports they have not experienced this in the past 3 months.

rWmna_psycho indicates whether the respondent suffered neuropsychological problems. **rWmna_psycho** is coded as follows: 0. Severe neuropsychological problems, 1. Mild neuropsychological problems, and 2. No neuropsychological problems.

rWmna_live indicates whether the respondent lives independently, that is not in a nursing home or a hospital. A 0 is coded if the respondent does not live independently. A 1 is coded if the respondent does live independently.

rWmna_drug indicates whether the respondent takes more than 3 prescription drugs per day. A 0 is coded if the respondent does take more than 3 prescription drugs per day. A 1 is coded if the respondent does not take more than 3 prescription drugs per day.

rWmna_sores indicates whether the respondent has pressure sores or skin ulcers. A 0 is coded if the respondent reports they do have pressure sores or skin ulcers. A 1 is coded if the respondent reports they do not have pressure sores or skin ulcers.

rWmna_meals indicates the number of full meals the respondent eats daily. **rWmna_meals** is coded as follows: 0. 1 meal, 1. 2 meals, and 2. 3 meals.

rWmna_protn and **rWmna_protn3** count the number of protein sources that the respondent incorporates into their daily diet and are based on three survey questions. The respondent is asked (1) whether they eat at least one serving of dairy products (e.g. milk, cheese, and yogurt) per day, (2) whether they eat two or more servings of legumes or eggs per week, and (3) whether they eat meat, fish or poultry every day. The number of affirmative answers from these three questions are added together for the total protein intake score. **rWmna_protn** is coded as follows: 0. 0-1 sources of protein; 0.5. 2 sources of protein; and 1. 3 sources of protein. **rWmna_protn3** is coded as follows: 0. 0 sources of protein; 1. 1 source of protein; 2. 2 sources of protein; and 3. 3 sources of protein.

rWmna_veg indicates whether the respondent consumes two or more servings of fruit or vegetables per day. A 0 is coded if the respondent does not consume two or more servings of fruit or vegetables per day. A 1 is coded if the respondent does consume two or more servings or fruit or vegetables per day.

rWmna_fluid indicates the amount of fluid (e.g. water, juice, coffee, tea, and milk) the respondent drinks per day. **rWmna_fluid** is coded as follows: 0. Less than 3 cups; 0.5. 3 to 5 cups; and 1. More than 5 cups.

rWmna_feed indicates the degree to which the respondent can eat without assistance. **rWmna_feed** is coded as follows: 0. Unable to eat without assistance; 1. Self-fed with some difficulty; and 2. Self-fed without any problems.

rWmna_nstat indicates the respondent's perceived nutritional status, given three options. **rWmna_nstat** is coded as follows: 0. View self as being malnourished; 1. Is uncertain of nutritional state; and 2. Views self as having no nutritional problem.

rWmna_hstat indicates how the respondent considers their health status in comparison with other people of the same age. **rWmna_hstat** is coded as follows: 0. Not as good; 0.5. Does not know; 1. As good; and 2. Better.

rWmna_mac indicates a score for the respondent's mid-arm circumference measurement. **rWmna_mac** is derived using the Harmonized LASI-DAD variable **rWmidarm**. **rWmna_mac** is coded based on the following ranges of **rWmidarm**: 0. 0-20.99; 0.5. 21-22; and 1. 22.01 or more.

rWmna_cc indicates a score for the respondent's calf circumference measurement. **rWmna_cc** is derived using the Harmonized LASI-DAD variable **rWcalf**. **rWmna_cc** is coded based on the following ranges of **rWcalf**: 0. 0-30.99 and 0.5. 31 or more.

rWmna_screen is a summary measure for **rWmna_dfood**, **rWmna_wloss**, **rWmna_mob**, **rWmna_stress**, **rWmna_psycho**, and **rWhmbmicat_d**. **rWmna_screen** is the sum of each component variable as long as no components are missing. **rWmna_screen** ranges from 0-14. Please refer to the "Height, Weight, and BMI" section for further information on how **rWhbmicat_d** was constructed.

rWmna_assess is a summary measure for **rWmna_live**, **rWmna_drug**, **rWmna_sores**, **rWmna_meals**, **rWmna_protn**,

rWmna_veg, rWmna_fluid, rWmna_feed, rWmna_nstat, rWmna_hstat, rWmna_mac, and rWmna_cc, ranging from 0-16. rWmna_assess is the sum of these variables as long as no components are missing.

rWmna_scale is a summary measure for all the variables comprising rWmna_screen and rWmna_assess. Specifically, this includes rWmna_dfood, rWmna_wloss, rWmna_mob, rWmna_stress, rWmna_psycho, rWbmicat, rWmna_live, rWmna_drug, rWmna_sores, rWmna_meals, rWmna_protn, rWmna_veg, rWmna_fluid, rWmna_feed, rWmna_nstat, rWmna_hstat, rWmna_mac, and rWmna_cc. rWmna_scale ranges from 0-30. It is summed as long as no components are missing.

Special missing (.i) is assigned for invalid readings. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Differences with other HCAP studies

This series of questions was not asked in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These questions are not included in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1mna_screen	3,690	9.66	2.09	3.00	14.00	406
r2mna_screen	4,267	9.74	1.95	1.00	14.00	371
r1mna_assess	3,950	10.55	2.12	1.50	15.50	146
r2mna_assess	4,430	10.81	2.05	2.50	15.50	208
r1mna_scale	3,623	20.30	3.51	6.00	29.00	473
r2mna_scale	4,253	20.61	3.29	7.00	29.00	385

Categorical Variable Frequencies

	r1mna_dfood	r2mna_dfood
0.severe decrease	492	455
1.moderate decrease	1,534	1,871
2.no decrease	2,018	2,145
.d:DK	14	1
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	21	19
Total	4,096	4,638

	r1mna_wloss	r2mna_wloss
0.weight loss more than 3kg	357	450
1.does not know	1,904	2,041

2.weight loss 1-3kg	564	769
3.no weight loss	1,203	1,206
.d:DK	28	5
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	23	20
Total	4,096	4,638

	r1mna_mob	r2mna_mob
0.bed or chair bound	126	163
1.leaves bed/chair, does no	275	539
2.goes out	3,660	3,770
.d:DK	2	1
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	16	18
Total	4,096	4,638

	r1mna_stress	r2mna_stress
0.yes	655	511
2.no	3,384	3,960
.d:DK	19	2
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	21	18
Total	4,096	4,638

	r1mna_psycho	r2mna_psycho
0.severe problems	89	39
1.mild problems	249	178
2.no problems	3,683	4,251
.d:DK	37	5
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	21	18
Total	4,096	4,638

	r1mna_live	r2mna_live
0.no	1,215	1,654
1.yes	2,843	2,819
.d:DK	7	2
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	14	16
Total	4,096	4,638

	r1mna_drug	r2mna_drug
0.yes	840	978
1.no	3,214	3,493
.d:DK	3	2
.g:No geriatric assessment	12	143
.m:Missing	21	4

.r:Refuse	6	18
Total	4,096	4,638
	r1mna_sores	**r2mna_sores**
0.yes	367	192
1.no	3,686	4,278
.d:DK	10	3
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	16	18
Total	4,096	4,638
	r1mna_meals	**r2mna_meals**
0.1 meal	195	128
1.2 meals	2,318	2,509
2.3 meals	1,547	1,834
.d:DK	5	2
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	14	18
Total	4,096	4,638
	r1mna_protn	**r2mna_protn**
0.0-1 protein sources	2,214	2,233
0.5.2 protein sources	1,603	1,919
1.3 protein sources	279	486
Total	4,096	4,638
	r1mna_protn3	**r2mna_protn3**
0.no protein source	819	430
1.1 protein source	1,348	1,638
2.2 protein sources	1,602	1,917
3.3 protein sources	279	486
.d:DK	9	3
.g:No geriatric assessment	12	143
.m:Missing	5	0
.r:Refuse	22	21
Total	4,096	4,638
	r1mna_veg	**r2mna_veg**
0.no	873	946
1.yes	3,179	3,524
.d:DK	6	2
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	21	19
Total	4,096	4,638
	r1mna_fluid	**r2mna_fluid**
0.less than 3 cups	293	321
0.5.3-5 cups	911	1,091
1.more than 5 cups	2,845	3,057
.d:DK	10	3

.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	20	19
Total	4,096	4,638

	r1mna_feed	r2mna_feed
0.unable to eat without ass	408	206
1.self-fed with some diffic	140	267
2.self-fed without problem	3,511	3,998
.d:DK	5	2
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	15	18
Total	4,096	4,638

	r1mna_nstat	r2mna_nstat
0.malnourished	903	947
1.uncertain	951	1,205
2.no nutritional problem	2,170	2,313
.d:DK	32	6
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	23	20
Total	4,096	4,638

	r1mna_hstat	r2mna_hstat
0.not as good	1,070	965
0.5.does not know	447	699
1.as good	1,931	1,636
2.better	575	1,162
.d:DK	31	4
.g:No geriatric assessment	12	143
.m:Missing	5	4
.r:Refuse	25	25
Total	4,096	4,638

	r1mna_mac	r2mna_mac
0.lt 21cm	439	527
0.5.21-22 cm	431	404
1.22+ cm	3,181	3,533
.d:DK	2	3
.g:No geriatric assessment	12	143
.i:Invalid	5	0
.m:Missing	5	3
.r:Refuse	21	25
Total	4,096	4,638

	r1mna_cc	r2mna_cc
0.lt 31cm	2,600	2,969
0.5.31+ cm	1,449	1,486
.d:DK	1	3
.g:No geriatric assessment	12	143
.i:Invalid	5	4

.m:Missing	5	4
.r:Refuse	24	29
Total	4,096	4,638

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga602	FOOD INTAKE DECLINED
ga603	EXPERIENCED WEIGHT LOSS
ga604	MOBILITY
ga605	PSYCHOLOGICAL STRESS
ga606	NEUROPSYCHOLOGICAL PROBLEMS
ga607	LIVE INDEPENDENTLY
ga608	3 PRESCRIPTION DRUGS
ga609	SORES/ULCERS
ga610	FULL MEALS DAILY
ga611	AT LEAST ONE SERVING OF DAIRY
ga612	2 OR MORE LEGUMES/EGGS PER WEEK
ga613	EAT MEAT/FISH/POULTRY
ga614	TWO OR MORE SERVINGS OF FRUIT/VEGGIES
ga615	FLUID PER DAY
ga616	MODE OF FEEDING
ga617	NUTRITIONAL STATUS
ga618	HEALTH STATUS

Wave 2 Geriatric Assessment:

ga602	FOOD INTAKE DECLINED
ga603	EXPERIENCED WEIGHT LOSS
ga604	MOBILITY
ga605	PSYCHOLOGICAL STRESS
ga606	NEUROPSYCHOLOGICAL PROBLEMS
ga607	LIVE INDEPENDENTLY
ga608	3 PRESCRIPTION DRUGS
ga609	SORES/ULCERS
ga610	FULL MEALS DAILY
ga611	AT LEAST ONE SERVING OF DAIRY
ga612	2 OR MORE LEGUMES/EGGS PER WEEK
ga613	EAT MEAT/FISH/POULTRY
ga614	TWO OR MORE SERVINGS OF FRUIT/VEGGIES
ga615	FLUID PER DAY
ga616	MODE OF FEEDING
ga617	NUTRITIONAL STATUS
ga618	HEALTH STATUS

E. Polygenic Risk Scores (PRSs)

Polygenic Risk Scores for Alzheimer's Disease

Variable	Waves	Label	Type
rWprs_toplam	1	std top SNPs PRS using genome-wide significant SNPs:Lambert et al. 2013	Cont
rWprs_topkun	1	std top SNPs PRS using genome-wide significant SNPs:Kunkle et al. 2019	Cont
rWprs_topjan	1	std top SNPs PRS using genome-wide significant SNPs:Jansen et al. 2019	Cont

How Constructed

The LASI-DAD genotyped respondents who consented to the blood sample collection and provided whole blood DNA. Polygenic risk scores (PRSs) were constructed, which provide a quantitative measure of genetic risk for genetic analyses. PRSs are based on large-scale replicated genome-wide association studies (GWAS) and were constructed using genome-wide significant single nucleotide polymorphisms (SNPs), noted as "top SNPs" PRSs.

For detailed information on the general method of constructing PRSs, please refer to Section 5 "Polygenic Risk Scores (PRSs)" in the Harmonized LASI-DAD data documentation.

The following variables are "top SNPs" PRSs for Alzheimer's disease (AD), each created based on results from one of three large-scale GWAS meta-analyses. All three PRSs have been standardized to a standard normal curve with a mean of 0 and standard deviation of 1. Please note that all three GWAS meta-analyses were conducted using individuals of European ancestry. As key SNPs in the APOE gene have a strong association with Alzheimer's disease, variants in the APOE region are excluded from the following three polygenic risk scores.

rWprs_toplam is the polygenic risk score for Alzheimer's disease, using results from a 2013 GWAS conducted by the International Genomics of Alzheimer's Project (IGAP) (Lambert et al., 2013). The 2013 meta-analysis identified 19 SNPs with genome-wide significant associations with AD. **rWprs_toplam** contains all 19 SNPs that were identified.

rWprs_topkun is the polygenic risk score for Alzheimer's disease, using results from a 2019 GWAS meta-analysis that had samples from the International Genomics of Alzheimer's Project (IGAP) (Kunkle et al., 2019). The 2019 meta-analysis identified 24 genome-wide-significant associations with AD. **rWprs_topkun** contains 20 SNPs that overlap between the LASI-DAD genetic data and the genome-wide significant SNPs from the GWAS meta-analysis.

rWprs_topjan is the polygenic risk score for Alzheimer's disease, using results from a 2019 GWAS meta-analysis that had samples from the Alzheimer's disease working group of Psychiatric Genomics Consortium (PGC-ALZ), the International Genomics of Alzheimer's Project (IGAP), the Alzheimer's Disease Sequencing Project (ADSP), and UKBiobank (Jansen et al., 2019). The 2019 meta-analysis identified 28 genome-wide significant loci associated with AD. **rWprs_topjan** contains 19 SNPs that overlap between the LASI-DAD genetic data and the genome-wide significant SNPs from the GWAS meta-analysis.

Please refer to Table S1 in Smith et al. (2020) for the list of SNPs included in each PRS.

Cross Wave Differences in LASI-DAD

Polygenetic risk scores are only available at Wave 1.

Differences with other HCAP studies

The HRS-HCAP, the ELSA-HCAP, the MHAS Mex-Cog, and the SPS Chile-Cog do not provide polygenic risk scores and associated variables.

Comparability with the Harmonized LASI

The Harmonized LASI does not provide polygenic risk scores and associated variables.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1prs_toplam	932	0.00	1.00	-3.40	2.88	0
r1prs_topkun	932	0.00	1.00	-2.99	3.65	0
r1prs_topjan	932	0.00	1.00	-3.52	2.75	0

Polygenic Risk Scores for General Cognitive Function

Variable	Waves	Label	Type
rWprs_topcog	1	std top SNP PRS using genome-wide significant SNPs:Davies et al. 2018	Cont
rWprs_allcog	1	std all SNP PRS using all independent SNPs with p lt 10e-04:Davies et al. 2018	Cont

How Constructed

For detailed information on the general method of constructing PRSs, please refer to Section 5 "Polygenic Risk Scores (PRSs)" in the Harmonized LASI-DAD data documentation.

Two versions of the PRSs for general cognitive function were created, which were based on results from a 2018 GWAS conducted using genetic data from the CHARGE and COGENT consortia, and UKBiobank (Davies et al., 2018). The 2018 GWAS identified a total of 178 genome-wide significant independent lead SNPs from 148 loci that were associated with general cognitive function. Please note that this GWAS was conducted using individuals of European ancestry.

The following variables have been standardized within the study sample to have a mean of 0 and standard deviation of 1.

rWprs_topcog is the polygenic risk score for general cognitive function, constructed using "top SNPs". rWprs_topcog includes 130 lead SNPs out of the 178 reported lead SNPs from 148 loci that overlap between the LASI-DAD genetic data and the 2018 GWAS meta-analysis.

rWprs_allcog is the polygenic risk score for general cognitive function, constructed using "all SNPs", or all independent SNPs with p-value less than 10E-04. rWprs_allcog contains 1,938 SNPs that overlap between the LASI-DAD genetic data and the 2018 GWAS meta-analysis.

Cross Wave Differences in LASI-DAD

Polygenetic risk scores are only available at Wave 1.

Differences with other HCAP studies

The HRS-HCAP, the ELSA-HCAP, the MHAS Mex-Cog, and the SPS Chile-Cog do not provide polygenic risk scores and associated variables.

Comparability with the Harmonized LASI

The Harmonized LASI does not provide polygenic risk scores and associated variables.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1prs_topcog	932	0.00	1.00	-2.57	3.48	0
r1prs_allcog	932	0.00	1.00	-3.43	3.67	0

Genetic Principal Components (PCs)

Variable	Waves	Label	Type
rWprs_pc1	1	std genetic principal component 1	Cont
rWprs_pc2	1	std genetic principal component 2	Cont
rWprs_pc3	1	std genetic principal component 3	Cont
rWprs_pc4	1	std genetic principal component 4	Cont
rWprs_pc5	1	std genetic principal component 5	Cont
rWprs_pc6	1	std genetic principal component 6	Cont
rWprs_pc7	1	std genetic principal component 7	Cont
rWprs_pc8	1	std genetic principal component 8	Cont
rWprs_pc9	1	std genetic principal component 9	Cont
rWprs_pc10	1	std genetic principal component 10	Cont

How Constructed

Principal component (PC) analysis (Price et al., 2006) was performed to identify population group outliers and to provide sample principal components to be used as covariates in the statistical models used for association testing to adjust for possible population stratification.

rWprs_pc1 – rWprs_pc10 are standardized versions of ancestry specific genetic principal components 1 – 10. PCs 1 – 5 and PCs 6 – 10 were scrambled to protect identifiable information.

It is highly recommended that users perform analyses adjusted for rWprs_pc1 – rWprs_pc10 in order to control for confounding from population stratification, or to account for any ancestry differences in genetic structures within populations that could bias estimates. The PCs control for any genetic aspects of common ancestry that could be spuriously correlated with the PRS and the outcome of interest (Price et al., 2006).

Cross Wave Differences in LASI-DAD

Polygenetic risk scores are only available at Wave 1.

Differences with other HCAP studies

The HRS-HCAP, the ELSA-HCAP, the MHAS Mex-Cog, and the SPS Chile-Cog do not provide polygenic risk scores and associated variables.

Comparability with the Harmonized LASI

The Harmonized LASI does not provide polygenic risk scores and associated variables.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1prs_pc1	932	0.00	1.00	-4.42	1.60	0
r1prs_pc2	932	0.00	1.00	-5.08	1.80	0
r1prs_pc3	932	0.00	1.00	-2.82	11.24	0
r1prs_pc4	932	0.00	1.00	-2.17	2.46	0

r1prs_pc5	932	0.00	1.00	-3.22	3.38	0
r1prs_pc6	932	0.00	1.00	-3.99	15.31	0
r1prs_pc7	932	0.00	1.00	-5.24	13.73	0
r1prs_pc8	932	0.00	1.00	-22.63	3.01	0
r1prs_pc9	932	0.00	1.00	-6.47	20.30	0
r1prs_pc10	932	0.00	1.00	-4.94	4.63	0

SNPs in the APOE Gene

Variable	Waves	Label	Type
rWrs7412	1	key SNP in APOE gene: rs7412	Cont
rWrs429358	1	key SNP in APOE gene: rs429358	Cont

How Constructed

Key SNPs in the APOE gene have a strong association with Alzheimer's disease. Variants in the APOE region were excluded from the three polygenic risk scores for Alzheimer's disease, but two SNPs have been released in the Harmonized LASI-DAD as independent units.

rWrs7412 is the number of T alleles of SNP rs7412 (C/T), which ranges from 0 to 2 (e.g., 0=CC, 1=CT, 2=TT). rWrs7412 is one of the two SNPs that define the APOE 2, 3, and 4 alleles. The imputed version (1000G phase 3 version 5 reference panel) that incorporates imputation uncertainty is provided so that the numbers are not always exactly 0, 1, or 2. The imputation quality score R2 for this SNP is 0.9998 (R2 ranges from 0 to 1, with the larger number indicating better quality).

rWrs429358 is the number of C alleles of SNP rs429358 (T/C), which ranges from 0 to 2 (e.g., 0=TT, 1=TC, 2=CC). rWrs429358 is one of the two SNPs that define the APOE 2, 3, and 4 alleles. The imputed version (1000G phase 3 version 5 reference panel) that incorporates imputation uncertainty is provided so that the numbers are not always exactly 0, 1, or 2. The imputation quality score R2 for this SNP is 0.9979 (R2 ranges from 0 to 1, with the larger number indicating better quality).

Cross Wave Differences in LASI-DAD

Polygenetic risk scores are only available at Wave 1.

Differences with other HCAP studies

The HRS-HCAP, the ELSA-HCAP, the MHAS Mex-Cog, and the SPS Chile-Cog do not provide polygenic risk scores and associated variables.

Comparability with the Harmonized LASI

The Harmonized LASI does not provide polygenic risk scores and associated variables.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1rs7412	932	0.09	0.30	0.00	2.00	0
r1rs429358	932	0.20	0.42	0.00	2.00	0

H. Hearing Tests

hearX hearTest: Hearing Screening

Variable	Waves	Label	Type
rWh_rsinelig	2	rWh_rsinelig:wW Reason R ineligible for hearing test	Categ
rWh_imprmnt	2	rWh_imprmnt:wW Whether R has any self-reported hearing impairment	Categ
rWh_year	2	rWh_year:wW Year R was tested	Cont
rWh_month	2	rWh_month:wW Month R was tested	Cont
rWh_dura	2	rWh_dura:wW Total duration of complete audiometric screening	Cont

How Constructed

The following variables pertain to the Wave 2 hearX hearTest hearing test. The Wave 2 hearX hearing test is comprised of a series of tones presented to participants for 5 frequencies in both right and left ears. Before beginning the test, the interviewer is instructed to remove any obstructions from respondents' ears, such as hair, large jewelry, hearing aids, and/or glasses, and is also instructed to quiet noise sources as much as possible. Respondents are instructed to raise their hand/finger or verbally say "Yes" every time they hear a tone. Headphones are placed over both respondents' ears, and the test is administered.

rWh_rsinelig indicates reasons the respondent would not be given the hearing test. This question is asked in the geriatric assessment. The respondent is asked if they have any of four reasons for being ineligible for the hearing test. **rWh_rsinelig** is coded as follows: 1.cochlear implant, 2.ear infection or drainage from either ear, 3.acute dizziness or vertigo, 4.reported pain or discomfort, 5.no. The hearing test is skipped if the respondent gives an answer of 1 to 4. The hearing test is not skipped if the respondent answers 5.

rWh_imprmnt indicates if the respondent has any known self-reported hearing impairments. **rWh_imprmnt** is coded as follows: 0.no, 1.yes, 2.unsure.

rWh_year indicates the year the respondent was given the hearing test.

rWh_month indicates the month the respondent was given the hearing test.

rWh_dura indicates the duration of a participant's hearing test, not including time spent on instructions and headphone placement/removal. The duration was measured in seconds but the variable **rWh_dura** was converted to minutes.

Special missing (.s) is assigned if the respondent skipped the audiometric screening because they were deemed ineligible in the geriatric assessment. Special missing (.g) is assigned if the respondent did not participate in the geriatric assessment or the audiometric screening. Special missing (.h) is assigned if the respondent did not participate in the audiometric screening. Missing, refused, and don't know responses are coded as special missing values (.m), (.r), and (.d) respectively. These variables are coded as blank missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

The audiometric screening was only included in Wave 2.

Differences with other HCAP studies

This test is not included in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

Respondents were not given the audiometric screening in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2h_year	3,589	2,023.28	0.48	2,022.00	2,024.00	1,049
r2h_month	3,589	5.07	3.44	1.00	12.00	1,049
r2h_dura	3,589	3.90	1.52	0.28	15.60	1,049

Categorical Variable Frequencies

	r2h_rsinelig
1.cochlear implant	28
2.ear infection or drainage	144
3.acute dizziness or vertig	187
4.reported pain or discomfo	184
5.no	3,755
.d:DK	9
.g:Not interviewed ga	143
.m:Missing	26
.r:Refuse	162
Total	4,638

	r2h_imprmnt
0.no	2,310
1.yes	570
2.unsure	709
.g:Not interviewed ga	143
.h:Not interviewed hearing	363
.s:Skipped ineligible	543
Total	4,638

Original DAD Variables Used

Wave 2 Geriatric Assessment:	
at001	before hearing test
at002	if R has hearing impairment
Wave 2 Hearing:	
testdate	Test Date
duration	Duration

hearX hearTest: Pure-Tone Average (PTA)

Variable	Waves	Label	Type
rWh_rptacat	2	rWh_rptacat:wW Right ear hearing category	Categ
rWh_lptacat	2	rWh_lptacat:wW Left ear hearing category	Categ
rWh_bptacat	2	rWh_bptacat:wW Better ear hearing category	Categ
rWh_rpta	2	rWh_rpta:wW Right ear 4-frequency pure tone average	Cont
rWh_lpta	2	rWh_lpta:wW Left ear 4-frequency pure tone average	Cont
rWh_bpta	2	rWh_bpta:wW Better ear 4-frequency pure tone average	Cont

How Constructed

rWh_rptacat and **rWh_lptacat** indicate hearing severity categories for right and left ear 4-frequency pure tone averages (500 Hz, 1000 Hz, 2000 Hz, and 4000 Hz). **rWh_bptacat** indicates hearing severity categories for the ear with better hearing for 4-frequency pure tone averages (500 Hz, 1000 Hz, 2000 Hz, and 4000 Hz). These categories are based on pre-2023 World Health Organization (WHO) definitions, which are the most commonly used in the literature. The pre-2023 definitions and corresponding cutoffs are as follows: 1. within normal limits (smaller or equal to 25 dB HL), 2. mild hearing loss (larger than 25 dB HL and smaller or equal to 40 dB HL), 3. moderate hearing loss (larger than 40 dB HL and smaller or equal 60 dB HL), 4. severe or greater hearing loss (larger than 60 dB HL), and 5. inconclusive (unable to determine). The maximum levels for hearing thresholds using the Sennheiser HD 280 PRO are specified by frequency: 500 to 2000 Hz (90 dB HL), 4000 Hz (85 dB HL), and 8000 Hz (70 dB HL). These levels and thresholds can be found in the Wave 2 Hearing Test Protocol on the LASI-DAD website.

rWh_rpta and **rWh_lpta** indicate hearing test results for right and left ear 4-frequency pure tone averages (500 Hz, 1000 Hz, 2000 Hz, and 4000 Hz). **rWh_bpta** indicates hearing test results for the ear with better hearing 4-frequency pure tone average (500 Hz, 1000 Hz, 2000 Hz, and 4000 Hz). **rWh_rpta** and **rWh_lpta** cannot be lower than -10 dB HL or higher than the limits specified for each frequency. **rWh_rpta** and **rWh_lpta** cannot be lower than -10 dB HL or higher than 88.75 dB HL.

Special missing (.s) is assigned if the respondent skipped the audiometric screening because they were deemed ineligible in the geriatric assessment. Special missing (.g) is assigned if the respondent did not participate in the geriatric assessment or the audiometric screening. Special missing (.h) is assigned if the respondent did not participate in the audiometric screening. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), (.m), respectively. These variables are coded as blank missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

The audiometric screening was only included in Wave 2.

Differences with other HCAP studies

This test is not included in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

Respondents were not given the audiometric screening in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2h_rpta	3,577	38.59	16.75	10.00	88.75	1,061
r2h_lpta	3,577	39.70	16.23	10.00	88.75	1,061
r2h_bpta	3,577	42.93	17.35	10.00	88.75	1,061

Categorical Variable Frequencies

	r2h_rptacat
1.Within normal limits	781
2.Mild hearing loss	1,424
3.Moderate hearing loss	929
4.Severe or greater hearing	401
5.Inconclusive	43
.d:DK	1
.g:Not interviewed ga	143
.h:Not interviewed hearing	363
.r:Refuse	10
.s:Skipped ineligible	543
Total	4,638

	r2h_lptacat
1.Within normal limits	653
2.Mild hearing loss	1,450
3.Moderate hearing loss	1,026
4.Severe or greater hearing	406
5.Inconclusive	43
.d:DK	1
.g:Not interviewed ga	143
.h:Not interviewed hearing	363
.r:Refuse	10
.s:Skipped ineligible	543
Total	4,638

	r2h_bptacat
1.Within normal limits	485
2.Mild hearing loss	1,385
3.Moderate hearing loss	1,077
4.Severe or greater hearing	588
5.Inconclusive	43
.d:DK	1
.g:Not interviewed ga	143
.h:Not interviewed hearing	363
.r:Refuse	10
.s:Skipped ineligible	543
Total	4,638

Original DAD Variables Used

Wave 2 Hearing:

pta_right_loss_new	Right Ear Hearing Loss Category
pta_left_loss_new	Left Ear Hearing Loss Category
pta_right_db_new	Right Ear PTA
pta_left_db_new	Left Ear PTA

hearX hearTest: Hearing Thresholds

Variable	Waves	Label	Type
rWh_r500	2	rWh_r500:wW Right ear threshold for 500 Hz hearing screening results	Cont
rWh_r1000	2	rWh_r1000:wW Right ear threshold for 1000 Hz hearing screening results	Cont
rWh_r2000	2	rWh_r2000:wW Right ear threshold for 2000 Hz hearing screening results	Cont
rWh_r4000	2	rWh_r4000:wW Right ear threshold for 4000 Hz hearing screening results	Cont
rWh_r8000	2	rWh_r8000:wW Right ear threshold for 8000 Hz hearing screening results	Cont
rWh_l500	2	rWh_l500:wW Left ear threshold for 500 Hz hearing screening results	Cont
rWh_l1000	2	rWh_l1000:wW Left ear threshold for 1000 Hz hearing screening results	Cont
rWh_l2000	2	rWh_l2000:wW Left ear threshold for 2000 Hz hearing screening results	Cont
rWh_l4000	2	rWh_l4000:wW Left ear threshold for 4000 Hz hearing screening results	Cont
rWh_l8000	2	rWh_l8000:wW Left ear threshold for 8000 Hz hearing screening results	Cont

How Constructed

rWh_r500 — rWh_r8000 indicates hearing screening results for right ear thresholds at 500 Hz,1000 Hz, 2000 Hz, 4000 Hz, and 8000 Hz. rWh_r500 — rWh_r2000 cannot be lower than -10 dB or higher than 90 dB. rWh_r4000 cannot be higher than 85 dB and rWh_r8000 cannot be higher than 70 dB.

rWh_l500 — rWh_l8000 indicates hearing screening results for left ear thresholds at 500 Hz,1000 Hz, 2000 Hz, 4000 Hz, and 8000 Hz. rWh_l500 — rWh_l2000 cannot be lower than -10 dB or higher than 90 dB. rWh_l4000 cannot be higher than 85 dB and rWh_l8000 cannot be higher than 70 dB.

Special missing (.s) is assigned if the respondent skipped the audiometric screening because they were deemed ineligible in the geriatric assessment. Special missing (.g) is assigned if the respondent did not participate in the geriatric assessment or the audiometric screening. Special missing (.h) is assigned if the respondent did not participate in the audiometric screening. Missing responses are coded as special missing value (.m). These variables are coded as blank missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

The audiometric screening was only included in Wave 2.

Differences with other HCAP studies

This test is not included in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

Respondents were not given the audiometric screening in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2h_r500	3,577	34.56	18.08	10.00	90.00	1,061
r2h_r1000	3,577	37.32	18.84	10.00	90.00	1,061
r2h_r2000	3,556	36.85	19.34	10.00	90.00	1,082
r2h_r4000	3,577	45.62	20.83	10.00	85.00	1,061
r2h_r8000	3,577	50.54	19.56	10.00	70.00	1,061
r2h_l500	3,577	34.91	17.29	10.00	90.00	1,061
r2h_l1000	3,577	38.08	18.16	10.00	90.00	1,061
r2h_l2000	3,577	39.08	18.62	10.00	90.00	1,061
r2h_l4000	3,577	46.73	20.39	10.00	85.00	1,061
r2h_l8000	3,577	50.81	19.54	10.00	70.00	1,061

Original DAD Variables Used

Wave 2 Hearing:

threshold_right_500	threshold_right_500
threshold_right_1000	threshold_right_1000
threshold_right_2000	threshold_right_2000
threshold_right_4000	threshold_right_4000
threshold_right_8000	threshold_right_8000
threshold_left_500	threshold_left_500
threshold_left_1000	threshold_left_1000
threshold_left_2000	threshold_left_2000
threshold_left_4000	threshold_left_4000
threshold_left_8000	threshold_left_8000
at001	before hearing test

Hearing Tests

Variable	Waves	Label	Type
rWhhear_r	1	rWhhear_r:wW R hearing test-right ear(0-6)	Cont
rWhhear_l	1	rWhhear_l:wW R hearing test-left ear(0-6)	Cont
rWhhear_na	1	rWhhear_na:wW R hearing test-unable to do	Categ
rWhhear_aid	1	rWhhear_aid:wW R hearing test-wear hearing aids	Categ
rWhhear_p	1	rWhhear_p:wW R hearing test-problems occur	Categ

How Constructed

The following variables pertain to the Wave 1 Hearing Test. For the Wave 1 Hearing Test, a HearCheck device is placed over each of the respondent's ears. The device plays a series of tones. The respondent is asked to raise their finger each time they hear a sound. The test begins on the words "Ready, begin". The interviewer is instructed to remove any obstructions from the respondent's ears, such as long hair, glasses, and jewelry for this test.

rWhhear_r and rWhhear_l indicate the respondent's Hearing Test summary scores based on two tests for the right ear and left ear, respectively. For each tone the respondent correctly hears, 1 is added to the respective ear's summary score (left or right). Each test has 3 tones per ear. rWhhear_r and rWhhear_l range from 0-6. Special missing (.s) is assigned if the respondent skipped the audiometric screening because they were deemed ineligible in the geriatric assessment. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. These variables are set to plain missing (.) if the respondent did not participate in the current wave.

rWhhear_na indicates whether the respondent was unable to do the Hearing Test. A 0 is coded if the respondent was able to do the Hearing Test. A 1 is coded if the respondent was not able to do the Hearing Test because they refused, had a cochlear implant, or had an ear infection in either ear. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. rWhhear_na is set to plain missing (.) if the respondent did not participate in the current wave.

rWhhear_aid indicates whether the respondent wears hearing aids. A 0 is coded if the respondent does not wear hearing aids. A 1 is coded if the respondent does wear hearing aids. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Special missing (.s) is assigned if the respondent skipped the audiometric screening because they were deemed ineligible in the geriatric assessment. Don't know, refused, or other missing responses are assigned special missing codes (.d), (.r), and (.m), respectively. rWhhear_aid is set to plain missing (.) if the respondent did not participate in the current wave.

rWhhear_p indicates whether there were any interruptions during the Hearing Test. A 0 is coded if there were no interruptions. A 1 is coded if there was background noise that interfered with the hearing test, there were problems with the equipment or supplies, had to restart the test, the respondent removed obstructions (glasses, earrings, etc.), the respondent removed hearing aid, the respondent raised their finger more than three times for a single test, or other not already specified. Special missing (.g) is assigned if the respondent did not complete the geriatric assessment. Special missing (.s) is assigned if the respondent skipped the audiometric screening because they were deemed ineligible in the geriatric assessment. Don't know, refused responses are assigned special missing codes (.d) and (.r), respectively. rWhhear_p is set to plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

These variables were only included in Wave 1.

Differences with other HCAP studies

This test is not included in the HRS-HCAP, MHAS Mex-Cog, ELSA-HCAP, or SPS Chile-Cog.

The LASI-DAD separates these questions into a separate component of the HCAP interview called the Geriatric Assessment. As a result, the Harmonized LASI-DAD includes a special missing value (.g) to capture respondents who refused to complete this portion of the interview.

Comparability with the Harmonized LASI

These tests are not included in LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hhear_r	3,918	2.83	1.27	0.00	6.00	178
r1hhear_l	3,919	2.97	1.30	0.00	6.00	177

Categorical Variable Frequencies

	r1hhear_na
0.no	3,940
1.yes	108
.d:DK	6
.g:Not interviewed ga	12
.m:Missing	5
.r:Refuse	25
Total	4,096

	r1hhear_aid
0.no	3,910
1.yes	28
.d:DK	6
.g:Not interviewed ga	12
.m:Missing	5
.r:Refuse	27
.s:Skipped ineligible	108
Total	4,096

	r1hhear_p
0.no	3,321
1.yes	620
.d:DK	6
.g:Not interviewed ga	12
.r:Refuse	29
.s:Skipped ineligible	108
Total	4,096

Original DAD Variables Used

Wave 1 Geriatric Assessment:

ga901	Hearing test introduction
ga902	wearing hearing aids
ga904_1	Left ear test 1
ga904_2	Left ear test 2

ga905_1	Right ear test
ga905_2	Right ear test 2
ga906	occurred during the hearing test

I. Blood-Based Biomarkers

Wave Status: Biomarker Indicator

Variable	Waves	Label	Type
inwW_lab	1-2	inwW_lab1: indicator for in the Wave W biomarker data	Categ

How Constructed

inwW_lab indicates whether the respondent participated in the current wave's blood-based biomarkers collections. inwW_lab is coded as 0 if the respondent did not participate in the wave. inwW_lab is coded as 1 if the respondent participated in the wave.

Cross Wave Differences in LASI-DAD

No differences known.

Categorical Variable Frequencies

	inw1_lab	inw2_lab
0.No	3,276	2,916
1.Yes	2,892	3,252
Total	6,168	6,168

Original DAD Variables Used

Wave 1 Lab:
inw1_lab

Wave 2 Lab:
inw2_lab

Weights

Variable	Waves	Label	Type
rWlabwgt	1-2	rWlabwgt: wW blood-based biomarkers weight	Cont

How Constructed

rWlabwgt is the person-level cross sectional survey weight done on the subsample of respondents with biomarkers. Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWlabwgt is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No difference known.

Comparability with the Harmonized LASI

These variables are not in the Harmonized LASI.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1labwgt	2,892	1.00	0.21	0.02	1.49	1,204
r2labwgt	3,252	1.00	0.43	0.02	1.89	1,386

Whole Blood Based Assays, Hemoglobin

Variable	Waves	Label	Type
rWhgb	1-2	rWhgb:wW Hemoglobin (Hgb)	Cont

How Constructed

- Test: Hemoglobin
- Test Equipment: Wave 1: Beckman Coulter LH780. Wave 2: Beckman Coulter UniCel DxH 800.
- Assay Methodology: The Coulter method is used for complete blood cell count and hemoglobin. Transmittance of light at 525 nm through a lysed WBC solution in the hemoglobin cuvette is compared to the transmittance of the same light through a reagent blank. The system converts this ratio to the hemoglobin value using a calibration factor. Weight (mass) of hemoglobin is determined from the degree of absorbance found through photo current transmittance and is corrected for WBC interference.
- Variable Description: Hemoglobin is a complex protein found in red blood cells containing an iron molecule. Its primary function is to transport oxygen from the lungs to body tissues, exchange the oxygen for carbon dioxide, and then transport the carbon dioxide back to the lungs for exchange with oxygen.
- Unit: g/dL (grams per deciliter)
- Reference range: Female: 11.7-15.7 g/dL; Male: 13.3-17.7 g/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWhgb is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Beckman Coulter LH780 and in Wave 2 the equipment used was the Beckman Coulter UniCel DxH 800.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hgb	2,833	12.68	1.91	3.80	20.50	1,263
r2hgb	3,196	12.27	1.82	3.30	19.50	1,442

Original DAD Variables Used

Wave 1 Lab:
haemoglobin__hb2 Hemoglobin

Wave 2 Lab:
haemoglobin__hb_3 Hemoglobin

Whole Blood Based Assays, Platelet Count

Variable	Waves	Label	Type
rWplatelet	1-2	rWplatelet:wW Platelet Count	Cont

How Constructed

- Test: Platelet Count
- Equipment: Wave 1: Beckman Coulter LH780. Wave 2: Beckman Coulter UniCel DxH 800.
- Assay Methodology: The Coulter method is used for complete blood cell count and hemoglobin. The Coulter Principle is based on the detection and measurement of changes in electrical resistance produced by a particle or cell suspended in a conductive liquid (diluent) traversing through a small aperture. When particles or cells are suspended in a conductive liquid, they function as discrete insulators.
- Variable Description: Platelet Count: Platelets are factors present in blood, essential for blood clotting. Abnormal platelet counts can indicate various conditions, such as thrombocytosis (count over 450,000) or thrombocytopenia (count under 150,000).
- Unit: Platelets per microliter of blood
- Reference range: 150,000-450,000 platelets per microliter of blood

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWplatelet** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Beckman Coulter LH780 and in Wave 2 the equipment used was the Beckman Coulter UniCel DxH 800.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1platelet	2,826	232.18	83.68	33.00	1,368.00	1,270
r2platelet	3,196	232.36	82.87	50.00	1,016.00	1,442

Original DAD Variables Used

Wave 1 Lab:
platelet_count2 Platelet Count

Wave 2 Lab:
platelet_count3 Platelet Count

Whole Blood Based Assays, Platelet Distribution Width

Variable	Waves	Label	Type
rWpdw	1-2	rWpdw:wW Platelet Distribution Width	Cont

How Constructed

- Test: Platelet Distribution Width
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: Platelet Histogram
- Variable Description: Platelet distribution width (PDW) is a measure of the variation in platelet size. It provides insight into the heterogeneity of platelet sizes within a blood sample. Elevated PDW levels may indicate increased platelet activation and release, potentially reflecting underlying pathological conditions such as thrombocytopenia or platelet dysfunction.
- Unit: Percentage or fL (femtoliters)
- Reference range: 9.0-17.0% or 9.0-17.0 fL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWpdw is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1pdw	2,824	16.97	0.71	13.60	19.90	1,272
r2pdw	3,196	17.14	0.71	12.60	20.10	1,442

Original DAD Variables Used

Wave 1 Lab:
pdw__platelet_distribut2 Platelet Distribution

Wave 2 Lab:
pdw__platelet_distribution3 Platelet Distribution

Whole Blood Based Assays, Red Blood Cell Count

Variable	Waves	Label	Type
rWrbc	1-2	rWrbc:wW Red Blood Cell Count	Cont

How Constructed

- Test: Red Blood Cell Count
- Test Equipment: Wave 1: Beckman Coulter LH780. Wave 2: Beckman Coulter UniCel DxH 800.
- Assay Methodology: Red blood cell count was measured directly and multiplied by the calibration factor. It was corrected for very high white count if necessary. RBC = N X 106 cells/ 'Lv Uncorrected White Blood Cell (UWBC)
- Variable Description: Red blood cells are the most common type of blood cells and the main cells which carry oxygen in the body. The RBCs contain hemoglobin in their cytoplasm which helps in carrying oxygen.
- Unit: Mill/cumm
- Reference range: 4.7-6.0 mill/cumm

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWrbc** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Beckman Coulter LH780 and in Wave 2 the equipment used was the Beckman Coulter UniCel DxH 800.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1rbc	2,812	4.43	0.64	1.38	8.90	1,284
r2rbc	3,196	4.37	0.62	1.54	7.87	1,442

Original DAD Variables Used

Wave 1 Lab:
erythrocyte__rbc__count2 Red Blood Cell Count

Wave 2 Lab:
erythrocyte__rbc__count3 Red Blood Cell Count

Whole Blood Based Assays, Red Cell Distribution Width

Variable	Waves	Label	Type
rWrdw	1-2	rWrdw:wW Red Cell Distribution Width	Cont

How Constructed

- Test: Red Cell Distribution Width (RDW)
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: RBC Histogram
- Variable Description: RDW is a measure of the variation in the size of red blood cells (RBCs) in a blood sample. It reflects the heterogeneity of RBC sizes and is often used as part of a complete blood count (CBC) to assess for the presence of anemia or other blood disorders. Elevated RDW levels may indicate a wide range of RBC sizes, which can be indicative of conditions such as iron deficiency anemia, vitamin B12 deficiency, or folate deficiency.
- Unit: Percentage or femtoliters (fL)
- Reference range: 11.5-14.5% or 36.0-48.0 fL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWrdw is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1rdw	2,812	15.27	2.09	11.70	31.50	1,284
r2rdw	3,196	15.48	2.05	12.10	40.00	1,442

Original DAD Variables Used

Wave 1 Lab:
rdw__red_cell_distribut2 Red Cell Distribution Width (RDW)

Wave 2 Lab:
rdw__red_cell_distribution3 Red Cell Distribution Width (RDW)

Whole Blood Based Assays, Total Leucocyte (White Cell) Count

Variable	Waves	Label	Type
rWtotwbc	1-2	rWtotwbc:wW Total Leucocyte (White Cell) Count	Cont

How Constructed

- Test: Total Leucocyte (White Cell) Count
- Equipment: Wave 1: Wave 1: Beckman Coulter LH780. Wave 2: Beckman Coulter UniCel DxH 800.
- Assay Methodology: White blood cell count was measured directly and multiplied by the calibration factor. It was corrected for interference if necessary. If no correction required, then WBC = UWBC. If correction is required, WBC = N x 103 cells/µLv.
- Variable Description: White blood cells are a part of your immune system that protects your body from infection. These cells circulate through your bloodstream and tissues to respond to injury or illness by attacking any unknown organisms that enter your body.
- Unit: Cells per microliter of blood (cells/µL) or cells per liter of blood (cells/L)
- Reference range: 4,300-10,300 cells/µL.

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWtotwbc is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Beckman Coulter LH780 and in Wave 2 the equipment used was the Beckman Coulter UniCel DxH 800.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1totwbc	2,822	7,293.20	2,255.58	1,600.00	39,500.00	1,274
r2totwbc	3,196	7,165.83	2,265.36	1,600.00	28,700.00	1,442

Original DAD Variables Used

Wave 1 Lab:
total_leucocytes__wbc2 Total Leucocyte (White Cell) Count

Wave 2 Lab:
total_leucocytes__wbc__count3 Total Leucocyte (White Cell) Count

Whole Blood Based Assays, DLC: Basophils

Variable	Waves	Label	Type
rWbasos	1-2	rWbasos:wW DLC: Basophils	Cont

How Constructed

- Test: DLC: Basophils
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: Analyzed by VCS Technology - Volume, Conductivity, Scatter, Opacity and RLS measurements are taken. Each cell is then assigned an X, Y and Z coordinate in a 3-Dimensional array based respectively on it's RLS, Volume and Opacity.
- Variable Description: Basophils are a type of white blood cell in your immune system that help defend your body from allergens, pathogens and parasites. Basophils release histamine to improve blood flow to damaged tissue and heparin to prevent unwanted blood clots. Abnormal basophil levels may indicate various conditions, from allergic reactions to cancer.
- Unit: Percentage (% of total white blood cells) or cells per microliter of blood (cells/µL)
- Reference range: 0-2%

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWbasos is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1basos	2,784	0.63	0.53	0.00	4.00	1,312
r2basos	3,196	0.51	0.51	0.00	2.00	1,442

Original DAD Variables Used

Wave 1 Lab:
basophils2 Differential Leucocyte Count (DLC): Basophils

Wave 2 Lab:
basophils3 Differential Leucocyte Count (DLC): Basophils

Whole Blood Based Assays, Absolute Basophils Count

Variable	Waves	Label	Type
rWabsbaso	2	rWabsbaso:wW Absolute Basophils Count	Cont

How Constructed

- Test: Absolute Basophils Count
- Variable Description: Absolute Basophils Count refers to the absolute number of basophils present in a given volume of blood. Basophils are a type of white blood cell involved in allergic reactions and immune responses to parasites. Absolute basophils count provides important information about the immune system and can aid in the diagnosis and management of various medical conditions, including allergies, infections, and certain hematologic disorders.
- Unit: Cells per microliter of blood (cells/μL)
- Reference range: 0 to 0.2 × 10^3 cells/μL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWabsbaso is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2absbaso	3,196	33.73	34.87	0.00	174.00	1,442

Original DAD Variables Used

Wave 2 Lab:

absolute_basophils_count3 Absolute Basophils Count

Whole Blood Based Assays, DLC: Eosinophils

Variable	Waves	Label	Type
rWeosinos	1-2	rWeosinos:wW DLC: Eosinophils	Cont

How Constructed

- Test: DLC: Eosinophils
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: Analyzed by VCS Technology - Volume, Conductivity, Scatter, Opacity and RLS measurements are taken. Each cell is then assigned an X, Y and Z coordinate in a 3-Dimensional array based respectively on it's RLS, Volume and Opacity.
- Variable Description: Eosinophilia happens when your body produces an unusually high number of eosinophils. Eosinophils are one of several white blood cells that support your immune system. Sometimes, certain medical conditions and medications cause high eosinophil levels.
- Unit: Percentage (% of total white blood cells) or cells per microliter of blood (cells/µL)
- Reference range: 1-6%

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWeosinos** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1eosinos	2,783	5.75	5.40	1.00	44.00	1,313
r2eosinos	3,196	5.57	4.97	0.10	53.00	1,442

Original DAD Variables Used

Wave 1 Lab:
eosinophils2 Differential Leucocyte Count (DLC): Eosinophils

Wave 2 Lab:
eosinophils3 Differential Leucocyte Count (DLC): Eosinophils

Whole Blood Based Assays, Absolute Eosinophils Count

Variable	Waves	Label	Type
rWabseos	2	rWabseos:wW Absolute Eosinophils Count	Cont

How Constructed

- Test: Absolute Eosinophils Count
- Variable Description: Absolute Eosinophils Count refers to the absolute number of eosinophils present in a given volume of blood. Eosinophils are a type of white blood cell involved in allergic reactions, parasitic infections, and certain inflammatory conditions. Absolute eosinophils count provides valuable information about the immune system and can aid in the diagnosis and management of various medical conditions, including allergies, asthma, parasitic infections, and autoimmune diseases.
- Unit: Cells per microliter of blood (cells/μL)
- Reference range: 0 to 0.5 × 10^3 cells/μL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWabseos** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2abseos	3,196	396.08	412.39	7.00	8,003.00	1,442

Original DAD Variables Used

Wave 2 Lab:

absolute_eosinophils_count3	Absolute Eosinophils Count

Whole Blood Based Assays, DLC: Lymphocytes

Variable	Waves	Label	Type
rWlymphs	1-2	rWlymphs:wW DLC: Lymphocytes	Cont

How Constructed

- Test: DLC: Lymphocytes
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: Analyzed by VCS Technology - Volume, Conductivity, Scatter, Opacity and RLS measurements are taken. Each cell is then assigned an X, Y and Z coordinate in a 3-Dimensional array based respectively on it's RLS, Volume and Opacity.
- Variable Description: Lymphocytes are a type of white blood cell. They help your body's immune system fight cancer and foreign viruses and bacteria. Your lymphocyte count can be taken during a normal blood test at your healthcare provider's office. Lymphocyte levels vary depending on your age, race, sex, altitude and lifestyle.
- Unit: Percentage (% of total white blood cells) or cells per microliter of blood (cells/μL)
- Reference range: 20-40%

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWlymphs is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1lymphs	2,783	29.17	10.06	3.00	88.00	1,313
r2lymphs	3,196	28.87	9.52	7.00	79.00	1,442

Original DAD Variables Used

Wave 1 Lab:
lymphocytes2 Differential Leucocyte Count (DLC): Lymphocytes

Wave 2 Lab:
lymphocytes3 Differential Leucocyte Count (DLC): Lymphocytes

Whole Blood Based Assays, Absolute Lymphocyte Count

Variable	Waves	Label	Type
rWabslymph	2	rWabslymph:wW Absolute Lymphocyte Count	Cont

How Constructed

- Test: Absolute Lymphocyte Count
- Variable Description: Absolute Lymphocyte Count refers to the absolute number of lymphocytes present in a given volume of blood. Lymphocytes are a type of white blood cell involved in the body's immune response, playing a crucial role in defending against infections and foreign invaders. Absolute lymphocyte count provides valuable information about the immune system and can aid in the diagnosis and management of various medical conditions, including infections, autoimmune diseases, and certain types of cancer.
- Unit: Cells per microliter of blood (cells/μL)
- Reference range: 1.0 to 4.8 × 10^3 cells/μL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWabslymph is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2abslymph	3,196	2,023.62	946.70	230.00	21,812.00	1,442

Original DAD Variables Used

Wave 2 Lab:

absolute_lymphocyte_count3 Absolute Lymphocyte Count

Whole Blood Based Assays, DLC: Monocytes

Variable	Waves	Label	Type
rWmonos	1-2	rWmonos:wW DLC: Monocytes	Cont

How Constructed

- Test: DLC: Monocytes
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: Analyzed by VCS Technology - Volume, Conductivity, Scatter, Opacity and RLS measurements are taken. Each cell is then assigned an X, Y and Z coordinate in a 3-Dimensional array based respectively on it's RLS, Volume and Opacity.
- Variable Description: Monocytes are a type of white blood cell in your immune system. Monocytes turn into macrophage or dendritic cells when a germ enters your body. The cells either kill the invader or alert other blood cells to help destroy it and prevent infection. High or low monocyte counts may be a sign of a condition that a healthcare provider needs to diagnose.
- Unit: Percentage (% of total white blood cells) or cells per microliter of blood (cells/µL)
- Reference range: 2-10%

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWmonos** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1monos	2,783	6.60	2.07	1.00	15.00	1,313
r2monos	3,196	6.89	2.02	0.00	23.00	1,442

Original DAD Variables Used

Wave 1 Lab:
monocytes2 Differential Leucocyte Count (DLC): Monocytes

Wave 2 Lab:
monocytes3 Differential Leucocyte Count (DLC): Monocytes

Whole Blood Based Assays, Absolute Monocyte Count

Variable	Waves	Label	Type
rWabsmono	2	rWabsmono:wW Absolute Monocyte Count	Cont

How Constructed

- Test: Absolute Monocyte Count
- Variable Description: Absolute Monocyte Count refers to the absolute number of monocytes present in a given volume of blood. Monocytes are a type of white blood cell involved in the immune response, particularly in phagocytosis and antigen presentation. Absolute monocyte count provides valuable information about the immune system and can aid in the diagnosis and management of various medical conditions, including infections, inflammatory disorders, and certain types of leukemia.
- Unit: Cells per microliter of blood (cells/μL)
- Reference range: 0.2 to 0.8 × 10^3 cells/μL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWabsmono is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2absmono	3,196	484.89	193.37	0.00	3,151.00	1,442

Original DAD Variables Used

Wave 2 Lab:

absolute_monocyte_count3 Absolute Monocyte Count

Whole Blood Based Assays, DLC: Neutrophils

Variable	Waves	Label	Type
rWneuts	1-2	rWneuts:wW DLC: Neutrophils	Cont

How Constructed

- Test: DLC: Neutrophils
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: Analyzed by VCS Technology - Volume, Conductivity, Scatter, Opacity and RLS measurements are taken. Each cell is then assigned an X, Y and Z coordinate in a 3-Dimensional array based respectively on it's RLS, Volume and Opacity.
- Variable Description: Neutrophils help your immune system fight infections and heal injuries. Neutrophils are the most common type of white blood cell in your body. An absolute neutrophil count identifies whether your body has enough neutrophils or if your count is above or below a healthy range.
- Unit: Percentage (% of total white blood cells) or cells per microliter of blood (cells/µL)
- Reference range: 40-80%

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWneuts** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1neuts	2,783	57.84	11.69	4.00	94.00	1,313
r2neuts	3,195	58.18	11.02	9.00	89.00	1,443

Original DAD Variables Used

Wave 1 Lab:
neutrophils2 Differential Leucocyte Count (DLC): Neutrophils

Wave 2 Lab:
neutrophils3 Differential Leucocyte Count (DLC): Neutrophils

Whole Blood Based Assays, Absolute Neutrophils Count

Variable	Waves	Label	Type
rWabsneut	2	rWabsneut:wW Absolute Neutrophils Count	Cont

How Constructed

- Test: Absolute Neutrophils Count
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: Electrical Impedance
- Variable Description: Absolute Neutrophils Count refers to the absolute number of neutrophils present in a given volume of blood. Neutrophils are a type of white blood cell that plays a key role in the body's immune response, particularly in defending against bacterial infections. Absolute neutrophils count provides valuable information about the immune system and can aid in the diagnosis and management of various medical conditions, including infections, inflammation, and certain types of leukemia.
- Unit: Cells per microliter of blood (cells/μL)
- Reference range: 1.8 to 7.7 × 10^3 cells/μL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWabsneut is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2absneut	3,195	4,227.55	1,729.95	288.00	16,160.00	1,443

Original DAD Variables Used

Wave 2 Lab:

absolute_neutrophils_count3 Absolute Neutrophils Count

Whole Blood Based Assays, HbA1c

Variable	Waves	Label	Type
rWhba1c	1-2	rWhba1c:wW Hemoglobin A1C	Cont

How Constructed

- Test: Glycosylated Haemoglobin (HbA1c)
- Equipment: Wave 1: Bio -Rad D-10. Wave 2: Tosoh G8
- Assay Methodology: The test is based on chromatographic separation of the analyte by ion exchange HPLC (High-Pressure Liquid Chromatography).
- Variable Description: Glycosylated hemoglobin (HbA1c) is a measure of mean blood glucose level over a period of 8-10 weeks and remains unaffected by short-term fluctuations in blood glucose levels. The measurement of HbA1c has been widely accepted for the diagnosis and clinical management of diabetes mellitus. It serves as a predictive indicator of the risk of progression of diabetes complications. Additionally, this test is utilized to monitor patients' compliance with therapeutic regimens.
- Unit: %
- Reference range: 4-5.6 %

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWhba1c is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Bio -Rad D-10 and in Wave 2 the equipment used was the Tosoh G8.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hba1c	2,831	6.29	1.56	3.80	20.70	1,265
r2hba1c	3,169	6.25	1.46	3.80	15.10	1,469

Original DAD Variables Used

Wave 1 Lab:
hba1c__glycated_haemogl2 Glycosylated haemoglobin (HbA1c)

Wave 2 Lab:
hba1c__glycated_haemoglobin3 Glycosylated haemoglobin (HbA1c)

Whole Blood Based Assays, MCHC

Variable	Waves	Label	Type
rWmchc	1-2	rWmchc:wW Mean corpuscular hemoglobin concentration (MCHC)	Cont

How Constructed

- Test: Mean Corpuscular Hemoglobin Concentration
- Variable Description: MCHC (mean corpuscular hemoglobin concentration) measures the average amount of hemoglobin per red blood cell. It's one value on a complete blood count (CBC) that provides information about the health of your red blood cells. Considered alongside other test results, it can help your healthcare provider diagnose anemia and determine what's likely causing it.
- Unit: Grams per deciliter (g/dL)
- Reference range: 32-36 grams per deciliter.

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWmchc is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1mchc	2,812	32.62	1.26	22.80	46.00	1,284
r2mchc	3,196	32.39	1.43	23.10	49.20	1,442

Original DAD Variables Used

Wave 1 Lab:

mchc__mean_corpuscular2	Mean Corpuscular Haemoglobin Concentration (MCHC)

Wave 2 Lab:

mchc__mean_corpuscular_hb3	Mean Corpuscular Haemoglobin Concentration (MCHC)

Whole Blood Based Assays, MCH

Variable	Waves	Label	Type
rWmch	1-2	rWmch:wW Mean Corpuscular Hemoglobin (MCH)	Cont

How Constructed

- Test: Mean Corpuscular Hemoglobin (MCH)
- Variable Description: Mean corpuscular hemoglobin (MCH) is an estimate of the amount of hemoglobin in an average erythrocyte, derived from the ratio between the amount of hemoglobin and the number of erythrocytes present.
- Unit: picograms (pg) per red blood cell
- Reference range: 27-31 picograms

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWmch** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1mch	2,812	28.79	3.61	11.20	44.00	1,284
r2mch	3,196	28.28	3.66	14.10	51.50	1,442

Original DAD Variables Used

Wave 1 Lab:
mch__mean_corpuscular_h2 Mean Corpuscular Hemoglobin (MCH)

Wave 2 Lab:
mch__mean_corpuscular_hb_3 Mean Corpuscular Hemoglobin (MCH)

Whole Blood Based Assays, MCV

Variable	Waves	Label	Type
rWmcv	1-2	rWmcv:wW Mean Corpuscular Volume (MCV)	Cont

How Constructed

- Test:Mean Corpuscular Volume (MCV)
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: RBC Histogram
- Variable Description: Mean corpuscular volume (MCV) represents the average volume of a single red blood cell. It is calculated by dividing the total volume of packed red blood cells by the total number of red blood cells in a blood sample. MCV is a crucial parameter in assessing the size of red blood cells, which can aid in the diagnosis and classification of various types of anemia.
- Unit: Femtoliter (fL)
- Reference range: 78-100 femtoliter per red cell

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWmcv** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1mcv	2,812	88.09	9.34	49.20	130.80	1,284
r2mcv	3,196	87.16	9.54	51.60	146.80	1,442

Original DAD Variables Used

Wave 1 Lab:

mcv__mean_corpuscular_v2	Mean Corpuscular Volume (MCV)

Wave 2 Lab:

mcv__mean_corpuscular_volume_3	Mean Corpuscular Volume (MCV)

Whole Blood Based Assays, MPV

Variable	Waves	Label	Type
rWmpv	1-2	rWmpv:wW Mean Platelet Volume (MPV)	Cont

How Constructed

- Test: Mean Platelet Volume (MPV)
- Equipment: Beckman Coulter UniCel DxH 800
- Assay Methodology: Platelet Histogram
- Variable Description: An MPV blood test measures the average size of your platelets, the blood cells that help your blood clot. When considered alongside other test results on a complete blood count (CBC), an MPV test can help your healthcare provider diagnose blood disorders and other conditions.
- Unit: Femtoliter (fL)
- Reference range: 6-9.5 femtoliters

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWmpv is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1mpv	2,827	10.63	1.97	6.70	17.30	1,269
r2mpv	3,196	10.70	2.10	6.40	18.00	1,442

Original DAD Variables Used

Wave 1 Lab:

mpv__mean_platelet_volu2	Mean Platelet Volume (MPV)

Wave 2 Lab:

mpv__mean_platelet_volume_3	Mean Platelet Volume (MPV)

Whole Blood Based Assays, Packed Cell Volume

Variable	Waves	Label	Type
rWpcv	1-2	rWpcv:wW Packed Cell Volume	Cont

How Constructed

- Test: Packed Cell Volume (PCV)
- Variable Description: The hematocrit (Ht or HCT hematocrit), also known as packed cell volume (PCV) or erythrocyte volume fraction (EVF), is the volume percentage (%) of red blood cells in blood.
- Unit: Percentage (%)
- Reference range: Male: 47% ± 5% Female: 42% ± 5%

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWpcv is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1pcv	2,780	38.79	5.33	15.00	67.40	1,316
r2pcv	3,196	37.86	5.15	13.10	63.30	1,442

Original DAD Variables Used

Wave 1 Lab:
pcv__packed_cell_volume2 Packed Cell Volume (PCV)

Wave 2 Lab:
pcv__packed_cell_volume3 Packed Cell Volume (PCV)

Whole Blood Based Assays, Percent Platelet Haematocrit

Variable	Waves	Label	Type
rWpcthct	2	rWpcthct:wW Percent Platelet Haematocrit	Cont

How Constructed

- Test:Percent Platelet Hematocrit
- Variable Description: Percent Platelet Hematocrit refers to the percentage of blood volume occupied by platelets. It is a measure of the proportion of blood volume that is occupied by platelets in relation to the total blood volume. Platelets play a crucial role in hemostasis and blood clotting, and abnormalities in platelet levels or function can lead to bleeding disorders or thrombotic events.
- Unit: Percentage (%)
- Reference range: 0.1% to 0.3%.

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWpcthct is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2pcthct	3,196	0.23	0.07	0.01	1.00	1,442

Original DAD Variables Used

Wave 2 Lab:

pct___platelet_haematocrit_3	Percent Platelet Haematocrit

Serum Based Test, Glucose

Variable	Waves	Label	Type
rWglucose	1-2	rWglucose:wW Estimated Average Glucose	Cont

How Constructed

- Test: Glucose
- Variable description: The blood glucose test is ordered to measure the amount of glucose in the blood at the time of sample collection. It is used to detect both hyperglycemia and hypoglycemia, aid in diagnosing diabetes, and monitor glucose levels in individuals with diabetes.
- Unit: mg/dL
- Reference range: 80-99 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWglucose** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1glucose	2,831	133.80	44.11	62.36	455.55	1,265
r2glucose	3,169	132.60	41.82	62.36	386.67	1,469

Original DAD Variables Used

Wave 1 Lab:
estimated_average_glucose__eag Glucose

Wave 2 Lab:
estimated_average_glucose__eag Glucose

Lipid Profile, Total Cholesterol

Variable	Waves	Label	Type
rWcholtot	1-2	rWcholtot:wW Total Cholesterol	Cont

How Constructed

- Test: Cholesterol (Total)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: Total cholesterol is measured enzymatically in serum or plasma in a series of coupled reactions that hydrolyze cholesteryl esters and oxidize the 3-OH group of cholesterol. One of the reaction byproducts, H_2O_2 is measured quantitatively in a peroxidase catalyzed reaction that produces a color. Absorbance is measured at 500 nm. The color intensity is proportional to cholesterol concentration.
- Variable Description: Cholesterol and its derivatives are important constituents of cell membranes and precursors of other steroid compounds. Measurement of serum cholesterol levels can serve as an indicator of liver function, biliary function, intestinal absorption, propensity toward coronary artery disease, and thyroid function. Cholesterol levels are important in the diagnosis and classification of hyperlipoproteinemia. Elevated levels of cholesterol increase the risk for coronary heart disease (CHD). Cholesterol is measured to help assess the patient's risk status and to follow the progress of patient's treatment to lower serum cholesterol concentrations.
- Unit: mg/dL
- Reference range: <200 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWcholtot** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1choltot	2,892	183.86	42.13	62.00	409.00	1,204
r2choltot	3,242	179.40	42.90	65.90	427.90	1,396

Original DAD Variables Used

Wave 1 Lab:

cholesterol__total2	Cholesterol (total)

Wave 2 Lab:

cholesterol__total_3	Cholesterol (total)

Lipid Profile, HDL Cholesterol

Variable	Waves	Label	Type
rWhdl	1-2	rWhdl:wW HDL (high-density lipoprotein) Cholesterol	Cont

How Constructed

- Test: HDL Cholesterol
- Equipment: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: The Ultra HDL assay is a homogeneous method for directly measuring HDL cholesterol concentrations in serum or plasma without the need for off-line pretreatment or centrifugation steps. The method uses a two-reagent format and depends on the properties of a unique detergent. In the first reagent, non-HDL unesterified cholesterol is subject to an enzyme reaction and the peroxide generated is consumed by a peroxidase reaction yielding a colorless product. The second reagent consists of a detergent (capable of solubilizing HDL cholesterol), cholesterol esterase (CE), and chromogenic coupler to develop color for the quantitative determination of HDL cholesterol.
- Variable Description: Low HDL cholesterol levels are strongly associated with an increased risk of coronary heart disease. Hence, the determination of serum HDL cholesterol is a useful tool in identifying high-risk patients. Coronary risk increases markedly as the HDL concentration decreases from 40- to 30 mg/dL. HDL-cholesterol values are also used in the calculation of LDL-cholesterol.
- Unit: mg/dL
- Reference range: > 40 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWhdl is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hdl	2,892	44.49	11.90	7.00	135.00	1,204
r2hdl	3,241	45.82	12.08	7.10	137.90	1,397

Original DAD Variables Used

Wave 1 Lab:
hdl_cholesterol2 HDL Cholesterol

Wave 2 Lab:
hdl_cholesterol3 HDL Cholesterol

Lipid Profile, LDL Cholesterol

Variable	Waves	Label	Type
rWldl	1-2	rWldl:wW LDL (low-density lipoprotein) Cholesterol	Cont

How Constructed

- Test: LDL Cholesterol
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: The MULTIGENT Direct LDL assay is a homogeneous method for directly measuring LDL levels in serum or plasma, without the need for off-line pretreatment or centrifugation steps. The method is in a two-reagent format and depends on the properties of a unique detergent. This detergent, R1, solubilizes only the non-LDL particles. The cholesterol released is consumed by cholesterol esterase and cholesterol oxidase in a non-color-forming reaction. A second detergent, R2, solubilizes the remaining LDL particles and a chromogenic coupler allows for color formation. The enzyme reaction with LDL in the presence of the coupler produces color that is proportional to the amount of LDL cholesterol present in the sample.
- Variable Description: LDL is the main cholesterol-containing particle in plasma. When present in excessive amounts, LDL-C can be deposited in the arterial wall resulting in atherosclerosis. LDL-cholesterol is measured to assess risk for coronary heart disease and to follow the progress of patients being treated to lower LDL-cholesterol concentrations.
- Unit: mg/dL
- Reference Range: Optimal < 100 mg/dL; Near Optimal 100-129 mg/dL; Borderline high 130-159 mg/dL; High 160-189 mg/dL; Very high >= 190 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWldl is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1ldl	2,883	111.36	35.45	12.00	310.20	1,213
r2ldl	3,242	104.70	35.72	13.40	331.50	1,396

Original DAD Variables Used

Wave 1 Lab:
ldl_cholesterol2 LDL Cholesterol

Wave 2 Lab:
ldl_cholesterol3 LDL Cholesterol

Lipid Profile, Triglycerides

Variable	Waves	Label	Type
rWtriglyce	1-2	rWtriglyce:wW Triglycerides	Cont

How Constructed

- Test: Triglycerides
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: Triglycerides are measured enzymatically in serum or plasma using a series of coupled reactions in which triglycerides are hydrolyzed to produce glycerol. Glycerol is then oxidized using glycerol oxidase, and H_2O_2, one of the reaction products, is measured as described above for cholesterol. Absorbance is measured at 500 nm.
- Variable Description: Triglycerides are a family of lipids absorbed from the diet and produced endogenously from carbohydrates and fatty acids. High levels of serum triglycerides help mark conditions that are associated with increased risk for coronary heart disease and peripheral atherosclerosis. High triglycerides are associated with increased risk for coronary artery disease in patients with other risk factors, such as low HDL-cholesterol, some patient groups with elevated apolipoprotein B concentrations, and patients with forms of LDL that may be particularly atherogenic.
- Unit: mg/dL
- Reference range: Desirable fasting triglyceride levels: <150 mg/dL; Borderline high 150-199 mg/dL; High 200-499 mg/dL; Very high >= 500 mg/dL.

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWtriglyce** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1triglyce	2,892	144.83	89.31	37.00	1,501.00	1,204
r2triglyce	3,242	148.95	85.43	15.80	1,242.10	1,396

Original DAD Variables Used

Wave 1 Lab:
triglycerides_level2 Triglycerides

Wave 2 Lab:
triglycerides_level3 Triglycerides

Lipid Profile, VLDL Cholesterol

Variable	Waves	Label	Type
rWvldl	1-2	rWvldl:wW VLDL (very low density lipoprotein) Cholesterol	Cont

How Constructed

- Test: VLDL Cholesterol
- Variable Description: VLDL (Very Low-Density Lipoprotein) is one of the four major lipoprotein particles in the blood, alongside HDL, LDL, and chylomicrons. It primarily transports triglycerides throughout the body. Elevated levels of VLDL cholesterol are considered a risk factor for coronary artery disease.
- Unit: mg/dL
- Reference range: < 30 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWvldl is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1vldl	2,761	26.32	11.22	7.40	59.80	1,335
r2vldl	3,080	27.07	11.01	3.16	103.32	1,558

Original DAD Variables Used

Wave 1 Lab:
vldl_cholestero2 VLDL Cholesterol

Wave 2 Lab:
vldl_cholesterol3 VLDL Cholesterol

Lipid Profile, LDL/HDL Ratio

Variable	Waves	Label	Type
rWldlhdlr	1-2	rWldlhdlr:wW LDL/HDL Ratio	Cont

How Constructed

- Test: LDL/HDL ratio
- Variable Description: A high LDL/HDL ratio is a risk factor for coronary artery disease.
- Reference range: 2.5-3.5

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWldlhdlr is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1ldlhdlr	2,883	2.63	0.98	0.48	7.96	1,213
r2ldlhdlr	3,241	2.41	0.99	0.40	14.98	1,397

Original DAD Variables Used

Wave 1 Lab:
ldl_hdl_ratio2 LDL/HDL RATIO

Wave 2 Lab:
ldl_hdl_ratio3 LDL/HDL RATIO

Lipid Profile, Chol/HDL Ratio

Variable	Waves	Label	Type
rWchlhdlr	1-2	rWchlhdlr:wW Chol/HDL Ratio	Cont

How Constructed

- Test: Chol/HDL ratio
- Variable Description: The total cholesterol to HDL cholesterol ratio is also referred to as the cholesterol ratio. The goal is to keep this ratio below 5:1, with the ideal being below 3.5:1.
- Reference range: < 5:1 (ideally below 3.5:1)

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWchlhdlr is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1chlhdlr	2,892	4.35	1.48	1.67	46.71	1,204
r2chlhdlr	3,241	4.11	1.28	1.53	18.63	1,397

Original DAD Variables Used

Wave 1 Lab:

chol_hdl_ratio2	Chol/HDL Ratio

Wave 2 Lab:

chol_hdl_ratio3	Chol/HDL Ratio

Lipid Profile, Non-HDL Cholesterol

Variable	Waves	Label	Type
rWnonhdl	2	rWnonhdl:wW Non-HDL Cholesterol	Cont

How Constructed

- Test: Non-HDL Cholesterol
- Variable Description: Non-HDL cholesterol represents the total cholesterol content in the blood minus the high-density lipoprotein (HDL) cholesterol. It includes all cholesterol carried by LDL, VLDL, and other lipoproteins considered atherogenic. Non-HDL cholesterol is considered a more comprehensive marker of cardiovascular risk than LDL cholesterol alone.
- Unit: mg/dL
- Reference range: Below 130 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWnonhdl** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2nonhdl	3,241	133.54	41.31	29.30	389.40	1,397

Original DAD Variables Used

Wave 2 Lab:

non_hdl_cholesterol3	Non-HDL Cholesterol

Liver Function Tests, Bilirubin Total and Direct

Variable	Waves	Label	Type
rWblrbntot	1-2	rWblrbntot:wW Bilirubin Total	Cont
rWblrbnd	1-2	rWblrbnd:wW Bilirubin Direct	Cont

How Constructed

- Test: Bilirubin (Total and Direct)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: Bilirubin determination is generally based on the reaction of bilirubin with a diazotized sulfanilic acid, described by Ehrlich. In this method, direct (conjugated fractions) bilirubin couples with a diazonium salt in the presence of sulfamic acid to form the colored compound azobilirubin. The increase in absorbance at 548 nm due to azobilirubin is proportional to the direct bilirubin concentration.
- Variable Description: Once formed from the reticuloendothelial cells, bilirubin is transported to the liver bound to albumin as it is water-insoluble. This fraction of bilirubin is referred to as indirect or unconjugated bilirubin. In the liver, bilirubin is conjugated to glucuronic acid (mono- and di-glucuronides) to form conjugated bilirubin by the enzyme uridyl diphosphate glucuronyltransferase. Total bilirubin is the sum of the unconjugated and conjugated fractions. Bilirubin levels are elevated in conditions causing obstruction of the bile duct, hepatitis, cirrhosis, hemolytic disorders, and several inherited enzyme deficiencies.
- Unit: mg/dL
- Reference range: Direct: 0-0.5 mg/dL; Total (direct + indirect): 0.2-1.2 mg/dL

Special missing (.t) is used for data values that were determined to be extreme outliers and invalid. Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWblrbntot** and **rWblrbnd** are assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1blrbntot	2,889	0.62	0.33	0.11	2.87	1,207
r2blrbntot	3,236	0.51	0.29	0.10	5.51	1,402
r1blrbnd	2,886	0.23	0.11	0.10	1.30	1,210
r2blrbnd	3,212	0.17	0.09	0.10	2.35	1,426

Original DAD Variables Used

Wave 1 Lab:

bilirubin_total2	Bilirubin (Total and Direct)
bilirubin_direct2	Bilirubin Direct

Wave 2 Lab:

bilirubin_total3	Bilirubin (Total and Direct)
bilirubin_direct3	Bilirubin Direct

Liver Function Tests, Bilirubin Indirect

Variable	Waves	Label	Type
rWblrbnind	1-2	rWblrbnind:wW Bilirubin Indirect	Cont

How Constructed

- Test: Bilirubin (Indirect)
- Variable Description: Bilirubin is elevated in conditions causing obstruction of the bile duct, hepatitis, cirrhosis, hemolytic disorders, and several inherited enzyme deficiencies.
- Unit: mg/dL
- Reference range: 0.1-1.0 mg/dL

Special missing (.t) is used for data values that were determined to be extreme outliers and invalid. Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWblrbnind** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1blrbnind	2,889	0.39	0.23	0.01	2.16	1,207
r2blrbnind	3,225	0.35	0.21	0.02	3.16	1,413

Original DAD Variables Used

Wave 1 Lab:
bilirubin__indirect2 Bilirubin Indirect

Wave 2 Lab:
bilirubin__indirect3 Bilirubin Indirect

Liver Function Tests, Total Protein

Variable	Waves	Label	Type
rWtotprtn	1-2	rWtotprtn:wW Total Protein	Cont

How Constructed

- Test: Total Protein
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: Polypeptides containing at least two peptide bonds react with biuret reagent. In alkaline solution, cupric ion forms a coordination complex with protein nitrogen with very little difference between albumin and globulin on a protein-nitrogen basis.
- Variable Description: Plasma proteins derive primarily from synthesis in the liver, plasma cells, lymph nodes, spleen, and bone marrow. In disease states, both the total plasma protein level and the ratio of the individual fractions may be dramatically altered from their normal values. The total protein test measures the total amount of two classes of proteins found in the fluid portion of your blood. These are albumin and globulin. Proteins are important parts of all cells and tissues. Albumin helps prevent fluid from leaking out of blood vessels. Globulins are an important part of your immune system. The A/G ratio has commonly been used as an index of the distribution between the albumin and globulin fractions. This ratio can be significantly altered in such conditions as cirrhosis of the liver, glomerulonephritis, nephrotic syndrome, acute hepatitis, lupus erythematosis, and in some acute and chronic infections.
- Unit: g/dL
- Reference range: 6.2-8.1 g/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWtotprtn is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1totprtn	2,889	7.42	0.57	5.16	10.40	1,207
r2totprtn	3,237	7.39	0.54	4.39	10.35	1,401

Original DAD Variables Used

Wave 1 Lab:
total_protein2 Total Protein

Wave 2 Lab:
total_protein3 Total Protein

Liver Function Tests, Albumin

Variable	Waves	Label	Type
rWalbumin	1-2	rWalbumin:wW Albumin	Cont

How Constructed

- Test: Albumin
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: The Albumin BCG procedure is based on the binding of bromcresol green with albumin to produce a colored complex. The absorbance of the complex at 628 nm is directly proportional to the albumin concentration in the sample.
- Variable Description:Albumin is the major serum protein in normal individuals. Elevated serum albumin levels are usually the result of dehydration. Decreased albumin levels are found in a wide variety of conditions, including kidney disease, liver disease, malabsorption, malnutrition, severe burns, infections, and cancer.
- Unit: g/dL
- Reference range: 3.2-4.6 g/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWalbumin** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1albumin	2,889	4.14	0.33	2.20	6.50	1,207
r2albumin	3,236	4.21	0.34	2.32	5.29	1,402

Original DAD Variables Used

Wave 1 Lab:
albumin2 Albumin

Wave 2 Lab:
albumin3 Albumin

Liver Function Tests, Globulin

Variable	Waves	Label	Type
rWglobulin	1-2	rWglobulin:wW Globulin	Cont

How Constructed

- Test: Globulin
- Variable Description: Globulin is made in the liver by the immune system. Globulins play an important role in liver function, blood clotting, and fighting infection. There are four main types of globulins. They are called alpha 1, alpha 2, beta, and gamma. Serum globulin tests are done to find out the following: liver damage or disease, kidney disease, nutritional problems, autoimmune disorders, and certain types of cancer like multiple myeloma.
- Unit: g/dL
- Reference range: 1.8-3.6 g/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWglobulin** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1globulin	2,889	3.28	0.49	1.23	7.10	1,207
r2globulin	3,237	3.18	0.49	1.41	6.93	1,401

Original DAD Variables Used

Wave 1 Lab:
globulin2 Globulin

Wave 2 Lab:
globulin3 Globulin

Liver Function Tests, A/G Ratio

Variable	Waves	Label	Type
rWagratio	1-2	rWagratio:wW A/G Ratio	Cont

How Constructed

- Test: A/G ratio
- Variable Description: A/G ratio is the ratio of albumin to globulin in serum.
- Reference range: 1.1-2.2

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWagratio is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

No differences known.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1agratio	2,889	1.29	0.22	0.42	3.42	1,207
r2agratio	3,237	1.36	0.25	0.00	2.88	1,401

Original DAD Variables Used

Wave 1 Lab:

a_g_ratio2	A/G Ratio

Wave 2 Lab:

a_g_ratio3	A/G Ratio

Liver Function Tests, ALT

Variable	Waves	Label	Type
rWalt	1-2	rWalt:wW Alanine Aminotransferase (ALT)	Cont

How Constructed

- Test: Alanine Aminotransferase (ALT)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: ALT present in the sample catalyzes the transfer of the amino group from L-alanine to -ketoglutarate forming pyruvate and L-glutamate. Pyruvate in the presence of NADH and lactate dehydrogenase (LD), is reduced to L-lactate. In this reaction NADH is oxidized to NAD. The reaction is monitored by measuring the rate of decrease in absorbance at 340 nm due to the oxidation of NADH to NAD.
- Variable Description: Alanine aminotransferase (ALT) is an enzyme involved in amino acid metabolism. It is found in many tissues, but the highest levels are found in liver and kidney tissues. Tissue destruction leads to the release of the intracellular enzyme into the circulating blood. ALT is increased with liver damage and is used to screen for and/or monitor liver disease.
- Unit: IU/L (International Units per liter)
- Reference range: 0-45 IU/L

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWalt is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1alt	2,889	19.04	13.68	6.00	303.00	1,207
r2alt	3,236	17.99	21.58	6.00	867.00	1,402

Original DAD Variables Used

Wave 1 Lab:

sgpt__alt2	Alanine Aminotransferase (ALT)

Wave 2 Lab:

sgpt__alt_3	Alanine Aminotransferase (ALT)

Liver Function Tests, AST

Variable	Waves	Label	Type
rWast	1-2	rWast:wW Aspartate Aminotransferase	Cont

How Constructed

- Test: Aspartate Aminotransferase (AST)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: AST present in the sample catalyzes the transfer of the amino group from L-alanine to -ketoglutarate, forming oxaloacetate and L-glutamate. Oxaloacetate in the presence of NADH and malate dehydrogenase (MDH) is reduced to L- malate. In this reaction NADH is oxidized to NAD. The reaction is monitored by measuring the rate of decrease in absorbance at 340 nm due to the oxidation of NADH to NAD.
- Variable Description: Aspartate aminotransferase (AST) is generally localized to the liver and heart, whose activity is measured in a lab test to check for damage to these organs. It is also commonly known as aspartate transaminase.
- Unit: U/L (Units per liter)
- Reference range: 0 to 35 U/L

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWast is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1ast	2,889	26.19	15.75	8.00	402.00	1,207
r2ast	3,236	25.01	14.92	4.20	556.50	1,402

Original DAD Variables Used

Wave 1 Lab:

sgot__ast2	Aspartate Aminotransferase (AST)

Wave 2 Lab:

sgot__ast_3	Aspartate Aminotransferase (AST)

Liver Function Tests, ALP

Variable	Waves	Label	Type
rWalp	1-2	rWalp:wW Alkaline Phosphatase	Cont

How Constructed

- Test: Alkaline Phosphatase (ALP)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: Alkaline phosphatase (ALP) in the sample catalyzes the hydrolysis of colorless p-nitrophenyl phosphate (p-NNP) to give p-nitrophenol and inorganic phosphate. At the pH of the assay (alkaline), the p-nitrophenol is in the yellow phenoxide form. The rate of absorbance increases at 404 nm and is directly proportional to the alkaline phosphatase in the sample. Optimized concentrations of zinc and magnesium ions are present to activate the alkaline phosphatase in the sample.
- Variable Description: Serum alkaline phosphatase is found in liver, bone, intestine and placenta. This test is used to help detect two groups of diseases -hepatobiliary and bone disease. High ALP levels in liver indicate cirrhosis, hepatitis, blockage in bile duct.
- Unit: IU/L (International Units per liter)
- Reference range: 40-129 IU/L

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). `rWalp` is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1alp	2,889	94.22	36.07	5.00	644.00	1,207
r2alp	3,236	103.03	35.33	34.00	609.00	1,402

Original DAD Variables Used

Wave 1 Lab:
alkaline_phosphatase2 Alkaline Phosphatase

Wave 2 Lab:
alkaline_phosphatase3 Alkaline Phosphatase

Liver Function Tests, GGT

Variable	Waves	Label	Type
rWggt	1-2	rWggt:wW Gamma-glutamyl Transferase (GGT) Test	Cont

How Constructed

- Test: Gamma-Glutamyl Transferase (GGT)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: GGT catalyzes the transfer of the gamma-glutamyl group from the donor substrate (3-carboxy-4-nitroanilide) to the glycylglycine acceptor to yield 3-carboxy-4-nitroliniline. The rate of the absorbance increase at 412 nm is directly proportional to the GGT in the sample.
- Variable Description: Gamma-glutamyl transferase (GGT) is an enzyme produces in liver, kidneys and pancreas. It is currently the most sensitive enzymatic indicator of liver disease, mostly of obstructive nature like obstructive jaundice. It also serves as a screening test for occult alcoholism.
- Unit: U/L (Units per liter)
- Reference range: Males, all ages: 12-64 U/L Females, all ages: 6-29 U/L

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWggt is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1ggt	2,887	26.07	40.33	4.00	1,288.00	1,209
r2ggt	3,216	21.22	28.71	4.00	748.00	1,422

Original DAD Variables Used

Wave 1 Lab:

gamma_gt__ggtp2	Gamma-Glutamyl Transferase (GGT)

Wave 2 Lab:

gamma_gt__ggtp_3	Gamma-Glutamyl Transferase (GGT)

Renal Function Tests, BUN

Variable	Waves	Label	Type
rWbun	1-2	rWbun:wW Blood Urea Nitrogen	Cont

How Constructed

- Test: Blood Urea Nitrogen (BUN)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: The Urea Nitrogen assay is a modification of a totally enzymatic procedure first described by Talke and Schubert (1965). The test is performed as a kinetic assay in which the initial rate of the reaction is linear for a limited period of time. Urea in the sample is hydrolyzed by urease to ammonia and carbondioxide. The second reaction, catalyzed by glutamate dehydrogenase (GLD) converts ammonia and a-ketoglutarate to glutamate and water with the concurrent oxidation of reduced nicotinamide adenine dinucleotide hydroxide (NADH) to nicotinamide adenine dinucleotide (NAD). Two moles of NADH are oxidized for each mole of urea present. The initial rate of decrease in absorbance at 340 nm is proportional to the urea concentration in the sample.
- Variable Description: A BUN test measures the amount of urea nitrogen that's in the blood. The main causes of an increase in BUN are: high protein diet, decrease in glomerular filtration rate (GFR) (suggestive of renal failure) and in blood volume (hypovolemia), congestive heart failure, gastrointestinal hemorrhage, and increased catabolism. The determination of serum urea nitrogen is a widely used test for the evaluation of kidney function. The test is frequently requested in conjunction with the serum creatinine test for the differential diagnosis of prerenal (cardiac decompensation, water depletion, increased protein catabolism), renal (glomerulonephritis, chronic nephritis, polycystic kidney, nephrosclerosis, tubular necrosis), and postrenal (obstructions of the urinary tract) hyperuricemia.
- Unit: mg/dL
- Reference range: 8-23 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWbun is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1bun	2,892	12.75	5.33	3.80	100.70	1,204
r2bun	3,243	12.53	5.08	3.80	76.00	1,395

Original DAD Variables Used

Wave 1 Lab:
bun_blood_urea_nitrogen2 Blood Urea Nitrogen (BUN)

Wave 2 Lab:
bun_blood_urea_nitrogen3 Blood Urea Nitrogen (BUN)

Renal Function Tests, Creatinine

Variable	Waves	Label	Type
rWcreatine	1-2	rWcreatine:wW Creatinine	Cont

How Constructed

- Test: Creatinine
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: At an alkaline pH, creatinine in the sample reacts with picrate to form a creatinine-picrate complex. The rate of increase in absorbance at 500 nm due to the formation of this complex is directly proportional to the concentration of creatinine in the sample.
- Variable Description: Creatinine is a waste product formed in muscles from the high energy storage compound, creatine phosphate. The amount of creatinine produced is fairly constant (unlike Urea) and is primarily a function of muscle mass. It is not greatly affected by diet, age, sex or exercise. Creatinine is removed from plasma by glomerular filtration and then excreted in urine without any appreciable resorption by the tubules. Creatinine is used to assess renal function, however, serum creatinine levels do not start to rise until renal function has decreased by at least 50%.
- Unit: mg/dL
- Reference range: Males: 0.5-1.2 mg/dL; Females: 0.4-1.1 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWcreatine** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1creatine	2,892	0.89	0.45	0.38	10.36	1,204
r2creatine	3,243	0.91	0.41	0.21	9.36	1,395

Original DAD Variables Used

Wave 1 Lab:
creatinine2 Creatinine

Wave 2 Lab:
creatinine3 Creatinine

Renal Function Tests, Cystatin C

Variable	Waves	Label	Type
rWcystatin	1-2	rWcystatin:wW Cystatin C	Cont

How Constructed

- Test: Cystatin C
- Equipment: Wave 1: BNProSpec Wave 2: Atellica NEPH 630
- Assay Methodology: Nephlometry - Polystyrene particles coated with specific antibodies to human cystatin Care aggregated when mixed with samples containing human cystatin C. These aggregates scatter a beam of light passed through the sample. The intensity of the scattered light is proportional to the concentration of the respective protein in the sample. The result is evaluated by comparison with a standard of known concentration.
- Variable Description: Cystatin C is a cysteine proteinase inhibitor with a relative molecular weight of 13.250 Da and is formed by all nucleated cells investigated. Since it is formed at a constant rate and freely filtered by the healthy kidney, this protein is a good marker of renal function. Serum concentrations of cystatin C are almost totally dependent on the glomerular filtration rate. A reduction in the glomerular filtration rate (GFR) causes a rise in the concentration of cystatin C. Cystatin C has been shown to be not affected by factors such as muscle mass or nutrition, factors which have been demonstrated to affect, e.g. creatinine values. In addition, a rise in creatinine does not become evident until the GFR has fallen by approximately 50% Cystatin C can be used for calculation of eGFR (estimated glomerular filtration rate), a measure that is used in combination with albumin excretion in urine for diagnosis and staging of kidney disease. Evidence exists that increased levels of cystatin C in serum are associated with an increased risk of all cause and cardiovascular mortality in the general populations. Notably, a linear correlation between serum cystatin C levels and cardiovascular mortality is observed.
- Unit: mg/L (milligrams per liter)
- Reference range: 0.62-1.11 mg/L

Special missing (.t) is used for data values that were determined to be extreme outliers and invalid. Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWcystatin** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the BNProSpec and in Wave 2 the equipment used was the Atellica NEPH 630.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1cystatin	2,615	1.25	0.49	0.01	6.51	1,481
r2cystatin	3,242	1.20	0.42	0.05	6.95	1,396

Original DAD Variables Used

Wave 1 Lab:

cystatin_c2	Cystatin

Wave 2 Lab:

cystatin_c3	Cystatin

Renal Function Tests, Uric Acid

Variable	Waves	Label	Type
rWuricacid	1-2	rWuricacid:wW Uric Acid	Cont

How Constructed

- Test: Uric acid
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: The Uric Acid assay is based on the methods of Trivedi and Kabasakalian. Uric acid is oxidized to allantoin by uricase with the production of hydrogen peroxide (H_2O_2).The H_2O_2 reacts with 4-aminoantipyrine (4-AAP) and 2,4,6-tribromo-3-hydroxy benzoic acid (TBHB) in the presence of peroxidase to yield a quinoneimine dye. The resulting change in absorbance at 548 nm is proportional to the uric acid concentration in the sample.
- Variable Description: Uric acid is a product of the metabolic breakdown of purine nucleotides. Acute uric acid nephropathy can cause acute renal failure due to uric acid precipitation within tubules. This is most commonly seen in patients with hematologic malignancies.
- Unit: mg/dL
- Reference range: 3.5-7.2 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWuricacid is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1uricacid	2,891	4.93	1.39	1.20	13.10	1,205
r2uricacid	3,242	4.97	1.42	1.10	13.30	1,396

Original DAD Variables Used

Wave 1 Lab:

uric_acid2	Uric acid

Wave 2 Lab:

uric_acid3	Uric acid

Renal Function Tests, Calcium

Variable	Waves	Label	Type
rWcalcium	1-2	rWcalcium:wW Calcium	Cont

How Constructed

- Test: Calcium
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology: Arsenazo-III dye reacts with calcium in an acid solution to form a blue-purple complex. The color developed is measured at 660 nm and is proportional to the calcium concentration in the sample.
- Variable Description: Calcium is the most abundant and one of the most important minerals in the body. It is essential for cell signaling and the proper functioning of muscles, nerves, and the heart. Calcium is needed for blood clotting and is crucial for the formation, density, and maintenance of bones and teeth.
- Unit: mg/dL
- Reference range: 8.4-10.2 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWcalcium** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1calcium	2,892	9.17	0.50	5.80	11.90	1,204
r2calcium	3,242	9.14	0.45	6.61	11.96	1,396

Original DAD Variables Used

Wave 1 Lab:
calcium2 Calcium

Wave 2 Lab:
calcium3 Calcium

Renal Function Tests, Phosphorous

Variable	Waves	Label	Type
rWphos	1-2	rWphos:wW Phosphorous	Cont

How Constructed

- Test: Phosphorous
- Equipment: Wave 1: Architect ci8200 Wave 2: Roche Cobas 8000
- Assay Methodology: Inorganic phosphate forms an ammonium phosphomolybdate complex having the formula $(NH_4)_3[PO_4(MoO_3)_{12}]$ with ammonium molybdate in the presence of sulfuric acid. The concentration of phosphomolybdate formed is directly proportional to the inorganic phosphate concentration and is measured photometrically.
- Variable Description: Phosphorus is an important element that's vital to several of the body's physiological processes. It helps with bone growth, energy storage, and nerve and muscle production. Many foods ' especially meat and dairy products ' contain phosphorus, so it's usually easy to get enough of this mineral in your diet. The ratio of phosphate to calcium in the blood is approximately 6:10. An increase in the level of phosphorus causes a decrease in the calcium level. The mechanism is influenced by interactions between parathormone and vitamin D. Hypoparathyroidism, vitamin D intoxication and renal failure with decreased glomerular phosphate filtration give rise to hyperphosphatemia
- Unit: mg/dL (milligrams per deciliter)
- Reference range: 2.3-4.7 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWphos is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1phos	2,751	3.69	0.78	1.16	9.97	1,345
r2phos	3,219	3.81	0.72	1.70	8.81	1,419

Original DAD Variables Used

Wave 1 Lab:
phosphorous2 Phosphorous

Wave 2 Lab:
phosphorous3 Phosphorous

Thyroid Function Tests, T4

Variable	Waves	Label	Type
rWt4	1-2	rWt4:wW T4	Cont

How Constructed

- Test: Total Thyroxine (T4)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology:
  - Wave 1: CMIA: The Total T4 assay is a two-step immunoassay to determine the presence of thyroxine (Total T4) in human serum and plasma using Chemiluminescent Microparticle Immunoassay (CMIA) technology with flexible assay protocols, referred to as Chemiflex. In the first step, sample and anti-T4 coated paramagnetic microparticles are combined. Bound T4 is removed from the binding sites on thyroxine binding globulin, pre-albumin and albumin. T4 present in the sample binds to the anti-T4 coated microparticles. After washing, T3 acridinium-labeled conjugate is added in the second step. Pre-Trigger and Trigger solutions are then added to the reaction mixture, the resulting chemiluminescent reaction is measured as relative light units (RLUs). An inverse relationship exists between the amount of Total T4 in the sample and the RLUs detected by the Architect optical system.
  - Wave 2: ECLIA:
    * 1st incubation: 15 µL of sample and a T4-specific antibody labeled with a ruthenium complex; bound T4 is released from binding proteins in the sample by 8-anilino-1-naphthalene sulfonic acid (ANS.)
    * 2nd incubation: After addition of streptavidin-coated microparticles and biotinylated T4, the still-free binding sites of the labeled antibody become occupied, with formation of an antibody-hapten complex.
    * The entire complex becomes bound to the solid phase via interaction of biotin and streptavidin. The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed with ProCell/ProCell M. Application of a voltage to the electrode then induces chemiluminescent emission which is measured by a photomultiplier.
    * Results are determined via a calibration curve which is instrument specifically generated by 2⊠point calibration and a master curve provided via the reagent barcode.
- Variable Description: Clinically, T4 measurements have long been recognized as an aid in the assessment & diagnosis of thyroid status. Elevated T4 values are characteristically seen in patients with overt hyperthyroidism, while T4 levels are generally depressed in patients with overt hypothyroidism.
- Unit: ng/dL
- Reference range: 5.1-14.1 ng/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWt4 is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000, and the methodologies are different between waves.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1t4	2,880	7.56	1.61	1.26	16.42	1,216
r2t4	3,242	7.52	1.68	0.60	20.90	1,396

Original DAD Variables Used

Wave 1 Lab:

t4__total2	Total Thyroxine (T4)

Wave 2 Lab:

t4__total_3	Total Thyroxine (T4)

Thyroid Function Tests, T3

Variable	Waves	Label	Type
rWt3	1-2	rWt3:wW T3	Cont

How Constructed

- Test: Total Triiodothyronine (T3)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology:
  - Wave 1: CMIA: The Total T3 assay is a two-step immunoassay to determine the presence of Triiodothyronine (Total T3) in human serum and plasma using Chemiluminescent Microparticle Immunoassay (CMIA) technology with flexible assay protocols, referred to as Chemiflex, as for total T4 levels.
  - Wave 2: ECLIA:
    * 1st incubation: 30 µL of sample and a T3-specific antibody labeled with a ruthenium complex; bound T3 is released from the binding proteins in the sample by 8-anilino-1-naphthalene sulfonic acid (ANS).
    * 2nd incubation: After addition of streptavidin-coated microparticles and biotinylated T3, the still-free binding sites of the labeled antibody become occupied, with formation of an antibody-hapten complex. The entire complex becomes bound to the solid phase via interaction of biotin and streptavidin.
    * The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed with ProCell/ProCell M. Application of a voltage to the electrode then induces chemiluminescent emission which is measured by a photomultiplier.
    * Results are determined via a calibration curve which is instrument specifically generated by 2⊠point calibration and a master curve provided via the reagent barcode.
- Variable Description: Clinically measurements of serum T3 concentration are especially valuable in diagnosing hyperthyroidism. T3 plays an important role in the maintenance of the euthyroid state. Serum T3 measurement can be a valuable component of a thyroid screening panel in diagnosing certain disorders of thyroid function as well as conditions caused by iodine deficiency.
- Unit: ng/dL
- Reference range: 84.6-201.8 ng/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWt3 is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000, and the methodologies are different between waves.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1t3	2,868	90.70	21.01	40.72	479.62	1,228
r2t3	3,239	111.49	25.13	23.40	362.00	1,399

Original DAD Variables Used

Wave 1 Lab:

t3__total2	Total Triiodothyronine (T3)

Wave 2 Lab:

t3__total_3	Total Triiodothyronine (T3)

Thyroid Function Tests, Thyroid-stimulating Hormone (TSH)

Variable	Waves	Label	Type
rWtsh	1-2	rWtsh:wW Thyroid-stimulating hormone	Cont

How Constructed

- Test: TSH (Ultrasensitive)
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology:
  - Wave 1: CMIA: The TSH assay is two-step immunoassay to determine the presence of TSH in human serum using Chemiluminescent Microparticle Immunoassay (CMIA) technology with flexible assay protocols.
  - Wave 2: ECLIA
    - 1st incubation: 50 µL of sample, a biotinylated monoclonal TSH⊠specific antibody and a monoclonal TSH⊠specific antibody labeled with a ruthenium complex react to form a sandwich complex.
    - 2nd incubation: After addition of streptavidin-coated microparticles, the complex becomes bound to the solid phase via interaction of biotin and streptavidin.
    - The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed with ProCell/ProCell M. Application of a voltage to the electrode then induces chemiluminescent emission which is measured by a photomultiplier.
    - Results are determined via a calibration curve which is instrument specifically generated by 2-point calibration and a master curve provided via the reagent barcode.
- Variable Description: TSH assay is used as an aid in the assessment of thyroid status, diagnosis of thyroid disease and treatment of thyroid disease.
- Unit: µIU/mL
- Reference range: 0.54-5.3 µIU/mL

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000, and the methodologies are different between waves.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1tsh	2,890	3.40	12.85	0.00	453.22	1,206
r2tsh	3,243	4.36	14.12	0.00	452.00	1,395

Original DAD Variables Used

Wave 1 Lab:
tsh_ultrasensitive2 TSH (Ultrasensitive)

Wave 2 Lab:
tsh_ultrasensitive_3 TSH (Ultrasensitive)

Iron Tests

Variable	Waves	Label	Type
rWiron	2	rWiron:wW Iron Studies	Cont

How Constructed

- Test: Iron
- Equipment: Roche Cobas 8000
- Assay Methodology: Under acidic conditions, iron is liberated from transferrin. Lipemic samples are clarified by the detergent. Ascorbate reduces the released Fe^{3+} ions to Fe^{2+} ions which then react with FerroZine to form a colored complex. The color intensity is directly proportional to the iron concentration and can be measured photometrically.
- Variable Description: Iron (non-heme) measurements are used in the diagnosis and treatment of diseases such as iron deficiency anemia, hemochromatosis (a disease associated with widespread deposit in the tissue of the two iron-containing pigments, hemosiderin and hemofuscin, and characterized by pigmentation of the skin), and chronic renal disease. Iron determinations are performed for the diagnosis and monitoring of microcytic anemia (e.g. due to iron metabolism disorders and hemoglobinopathy), macrocytic anemia (e.g. due to vitamin B12 deficiency, folic acid deficiency and drug-induced metabolic disorders of unknown origin) as well as normocytic anemias such as renal anemia (erythropoetin deficiency), hemolytic anemia, hemoglobinopathy, bone marrow disease and toxic bone marrow damage.
- Unit: µg/dL (micrograms per deciliter)
- Reference range: 33-193 µg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWiron is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2iron	3,242	75.87	31.22	9.70	267.20	1,396

Original DAD Variables Used

Wave 2 Lab:

iron3	Iron
tibc__total_iron_binding3	Total Iron Binding
transferin_saturation3	Transferrin Saturation
uibc__unsaturated_iron3	Unsaturated Iron
ferritin3	Ferritin

Iron Tests, TIBC Total Iron Binding Capacity

Variable	Waves	Label	Type
rWtibc	2	rWtibc:wW TIBC Total Iron Binding Capacity	Cont

How Constructed

- Test: Total Iron Binding Capacity (TIBC)
- Variable Description: The sum of the serum iron and UIBC represents total iron-binding capacity (TIBC). TIBC is a measurement for the maximum iron concentration that transferrin can bind. The serum TIBC varies in disorders of iron metabolism. In iron-deficiency anemia the TIBC is elevate,d and the transferrin saturation is lowered to 15 % or less. Low serum iron associated with low TIBC is characteristic of the anemia of chronic disorders, malignant tumors, and infections.
- Unit: µg/dL (micrograms per deciliter)
- Reference range: 250-450 µg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWtibc** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2tibc	3,242	342.00	61.81	94.00	785.00	1,396

Original DAD Variables Used

Wave 2 Lab:

tibc__total_iron_binding3	Total Iron Binding

Iron Tests, Transferrin Saturation

Variable	Waves	Label	Type
rWtfsat	2	rWtfsat:wW Transferrin Saturation	Cont

How Constructed

- Test: Transferrin Saturation
- Variable Description: Transferrin saturation (TS), measured as a percentage, is a medical laboratory value. It is the value of serum iron divided by the total iron-binding capacity of the available transferrin, the main protein that binds iron in the blood, this value tells a clinician how much serum iron is bound. For instance, a value of 15% means that 15% of iron-binding sites of transferrin are being occupied by iron. The three results are usually reported together. A low transferrin saturation is a common indicator of iron deficiency anemia whereas a high transferrin saturation may indicate iron overload or hemochromatosis.
- Unit: Percentage (%)
- Reference range: 14-50 %

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWtfsat** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2tfsat	3,242	23.04	10.47	2.00	93.00	1,396

Original DAD Variables Used

Wave 2 Lab:

transferin_saturation3	Transferrin Saturation

Iron Tests, UIBC Unsaturated Iron

Variable	Waves	Label	Type
rWuibc	2	rWuibc:wW UIBC Unsaturated Iron	Cont

How Constructed

- Test: Unsaturated Iron Binding Capacity (UIBC)
- Equipment: Roche Cobas 8000
- Assay Methodology: Direct determination with FerroZine: The color intensity is directly proportional to the unbound excess iron concentration and indirectly proportional to the unsaturated iron binding capacity. It is determined by measuring the increase in absorbance photometrically.
- Variable Description: The total iron content of the body is about 3 to 3.5 g. Of this amount about 2.5 g is contained in erythrocytes or their precursors in the bone marrow. Plasma contains only about 2.5 mg of iron. Iron is transported as Fe(III) bound to the plasma protein apotransferrin. The apotransferrin-Fe(III) complex is called transferrin. Normally only about one third of the iron-binding sites of transferrin are occupied by Fe(III). The additional amount of iron that can be bound is the unsaturated (or latent) iron-binding capacity (UIBC).
- Unit: µg/dL (micrograms per deciliter)
- Reference range: Male: 125-345 µg/dL; Female: 135-392 µg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). `rWuibc` is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2uibc	3,241	265.95	71.46	16.80	585.50	1,397

Original DAD Variables Used

Wave 2 Lab:

uibc__unsaturated_iron3	Unsaturated Iron

Iron Tests, Ferritin

Variable	Waves	Label	Type
rWferritin	2	rWferritin:wW Ferritin	Cont

How Constructed

- Test: Ferritin
- Equipment: Roche Cobas 8000
- Assay Methodology: ECLIA : A biotinylated monoclonal ferritin specific antibody, and a monoclonal ferritin specific antibody labeled with a ruthenium complexa) form a sandwich complex. After addition of streptavidin-coated microparticles, the complex becomes bound to the solid phase via interaction of biotin and streptavidin. The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed with ProCell II M. Application of a voltage to the electrode then induces chemiluminescent emission which is measured by a photomultiplier.
- Description: Clinically, a threshold value of 20 µg/L (ng/mL) has proved useful in the detection of prelatent iron deficiency. This value provides a reliable indication of exhaustion of the iron reserves that can be mobilized for hemoglobin synthesis. Latent iron deficiency is defined as a fall below the 12 µg/L (ng/mL) ferritin threshold. These two values necessitate no further laboratory elucidation, even when the blood picture is still morphologically normal. If the depressed ferritin level is accompanied by hypochromic, microcytal anemia, then manifest iron deficiency is present. When the ferritin level is elevated and the possibility of a distribution disorder can be ruled out, this is a manifestation of iron overloading in the body. 400 µg/L (ng/mL) ferritin is used as the threshold value. Elevated ferritin values are also encountered with the following tumors: acute leukemia, Hodgkin's disease and carcinoma of the lung, colon, liver and prostate. The determination of ferritin has proved to be of value in liver metastasis.
- Unit: ng/mL (nanograms per milliliter)
- Reference range: Male, 20-60 years: 30-400 ng/mL; Female, 17-60 years: 13-150 ng/mL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). `rWferritin` is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

This measure was collected starting in Wave 2.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r2ferritin	3,242	92.08	101.97	2.57	1,998.00	1,396

Original DAD Variables Used

Wave 2 Lab:

ferritin3	Ferritin

Other Tests, Vitamin B12

Variable	Waves	Label	Type
rWvitmb12	1-2	rWvitmb12:wW VB 12	Cont

How Constructed

- Test: Vitamin B12
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology:
  - Wave 1: CMIA: The B12 assay is two-step assay with an automated sample pretreatment, for determining the presence of vitamin B12 in human serum & plasma using Chemiluminescent Microparticle Immunoassay (CMIA) technology with flexible assay protocols, referred to as Chemiflex.
  - Wave 2: ECLIA:
    * 1st incubation: By incubating the sample (15 µL) with the vitamin B12 pretreatment 1 and pretreatment 2, bound vitamin B12 is released.
    * 2nd incubation: By incubating the pretreated sample with the ruthenium labeled intrinsic factor, a vitamin B12-binding protein complex is formed, the amount of which is dependent upon the analyte concentration in the sample.
    * 3rd incubation: After addition of streptavidin-coated microparticles and vitamin B12 labeled with biotin, the still-vacant sites of the ruthenium labeled intrinsic factor become occupied, with formation of a ruthenium labeled intrinsic factor-vitamin B12 biotin complex. The entire complex becomes bound to the solid phase via interaction of biotin and streptavidin. The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed with ProCell/ProCell M. Application of a voltage to the electrode then induces chemiluminescent emission which is measured by a photomultiplier.
    * Results are determined via a calibration curve which is instrument specifically generated by 2⊠point calibration and a master curve provided via the reagent barcode.
- Variable Description: Adequate intakes of vitamin B12 are necessary for the production of red blood cells and to prevent anemia. Vitamin B12 is also important for neurological function and the synthesis of our DNA. A vitamin B12 blood test is most often performed to test for deficiencies.
- Unit: pg/mL
- Reference range: 197-771 pg/mL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). `rWvitmb12` is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000, and the methodologies are different between waves.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1vitmb12	2,709	379.95	311.61	83.00	1,970.00	1,387
r2vitmb12	3,243	488.60	454.18	100.00	2,000.00	1,395

Original DAD Variables Used

Wave 1 Lab:

vitamin_b12_level2	Vitamin B12

Wave 2 Lab:

vitamin_b12_level3	Vitamin B12

Other Tests, Folic Acid

Variable	Waves	Label	Type
rWfolacid	1-2	rWfolacid:wW Folic Acid	Cont

How Constructed

- Test: Folic acid
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology:
  - Wave 1: CMIA: The Architect folate assay is a two-step assay for the quantitative determination of folate in human serum and plasma using chemiluminescent microparticle immunoassay (CMIA) technology with flexible assay protocols.
  - Wave 2: ECLIA:
    * 1st incubation: By incubating 25 µL of sample with the folate pretreatment reagents 1 and 2, bound folate is released from endogenous folate binding proteins.
    * 2nd incubation: By incubating the pretreated sample with the ruthenium labeled folate binding protein, a folate complex is formed, the amount of which is dependent upon the analyte concentration in the sample.
    * 3rd incubation: After addition of streptavidin-coated microparticles and folate labeled with biotin, the unbound sites of the ruthenium labeled folate binding protein become occupied, with formation of a ruthenium labeled folate binding protein-folate biotin complex. The entire complex becomes bound to the solid phase via interaction of biotin and streptavidin.
    * The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed with ProCell/ProCell M. Application of a voltage to the electrode then induces chemiluminescent emission which is measured by a photomultiplier.
    * Results are determined via a calibration curve which is instrument specifically generated by 2⊠point calibration and a master curve provided via the reagent barcode.
- Variable Description: Folic acid deficiency can be caused by low dietary intake, malabsorption due to gastrointestinal diseases, inadequate utilization due to enzyme deficiencies or folate antagonist therapy, such as alcohol and oral contraceptives, and excessive folate demand, such as during pregnancy. Deficiencies of both vitamin B12 and folate can lead to megaloblastic (macrocytic) anemia.
- Unit: ng/mL
- Reference range: 3.1-17.5 ng/mL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWfolacid** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000, and the methodologies are different between waves.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing

r1folacid	2,799	6.33	3.71	1.00	20.00	1,297
r2folacid	3,241	7.58	5.10	0.91	20.00	1,397

Original DAD Variables Used

Wave 1 Lab:

folic_acid2	Folic acid

Wave 2 Lab:

folic_acid3	Folic acid

Other Tests, Vitamin D

Variable	Waves	Label	Type
rWvitmd	1-2	rWvitmd:wW Vitamin D	Cont

How Constructed

- Test: 25 Hydroxy, Vitamin D
- Equipment: Wave 1: Architect ci8200. Wave 2: Roche Cobas 8000.
- Assay Methodology:
  - Wave 1: CMIA: The 25-OH VITAMIN D assay is a delayed one-step immunoassay including a sample pretreatment for the quantitative determination of the presence of 25-OH VITAMIN D in human serum & plasma using Chemiluminescent Microparticle Immunoassay (CMIA) technology with flexible assay protocols, referred to as Chemiflex.
  - Wave 2: ECLIA:
    * 1st incubation: By incubating the sample (9 µL) with pretreatment reagent 1 and 2, bound 25 hydroxyvitamin D is released from the vitamin D binding protein (VDBP).
    * 2nd incubation: By incubating the pretreated sample with the ruthenium labeled VDBP, a complex between the 25 hydroxyvitamin D and the ruthenylated VDBP is formed. A specific unlabeled antibody binds to 24,25 dihydroxyvitamin D present in the sample and inhibits cross-reactivity to this vitamin D metabolite.
    * 3rd incubation: After addition of streptavidin coated microparticles and 25 hydroxyvitamin D labeled with biotin, unbound ruthenylated labeled VDBP become occupied. A complex consisting of the ruthenylated VDBP and the biotinylated 25 hydroxyvitamin D is formed and becomes bound to the solid phase via interaction of biotin and streptavidin.
    * The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed with ProCell II M. Application of a voltage to the electrode then induces chemiluminescent emission which is measured by a photomultiplier.
    * Results are determined via a calibration curve which is instrument specifically generated by 2 point calibration and a master curve provided via the cobas link.
- Variable Description: Vitamin D helps our body absorb calcium and maintain strong bones throughout your entire life. It can be an important indicator of osteoporosis (bone weakness) and rickets (bone malformation). Vitamin D (25-OH VITAMIN D) is a cause of secondary parathyroidism and diseases related to impaired bone metabolism (like rickets, osteoporosis, osteomalacia). Reduced vitamin D concentrations in blood (vitamin D insufficiency) have been associated with an increasing risk of many chronic illnesses, including common cancers, autoimmune or infectious disease or cardiovascular problems.
- Unit: ng/mL
- Reference range: Deficiency < 10 ng/mL; Insufficiency 10-29.9 ng/mL; Sufficiency 30-100 ng/mL; Hypervitaminosis > 100 ng/mL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWvitmd** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Roche Cobas 8000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1vitmd	2,880	20.86	11.86	3.10	154.90	1,216
r2vitmd	3,238	24.26	11.86	3.11	110.00	1,400

Original DAD Variables Used

Wave 1 Lab:

_25_hydroxy__oh__vit_d2	25 Hydroxy, Vitamin D

Wave 2 Lab:

_25_hydroxy__oh__vit_d3	25 Hydroxy, Vitamin D

Other Tests, Homocysteine

Variable	Waves	Label	Type
rWhcy	1-2	rWldl:wW Homocysteine	Cont

How Constructed

- Test: Homocysteine
- Equipment: Wave 1: Architect ci8200. Wave 2: Architect i2000.
- Assay Methodology: The homocysteine assay is a two-step immunoassay to determine the presence of homocysteine in human serum & plasma using Chemiluminescent Microparticle Immunoassay (CMIA) technology with flexible assay protocols, referred to as Chemiflex.
- Variable Description: Homocysteine is metabolized to either cysteine or methionine, mainly by the folate and cobalamin dependent enzyme methionine synthase. Hyperhomocysteinemia is caused by nutritional and genetic deficiencies. The majority of elevated homocysteine cases in the general population are due to deficiency of folic acid, vitamin B6 and vitamin B12.
- Unit: µmol/L
- Reference range: 5.46-16.2 µmol/L

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). rWhcy is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the Architect ci8200 and in Wave 2 the equipment used was the Architect i2000.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1hcy	2,879	22.03	14.08	4.56	211.26	1,217
r2hcy	3,221	19.83	13.72	2.54	180.35	1,417

Original DAD Variables Used

Wave 1 Lab:
homocysteine2 Homocysteine

Wave 2 Lab:
homocysteine3 Homocysteine

Other Tests, NTproBNP

Variable	Waves	Label	Type
rWntprobnp	1-2	rWntprobnp:wW NT-proBNP test	Cont

How Constructed

- Test: NT pro BNP
- Equipment: Wave 1: MiniVidas. Wave 2: Roche Cobas 8000.
- Assay Methodology:
  - Wave 1: ELFA: The assay principle combines a one-step immunoassay sandwich method with a final fluorescent detection.
  - Wave 2: ECLIA:
    * 1st incubation: Antigen in the sample (9 µL), a biotinylated monoclonal NT proBNP specific antibody, and a monoclonal NT proBNP specific antibody labeled with a ruthenium complex form a sandwich complex.
    * 2nd incubation: After addition of streptavidin-coated microparticles, the complex becomes bound to the solid phase via interaction of biotin and streptavidin. Total duration of assay: 9 minutes.
    * During a 9minute incubation, antigen in the sample (9 µL), a biotinylated monoclonal NT proBNP specific antibody, a monoclonal NT proBNP specific antibody labeled with a ruthenium complex and streptavidin-coated microparticles react to form a sandwich complex, which is bound to the solid phase.
    * The reaction mixture is aspirated into the measuring cell where the microparticles are magnetically captured onto the surface of the electrode. Unbound substances are then removed with ProCell II M. Application of a voltage to the electrode then induces chemiluminescent emission which is measured by a photomultiplier.
    * Results are determined via a calibration curve which is instrument specifically generated by 2 point calibration and a master curve provided via the cobas link.
- Variable Description: B-type natriuretic peptide, N-terminal pro (NT-proBNP): BNP is a hormone produced by the heart. N-terminal (NT)-pro hormone BNP (NT-proBNP) is a non-active prohormone that is released from the same molecule that produces BNP. Both BNP and NT-proBNP are released in response to changes in pressure inside the heart. These changes can be related to heart failure and other cardiac problems. A test for B-type natriuretic peptide (BNP) or N-terminal pro b-type natriuretic peptide (NT-proBNP) is primarily used to help diagnose, and evaluate the severity of heart failure.
- Unit: pg/mL
- Reference range: < 450 pg/mL; cut-off points often vary by age

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWntprobnp** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the MiniVidas and in Wave 2 the equipment used was the Roche Cobas 8000, and the methodologies are different between waves.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing

`r1ntprobnp`	2,873	368.70	1,251.99	5.00	32,642.00	1,223
`r2ntprobnp`	3,226	339.07	909.39	6.23	17,788.00	1,412

Original DAD Variables Used

Wave 1 Lab:

nt_pro_bnp2	NT pro BNP

Wave 2 Lab:

nt_pro_bnp3	NT pro BNP

Other Tests, CRP

Variable	Waves	Label	Type
rWcrp	1-2	rWcrp:wW High-sensitivity C-reactive Protein (hs-CRP) Test	Cont

How Constructed

- Test: High-sensitivity C Reactive Protein (hsCRP)
- Equipment: Wave 1: BNProSpec. Wave 2: Atellica NEPH 630
- Assay Methodology: In an immunochemical reaction, the proteins contained in the human serum form immune complexes with specific antibodies. These complexes scatter a beam of light passed through the sample. The intensity of the scattered light is proportional to the concentration of relevant protein in the sample. The result is evaluated by comparison with a standard of known concentration.
- Variable Description: C-reactive protein (CRP) is a substance produced by the liver in response to inflammation and/or infections. High CRP levels have been associated with increased risk of cardiovascular events and mortality, and metabolic syndrome.
- Unit: mg/dL
- Reference range: <= 3 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWcrp** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the BNProSpec and in Wave 2 the equipment used was the Atellica NEPH 630.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1crp	2,848	4.88	11.26	0.15	158.90	1,248
r2crp	3,238	4.69	13.02	0.00	331.75	1,400

Original DAD Variables Used

Wave 1 Lab:
hscrphigh_sensitivity_c2 High-sensitivity C- Reactive Protein (hsCRP)

Wave 2 Lab:
hscrphigh_sensitivity_crpserum High-sensitivity C- Reactive Protein (hsCRP)

Other Tests, Lipoprotein (a)

Variable	Waves	Label	Type
rWlipoa	1-2	rWlipoa:wW Lipoprotein (a)	Cont

How Constructed

- Test: Lipoprotein (a)
- Equipment: Wave 1: BNProSpec. Wave 2: Roche Cobas 8000.
- Assay Methodology:
  - Wave 1: Nephlometry: In an immunochemical reaction, the proteins contained in the human serum form immune complexes with specific antibodies. These complexes scatter a beam of light passed through the sample. The intensity of the scattered light is proportional to the concentration of relevant protein in the sample. The result is evaluated by comparison with a standard of known concentration.
  - Wave 2: Particle enhanced immunoturbidimetric assay: Human lipoprotein (a) agglutinates with latex particles coated with anti-Lp(a) antibodies. The precipitate is determined turbidimetrically at 800 / 660 nm.
- Variable Description: The individual concentration of Lp(a) in the blood depends on genetic factors; the range of variation in a population is relatively large. Elevated concentrations of Lp(a) are a risk factor for coronary heart disease. Determination of Lp(a) may be useful to guide management of individuals with a family history of or with existing coronary heart disease.
- Unit: mg/dL
- Reference range: 0-30 mg/dL

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). **rWlipoa** is assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

In Wave 1 the test equipment used was the BNProSpec and in Wave 2 the equipment used was the Roche Cobas 8000, and the methodologies are different.

Continuous Variable Distributions

Variable	N	Mean	Std.Dev	Minimum	Maximum	Total missing
r1lipoa	2,813	45.80	404.72	2.42	12,400.00	1,283
r2lipoa	3,242	34.50	35.84	0.30	356.51	1,396

Original DAD Variables Used

Wave 1 Lab:
lp_a_lipoprotein_a_serum2 Lipoprotein (a)

Wave 2 Lab:
lp_a_lipoprotein_a_serum3 Lipoprotein (a)

Clinical Cut-offs

Variable	Waves	Label	Type
rWanemia	1-2	rWanemia:wW anemia (hemoglobin)	Categ
rWhpcholtot	1-2	rWhpcholtot:wW Hypercholesterolemia (elevated total cholesterol)	Categ
rWhpcholldl	1-2	rWhpcholldl:wW Hypercholesterolemia (elevated low-density lipoprotein, LDL, chol	Categ
rWhptrigemia	1-2	rWhptrigemia:wW Hypertriglyceridemia (elevated triglycerides)	Categ
rWriskhdl	1-2	rWriskhdl:wW At-risk high-density lipoprotein, HDL, cholesterol	Categ
rWrenalimp	1-2	rWrenalimp:wW Renal impairment	Categ
rWdiabetes	1-2	rWdiabetes:wW Diabetes	Categ
rWhpalbumin	1-2	rWhpalbumin:wW Hypoalbuminemia	Categ
rWhypothyr	1-2	rWhypothyr:wW Hypothyroidism	Categ
rWhypothyrhm	1-2	rWhypothyrhm:wW Hypothyroidism that requires hormone treatment	Categ
rWvb12def	1	rWvb12def:wW Vitamin B12 deficiency	Categ
rWfaciddef	1-2	rWfaciddef:wW Folic acid deficiency	Categ
rWelevhcy	1-2	rWelevhcy:wW Elevated homocysteine level	Categ
rWvddef	1-2	rWvddef:wW Vitamin D deficiency	Categ
rWelevcrp	1-2	rWelevcrp:wW Elevated C-reactive protein (CRP, increased inflammatory burden)	Categ
rWelevprobnp	1-2	rWelevprobnp:wW Elevated pro-BNP level (indicative of congestive heart failure)	Categ
rWlowironst	2	rWlowironst:wW Low iron storage	Categ

How Constructed

The following are the clinical cutoff values for several biomarkers:

Anemia: hemoglobin < 12.0 g/dL for women and <13.0 g/dL for men

Hypercholesterolemia (elevated total cholesterol): total cholesterol >= 240 mg/dL

Hypercholesterolemia (elevated low-density lipoprotein, LDL, cholesterol): LDL cholesterol >= 130 mg/dL

Hypertriglyceridemia (elevated triglycerides): Triglyceride >= 200 mg/dL

At-risk high-density lipoprotein, HDL, cholesterol: HDL cholesterol < 40 mg/dL

Renal impairment: Creatinine > 1.4 mg/dL

Diabetes: glycosylated hemoglobin (HbA1c) >= 6.5%

Hypoalbuminemia: albumin < 3.5 g/dL

Hypothyroidism: TSH > 4.5 uIU/dL

Hypothyroidism that requires hormone treatment: TSH > 10 uIU/dL

Vitamin B12 deficiency: vitamin B12 < 200 pg/mL

Folic acid deficiency: Folic acid < 3 ng/mL

Elevated homocysteine level: Homocysteine > 16.2 umol/L

Vitamin D deficiency: 25-OH vitamin D < 20 ng/mL

Elevated C-reactive protein (CRP, increased inflammatory burden): CRP > 3 mg/L

Elevated pro-BNP level (indicative of congestive heart failure): NT-pro-BNP > 900 pg/mL for now (in the future, we should also try > 900 pg/mL for 45 to 75 years old and >1800 pg/mL for > 75 years old)

Low iron storage (using ferritin level < 20)

Special missing (.j) is assigned if the respondent did not complete the venous blood-based biomarkers assessment. Missing values are assigned special missing (.m). The variables are assigned plain missing (.) if the respondent did not participate in the current wave.

Cross Wave Differences in LASI-DAD

Vitamin B12 deficiency is only available in Wave 1. Low iron storage is only available in Wave 2.

Categorical Variable Frequencies

	r1anemia	r2anemia
0.No	1,703	1,568
1.Yes	1,130	1,628
.j:No biomarker IW	1,204	1,386
.m:Missing	59	56
Total	4,096	4,638

	r1hpcholtot	r2hpcholtot
0.No	2,630	2,992
1.Yes	262	250
.j:No biomarker IW	1,204	1,386
.m:Missing	0	10
Total	4,096	4,638

	r1hpcholldl	r2hpcholldl
0.No	2,110	2,532
1.Yes	773	710
.j:No biomarker IW	1,204	1,386
.m:Missing	9	10
Total	4,096	4,638

	r1hptrigemia	r2hptrigemia
0.No	2,396	2,666
1.Yes	496	576
.j:No biomarker IW	1,204	1,386
.m:Missing	0	10
Total	4,096	4,638

	r1riskhdl	r2riskhdl

0.No	1,817	2,144
1.Yes	1,075	1,097
.j:No biomarker IW	1,204	1,386
.m:Missing	0	11
Total	4,096	4,638

	r1renalimp	r2renalimp
0.No	2,755	3,054
1.Yes	137	189
.j:No biomarker IW	1,204	1,386
.m:Missing	0	9
Total	4,096	4,638

	r1diabetes	r2diabetes
0.No	2,183	2,471
1.Yes	648	698
.j:No biomarker IW	1,204	1,386
.m:Missing	61	83
Total	4,096	4,638

	r1hpalbumin	r2hpalbumin
0.No	2,805	3,141
1.Yes	84	95
.j:No biomarker IW	1,204	1,386
.m:Missing	3	16
Total	4,096	4,638

	r1hypothyr	r2hypothyr
0.No	2,512	2,530
1.Yes	378	713
.j:No biomarker IW	1,204	1,386
.m:Missing	2	9
Total	4,096	4,638

	r1hypothyrhm	r2hypothyrhm
0.No	2,818	3,101
1.Yes	72	142
.j:No biomarker IW	1,204	1,386
.m:Missing	2	9
Total	4,096	4,638

	r1vb12def
0.No	1,692
1.Yes	1,017
.j:No biomarker IW	1,204
.m:Missing	183
Total	4,096

	r1faciddef	r2faciddef
0.No	2,418	2,849
1.Yes	381	392
.j:No biomarker IW	1,204	1,386

.m:Missing	93	11
Total	4,096	4,638
	r1elevhcy	**r2elevhcy**
0.No	1,116	1,588
1.Yes	1,763	1,633
.j:No biomarker IW	1,204	1,386
.m:Missing	13	31
Total	4,096	4,638
	r1vddef	**r2vddef**
0.No	1,363	1,995
1.Yes	1,517	1,243
.j:No biomarker IW	1,204	1,386
.m:Missing	12	14
Total	4,096	4,638
	r1elevcrp	**r2elevcrp**
0.No	1,854	2,115
1.Yes	994	1,123
.j:No biomarker IW	1,204	1,386
.m:Missing	44	14
Total	4,096	4,638
	r1elevprobnp	**r2elevprobnp**
0.No	2,684	3,011
1.Yes	189	215
.j:No biomarker IW	1,204	1,386
.m:Missing	19	26
Total	4,096	4,638
	r2lowironst	
0.No	2,835	
1.Yes	407	
.j:No biomarker IW	1,386	
.m:Missing	10	
Total	4,638	

Original DAD Variables Used

Wave 1 Lab:

haemoglobin__hb2	Hemoglobin
cholesterol__total2	Cholesterol (total)
ldl_cholesterol2	LDL Cholesterol
triglycerides_level2	Triglycerides
hdl_cholesterol2	HDL Cholesterol
creatinine2	Creatinine
hba1c__glycated_haemogl2	Glycosylated haemoglobin (HbA1c)
albumin2	Albumin
tsh_ultrasensitive2	TSH (Ultrasensitive)
vitamin_b12_level2	Vitamin B12
folic_acid2	Folic acid

homocysteine2	Homocysteine
_25_hydroxy__oh__vit_d2	25 Hydroxy, Vitamin D
hscrphigh_sensitivity_c2	High-sensitivity C- Reactive Protein (hsCRP)
nt_pro_bnp2	NT pro BNP

Wave 2 Lab:

haemoglobin__hb_3	Hemoglobin
cholesterol__total_3	Cholesterol (total)
ldl_cholesterol3	LDL Cholesterol
triglycerides_level3	Triglycerides
hdl_cholesterol3	HDL Cholesterol
creatinine3	Creatinine
hba1c__glycated_haemoglobin3	Glycosylated haemoglobin (HbA1c)
albumin3	Albumin
tsh_ultrasensitive_3	TSH (Ultrasensitive)
vitamin_b12_level3	Vitamin B12
folic_acid3	Folic acid
homocysteine3	Homocysteine
_25_hydroxy__oh__vit_d3	25 Hydroxy, Vitamin D
hscrphigh_sensitivity_crpserum	High-sensitivity C- Reactive Protein (hsCRP)
nt_pro_bnp3	NT pro BNP
ferritin3	Ferritin

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