NATIONAL HEALTH AND AGING TRENDS STUDY (NHATS)

Addendum to Classification of Persons by Dementia Status in the National Health and Aging Trends Study for Follow-up Rounds

October 22, 2015

Revised December 1, 2016

Revised May 13, 2020

Revised June 30, 2021

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Revised September 23, 2022

Revised April 4, 2023

This technical paper updates classification of persons by dementia status in the National Health and Aging Trends Study for follow-up rounds. Kasper et al 2013 (Technical Paper #5) describes the types of information that the National Health and Aging Trends Study (NHATS) provides to identify persons with cognitive impairment and our approach to classifying persons as having dementia. Stata and SAS programming statements to create a dementia classification variable in Round 1 are available at the NHATS website (www.nhats.org). This paper describes the information collected and programming statements for creating a dementia classification variable in follow-up rounds of NHATS.

NHATS items for classification of persons with dementia

Three types of information are collected in all rounds of NHATS and can be used to identify persons who are cognitively impaired:

- A report by the sample person or proxy respondent that a doctor told the sample person that he/she had dementia or Alzheimer's disease.

- A score that indicates probable dementia on the AD8 Dementia Screening Interview, which is administered to proxy respondents who are answering the NHATS interview for the sample person. This 8-item instrument assesses memory, temporal orientation, judgment, and function (Galvin et al. 2005, 2006).

- Cognitive tests that evaluate the sample person's memory (immediate and delayed 10-word recall), orientation (date, month, year, and day of the week; naming the President and Vice President), and executive function (clock drawing test). For more details on items and administration see Kasper and Freedman (2015); NHATS Data Collection Procedures (2011).

The information available varies by type of respondent: for self-respondents, report of a diagnosis and cognitive test items; when proxy respondents are used report of a diagnosis, responses to the AD8, and cognitive test results if the proxy said the sample person could be asked these questions.

Details regarding the criteria for dementia classification are in Kasper et al. 2013 (Technical Paper #5) as are results from a sensitivity and specificity analysis against a clinically evaluated sample (Aging, Demographics, and Memory Study (ADAMS) Wave E conducted in 2010; Langa et al. 2005) and comparisons with other population-based estimates of dementia. The criteria and cutpoints developed in Round 1 remain unchanged in subsequent rounds.

Changes to Programming Statements for classification of persons with dementia in follow-up rounds

Because NHATS is a longitudinal study that interviews the same individuals every year, how the information used in the dementia classification variable is collected across rounds changes somewhat across rounds. These changes affect programming statements in the following ways:

- Once a sample person or proxy respondent reports that a doctor told the sample person that he/she had dementia or Alzheimer's disease, this question is not re-asked. Instead it is coded as "previously reported" in all rounds following the round of the initial report.

- The AD8 items, which ask about a change in thinking or a memory problem, are asked of proxy respondents at each round. However, these items are not asked if *in a prior round* a proxy respondent says that the sample person has dementia or Alzheimer's disease in response to any of the AD8 items. A derived variable (cp#dad8dem) has been created in follow-up rounds, which indicates such a response.

Programming statements for follow-up rounds are include Dementia Classification with Programming Statements zip file. These take into account the interview changes above.

Updates to Programming Statements

December 1, 2016

- Round 2: recodes the immediate word recall score for a subset of cases in Round 2 (N=32)
- Round 4: uses cg4todaydat5 instead of cg4todaydat4 when coding the count of correct orientation to date responses

May 13, 2020

- Round 5: sets cases with a missing word list in Round 5 to missing on word recall scores and the dementia classification (N=9)

June 30, 2021

- Rounds 4-9: correctly assigns a score of 8 on the AD8 for cases where cp#dad8dem was incorrectly assigned to -1. This correction updates the dementia classification for a small number of cases (N=3 in round 4; 2 in round 5; 1 in rounds 6-9)

August 2, 2022

- The addendum was updated to clarify that these programming statements are for creating a dementia classification variable in rounds 2-9. Programming statements for rounds 10 and 11 are forthcoming.

September 21, 2022

- Rounds 10 and forward: recodes the clock drawing score to align with missing values in previous rounds.

- All rounds (SAS only): Changed the sum function to arithmetic operator + when calculating r#domain65. This change only affects distributions for r#domain65, and does not affect r#demclas.
- Other small updates (fixing typos, assigning formats (SAS only))

April 4, 2023

- Updated dementia classification code for Rounds 1-11 was released in SAS, Stata and R. The new code allows users to classify NHATS participants with probable, possible and no dementia over multiple rounds with minimal editing.

References

Galvin JE, Roe CM, Powlishta KK, Coats MA, Muich SJ, et al. (2005) The AD8: A brief informant interview to detect dementia. Neurology, 65(4): 559-564.

Galvin JE, Roe CM, Xiong C, Morris JC. (2006). Validity and reliability of the AD8 informant interview in dementia. Neurology, 67(11): 1942-1948.

Kasper JD, Freedman VA. 2015. National Health and Aging Trends Study User Guide: Rounds 1, 2, 3 & 4 Final Release. Baltimore: Johns Hopkins University School of Public Health. Available

Kasper JD, Freedman VA, Spillman BC.   2013. Classification of Persons by Dementia Status in the National Health and Aging Trends Study. Technical Paper #5. Baltimore: Johns Hopkins University School of Public Health. Available at www.NHATS.org. at www.nhats.org.

Langa KM, Plassman BL, Wallace RB, Herzog AR, Heeringa SG et al. (2005) The Aging, Demographics, and Memory Study: Study Design and Methods. Neuroepidemiology, 25:181-191.